



Effect of Global Warming on the Agriculture

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DOI- 10.5281/zenodo.7431498

Abstract:

Agriculture is a major driver of climate change. The meat, dairy, and poultry industries are responsible for a majority of food-related greenhouse gas emissions. In fact, agriculture accounts for about one-third of all human-caused greenhouse gas emissions worldwide.

An overarching goal for agriculture is to reduce carbon dioxide emissions while meeting the demands of the growing global population. One way to accomplish this is by changing farming practices from animal grazing to crop production on a larger scale.

Key Words: Climate Change, Sustainable Agriculture, Greenhouse Gas Emissions, Artificial Intelligence and Agricultural Production

The Science of Agriculture's Impact on Climate Change

The study of agriculture has an undeniable impact on climate change. The farming practices that we engage in, either as a profession or as a consumer have an effect on the environment.

The majority of our water usage is used for agriculture. Farming is responsible for 80% of our water usage, and this number continues to grow due to increased population. Even if we were able to create more efficient irrigation systems and produce food with less water, the world will still need more fresh water than the available supply in order to continue producing crops, drinking water, and maintaining healthy ecosystems.

Climate change poses a serious issue to food security around the world. The crops that are grown at higher altitudes are being destroyed by frost due to climate change while areas near sea level are experiencing flooding and drought from changing weather patterns

The Environmental Benefits of Sustainable Agriculture

The environmental benefits of sustainable agriculture are numerous. Sustainable agriculture, also known as organic farming, is the use of natural processes to produce food. It includes a set of management techniques that emphasize biodiversity, sustainability and restraint in the use of non-renewable resources such as pesticides and fertilizers.

Organic farming can help reduce the release of nitrous oxide and methane gas into the atmosphere. These gases are primarily released by animal agriculture as a result of livestock's digestive system. Organic farming also helps increase soil fertility due to the use of animal manure, compost or green manures for fertilization purposes. This means that farmers don't have to rely on artificial and chemical fertilization which could lead to increased levels or acid rain, an increased concentration in greenhouse gas emissions from factory farms and greater demands on non-Reducing

Greenhouse Gas Emissions from Livestock Systems

Livestock production is a significant contributor to greenhouse gas emissions. The IPCC reports that methane and nitrous oxide account for 18% of the total greenhouse gas emissions. Emissions from livestock systems are not only detrimental to the environment, but they also pose a threat to human health and create problems for our infrastructure.

In order to lessen these harmful effects, livestock producers have been looking for ways to reduce greenhouse gases. One of them is by using more sustainable feed ingredients like grass and corn stover instead of soy as an animal feed supplement. If livestock producers can employ more sustainable practices in their farming system, they will be able to reduce greenhouse gas emissions while also providing healthier products for consumers.

We need a better alternative than the current methods because, if not addressed soon, climate change will cause Carbon Dioxide and Methane Emissions from Agriculture are a Major Cause of Climate Change. Scientists have long known that the two gases play a major role in climate change. Methane is also a more powerful greenhouse gas than carbon dioxide. However, new research has found that the increase in methane and CO₂ emissions are due to human activities related to agriculture.

The study found that 78% of the increase in methane emissions from 1990 to 2016 was due to increased livestock numbers and manure management, while 65% of CO₂ emissions were due to increases in fertilizer use. This means if we want to reduce or eliminate these two gases we must focus on agricultural practices such as reducing livestock numbers and using less fertilizer.

Mitigation Strategies for Improving Agriculture's Impact on Climate Change
Agriculture is one of the most important sectors in the world. It has a strong contribution to the global GDP, and it provides employment to over 60% of the total human population. Given its

magnitude, it's not surprising that agriculture has been at the center of climate change mitigation efforts.

Mitigation strategies for improving agriculture's impact on climate change can include:

Keeping agricultural production within the limits of a sustainable yield

Using low input or no-till farming practices, which limits carbon emissions from plowing

Implementing conservation tillage

Improving irrigation efficiency by using drip, sprinkler, or pressurized irrigation systems

Artificial Intelligence and Agricultural Production

Though humans have been farming for hundreds of years, AI could be used to find the better ways to grow crops, as well as how to maximize crop yield. Farmers need to take advantage of this before it's too late.

While AI can help with innovation related tasks, it also can be a threat if farmers don't use this technology appropriately. For example, while there are many methods for optimizing the production of crops, there are also many unknowns about what will happen when these methods are used in combination. Farmers need to plan for the future now by taking advantage of all resources available – including AI – if they want their futures on this land secure.

Conclusion

Agriculture is an industry that is contributing to climate change. There are many ways in which agriculture contributes to the increase of greenhouse gases. One of the main ways agriculture contributes to climate change is through fertilizer. This fertilizer has nitrates that don't naturally occur in nature and when these nitrates break down, they release methane gas into the atmosphere. Industries such as meat, dairy, & poultry provide a majority of greenhouse gases globally and account for about 1/3 of all human-caused greenhouse gas emissions. Agriculture is one way to reduce CO₂ emissions while still satisfying ever-growing demand. One strategy for this is by changing the focus of cattle production

to include crop development on a larger scale.

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