CLIMATE CHANGE: AN OPPORTUNITY FOR INNOVATION IN AGRICULTURE.

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INTRODUCTION

- Globally, climate change is one of the developmental challenges of the 21st Century
- Climatic factors such as humidity, temperature, rainfall etc. have changed in various agro-ecologies.
- Global warming as a result of climate change is having devastating effect on our agriculture.
- Unexpected drought and floods are destroying our crops, livestock as well as affecting fisheries production.

INTRODUCTION CONT'D

- Climate change perhaps presents us with an opportunity; It reinforces the need to make greater progress on the transfer and dissemination of existing knowledge and technologies and to speed up the development and transfer of new innovations.

- Innovation is vital to build resilience and competitiveness in agriculture and to meet the urgent challenges presented by climate change.

- Innovations applied to agriculture has made agriculture climate smart

SOME FOCUS AREAS WHERE INNOVATION IS APPLIED TO CLIMATE SMART AGRICULTURE

These include:

a. Early maturity, drought tolerant, Nitrogen and water use efficient crop varieties
b. Resistance to existing and new emerging diseases and pests (eg cassava brown streak virus, maize lethal necrotic virus disease, fall army worm etc)
c. Conservation Agriculture;
e. Artificial Intelligence
f. Meteorological data to predict rainfall or drought, pest evasion etc
g. Investment in irrigation and water harvesting structures

EXAMPLES OF INNOVATIONS THAT HAS EMANATED FROM CLIMATE SMART AGRICULTURE (CSA)

- The use of drones and advanced image data analytics can enable the early identification of pests and diseases.
- Early warning systems offer information to farmers via their mobile phones that can advise them on when to plant.
- The use of agrometeorological information which has strengthen climate resilience
- Improved irrigation technologies and the use of renewable energy in food processing units.
- Development of improved early maturing/drought-tolerant seeds, etc.
- More efficient irrigation and conservation agriculture techniques that benefit farmers

SOME CONSTRAINTS TO INNOVATION

- Inadequate investment in technology and infrastructure especially in the developing countries;
- Unpredictable growing conditions which can hamper farmer's ability to assess the value of new technologies such as drought tolerance

RECOMMENDATIONS

- The policy environment should be friendly and institutions strengthened to support climate change related innovations.
- Research programs should be aimed at developing climate- smart technologies and management methods, early warning systems, risk insurance and other innovations that promote resilience and combat climate change.
- The need for increased investments in research and development of soil testing and analysis; climate resilient, high yielding, disease and pest resistant, short duration crop varieties, taking into account consumer health and safety.
- The process of innovation requires experimentation and iteration, a diverse team, and a desire to learn while failing and these process must be ongoing in the phase of climate change to come out with better innovations.

THANK YOU