



Climate-smart Agriculture: The Action Agenda for Southeast Asia



SEARCA

The Urgent Need to Make the Southeast Asian Agriculture Climate-smart

The undeniable importance of the agriculture sector in Southeast Asia provides a strong impetus for the urgent need to strengthen its potential as key for reducing poverty and in achieving food security. However, such importance of agriculture is being challenged by the increased prevalence of extreme weather events and unpredictability of weather patterns. As a result, agricultural production is seen to diminish resulting to significant lowering of incomes, particularly in vulnerable areas, with wide-ranging effects to the regional economy.

Recent global initiatives have engendered the need of climate-smart concepts to be applied in agriculture as viable options to address food security issues in the future and in cementing its role in adaptation to climate change. Implementing climate-smart agriculture (CSA) at the local level contributes to meeting global objectives, primarily those of the United Nations Framework Convention on Climate Change (UNFCCC), the Convention on Biological Diversity (CBD), and the World Summit on Food Security (WSFS), leading to a sustainable development landscape

(Meybeck et al. 2012). Indeed, making the agriculture sector climate-smart is the way to go in advancing the climate change adaptation in the Southeast Asian region.

Climate-smart Agriculture: A Systematic Approach in Adapting Agriculture to Climate Change

CSA is a systematic and integrated approach for responding to climate variability and change, while providing food security and climate change adaptation and mitigation. CSA resembles *sustainable agriculture* and *conservation agriculture practices* but puts additional stress on *low-carbon agriculture* (mitigation aspects) and the *use of plants that can reduce vulnerability* to climate change (Elisabeth and Minh Ha 2011).

Figure 1 shows the three main objectives of CSA: (1) sustainably increasing agricultural productivity and incomes, (2) adapting and building resilience to climate change, and (3) reducing and/or removing greenhouse gases (GHGs) emissions.

The achievement of these objectives rely on different components. One of these components is the quality of

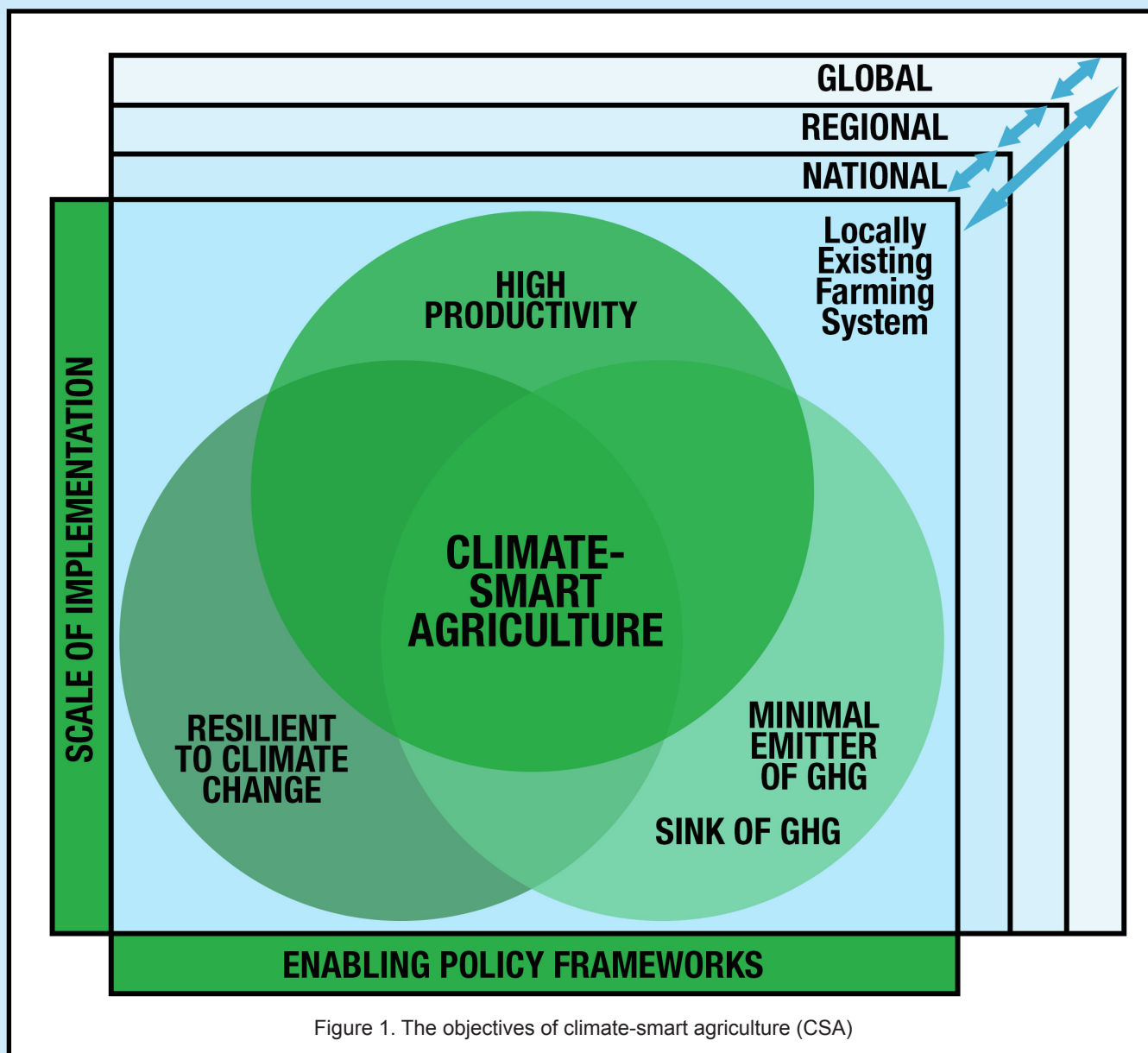


Figure 1. The objectives of climate-smart agriculture (CSA)

