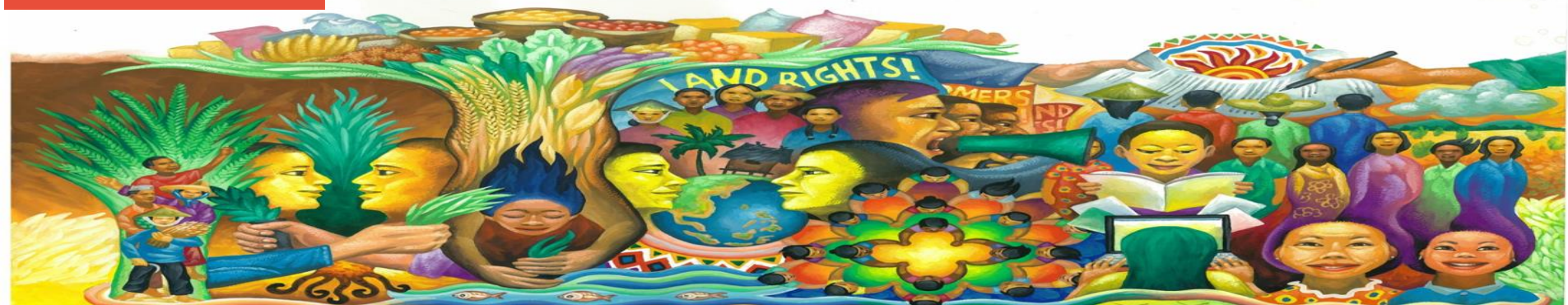


*Farmer-led Sustainable Farming and Cooperative
Marketing Approaches responding to Climate Change:*
AFA's Experiences for Agro-ecology Futures
Regional Forum
Siem Reap November 6-8, 2018



AFA: Brief Background

- AFA – regional network of small-scale farmers with 11 million members in 10 countries in 3 sub-regions in Asia (South, Southeast and Northeast Asia)
- AFA's program to support its member
 - 1.Capacity Building and Technical Assistance*
 - Sustainable production technologies
 - Sustainable Farmer-led Value-chain development
 - 2.Regional and International Policy Research and Advocacy*
 - Regional advocacy – ASEAN, ADB, SAARC
 - International – IFAD (FAFO);WB (GAFSP); FAO (CFS processes); GFAR/GCARD
 - 3.Knowledge Management*
 - Knowledge product development (issue papers translated in local languages, videos, e-bulletin, etc.)

Part I

Farmer-led Sustainable Farming Initiatives Responding to Challenges of Climate Change

Philippines: PAKISAMA Experience

Impacts	Adaptation strategies
<p>Floods, Drought/long dry-spell</p> <ul style="list-style-type: none">• low yield or no harvest at all for coconut• For irrigated rice land, lower the yield• For non-irrigated, one cropping a year and lower	<ul style="list-style-type: none">• Adaption of sustainable farming practices<ul style="list-style-type: none">- Crop/ farm diversification- Integration of livestock and poultry--planting of other crops such as root, crops, vegetables- Collaboration with other stakeholders- government, CSOs, etc support organizations

Coconut Production



Indonesia: API Experience

Impacts	Adaptation strategies
<ul style="list-style-type: none">•Sea-level rise•Changing the season – rainy and dry season as compared before•Flood and drought every year in a number of provinces•Pest outbreak due changing weather condition	<ul style="list-style-type: none">•Local food reserves•API & members conduct participatory seed breeding , seed selection and verification to develop suitable and resistant varieties•Multiple cropping system– planting of rice plus other crops such as root-crops, vegetables, raising animals, etc. for family consumption and income source for surplus product•Crop insurance – in case of calamities and pest outbreak

Participatory Seed Breeding



Thailand: SKP Experience

Impacts	Adaptation strategies
<p>Floods damaged the rice field and other agricultural products</p> <ul style="list-style-type: none">>estimated damage for rice is around 12 Million MT>chicken & egg farm were also affected	<ul style="list-style-type: none">• protection and conservation of natural resources• promotion of sustainable organic farming• Use of renewable energy system

Renewable Energy System



- bio-digester program encourages farmer to use power source by using cattle and pig dung. It can produce biogas from cattle- and pig manure. This yields gas for the stove and for lighting. And it reduces emissions of methane, which would otherwise be produced by the decomposing manure.

