

Specific Features of Preparing The Population and Territory for the Consequences of Landslides

I.G.Xodjiev¹, R.S.Reymbaev², X.M.Dysmatov³, J.B.Yarbekov⁴

^{1,2,3,4}Academy of the Ministry of Emergency Situations of the Republic of Uzbekistan

Abstract: In this research paper, we found out that the processes of avalanches, shaking of the mountain mass under the influence of gravity, precipitation or rapid melting of snow fall into excess permeable layers and cause seismic tremors. The results of the analysis of landslides occurring in the republic and the world were carefully studied. In the event of a landslide, the actions that the population should take, as well as the consequences of actions to prevent landslides, are studied and proposals are made.

Keywords: avalanche, evacuation, volume, talofat, earthquake, catastrophe, statistics, mass, erosion, gypsum, mineral.

INTRODUCTION

According to experts, the main cause of landslides are natural factors, since such phenomena can occur as a result of human engineering activities. Among the cases of natural occurrence of landslides will be an increase in the degree of steepness of mountain formations by 90 degrees, and the fact that the slopes of mountain formations are washed by the waters of the river can also lead to such consequences, or, as a result of excessive precipitation in the mountains, mountain formations can become wet and solid tremors also cause such landslides. As a result of the fact that the mountaineers who keep their mountaineering tightly, widen the road with people, cut off the hanging darakhts in their mountaineering and engage in agriculture, which leads to erosion, landslides occur. According to world statistics, 80 percent of landslides are related to human activity. 90 percent of landslides occur at an altitude of 1000-1700 meters. Landslides are downward silencers of rocks under the influence of gravity. The onset of such a shake is usually caused by normal precipitation or rapid melting of snow cover, excessive water ingress into watertight layers, and seismic tremors.

METHODS OF RESEARCH

To this day, there are more than 12 thousand landslides on the territory of Uzbekistan, there are 150-200 of them annually, and in places with high humidity-about a thousand. For example, in the next 20 years, landslides will occur in Humsun, Baghistan, Khujakent, Chibortagishlag, in mountainous and high-altitude areas of Surkhandarya, Kashkadarya, Samarkand and Jizzakh regions, as well as in some areas of Namangan and Ferghana regions. Deadly landslides of 1907 Karatag, 1930, 1943 Feyzabad, 1940. Hait, 1989. What happened to the goose is described in the literature.

1973 was considered the most powerful landslide of the 20th century and is referred to in the literature as the "Atchi" landslide. The volume of soil in this landslide is about 700 million m³. The main reason for this tragedy is the burning of sand layers with a depth of 100-130 m in the bowels of the Earth on the left bank of the Ohangaron River. The thickness of the burnt sand layers is 5-15 meters, the total volume of which is 3700000 m³. n. i. established. 1991 within Akhangaransky valley there was another strong landslide "Jihadistan" birdie. Ma judging by the information, the volume of this landslide amounted to 30 million rubles. m³ of porous soil, pushed in 7 seconds, claimed more than 50 human lives. The main cause of this landslide is the presence of large thick Serpentine rocks and the shaking of these rocks as a result of blasting operations carried out over many years, as well as the abundance of precipitation. On April 16, 1994, landslides were also observed on the territory of Karahittoi district of Oangaron district, as a

result of which people were injured. The study of landslides showed that landslides are a complex of factors that include a complex process of exposure to groundwater, such factors include.

Intensive erosion or destruction of the sea (destruction under the influence of surfing) of the banks along the river is in some cases one of the main causes of landslides in the Volga region, the Black Sea coast of the Caucasus and other regions. When the seashore is washed by a river or abrasion, the steepness of the slope and its stress state are lowered, which ultimately leads to an imbalance of land masses and their silencing.

One of the most important factors of climatic conditions in the migration of mountaineers on an inclined surface is the slow, continuous precipitation, which is common in the area. This is due to the fact that rainwater is absorbed (pumped) into the bowels of mountain ash, reducing the contact between their particles, friction resistance, increasing its weight. When changing the weight, strength of the climber on inclined levels, their equilibrium state is suppressed and there is a movement to the lower side. Therefore, migrations begin mainly in March, when the snow melts and precipitation increases, and stop in May-June.

The influence of atmospheric precipitation affects the stability of the earth's mass. For example, it was noted that landslides in the ravine network on the southern coast of the Caucasus occurred mainly at the end of the rainy period (February - March), during which the maximum saturation of the soil with water was observed. In general, the degree of irrigation of rocks by meteorite and ground water is important.

As a result of melting precipitation, snow and glaciers, the risk of rising water levels in rivers and reservoirs leads to erosion of the banks, that is, the suppression of equilibrium states at inclined levels. As an example, landslides on the banks of the Zarafshan River, on the banks of the Amu Darya River, around the cattle reservoir can be cited. In our republic, landslide phenomena are observed mainly in mountain ash, the slope of which is 155050 m, at an altitude of 800-1800 m above sea level, Lios rocks are scattered. In cases where there are certain conditions (shaking of the earth in a row, saturation of clay and hollow Lios mountain gills with water), it is possible to observe even at higher levels.