the agricultural inputs and outputs, which should be resilient to weather changes to ensure high productivity. To some extent, these inputs and outputs must also contribute in mitigating climate change through reduced greenhouse gases (GHGs) emissions. Thus, the capacity of farmers—the main actor for applying CSA—in implementing CSA practices must be ensured and duly supported by the government and other development organizations.

CSA, however, requires a more specific analysis and customized CSA intervention mechanism as farming is site- and context-specific. Hence, achieving a climate-smart agriculture would be operationalized with the implementation of specific strategies across various scales of farming systems such as from a farmplot to more overarching systems such as at the global agroecosystems. This likewise requires the implementation of enabling and coherent policy frameworks in each and across various scales of farming

systems operations. In addition, some examples of technology and practices that contribute to CSA include mulching, intercropping, conservation agriculture, crop rotation, integrated crop-livestock management, agroforestry, improved grazing, and improved water management, among others.

Action Agenda in Achieving Climate-smart Agriculture in Southeast Asia

Current adaptation measures in the agriculture sector in response to climate change impacts in Southeast Asia are very sporadic and far from being integrated (IGES and SEARCA 2013). Although both autonomous and planned adaptation measures have been implemented all across the Southeast Asian region, a systemic improvement that would make the adaptation efforts proactive is required given the projected increase in severity of climate change impacts in the region (Ancog and Ticsay 2013). Of prime consideration is the

observation that coping mechanisms and autonomous adaptation at the farm level unit and in the farming households have their own limits.

Climate change adaptation of farming systems being the current overall development agenda redounds to ensuring sustained productivity and achieving food and nutritional security in the Southeast Asian region. At the current rate, this could be done particularly by (1) harnessing the multiple gains of climate change adaptation in agriculture, (2) clarifying how climate-smart agriculture could help achieve a far-improved climate change adaptation in the agriculture sector, (3) clarifying metrics of success in implementing climate-smart agriculture, and (4) compiling case studies relevant to CSA across Southeast Asia.

Harnessing multiple gains of climate change adaptation in agriculture

Lessons show that climate change adaptation in the agriculture sector must be done in a way that it would ensure sustained productivity of the farming sectors while ensuring reduced emission of GHGs. Government planned adaptation programs need to provide mechanisms that would improve farmers' access to lesser input costs, good agricultural practices (GAP), improved post-harvest technologies, and opportunities to diversify income and livelihood sources, among others. On the other hand, better farming technologies that reduce GHGs need to be supported, and if possible,

initially financed by the government. Governments must institute appropriate incentive systems to encourage farming systems to be aligned to the climate-smart agriculture agenda.

Clarifying contributions of climate-smart agriculture in climate change adaptation

Applying climate-smart agriculture is indeed a critical strategy in adapting to climate change. However, due to the novelty of the concept, more effort should be done to introduce CSA as a crosscutting framework and approach in advancing climate change adaptation and mitigation initiatives. CSA needs to be introduced in mainstream consciousness through clear policy-backing and efficient information dissemination. At the current rate, the growing vocabulary of related concepts in agriculture such as sustainable agriculture, agroecosystems, and conservation agriculture, among others, need to be clearly differentiated to avoid confusion. Once this is done, barriers to fully maximize the role of climate-smart agriculture in climate change could be overcome.

Clarifying metrics of success in implementing climate-smart agriculture

CSA, as defined, indicates that it is climate-resilient, mitigating in GHG emissions, and high in productivity. Unfortunately, what is clearly lacking is a unified metric to



measure levels of success in each of the three components in achieving climate-smart agricultural systems. Metric systems for measuring the levels of climate mitigation, climate resiliency, and crop productivity may be an option to ensure that climate-smart agriculture is achieved for a particular country or global region.

Compilation of case studies relevant to CSA across Southeast Asia

Lastly, the need for a knowledge database for climate-smart agriculture is very important. A compilation of case studies specifically in the Southeast Asian region in CSA, CSA-related policies, and other related topics maybe wanting at the moment. An international developmental organization, research organization, or institution of higher learning with Southeast Asian coverage (e.g., ASEAN, APAN, ICLEI, SEARCA) and with knowledge centers on climate change adaptation readily accessible online could be tapped to provide such service. Academic and research institutions across the region must be encouraged to help build a solid foundation for CSA to flourish in Southeast Asia as CSA rests on sufficient high-quality knowledge resources and spurred by active knowledge sharing among climate change adaptation practitioners and movers.

References

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