Enhancing Climate Resilience in Agriculture and Biodiversity

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Climate Hazards Threatening Agriculture & Biodiversity

Temperature increase

More intense weather and climatic events

Erratic rainfall patterns

Sea level rise
Effects & Impacts of Climate Hazards

• Reduced crop productivity due to heat stress; salinity of low-lying production areas (SLR)
• Disturbed growing seasons for crop production
• Losses and damages to crops due to more intense extreme events
• Reduced weaning rate and mortality of livestock
• Reduced fish population and productivity
• Loss of species due to disturbed habitats
Responding to Climate Hazards to Enhance Resilience

**Good agricultural practices** – e.g. changing crops, water harvesting, protected area management, marine protected area, etc.

**Climate smart agriculture** – adjusting planting calendar, crop improvement, efficient water management, nutrient management, climate risk management via agri-insurance, etc.
SMATER APPROACHES TO REINVIGORATE AGRICULTURE AS AN INDUSTRY IN THE PHILIPPINES (PROJECT SARAI PHASE 2)

“Philippine Agriculture in the Fourth Industrial Revolution”
Smarter farmer, smarter agriculture
Providing solutions for a more productive and proactive farming

167 Researchers

9 Crops

11 co-implementing State Universities and Colleges

6 National Government Agencies
Sarai Enhanced Agricultural Monitoring System (SEAMS)
Drought and Crop Assessment Forecast (DCAF)
Automatic Weather Station (AWS)

Crop Experts Integrated Pest and Disease Advisory System (IPDAS)
Irrigation Soils

www.sarai.ph
Radio, DOST

Farmer
Gov’t agencies
Academe
Private Institutions
NGAs

Peer Review

KNOWLEDGE PRODUCTION PROTOCOL

www.sarai.ph
SARAI Technologies and Systems

SARAI-Enhanced Agricultural Monitoring System (SEAMS)
Drought and Crop Assessment Forecast (DCAF)
Automatic Weather Station (AWS)

SARAI knowledge portal and mobile applications
Monitoring through AWS and UAV units
Feedback mechanism

Crop models
Crop weather
Crop phenology
Crop nutrient management
Crops and pest advisory

SPIDTE CH and free SMS advisories

Planting Date Calculator

Cost-efficient soil moisture meters and sensors/WAISS

Cost-efficient soil moisture meters and sensors/WAISS

BETTER DATA

FIELD MONITORING

SATELLITE DATA
Local Government Units Climate Action Plans

• Enhanced Comprehensive Land Use Plan (CLUP) plus VA + CCA
• Local Climate Change Action Plan (LCCAP)
• Updating the Protected Area Management Plan (PAMP) to include VA + CCA
• Promoting local community innovative interventions and access to People’s Survival Fund (PSF)
• Updating of design standards for infrastructure – e.g. drainage, flood control

❖ Harmonizing the local plans
❖ Mobilization of the Local DRRM Councils/Offices
Way Forward

• Addressing **future climate challenges** – e.g. improved Seasonal Climate Forecasting (SCF); Managing CLIVAR via WIBI, RTMs, etc.

• Promoting **local actions** through active community participation, e.g. CFS

• Enhancing **resilience** through capacity building, training, reduced exposure, etc.

• Active **partnerships** (communities, governments, industries, academics, CSOs, NGOs, etc.)