



# Climate-Resilient Agriculture for Disaster Risk Reduction (CRADR)

## BACKGROUND

The agricultural sector is often the first to be affected by the changing climate. The Climate-Resilient Agriculture for Disaster Risk Reduction (CRADR)



project aims to bridge the gap between international excellence and local expertise to overcome climate-related agricultural disasters at all levels, from regional, national, to local. The project would like to identify the source of the necessary information, the meteorological parameters directly impacting agriculture, and the affordable and effective tool/equipment for local people to prepare for this uncertainty.

CRADR is a collaboration between the Disaster Mitigation Working Group (DMWG) and Agriculture Working Group (AgWG), under the APAN (Asia-Pacific Advanced Network) which links between members of research agencies and educational institutions from all over the world.

## APPROACH

Two case studies were identified to study the impact of climate change to agricultural productivity. At a provincial level, the project worked with "Phrae Province Water Resource Management Centre, Thailand", and at the village level "Ban Pak Yim", Thailand (as known as "Happy Farm") was selected.

## OBJECTIVES

- To exchange the evaluation of meteorological parameters impact on agricultural production for climate-resilience agriculture
- To expand the use of science and technology for climate-smart agriculture by transferring technologies
- To create regional resilience and capacity of participating countries regarding climate impacts on agricultural production
- To improve food security, livelihood and disaster resilience at the local level

## ACTIVITIES

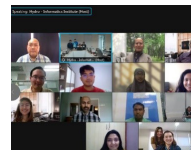
### "Online Training" on How to Access and Utilize District Real-time Information

The CRADR trained key staff of local authorities to interpret real-time weather information. Training activities introduced up-to-date information from real-time telemetry, including flood forecasting drought monitoring systems to improve local resiliency to climate risks.

### Online Workshops

Three online workshops focused a range of key technologies and innovations in precision agriculture, data-oriented applications and lessons to be learned.

A total of 190 participants from twelve countries



(Cambodia, India, Indonesia, Japan, Lao PDR, Malaysia, Myanmar, Philippines, Singapore, Taiwan, Thailand, and Vietnam), joined the training and workshops.

## SUMMARY OF CRADR PROJECT

### Principle of Achievement at 3 Levels

From the 6-month duration of the project, the project team collected, analysed, and identified the requirement and future needs of the two study areas. As a result, the project provides “The Principle of Interoperable Development” for future sustainability which can be divided into three phases, Standard, Advanced, and Professional. The stakeholders in the project are classified in three perspectives, Community, Province, and Supporter.

All the partners of this project and the potential future stakeholders can play as the “Supporter” to contribute knowledge and technology support for climate-resilient agriculture and disaster risk reduction at all levels.

The outcome of this collaboration provides a clear recommendation on the sustainable development framework to be implemented in the near future. The project can be a prototype for future study nationwide starting from Thailand and later expanding to ASEAN.

GOAL	Phase 1: Standard (Present)	Phase 2: Advance (Future)	Phase 3: Professional (SD)
Communities	Water security	Food security	Modern agriculture
Provinces (PRWM)	Communication	Water balance analysis	Analytical system Robot machinery
Supporters	Local Hydroinformatics System	Climate-Smart Agriculture	AI database

## LINKAGES AND COLLABORATIONS FROM THE CRADR PROJECT

The CRADR project is influenced by the TEIN\*CC sponsored project, “Deeper Understanding of Natural Disaster - Instrumental for Disaster Mitigation (UND),” of Academia Sinica Grid-computing Centre (ASGC). The project partner from Taiwan has kindly contributed their research and knowledge from the UND project to CRADR participants. We also acknowledge the work of the ASEAN Sub-committee on Microelectronics and Information Technology

(SCMIT). and the ASEAN Committee on Disaster Management (ACDM) which is the main ASEAN body responsible for disaster management among the sub-regions. This project ensures the cooperation across sectors and regions for the benefit of all.

## CHALLENGE

- Climate is the current global impact which needs downscaling of climate projection information to define local climate risk for proper preparation.
- The scalability and customizability of technology and ICT literacy among local users cannot be disregarded.
- The global health pandemic and the shortened duration of the project by half affected the original plan, project design, and participants’ interaction with the project.

## BENEFITS TO TEIN AND ITS COMMUNITY

- Increase human capacity for sustainable human development through the transfer of special expertise from each network and, at the same time, share the diversify indigenous knowledge and management concept which will be beneficial to all participating communities
- Strengthen the cooperation between several Research and Education Networks through TEIN which facilitates and encourages researchers across the region on a caring and sharing basis for climate-resilient and sustainable agriculture
- Enhance the application of Science, Technology, and Innovation (STI) for the climate-resilient agriculture community and its possibility for regional expansion
- Ensure the participation of women in the selected pilot area to be aware of the climate challenge and its resilience.
- Sustain the project achievement on improving climate-resilient agriculture for future food security by disseminating the outcome through various platforms e.g., ASEAN or UN family

### For more information

Asi@Connect : [www.tein.asia](http://www.tein.asia)

#### Disclaimer

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