

LANDSLIDE

A landslide or landslide is the downward and outward movement of a slope whose ground is composed of rock or artificial filling material under the influence of gravity, slope, water and other similar forces. Landslide is the displacement of masses formed from rocks, debris cover or soil under the influence of gravity. Landslides are a very common type of mass movement that occurs very frequently on the earth. Large landslides also leave deep marks on the topography. The most common places in Turkey are in the Black Sea Region, especially the Eastern Black Sea strip. The risk of landslides increases in areas with high slopes. Again, people prepare the conditions that cause landslides by opening canals and roads or by throwing the soils from road and mine excavations on the slopes that have reached the balance angle. Landslides occur when loose elements exceed the balance angle for any reason. It is the collapse of the soil.

Types of landslides: These rapid mass movements, which are generally explained by the term landslide, can be divided into three groups as actual landslides, collapses and landslides.

The main landslides: In their formation, water plays a preparatory role. However, the actual landslide mass is not in a paste-like state with water. It was displaced as a dry mass, but on a slippery surface. This type of landslides occur frequently in Turkey. The largest of these landslides were formed in the heavily rained and steeply sloping areas, especially in the strongly split, humid and lithologically favorable North Anatolian mountainous area. Geyve, Ayancık, Sinop surroundings, Maçka, Of-Sürmene and Trabzon-Sera landslides are among the main ones. Research shows that the formation of this landslide is influenced by the southerly winds in the Föhn character, which causes the snow to melt rapidly with the winter season, which is more rainy than normal. In this way, a large amount of water has infiltrated the ground. Already in this area, as the dissolution is very deep, andesitic rocks and pillow lavas are split by deep diaclases, the bonds between them are loose. This situation also facilitated the shifting of the land saturated with water. Moreover, the fact that the slopes are too high and especially the Sera stream carving the lower part of the slope must have played a role in the formation of the landslide.

Migrations: They form another type of landslide different in terms of movement. This type of landslide consists of parts that rotate and displace along concave rupture surfaces resembling a spoon. Each of the sliding parts is warped backwards. As a result, the initial slopes of the sliding masses change and their surfaces acquire a new slope towards the rupture wound side. Excessive carving of the lower parts of the slopes by factors such as streams and waves is the main cause of landslides in the form of collapse. The main reason for over-carving is the heavy damage caused by migrations. Typical examples of such migrations are common on the edges of Küçük and Büyük Çekmece lakes and along the seashore between these two lakes.

Ways of protection: Embankment on the slopes, excavation of the part that causes the slide of the mass, soil hardening, Retaining Wall construction, tree planting, etc.

NATURAL DISASTERS IN TURKEY

Disaster; It is a general name given to events that cause physical, economic and social losses for people, stop or interrupt people's normal life and actions, and where opportunities are insufficient. Disasters that occur largely or completely outside the control of people cause mass loss of life and property.

For an event to qualify as a disaster, it must be large enough to effectively affect people or the environment in which people live. From this point of view, disaster is the result of an event rather than an event.

A natural disaster is a major adverse event resulting from Earth's natural processes; examples are floods, hurricanes, tornadoes, volcanic eruptions, earthquakes, tsunamis, storms and other geological processes.

Natural Disasters

They arise from the behavior of nature itself; but the human factor against the behavior of nature can also be the trigger of such natural disasters.

- Earthquakes
- Floods
- Landslides, landslides
- Storms, tornadoes and hurricanes

Human Disasters

They are disasters that occur as a result of human interaction with nature, not because of the power of nature itself. They occur as a result of accident or intention, due to reasons such as lack of education, ignorance, carelessness, not taking adequate precautions.

- Fires
- Epidemics
- Transportation accidents

Technology-induced disasters

Just like man-made disasters, they occur as a result of accident or intention, due to reasons such as lack of education, ignorance, carelessness and not taking adequate precautions.

- Nuclear, biological and chemical accidents
- Industrial accidents
- Air pollution
- Acid rain
- Depletion of the ozone layer
- Water pollution
- Soil pollution

2020 Van avalanches

In February 2020, two avalanches occurred near Bahçesaray in Turkey's eastern Van Province. The first, on 4 February, buried two vehicles, leading to a rescue operation involving around 350 people. The second, on 5 February, occurred while this operation was going on. At least 41 people were killed in the two avalanches, with 84 others being injured, six seriously.

