Addressing Agroecology Transition in the Mekong Region

Current Activities on Climate Change Adaptation in Myanmar

Nyo Mar Htwe

Yezin Agricultural University

24.1.2017

ActionAid promotes a three-prong approach to CRSA:

1. Conducting participatory appraisals to identify local conditions, potentials and challenges for making the transition to agroecological farming systems
2. Identifying, documenting, testing, and disseminating local knowledge and alternative agroecological practices and encouraging local innovation
3. Promoting long-term sustainability through appropriate agricultural research and extension services based on technologies that reduce the dependence on external inputs and agro-chemicals, help farmers adapt to climate change, and build on and reinforce local knowledge

Actionaid. 2012. Climate resilient sustainable agriculture: A real alternative to false solutions.

The actual practices of CRSA are based on 7 key pillars:

Gender equity and women's rights

Soil Conservation

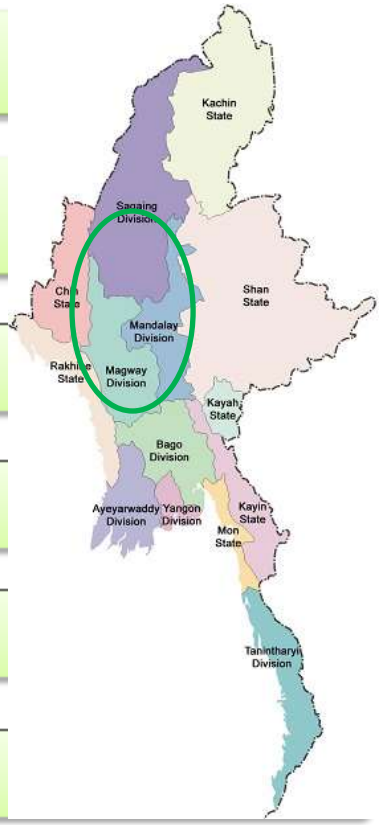
Sustainable water management

Agrobiodiversity preservation

Livelihood diversification

Improved processing and marketing

Supporting farmers' organizations and collective action



Assessing Vulnerabilities to Climate Change in Laputta and Pakokku

Myanmar Climate Change Alliance

Training on

- Techniques to assess vulnerabilities to climate change
- Raises awareness of communities → possible impacts of projected changes

  stimulate thinking on how to prevent the consequences by adapting to the changes

Participatory hazard mapping in Pakokku, © MCCA, 2016

MCCA is funded by the European Union and implemented by UN-Habitat and UNEP with ECD of Myanmar.

http://myanmarccalliance.org/en/2016/05/assessing-vulnerabilities-to-climate-change-in-laputta/

Addressing Climate Change Risks on Water Resources and Food Security in the Dry Zone of Myanmar

1. Response to the climate-induced reduction of freshwater supply
2. Climate-resilient food and livestock production systems
3. Improved climate risk information dissemination

- February 2015 - 2019

https://mohinga.info/en/profiles/activity/MM-FERD-ID937/

Adapting agricultural value chains to climate change in Shan State, Myanmar

- Planning and implementation of adaptation measures along value chains
- Improving the access of producers to high-quality meterological and climate data for better decision-making
- Consideration of climate risks in planning processes at township and district level

- Ministry of National Planning and Economic Development
- March 2015-December 2017

https://www.giz.de/en/worldwide/30684.html

Project for Development of Water Saving Agriculture Technology in the Central Dry Zone

- Conduct baseline survey
- Provide technology on seed production
- Provide training to farmers and extension staff
- Provide knowledge and technology on land management, water saving agriculture technology with demonstration farms
- Support technological assistance for research

- December 1, 2012 - January 1, 2018
- JICA & MOALI

http://foodsecurity.mekonginstitute.org/project-517

Reducing Risks and Raising Rice Livelihoods in Southeast Asia through the Consortium for Unfavorable Rice Environments

1. Development and evaluation of combinations of stress-tolerant rice Germplasm and integrated crop management options for productivity, income gains, value addition and risk reduction
2. Identification of uptake or communication pathways and approaches to fast-track technology dissemination
3. Capacity enhancement through knowledge management and training
4. Establishment of a platform for partnerships and information brokering

- July 7, 2013 - July 1, 2017

http://foodsecurity.mekonginstitute.org/project-709

Stress Tolerant Rice in Vulnerable Environments

- To contribute to developing resiliency to drought, flooding, and cyclones by reducing rice crop losses
- Improving the ability of communities to recover from natural disasters

- Ayeyarwady, Bago, Mandalay, Rakhine, Yangon
- Sept 2013-2018

http://foodsecurity.mekonginstitute.org/project-861

Strengthening the Resilience in Northern Shan State

- To promote the sustainability of food
- Reduce poverty by promoting careful management of resources
- Securing agricultural products