Some data on losses in the prevention of material damage and losses caused by landslides in the countries of the Army, the republics of Central Asia and the European countries of the Republic:

The most dangerous landslide occurred in the Chinese province of Kansu in 1920. The Bunda heavily overwhelmed towns and villages with mountaineering as a result of land upheavals that resulted in the deaths of 200,000 people. A similar disaster occurred in 2009 on the island of Summatra in Indonesia. As a result of a strong landslide before the onset of this disaster, the ground floor, which is 80 m high, 400 m long, came into action and forced thousands of people to stay underground. Also on February 18, 1911, as a result of a landslide of 9 points in the temperate mountain range of the Pamirs, the Usoy landslide occurred. This land under the influence of an earthquake moved to the Murghab River, where 2.5 km³ of porous mountain ash was formed. In Bunda, the landslide crossed a distance of 2.5 km, blocking the Ozan River. Where the avalanche occurred, a mass consisting of sandstone, limestone, gypsum and other mountain ash, 450-500 m thick, 2 km self-propelled, 1 km wide, was transplanted. As a result of the Talofot, 54 people were killed, and the village of Usoy was left as a result of landslides. As a result of the avalanche, a natural dam with a height of 703-788 m, an Eni of 4.3-5.3 km, was formed, blocking the river basin. Currently, the world-famous Sorez Lake is located here, and the amount of water collected is approximately equal to the volume of water in the Norak reservoir. As a result of a landslide that occurred on December 20, 1984 in the village of Sharora in Tajikistan, the width was about 400 m, the length was 4.5 km, and the thickness was 4.8 m. ga a nearby climber came to the action and dried the pillow of more than 540 people. The main cause of this landslide is the water saturation of porous mountain ash, which spreads in the depths of the Earth, the danger of groundwater, as well as landslides with 7 points.

According to the American specialist F. As a result of rock migrations and subsidence phenomena in the United States between 1925 and 1971, 75 billion dollars of damage were collected, amounting to \$ 1.63 billion per year. Numerous landslides have been observed on the territory of the Central Asian republics so far. For example, in April 1964, during a landslide in the Tajik village of Aini, the Zarafshan River was

completely blocked. Only thanks to the timely efforts of the population was it possible to prevent catastrophic consequences. In the event of a landslide, the actions of the population that should be carried out, as well as the effect in preventing avalanches, are as follows: It will be Necessary to move from the landfill to the landfill at the control station due to the risk that arose after determining the speed of movement of the landfill. After receiving an avalanche warning, you must quickly disconnect electricity, gas equipment and water pipes from the water pipes and be ready to evacuate, based on previously developed plans. If the mower silo is moving at a speed of 0.5-1.0 meters per day, then it is necessary to leave this place (evacuation of yourself and family members) according to a pre-developed action plan. If the shaking speed is not so fast and moves at a low speed (the speed is one meter per month), then everyone is obliged to move according to their capabilities (moving the house or separated building materials, delivering them to a safe place and starting to build a new house, sending furniture and other equipment on the basis of transport). It will be necessary to quickly go to a safe place and leave this place, if possible, dig out those who remained in the landslide, and take part in helping them. During the evacuation, he is obliged to take with him documents, valuables and, depending on the circumstances, take with him both for the warm and winter slaughter, as well as forget about food. Deep study of landslides-allows you to predict them in advance. For this purpose, complex engineering and geological surveys are carried out. The natural conditions and geological environment of the areas where migration is carried out are studied in physical and geological conditions, and calculation works are carried out.

CONCLUSION

Due to the geological situation of our republic, the organization of monitoring after landslides should bring the Uzhydro meteorological Service to the necessary level and provide it with modern equipment. Of the 4 thousand people of the uzhydro meteorological service, only 450 stations work, so the process of erosion and landslide formation can be carried out in a single monitoring centre using monitoring measures from a drone, an airplane, a helicopter and space, and the analysis here will help prevent such disasters.

REFERENCES

- [1] Nigmatov I., Tojiev M. X. Emergencies and Civil Protection. Textbook.-T.: Economics and Finance. 2011y.
- [2] Textbook on the subject of rescue operations. // Tashkent State Technical University. 2016y.
- [3] Resolution of the Cabinet of Ministers of the Republic of Uzbekistan dated October 27, 1998 No 455 "On the classification of man-made, natural and environmental emergencies"
- [4] Artykov T.U., Ibragimov R.S., Fadina R.P. Seismicity of the territory of Uzbekistan //: Seismic zoning and forecast of earthquakes in Uzbekistan.-Tashkent: Gidroingeo, 2002. - pp. 15–37.
- [5] Barinov A.V. Natural emergencies and protection against them //: Textbook for students of higher educational institutions. Moscow: Ed. VLADOS-PRESS, 2003. pp. 25–33.
- [6] Ibragimov R.N., Nurmatov U.A., Ibragimov O.R. Seismotectonics: In Sat. "Seismic zoning and earthquake forecast in Uzbekistan" // Tashkent: Gidroingeo, 2002. – pp. 32–40.