2020 Aegean Sea earthquake

An earthquake with a moment magnitude of 7.0 occurred on 30 October 2020 about 14 km northeast of the Greek island of Samos. Although Samos was closest to the epicenter, it was the Turkish city İzmir, 70 km (43 mi) to the northeast of the epicenter, which took the brunt of the quake; more than 700 residential and commercial structures were seriously damaged or completely destroyed. The earthquake is called the Samos earthquake by the International Seismological Centre.

2021 Turkey floods

In August 2021, the Black Sea region in Turkey was affected by catastrophic flooding, as a series of thunderstorms that began on 7 August 2021 and continued until the 14th in northern Turkey caused several floods and landslides. The water rose to 4 metres in some locations, and the floods have been described as the worst in Turkey's history.

2021 Turkey wildfires

In July and August 2021, a series of more than two hundred wildfires burnt 1,700 square kilometres of forest in Turkey's Mediterranean Region in the worst-ever wildfire season in the country's history.

There are measures we can take to prevent natural disasters or reduce their impact. E.g;

- Establishing settlements on solid lands.

-Using earthquake resistant materials in construction.

Multi-storey buildings should be avoided.

-Natural vegetation should be protected and bare places should be afforested.

-Fields on the slopes, not downhill. should be driven transversely.

-Natural vegetation, especially forests, should be protected. Because trees slow down the speed of rain and allow rainwater to seep into the ground.

Terracing the slopes, building dams on the stream beds and creating ponds to reduce the speed of the water greatly reduces the damage caused by the floods.

- Care should be taken not to disturb the slope in the construction of roads, canals, tunnels and dams.

- By raising awareness of citizens, wrong behaviors and neglects that cause forest fires should be stopped.

-It is very important to learn about forest fires immediately. For this, a sufficient number of fire towers and observation posts should be built in forest areas.

Sueda Özcan

Adana Ticaret Borsası Anadolu Lisesi

Natural disasters have always been and probably always will be a problem for humans and their settlement and natural disasters are unfortunately part of our lives. With global warming seemingly increasing the frequency and strength of the climate related disasters, and more and more people being settled in urban centers, the ability to model and predict damage is more important than ever. Many natural disasters occur in our country. Some of these are avalanches, floods, erosion, landslides, earthquakes, storms. Especially the earthquake poses a great danger for Turkey, the reason is that Turkey is on the fault line, if we explain this situation a little bit, the Arabian plate is pushing Anatolia to the west. This pushing action caused Anatolia to be broken into two. We know this gigantic fracture as the North Anatolian fault line today. Anatolia could not move due to the protrusions formed along this fault line and as the protrusions broke, large earthquakes occurred. There are things we need to do and know to protect ourselves and those around us from natural disasters. For example, the earthquake happens in our country at this time. For earthquake protection, we first need to prepare an earthquake bag. After that, we have to secure the things in our house to the wall and make sure they are safe, because during an earthquake, they can fall on us and injure us. Of course, the most important thing is to live in a solid and earthquake-resistant house. Apart from earthquakes, landslides also occur. Improper construction is of great importance for an earthquake. At the same time, it is equally important in disasters such as floods and landslides. With the wrong construction, settlements take the place of forests, trees, that is nature. We have to plant a lot of trees to protect ourselves from landslides. Not a single landslide, but erosion, avalanche we also have to plant trees to protect ourselves from natural disasters. In order to avoid a natural flood, we must go to high places during

the flood. Stay away from places such as stream bed, river, trench, valley and canyon. Be prepared to be evacuated at any time. Take your disaster and emergency bag with you. Keep clean water at home in case of contamination of mains water. Unplug electrical appliances also turn off fuses and valves. However, these are the precautions to be taken in the event of a disaster. What a conscious person should do before a disaster is not to build a house on the banks of streams, lakes, and not to prefer such a house. Landslides are very common due to Turkey's sloping lands and the rainfall it receives in spring. The risk of landslides is high in Turkey, especially in the Black Sea, Mediterranean and Eastern Anatolia, where the slope is high. So what should we do during a landslide? Warn those around you about dangerous walls, roofs and chimneys and stay away from them. Listen to the warnings to be made to you by mass media such as radio and television, leave the streets and streets empty for emergency vehicles. Do not enter damaged buildings for any of your belongings. Well, how should we act before a landslide happens, so I would like to emphasize the importance of wrong construction and planting trees. Houses should not be built in places where there is a high risk of landslide, or a large number of trees should be planted in the area where there is a risk. I would like to talk about Turkey's disaster history, first of all, the Gölcük earthquake that took place exactly 23 years ago. The earthquake, known as the 1999 Gölcük earthquake, the İzmit earthquake, the Marmara earthquake or the 17 August 1999 earthquake, occurred on the morning of August 17, 1999 at 3:02 am local time. Kocaeli/Gölcük centered earthquake occurred with a magnitude of 7.4 Mw according to the Richter scale. This earthquake, which lasted for 45 seconds, took place on the North Anatolian fault line and the Marmara Region on this fault line was almost completely damaged. According to official reports, 18,373 deaths, 48,901 injuries and 505 disabled people. 285,211 houses, 42,902 workplaces were damaged. If proper precautions had been taken, perhaps this much damage would not have occurred. As long as we live, natural disasters will continue to live with us, but the important thing is to learn to live with them and always get rid of them with the least damage, so please let's raise awareness about natural disasters.

