

**DEVELOPING A RESEARCH AGENDA FOR THE CARIBBEAN FOOD  
SYSTEM TO RESPOND TO GLOBAL CLIMATE CHANGE**

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**Introduction:**

Food production is highly dependent upon climate since solar radiation, temperature and rainfall are the main drivers of crop growth. Since humans have been changing the global climate by emitting high amounts of greenhouse gases into the atmosphere there is expected to be a rise in temperature, changed hydrological cycles and increased climatic variability. Climate change will affect food supply and food security.

Forestry has a major role to play in food production since forest ecosystems reduces run off, reduces flooding, preserves water for drinking and irrigation and protects agricultural crops from high winds. Forests also mitigate against changes in temperature, changes in precipitation patterns, heat and water stress. Properly managed forests will lead to rise in food production and poorly managed forests will lead to reduction in food production. Nevertheless as the impact of climate change intensifies globally the inherent biological diversity of the tropical forests including mangroves would be the first compromised.

**Some research projects to enhance our food security:-**

1. Investigate mechanisms or policies to reduce the rates of deforestation and increase the rates of reforestation using appropriate species.

2. Monitor biological diversity to observe changes in species composition rates of growth, population dynamics etc.
3. Evaluate the impacts of altered weather patterns on weed growth, pest infestations and food production.
4. Identification of and testing appropriate species that are drought tolerant, heat tolerant, or possibly develop them.
5. Commence evaluation of new food crop varieties that are more adaptable to the changing climate.
6. Commence evaluation of species that will grow at different periods of the year rather than traditional dry/wet season crops.
7. Investigate use of agroforestry practices to mitigate against soil loss, heat and water stress and improve food production.
8. Ensure better watershed management practices on slopes to reduce soil loss and promote water conservation.
9. Invest in natural and regional infrastructure that seek to improve production and distribution.
10. Effect of climate change on ecosystem components which supports agricultural production such as insect pollinators, predator / prey relationships and soil organisms.
11. Evaluation of crops and practices on sloping terrain and high elevations since more and more production will move to higher ground.
12. Choosing livestock breeds that are efficient converters of food into meat and milk.

**Conclusion:**

Global climate change will result in detrimental effects on food supply and food security in Caribbean Countries. Even though we adapt to the climate change the problems cannot be completely avoided but the negative impacts can be minimized through appropriate research.