Less firewood use

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Vietnam: VNFU Experience

Impacts	Adaptation strategies
Floods and drought	<ul style="list-style-type: none">•Utilization of local varieties and sustainable farming practices•Livestock/animal integration•Reforestation•Government – emergency/disaster risk preparation e.g. food stocks

Livestock Integration



Food Always in the Home (FAITH) Gardening and Community food Reserve systems



- The aim of HG development is to allow rural farmer to have access to safe food with good and diverse nutrients in complement to rice, plus generate cash income from selling of surplus of home garden products.
 - Compared with traditional rice production, home gardening need less water. When facing draught in rainy season, still farmer can have water access from well, pond, small canal, around home stead areas. If flood cause damage for rice and/or other crops, after flood, farmer can use water kept in well, pond, and canal to do home gardening,
 - Vegetables, condimental plants and fruits from HG provide good food nutrients for family consumption and surplus for selling to generate income to buy rice if draught or flood do not allow farmer to have good harvest of rice.
 - Fresh and waste vegetables and fruits can be used for animal rasing (pig and chicken and fish) these allow to increase food security in coping with disaster

Cambodia: FNN Experience

Impacts

Flood and drought are the two main extreme climate events and occur every year in a number of provinces

- Extreme drought in recent years has meant that farmers lack sufficient water for agricultural production.

Adaptation strategies

- For Rice – following the SRI farming practice
 - Less water utilization, minimal seeds, more tillers, & long panicles, high yield
- Crop-livestock diversification (Multi-purpose Farm)
- Home gardening – vegetable production for family consumption and income source for surplus product

- FNN encourages farmer to use Bio-digester program (as source of power using cattle and pig dung) for light, cooking and slurry used as compost











System of Rice Intensification (SRI)



What is special about SRI ?

- Change of belief on how rice grow and change the existing ways/methods of growing rice by focusing on helping rice plants to utilize its full natural potential
- Combination of the improvement of simple practices leading to great results (Synergy effect), more improvement of more practices lead to better results

Most important changes of traditional to SRI practices

Flooded fields		Non flooded, wet/dry
Old seedling		Younger seedling
Many seedlings		One good seedling
Forceful transplanting		Careful
Deep rooted planting		Shallow rooted
Unequal spacing		Equal/Row planting
No regular weeding		Early and frequent
Chemical fertilizers		Compost

