



Farmers Driven Climate Change Agenda

GLOBAL CLIMATE CHANGE RISKS MITIGATION BY USING ESRI's PRODUCTS

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Association for Farmers Rights Defense, AFRD Established in 1999



The Member of the World Farmers Organization, WFO



The Partner Organization of the myclimate.org



The Member of the DesertNet International



The Member of the Environmental Systems Research Institute (ESRI)





Climate Change and Extreme Weather

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- Climate change, drought, floods, soil erosion, debris flows, deforestation, loss of agrobiodiversity, thunderstorms, Global temperatures and sea levels rising, hurricanes, forests and bushfires, glaciers and ice melting in parallel with Ecological pollution, Ocean Water acidification and Eutrophication, Micro Plastic and Groundwater's Pollution, Overused Pesticides, etc.
- Climate change presents an existential threat to the environment, to Family Farmers, Smallholder Farmers and marginalized communities, and to the economic welfare of any country;
- Climate change is contributing to rising losses from natural disasters, including increased damage to physical assets and disruption of Food Systems, Supply Chain of Agribusiness operations. Farmers are facing losses and large damages caused by Flooding;



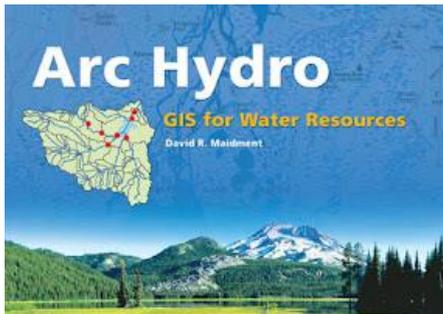


Mitigation, Adaptation and Vulnerability, Risks Assessment, Farm Damage Minimization and Advocacy of Farmer's Rights

Climate change mitigating and adaptation scenarios developed by the AFRD Georgia in Cooperation with ESRI ArcGISGEO can be used how to visualize potential future impacts caused by Flooding, Draught, and Soils Erosion and this study concluded that our Farmers would cope with efficient flood hazard-reducing scenarios and different regions can have the region-specific action plans and interactive map.

Family Farms, Farm Organizations, Agricultural Cooperatives, and Local Governments can model a variety of Flooding Risks to understand the risk to existing assets and supply chains, formulate strategies to protect Farmers through GIS Systems and insurance or physical mitigation, and plan resilient growth strategies for future assets. GIS and 3D Models can also be used to sensitivity test the implemented protection measures against future climate conditions and a comprehensive range of high-impact scenarios.

With food crises and extreme weather events on the rise – such as in the Horn of Africa and Pakistan – global food security lies in the balance. Farmers are facing these challenges head-on, and their perspectives are critical to decision-making around food systems. With a number of high-profile events and awareness days coming up, the world is heading into a season of opportunity for food systems transformation: one that can promote sustainable agriculture, equitable livelihoods, and access to nutritious foods for all.



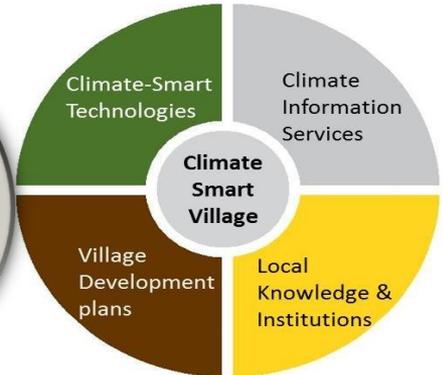


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ESRI's Products ArcGIS for Climate Change Scenarios



- In partnership with ESRI and using the ArcGIS Platform for Rural and Farmers Communities will be successfully implemented and monitored as a new Flooding predicting and prevention by GIS.
- Once fully implemented ArcGISGeo and 3 D Modeling, this information could bring the most significant and vital Agriculturally and environmental benefits to Farmers suffering from Flooding and Erosion in the different regions on local and national levels developing Climate Smart Villages Concept:
- We are oriented and dedicated to the early alert-and warning-focused platforms for Farmers being aware of upcoming floods, providing in time information on how much a river will rise, which doesn't always mean people can know what that would mean for them and their villages, Farm Animals, Harvested Products and organization of by-passes for fish;

