



The Methods and Benefits for Soil Conservation

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Description

In addition to providing a habitat for a wide variety of species, soil is a crucial natural resource for the sustaining of plant, animal, and human populations. Globally, productive soils are increasingly deteriorating as a result of human activity. A century of declining soil quality has resulted in the loss of wetlands, forests, and agriculturally viable land. The goal of soil conservation measures is to maintain, enhance, or improve soil quality.

Production agriculture is the main source for supplying the world's needs for food and fiber, but increasing soil erosion jeopardizes this industry's long-term viability. In the natural process of soil development, soil erosion plays a significant role, but when erosion is accelerated, problems arise. By minimizing soil particle separation and transportation, soil conservation methods reduce wind or water erosion. Numerous conservation measures are examples of established methods designed to stabilize the soil by encouraging the production of larger and more cohesive aggregates, creating a barrier to stop wind or water erosion, or lessening the erosive activity of these elements. These technologies are used with better production techniques in more recent conservation techniques. Two urgent issues affecting both industrialized and emerging nations worldwide are soil erosion and climate change. These two environmental issues are very significant in the case of the Philippines.

One of the country's hotspots for soil erosion is the Philippines' island of Marinduque. A significant percentage of the province is at risk of soil erosion, according to previous studies on soil erosion modeling in the region. This chapter evaluates potential shifts in the province's erosion risk under projected climate change scenarios. According to the findings, the province of Marinduque will experience

a variety of changes in the coming years, with a rise in yearly rainfall being the most likely. These anticipated increases in yearly precipitation have caused erosion rates to rise, particularly in the province's arid regions and places with steep slopes.

Millions of microorganisms as well as plant and animal life depend on the nutrients that soil offers. The life cycle, however, comes to an end in unhealthy, unstable, or toxic soil. The goal of soil conservation is to maintain healthy soils using a variety of methods and practices. People that are dedicated to soil conservation work to keep the soil healthy, productive, and free from deterioration and erosion. According to the United Nations, conventional farming methods and climate change pose the biggest challenges to soil protection. Slash-and-burn techniques, excessive land use, and the abuse of toxic chemicals that contaminate soils are all examples of traditional farming practices. The goal of soil conservation is to lessen these dangers.

The use of pesticides has the potential to introduce dangerous chemicals into the soil, as well as neighboring vegetation and water supplies. Chemicals used on crops have the potential to contaminate food supplies as well as be hazardous to essential beneficial insects like bees, as well as fish and bird populations. The population of grassland birds in the United States has decreased by 53% since 1970, according to a recent study about bird biodiversity in the country that was published in Nature Sustainability. The increasing usage of pesticides is one of the factors cited as contributing to this decline.

Slash-and-burn Forests must be burned and cleared as part of farming in order to make room for new farmland. This technique exterminates plant species and drives animals out of their native habitats. Slash and burn clearing only employs a piece of land while it is useful for farming. Another area of woodland is chosen for clearing once it loses its fertility. The unsustainable cycle of this process prevents the soil from replenishing itself sufficiently to support robust ecosystems. Overuse of the land: Overuse of the land can reduce the role that soil can play in the global climate cycle. For instance, excessive logging for wood and overgrazing pastures can significantly exceed the normal recovery of flora, leaving soil more vulnerable to erosion. As a result, land may stop being arable and turn into a desert. For the purpose of feeding people and animals, farmers rely on soils. Additionally, soil serves as a purifier by removing pollutants and poisons from surface water as it passes into the earth to recharge aquifers. The raw elements for infrastructure are also provided by soil. For instance, soil is a crucial component in the creation of bricks for constructions.

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