

Environmental Impact of Agriculture

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In many nations, agriculture is the major cause of pollution. Pesticides, fertilisers, and other hazardous agriculture chemicals have the potential to pollute fresh water, marine habitats, air, and soil. They can also last for generations in the environment. Many pesticides are suspected of altering people's and wildlife's hormonal systems. Fertilizer runoff has an adverse effect on rivers and coral reefs.

For three-quarters of the world's severely impoverished people, farming is their sole sustainable source of income. Subsidies granted by the Indian government to agriculturalists encourage overproduction, which lowers international prices and pushes many producers in poor nations to cut shortcuts in terms of environmental protection. Producers facing diminishing yields from cleared areas expand into nearby wild regions, resulting in a cycle of growing impoverishment and biodiversity loss.

The agriculture industry utilizes around 69 percent of all fresh water on the world. Agricultural production utilizes too much water and affects water quality unless inventive conservation methods are used. This has a negative influence on freshwater systems all around the world.

The environmental impact of agriculture refers to the influence that various agricultural methods have on the ecosystems in which they operate, as well as how those impacts may be linked to those activities. Agriculture's environmental effect varies greatly depending on the techniques used by farmers and the size at which they operate. Sustainable agricultural techniques will be adopted by farming communities that aim to decrease environmental consequences by changing their practices. Agriculture's negative effect is an old subject that continues to be a source of concern, even as scientists devise new ways to decrease devastation and improve eco-efficiency. While certain forms of pastoralism are environmentally friendly, contemporary animal agriculture methods are more harmful to the environment than agricultural practices that focus on fruits, vegetables, and other biomass. Environmental contamination continues to be an issue due to ammonia emissions from cow manure.

Experts employ two sorts of indicators for assessing environmental impact: "means-based," which is based on the farmer's production techniques, and "effect-based," which is based on the influence of farming practices on the agricultural system or on emissions to the environment. The quality of groundwater, which is impacted by the quantity of nitrogen supplied to the soil, is an example of a means-based indicator. Effect-based indicators would show the loss of nitrate to groundwater. The means-based evaluation examines farmers' agricultural practices, whereas the effect-based evaluation evaluates the agricultural system's real consequences. For example, a means-based study would look at pesticides and fertilization methods used by farmers, whereas an effect-based analysis might look at CO₂ emissions or soil nitrogen concentration.

Agriculture's environmental impact includes effects on soil, water, air, animal and soil diversity, humans, plants, and the food itself. Climate change, deforestation, biodiversity loss, dead zones, genetic engineering, irrigation difficulties, pollution, soil degradation, and waste are only a few of the broader environmental challenges that agriculture contributes. Because agriculture is so important to the world's social and environmental systems, the international community has pledged to increase food production sustainability as part of Sustainable Development Goal 2: "End hunger, achieve food security and improved nutrition, and promote sustainable agriculture."

Agriculture was identified as both a driver and an industry under threat from environmental deterioration in the UN Environment Programme's 2021 "Making Peace with Nature" report.

Feeding an ever-increasing global population while decreasing environmental impact and maintaining natural resources for future generations is a major issue for agriculture. Agriculture may have a huge environmental impact. While negative effects such as pollution and deterioration of land, water, and air are severe, agriculture may also have a positive influence on the environment, such as trapping greenhouse gases inside crops and soils or decreasing flood risks via the employment of specific agricultural methods.

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