

Food Security and Climate Change: Innovations in Food Science to Help Farmers

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What is Food Security and Climate Change?

The state of having reliable access to a sufficient quantity of affordable and nutritious food. As per the United Nations' Committee on World Food Security, the food security is defined as the physical, social, and economic access to sufficient, safe, and nutritious food in order to meet their food preferences and dietary needs for an active and healthy life.

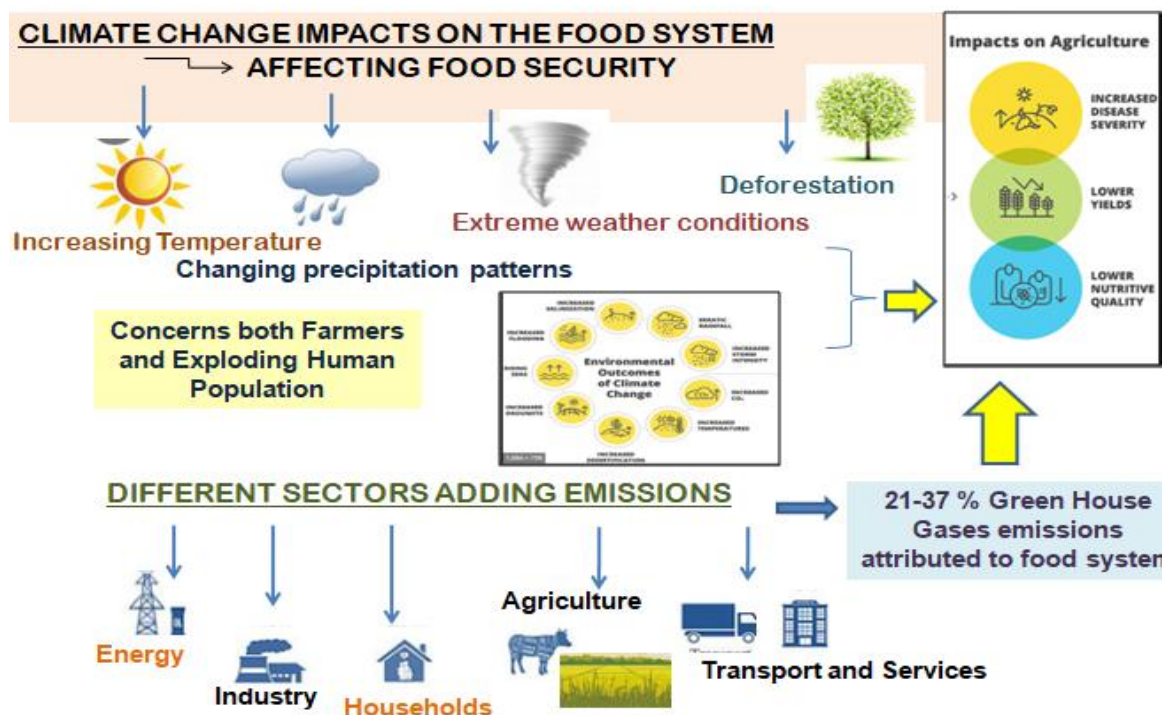
KEY PILLARS OF FOOD SECURITY



What are the Impacts of Climate Change on Food Security?

Climate change has been found to have an impact on food safety, particularly on incidence and prevalence of food-borne diseases. Increased climate variability, increased frequency and intensity of extreme events as well as slow ongoing changes will affect the stability of food supply, access and utilization. It also leads to degradation and depletion of

natural resources along with the migration to urban areas and across borders, and political and economic instability.



What all SOLUTIONS could be provided by the scientific community?