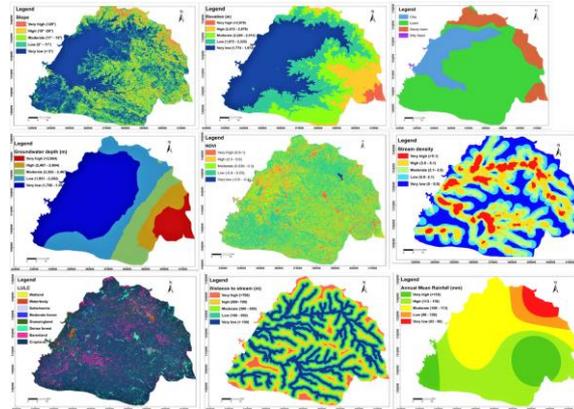




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Early Warnings and Alerts

- We are trying to cover the most affected areas of our current operational flood forecasting systems. In these areas, we use our models to help local Farmers, Ag Cooperatives in getting the alerts to prevent the effect of the flooding and save the harvest, animals, poultry and Family Members in safe places. In some areas, we have used ArcGIS Drones, which support data visualization; advanced analysis of river flow, and at the same time it support data sharing across different municipalities.

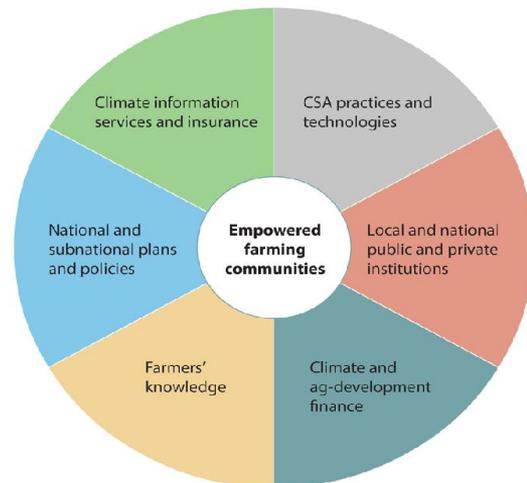
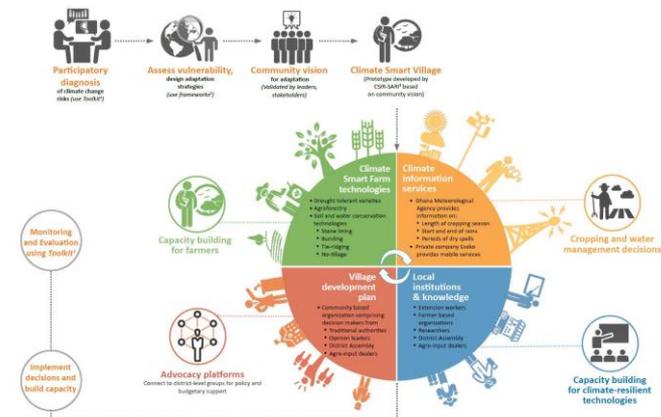




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Capacity Building and Bottom-up approaches of Farmers

- We are oriented and dedicated to the early alert-and warning-focused platforms for Farmers being aware of upcoming floods,
- By providing time information on how much a river will rise, which doesn't always mean people can know what that would mean for them and their villages,
- Keeping the Farm Animals, Harvested Products and organization of by-passes for fish;
- By involving the Young Farmers, GIS and AI Specialists,
- Providing Trainings and sharing of best practices





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Results and outcomes

- By developing the climate change risks mitigating and adaptation models and scenarios, the datasets of all indicators can be inserted in ArcGIS Data;
- Will be launched the Climate Change interactive Map to make the flooding predicted and prevented and Alerts will be shared directly with Farmers, having the flood data even more hyper-local.
- The Flood Preventing and Predicting interactive Map which will provide the same depth and flood extent information in a more visual format that helps people to understand the current and forecasted flood situation in their area instantly.
- This interactive map will be the primary resource for local Governments, minimizing the damage to rural and peri-urban infrastructure by visual forecast information moving forward.



Thank you for your interest



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