ASEAN FARMERS: SOIL HEALTH CHAMPIONS IN ASIA

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Asian agriculture faces the double challenge of feeding a growing population while decreasing its environmental impacts:

- Largest number of undernourished people.
- □ Most affected by land degradation.
- □ Characterized by intensive agriculture systems with high environmental impacts of food production.



The Green Revolution started in Southeast Asia at the 1960s and still shapes its agricultural sector today:

- Technological packages based on the intensive use of inputs.
- □ Staple food production doubled in the ASEAN region.
- Impressive production gains came with high environmental costs.





Top Soil Loss and Consequent **Costs and Yield Loss** in ASEAN **Countries.**

SOILS:

Fundamental to terrestrial ecosystems.
Deliver critical ecosystem functions.
A valuable ally in climate change mitigation.



SOILS:

Reducing soil degradation and implementing sustainable soil management are cross-cutting issues, critical for food security, ecosystem stability and climate change mitigation.



ASEAN INITIATIVE ON SOIL HEALTH

ASEAN Guidelines on Soil and Nutrient Management (ASEAN-GSNM)







Aims to achieve food security by promoting adaptive and resilient 'climate-smart' agricultural systems, while maintaining the functional capacity of the soil resource to provide essential ecosystem functions.





ASEAN - GSNM

Acknowledges the importance of Soil Health that needs to be understood as a holistic approach to enhance the provision of ecosystem services and proposes a framework to implement site-specific nutrient and soil management practices.





Technology packages and decision support tools and methodologies focused on refining fertilizer recommendations that are tailored to specific conditions.





Implementation framework identifies challenges and opportunities to promote a more holistic approach to soil management and upscale Soil Health in ASEAN.





Calls for the empowerment of ASEAN farmers as soil health champions, through capacity building based on participatory and interactive learning processes, and local testing towards the customization of technological packages.





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PARADIGM SHIFT

- Soils are viewed as a lifeless medium to be supplied with nutrients and water to produce crops.
- Conversely, the concept of 'soil health' acknowledges the ecological role of soils and the contribution of biological processes.





Source: Orgiazzi et al. (2016)





Source: Orgiazzi et al. (2016)



- Fostering soil health means exploring and adapting practices that enhance ecological processes at both the field and landscape levels.
- These practices are much more knowledge-intensive and require investments in knowledge transfer and farmers' education.



Rural education programs must create spaces that allow farmers and researchers to use complimentary local and scientific knowledge to test farmers' own context-specific solutions while improving their knowledge on soil functions and ecological processes.



INTEGRATING FARMER FIELD SCHOOLS INTO THE FRAMEWORK OF THE ASEAN-GSNM:

Up-scaling Soil Health across ASEAN: Philippine Experience



FARMER FIELD SCHOOLS

Making FARMERS experts



FARMER FIELD SCHOOLS Focus on the development of farmers' skills

- Management and decision-making skills on agronomic and ecological factors
- Critical skills enabling farmers to identify and analyze problems and take action
- Leadership skills in facilitating group learning activities and problem-solving processes



FARMER FIELD SCHOOLS Non-Formal Education Methods

- Discovery-based learning techniques
- Experiential learning methods
- Participatory approaches



FARMER FIELD SCHOOLS

Season-long, hands-on training of 25-30 farmers doing experiments & field studies in a "Learning Field".

- Agro-Ecosystem Analysis
- Group Dynamics
- Special Topics



FARMER FIELD SCHOOLS Agro-Ecosystem Analysis

Shows farmers the role of field observations and analysis of agroecosystem elements as the bases for informed decision-making while enhancing their critical thinking and problem-solving skills.



FARMER FIELD SCHOOLS Group Dynamics

Promote knowledge sharing, selfconfidence, team building, and other aspects of working together with a common goal.



FARMER FIELD SCHOOLS Special Topics

 Involve discovery-based exercises and experiments addressing specific technical issues or deepening farmers' knowledge on particular farming or ecological aspects. Farmer Field Schools allow adaptation and modification of farm management practices resulting from collective learning processes and experimentations.



Farmer-led experimentations build farmers' problem-solving skills, integrate scientific knowledge into local knowledge systems and adapt practices to the specific socio-economic context.



Farmers' knowledge and skills acquired through discovery learning methodologies are crucial to tailor and upscale sustainable, knowledge-intensive farming practices.



FFS programs can mainstream Soil
Health into farmers' common knowledge.

FFSs can be integrated into the implementation framework of the ASEAN-GSNM.



First attempt to promote a holistic approach of soil management and adapt sustainable soil management practices to local conditions through discovery-based learning processes.



Through field experimentation, FFS farmers tested and validated the ASEAN-GSNM recommendations for sustainable soil management practices.



FFS Field Guide and Curriculum, with field studies and exercises on Soil Health, was designed with FFS farmers, facilitators and Soil Health experts.



Provided valuable information on the strengths and bottlenecks on integration of Soil Health into existing FFS curricula.



Experiences of the pilot FFSs helped evaluate and outline strategies for better integration and upscaling of Soil Health in the ASEAN region.



We did not inherit this world from our ancestors, we only borrowed it from our children. And as we make this world into a harmful place with our irresponsible approaches, we will leave an uninhabitable world to our children.

From Muhsin Tropak







THANK YOU.