- Palaung, Shan, Kachin, Lahu, Other
- September 1, 2014 -April 28, 2017

http://foodsecurity.mekonginstitute.org/project-860

Project for Capacity Development of Yezin Agricultural University - JICA - TCP Research

- Farmer Participatory Varietal Selection for Biotic and Abiotic Tolerant Rice in Selected Area of Myanmar
  - Collection of Myanmar Rice Germplasm
  - Screening for Biotic and Abiotic tolerant rice germpalsm

Sustainable cropland and forest management in priority agro-ecosystems of Myanmar

- To build the capacity of farming and forestry stakeholders to mitigate climate change
- Improve land condition by adopting CSA
- Sustainable forest management policies and practices

- Planning 2013-2014
- Not yet implement

https://www.thegef.org/project/sustainable-cropland-and-forest-management-priority-agro-ecosystems-myanmar

My Coast: Ecosystem-Based Conservation of Myanmar's Southern Coastal Zone

- Improve coastal zone management to
  1. benefit marine biodiversity
  2. climate-change mitigation
  3. food security

- Proposed project

https://www.thegef.org/project/my-coast-ecosystem-based-conservation-myanmar%E2%80%99s-southern-coastal-zone

Reducing Climate Vulnerability of Coastal Communities of Myanmar through an Ecosystem-based approach

- To strengthen the protection of vulnerable coastal areas
- Communities against the adverse impacts of climate change and climate variability by adopting an ecosystem based adaptation approach

- Rakhine State of Myanmar
- Proposed project

https://www.thegef.org/project/reducing-climate-vulnerability-coastal-communities-myanmar-through-ecosystem-based-approach

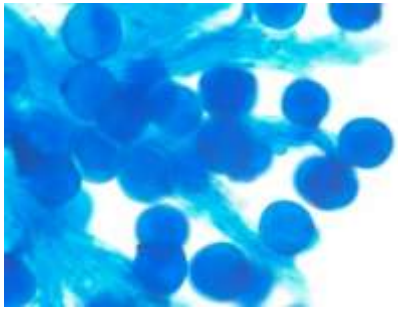
Climate Smart Village

- CSV in Myanmar from April, 2017
  1. Nyung-Oo Township in Mandalay Region,
  2. Kanpetlet, Chin State,
  3. Nyung-Shwe Township, Shan State
  4. Bogalay Township in Ayeyarwady Region

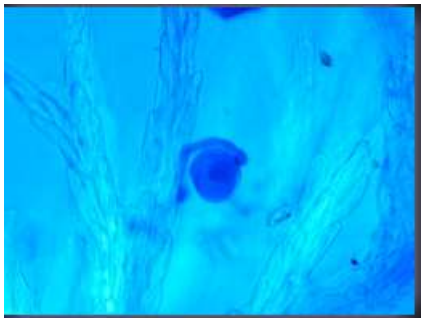
Research Activities on Climate Change

Selection of Early Maturing Rice varieties from segregating lines (For less water availability)

Field Survey on Spikelet Sterility Under Heat Stress in Rice Varieties



Many pollen grains on stigma cause spikelet fertility



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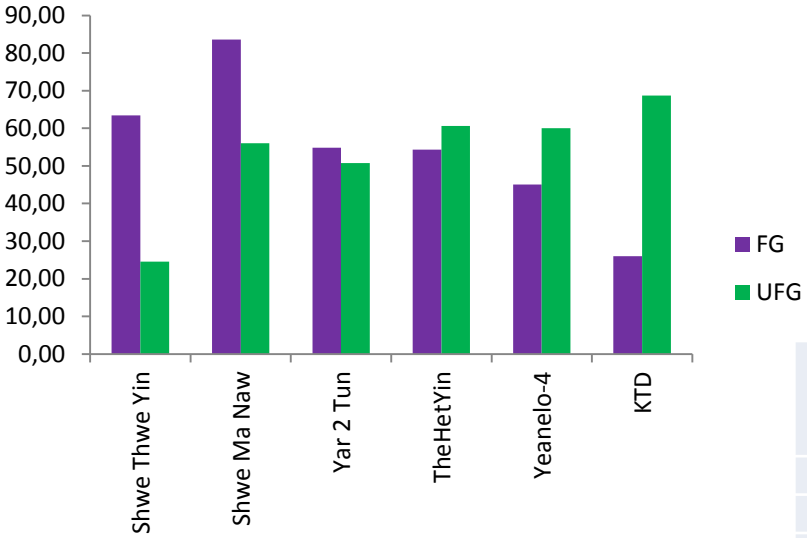