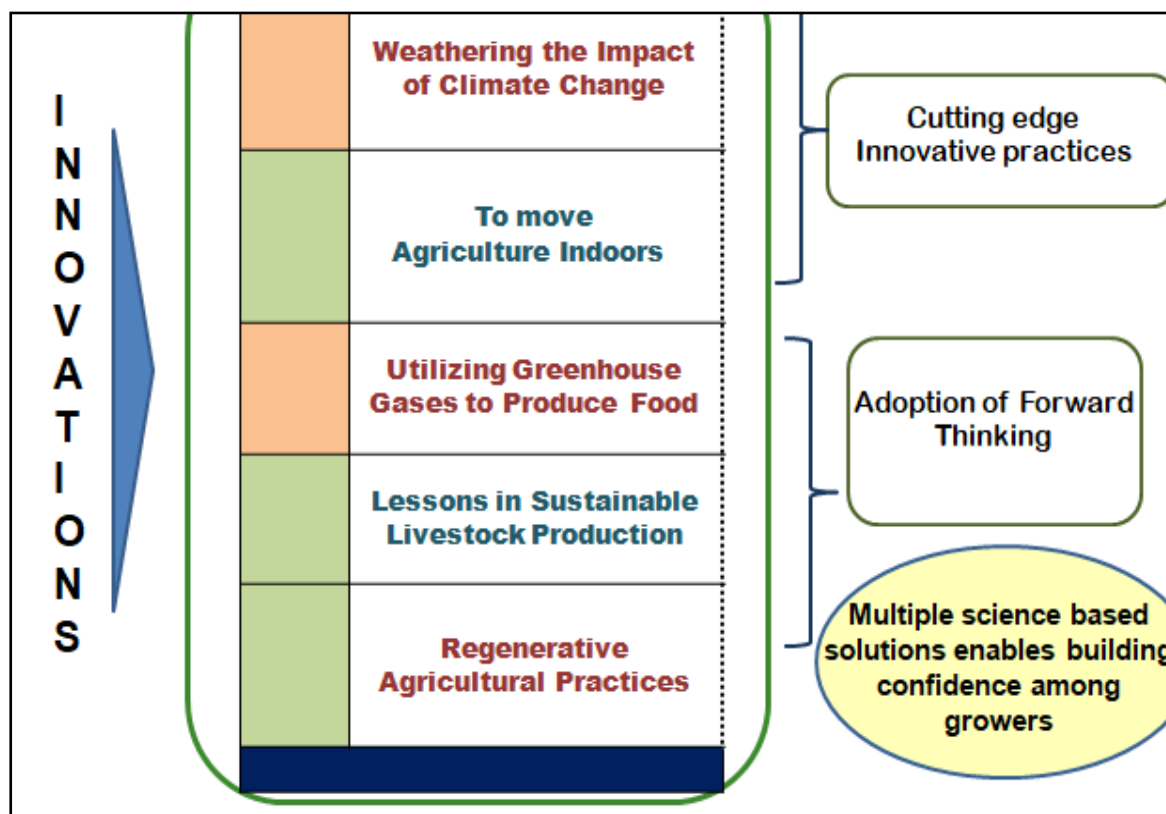
How FARMERS would be supported in light of the drastic environmental changes, including droughts, increasing temperatures, and flooding, that are increasingly threatening their livelihood.

Innovations in food science, specifically focused on

How agricultural advancements allow farmers to adapt to climate change?

How science enables growers to shift their practices in response to climate change?





Seven Areas of Action by Scientific Community

- ✓ Number 1: Integrate food security and sustainable agriculture into global and national policies.
- ✓ Number 2: Significantly raise the level of global investment in sustainable agriculture and food systems in the next decade.
- ✓ Number 3: Sustainably intensify agricultural production while reducing greenhouse gas emissions and other negative environmental impacts of agriculture.
- ✓ Number 4: Develop specific programs and policies to assist populations and sectors that are most vulnerable to climate changes and food insecurity.
- ✓ Number 5: Reshape food access and consumption patterns to ensure basic nutritional needs are met and to foster healthy and sustainable eating patterns worldwide.
- ✓ Number 6: Reduce loss and waste in food systems, targeting infrastructure, farming practices, processing, distribution and household habits.
- ✓ Number 7: Create comprehensive, shared, integrated information systems that encompass human and ecological dimensions.

Climate Change Food and Farming - 2050

By 2050, climatic impacts on food security will be unmistakable. There are likely to be 9 billion people on the planet, most people will live in cities and demand for food will increase significantly

We will need major innovations in how we eat and farm

To cope with climatic changes, we may need to consider:



SOURCE: Porter et al. 2014



References

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