

Effects of soil erosion in the philippines



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Soil erosion is happening everywhere in this world. Especially near the water area and maybe it is happening below where we stand. One my grandparents told me, that one time when they were young a typhoon with its devastating rain hit manila. Because they were near river, because of the heavy rain without warning the soil beneath their home collapse and their home was wash away in the river. And it said to be the cause of the collapse of the soil was the soil erosion. And because of soil erosion it has many effects in our self and in our country the Philippines.

But first we need to know what soil erosion is, and how soil erosion works. Erosion is the process by which soil and rock are removed from the Earth's surface by natural processes such as wind or water flow, and then transported and deposited in other locations. Soil erosion is a natural process that we cannot stop. And there is many factors that can affect on its physical process and how soil erosion work. First the Rainfall that can cause soil erosion. There are three primary types of erosion that occur as a direct result of rainfall sheet erosion, rill erosion, and gully erosion.

Sheet erosion is generally seen as the first and least severe stage in the soil erosion process, which is followed by rill erosion, and finally gully erosion. It works when The impact of a falling raindrop creates a small crater in the soil, ejecting soil particles. The distance these soil particles travel (on level ground) can be as much as 2 feet vertically, and 5 feet horizontally. Once the rate of rain fall is faster than the rate of infiltration into the soil, surface runoff occurs and carries the loosened soil particles down slope.

Sheet erosion is the transport of loosened soil particles by surface runoff that is flowing downhill in thin sheets. Second are those near to Rivers and streams. Valley or stream erosion occurs with continued water flow along a linear feature. The erosion is both downward, deepening the valley, and head ward, extending the valley into the hillside. In the earliest stage of stream erosion, the erosive activity is dominantly vertical, the valleys have a typical V cross-section and the stream gradient is relatively steep.

When some base level is reached, the erosive activity switches to lateral erosion, which widens the valley floor and creates a narrow floodplain. The stream gradient becomes nearly flat, and lateral deposition of sediments becomes important as the stream meanders across the valley floor. In all stages of stream erosion, by far the most erosion occurs during times of flood, when more and faster-moving water is available to carry a larger sediment load. In such processes, it is not the water alone that erodes: suspended abrasive particles, pebbles and boulders can also act erosively as they traverse a surface, in a process known as traction.

Third is the Coastal erosion. Shoreline erosion, which occurs on both exposed and sheltered coasts, primarily occurs through the action of currents and waves but sea level (tidal) change can also play a role. Hydraulic action takes place when air in a joint is suddenly compressed by a wave closing the entrance of the joint. This then cracks it. Wave pounding is when the sheer energy of the wave hitting the cliff or rock breaks pieces off. Abrasion or corrosion is caused by waves launching sea load at the cliff. It is the most effective and rapid form of shoreline erosion (not to be confused with corrosion).

Corrosion is the dissolving of rock by carbonic acid in sea water. Limestone cliffs are particularly vulnerable to this kind of erosion. Attrition is where particles/sea load carried by the waves are worn down as they hit each other and the cliffs. This then makes the material easier to wash away. The material ends up as shingle and sand. Another significant source of erosion, particularly on carbonate coastlines, is the boring, scraping and grinding of organisms, a process termed bioerosion. These are the three main physical process of erosion.

Because of this we can know how soil erosion can affect our lives and way of living. In the Philippines soil erosion can be devastating because we sit in the middle of the ocean and we have many lakes river we can be prone to erosion. One of the effects of erosion is the changing of the landscape Much of the carving up of the landscape is done by water particularly rivers. A river is formed when rainwater collects in a high place such as mountain or a plateau. The water makes its own way by breaking and eroding the rocks and soil.

It may branch out into different directions as it matures. Or it may be joined by other smaller stream called tributaries. A river carries much sediment. This consists of clay, sand, gravel and organic materials. And in agriculture Top layer of soil contains most of the organic matter and nutrients. Loss of this soil reducing soil fertility and affecting its structure badly. And Soil erosion decreases the moisture supply by soil to the plants for their growth. It also affects the activity of soil micro-organisms. Thus deteriorating the crop yeild.

Those who near the lakes and rivers Soil eroded by water get deposited on river beds, thus increasing their level and causing floods. These flood have various devastating effects, such as killing human and animals and damaging various buildings. It can affect also in pollution, Soil erosion is considered to be the leading global cause of diffuse water pollution, due to the effects of the excess sediments flowing into the world's waterways. The sediments themselves act as pollutants, as well as being carriers for other pollutants, such as attached pesticide molecules or heavy metals.

The effect of increased sediments loads on aquatic ecosystems can be catastrophic. Silt can smother the spawning beds of fish, by filling in the space between gravel on the stream bed. It also reduces their food supply, and causes major respiratory issues for them as sediment enters their gills. The biodiversity of aquatic plant and algal life is reduced, and invertebrates are also unable to survive and reproduce. While the sedimentation event itself might be relatively short-lived, the ecological disruption caused by the mass die off often persists long into the future.

In air soil erosion can Soil particles picked up during wind erosion are a major source of air pollution, in the form of airborne particulates " dust". These airborne soil particles are often contaminated with toxic chemicals such as pesticides or petroleum fuels, posing ecological and public health hazards when they later land, or are inhaled/ingested. And last the Tectonic effects. Because we are near to the ring of fire and many tectonic plates surrounding us the removal by erosion of large amounts of rock from a particular region, and its deposition elsewhere, can result in a lightening of the load on the lower crust and mantle.

This can cause tectonic or isostatic uplift in the region. Yes we cannot prevent it from happening, but us humans makes the process lot more faster. We make it cause more devastating to us. Human activities have dramatically increased (by 10-40 times) the rate at which erosion is occurring globally. Excessive erosion causes problems such as desertification, decreases in agricultural productivity due to land degradation, sedimentation of waterways, and ecological collapse due to loss of the nutrient rich upper soil layers.

Water and wind erosion are now the two primary causes of land degradation; combined, they are responsible for 84% of degraded acreage, making excessive erosion one of the most significant global environmental problems we face today. Because of our activities in the in Philippines some of the major works that didn't concern the effect to the environment. And when the environment get devastated, it will come back to us. And we humans will suffer to its effect of soil erosion.