Zekiye Esin Sever- Adana Ticaret Borsası Anadolu Lisesi

Wherever we live, we cannot escape natural disasters.

Unfortunately, due to Turkey's geographical location and landforms, we encounter natural disasters more frequently. The most common natural disasters in Turkey are earthquakes, floods and landslides. As we know, natural disasters generally cause major property loss. Unfortunately, but worse than that, loss of life. Damage to the environment or buildings can be fixed in some way, but we cannot bring back the people we lost and that's why natural disasters affect us more spiritually than property loss. Unluckily we can always experience this. There is always the possibility of having this terrible experience, so we must take precautions beforehand.

For example, earthquake is one of the most common natural disasters in Turkey. In order to be less affected by the earthquake, first of all, the buildings should be built resistant to the earthquake effects and buildings should only be built in certain selected locations. Of course these are pre-earthquake precautions. So what should we do when an earthquake happens? Of course the most important thing is not to panic and yes it's not that easy and we should stay away from the stairs, elevators or balconies after that we should protect our head with a material such as pillow. When the earthquake is over, first make sure of your own safety, then of course help other people.

The other most experienced natural disasters in Turkey is Floods. So how can we prevent flood? Actually there are several ways. First of all, we need to protect the greenery around us and we need to plant trees in places that may flood, in short of course we should plant trees. During flood, you should go to a high place and stay away from places such as streams and rivers. After the flood is over,

we shouldn't drink or touch the water. We should never enter the buildings after the flood and clean water should be used whenever it's possible.

We should be prepared for the disasters that we may encounter according to the characteristics of the geography we live in so that we experience the least damage and let's not lose the things we value actually that's the most important thing we should think about it

Unfortunately, natural disasters are a fact of life, so we must do our best to avoid them.

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FLOODS

A flood is a natural disaster that happens by chance, upslope-downslope factors, or due to climate change. When lakes, rivers, etc. are filled with excessive amounts of water, a flood is an inevitable outcome if the necessary measurements aren't taken.

A Floods are the most widespread of all weather-related natural disasters.

The reason why floods occur is primarily the heavy rains that take place. In recent times, we've seen more and more areas become victims of floods. This is mainly due to global warming, and the climate change it brings with it. As sea levels rise, coastal megacities will need more than flood barriers.

Floods can be destructive, sweeping away houses, cars, trees, and even people. Damaging floods can happen with only a few centimeters of water, or it may cover a house to its rooftop. Floods can occur within minutes, overnight, or a long period and they can last days, weeks, or longer. There are multiple types of floods, one of which is "Flash Floods", a flood caused by heavy or excessive rainfall in a short period of time. The main cause is heavy rains that rip through river beds, urban streets, or mountain canyons sweeping everything before them.

When it comes to protecting yourself and your property as an individual, your main aim should be preparing ahead of time. This includes avoiding building in a floodplain, constructing barriers (levees, beams, floodwalls) to stop floodwater from entering your property. But when a flood is imminent, an individual should always have an emergency kit assembled in case they need to evacuate. Furthermore, an individual should turn off utilities at the main switches or valves if instructed. Though it is impossible to end floods forever, governments can make a network of canals and dams to lessen their effects and can reward regions that reduce the risks of floods. When a flood takes place, the government must be ready with an emergency response. People trained for disaster and such floods must be sent for rescue in time. Food, clothing, medicines, and other necessities must be distributed to the victims.

To summarize it up, a flood is inevitable, no matter the reason. But if the government has risen awareness to the people, the damage of floods will be minimized.