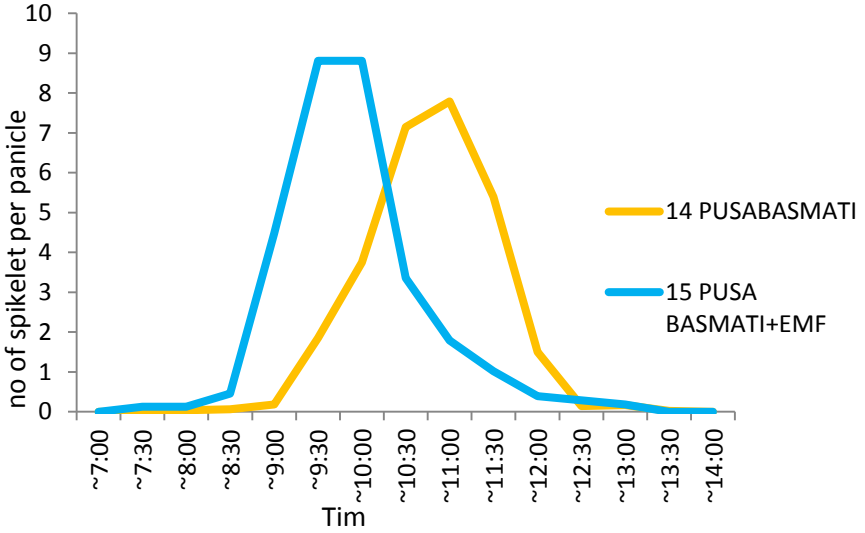
Maximum and minimum temperature at start of flowering to 10 days

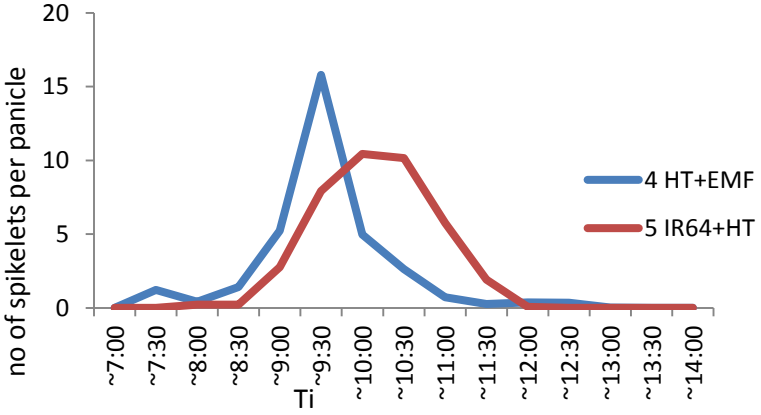
	Max Temperature (℃)	Min Temperature (℃)
8-May-16	40.3	24.7
9-May-16	40.7	25.5
10-May-16	41.1	26.4
11-May-16	41.1	26.8
12-May-16	39.9	28
13-May-16	39	28.4
14-May-16	39.6	27.9
15-May-16	41.3	26.4
16-May-16	40.8	27.2
17-May-16	40.2	28.6
18-May-16	38.8	25.4

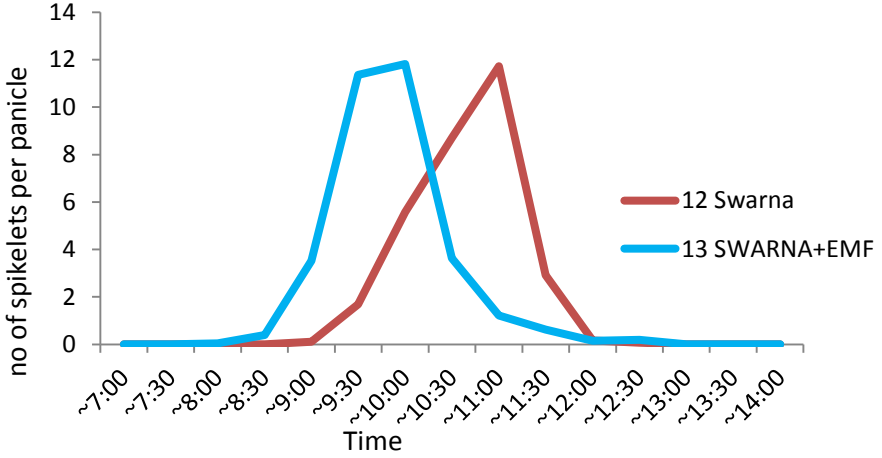
2015-2018

Evaluation of Early Morning Flowering Character in Near Isogenic Line and their Recurrent Parent

Myanmar rice cultivars for EMF







2015-2018

Research Activities on Climate Change

- **Site-specific nutrient management and balanced nutrient application**
  - SSNM research for Rice and Corn in three locations, Taung Gu, Yezin and Tet Khone townships

Research Activities on Climate Change

- Application of Good Agriculture Practices in Rice
- Promote Water Use Efficiency (AWD)
- Varietal development program for Climate Change (DAR)

Thank You For Your Kind Attention!

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