

Editorial

Climate and agriculture are closely linked to global processes. Even small changes in the climate have adverse effects on agriculture, reducing production rates. The impact of climate change through global warming is increasing average atmospheric temperatures, which has become a megatrend of significant future change worldwide. In 1972, the Club of Rome Report officially confirmed global warming as an international problem; and the World Meteorological Organization and the United Nations Environment Programme also declared that carbon dioxide is the main cause of climate change because it contributes the most to global warming. Assessing the impact of global climate change on agriculture is essential to adapting farming practices and increasing agricultural production. The global climate system is undergoing significant long-term changes that are visible around the world. Solar radiation directly reaching the Earth's surface is being trapped by greenhouse gases, resulting in an increase in atmospheric temperatures. In particular, CO₂ levels are at their highest levels and its concentration has currently reached 410 ppm, which is a major factor in the warming effect. Changes in ecological structure through global climate change are causing geographical and phenological changes. The effects of global warming or climate change include rising sea levels, more frequent extreme weather events, changes in rainfall patterns, and the expansion of deserts. By 2100, the average global sea level is expected to rise by 18 cm to 140 cm. The world has been facing environmental problems for the past 15 years. In 2019, several parts of Europe recorded the highest temperatures in the last 100 years. The effects of global warming or climate change include rising sea levels, more frequent extreme weather events, changes in rainfall patterns, and the expansion of deserts. By 2100, the average global sea level is expected to rise by 18 cm to 140 cm. The world has been facing environmental problems for the past 15 years. In 2019, several parts of Europe recorded the highest temperatures in the last 100 years. Various changes in the climate, such as severe floods, cyclones, droughts, storms, heat waves, melting glaciers, changes in rainfall patterns and rates, diseases and pests in agricultural productivity, freshwater shortages, damage to ecosystems and the environment, etc. Climate change indicators and the adverse effects they have been having on South Asian countries for the past few years have led to the need to take possible steps to overcome these negative changes. The Marshall Islands have pledged to reduce carbon (C) emissions by 32 percent by 2025 and to achieve net-zero emissions by 2050. The Bangladesh government reported that about 6,851,147 people were affected by a strong storm surge of 20 feet high with winds of about 150 km/h. Global climate change, its causes and impacts, is one of the most emerging issues in the field of science and technology. The tropical country of India is facing its impacts through droughts, floods, cyclones, heat waves, hailstorms and coastal salinity, which pose a threat to sustainable development. Nearly 70 percent of the Indian population is directly or indirectly associated with agriculture and its sub-sectors, and it is expected that this sector will contribute to achieving key sustainable development goals. The increase in global temperatures due to the emission of large amounts of greenhouse gases from various sources is the cause of climate change and its impacts. Extreme temperatures and their irregular occurrences disrupt the activity of all existing life on the planet through serious damage or loss. Assessing the impact and a broader understanding of the benefits of adaptation options rather than dealing with the unusual events of climate change is crucial for sustaining life in the current situation. While climate adaptation strategies have shown positive impacts on the journey of Indian agriculture so far, much more is needed in light of the emerging crisis.

Editor-in-Chief



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