



Ecosystem Services!!

Ecosystems produce a wide range of goods and services including provisioning services (e.g., food and timber), regulating services (e.g., pollination and climate regulation), and cultural services (e.g., recreation and spiritual fulfillment).

Ecosystem services are services which nature provides us with and which contribute to human wellbeing. Agriculture is a dominant form of land management globally, and agricultural ecosystems cover nearly 40 per cent of the terrestrial surface of the Earth. Ecosystems include both living things (plants, animals and organisms) and non-living elements of the environment (weather, water, soil, climate, atmosphere, etc.) interacting reciprocally.

Pest species destroy 25%–50% of the world's crops, The natural insect predators, parasites and parasitoids contribute approximately 33% of natural pest control. Natural pest control species such as spiders, ladybugs, preying mantis, flies, and wasps reduce the population of pest insects and weeds which shown that the value of more than \$400 billion per year globally in the agriculture.



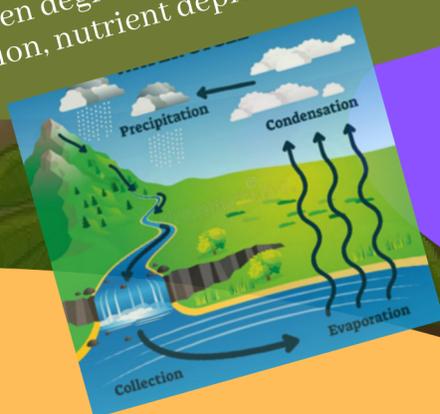
Insect pollination is a key ecosystem service provided by a wide range of insect species including bees, wasps, flies, butterflies, beetles and moths contributing to food production, with 35% of global outputs and 75% of global crop species. The global value of pollination for commercial food production has been estimated between \$235 billion and \$577 billion. It contributes to the subsistence agricultural production that feeds many millions of people worldwide.



Soils are complex mixtures of minerals, water, air, organic matter, and countless organisms. It has been estimated that 1 gram of soil contains up to 1 billion bacteria cells, comprising tens of thousands of taxa, up to 200 metres of fungal hyphae, and a wide range of organisms including nematodes, earthworms and arthropods. About 85% of agricultural land have been degraded by erosion, salinization, compaction or soil compression, nutrient depletion, biological degradation or pollution.



Worldwide, agriculture accounts for about 70 percent of all water use and up to 95 percent in many developing countries and thus influences both the quantity and quality of water available for other human uses. Water-related ecosystem services includes providing clean drinking water to regulating the flow of flood events and creating opportunities for water-based recreation and cultural practices



Climate regulation is the ecosystem service that regulates processes related to atmospheric chemical composition, the greenhouse effect, the ozone layer, precipitation, air quality, and moderation of temperature and weather patterns. Carbon sequestration is a process where carbon is stored in organic material. In ecosystem, carbon move from the atmosphere to organisms through photosynthesis and again release back to the atmosphere through degrading organisms.



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