The best is to combine all practices to create synergy effect

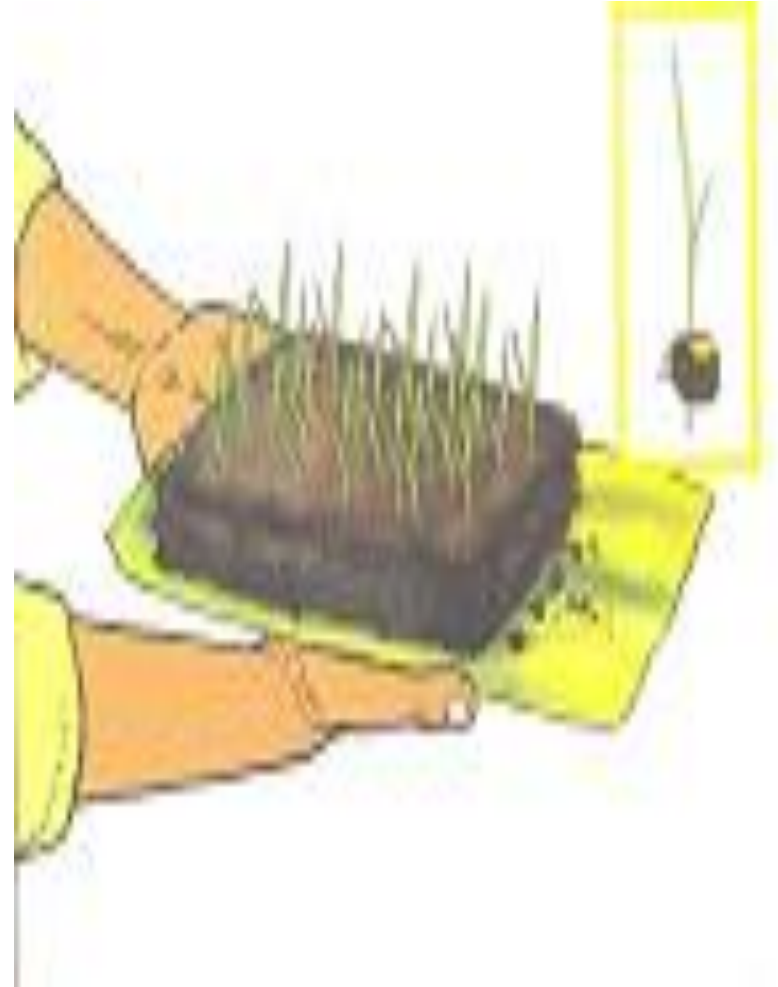
The 3 most important new practices

- Keep the fields from **not being permanently flooded** during vegetative stage (mainly only wet)
- Planting only **one good seedlings**
- Planting in **square pattern or in row**, and the **distance** (space) between each plant varies according to the age of the seedling or the time of planting (for seasonal rice), and the water level in the fields.

Tiller development and root growth of rice with traditional and SRI methods



Transplanting young seedling with care

















Early and frequent weeding













Selecting good seeds for new season



Outcomes/Results of the change of the practices

- More seeds  less seeds
- More water  less water
- More chemical fertilizers  less/zero
- Less compost  more compos
- Low yield  higher yield
- Low net income  higher net income

 **farmers gain more self-confidence and creativity and more power to control the technology**

SRI development in Cambodia in brief

- 2000: 28 farmers used SRI ideas
- 2012: 200,000 SRI farmers
- Yield increase of 50 to 150 percent, lower cost of seeds and fertilizers of more than 70 percent, yields more than 6 t/ha under rainfed conditions with traditional varieties

Key activities to promote SRI

- Starting with a small group of innovative farmers to experiment a on small plot
- Exposure visit to SRI farmers (farmers, government officials, NGOs and other) to let people see before believing in SRI
- Training of trainers and extension agents in how to work with farmers on SRI
- SRI farmers to be SRI farmer promoters

Part II

Farmer-led Cooperative Value-chain development initiatives

AFA Members Initiatives

- Served as consolidators of farmers' produce and directly link to market/marketing organization who distributed goods to institutional, industrial and retail markets e.g. case of Pecuaría (Philippines) and Boyolali (Indonesia)
- Farmers' group/association initiated to organize **“Savings and credit group”** which facilitated savings for emergency needs, building-up own capital for future investment opportunities/plan
- **Developed Tools for cooperative**



AFA Member Initiatives

- Small scale farmers' cooperative engaged in sustainable agriculture production, processing, and marketing & distribution
 - Local cooperatives extended technical training support and production loan/credit to support members for their production requirements (capital and inputs)
 - Establish processing facilities to add value to farm produce and sell as processed product (Mindoro, PAKISAMA Member)



SUSTAINABLE FARMING PRACTICES (based on indigenous knowledge aided by science)

LAND

Land title for both men and women

WATER

- Family pond
- Reservoir / small/medium irrigation

LOCAL SEED CONSERVATION

- Proven Adaptable to climate change
- Continuous Seed Purification (needs training and storage)

ADVOCACY FOR ENABLING POLICY ENVIRONMENT

- Land rights
- Investment for smallholder agriculture

Poverty Alleviation and food & nutrition security amidst climate change

Constructive engagement with government
And Principled partnership with private sector

ACCESS TO MARKET / VALUE CHAIN

- Collective / Cooperative Marketing
 - for sharing knowledge on market information
 - Processing to add value
- Savings for investment and capital

Food Reserve

- Community / local / regional



**Thank You For Your
Attention**

