Mitigate+: Research for Low-Emission Food Systems

CGIAR

Greenhouse Gas Mitigation Potential of Food Systems and Approach to Quantify Them (Seminar Report)

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Background

Today's food system faces triple challenges of feeding an increasing population, adapting to and mitigating climate change. Climate change impacts all components of food systems (production, delivery, and consumption) affecting all pillars of food security (food availability, access, utilization and stability). On the other hand, the current food system is the significant source (23-35%) of total anthropogenic GHG emission (IPCC, 2019). Recent evidence suggests that coordinated actions are required to improve land, enhance food security and nutrition and help to end hunger in the face of climate change. Action and investment in the sector have been constrained by the lack of policy-relevant and science-based methods of estimating GHG emission and quantifying mitigation potential that contribute to decision-making.

Seminar Objectives

A seminar was organized at Zhejiang University, Hangzhou, China on GHG mitigation potential of food systems at the global level and present a framework for a bottom-up approach to assess GHG emissions, identify mitigation options and quantify their mitigation potential from food systems. The objective of the seminar was to build the capacity of graduate students and faculty members on food system approach to address climate change mitigation and framework to quantify the mitigation poentail at landscape level.

Organization of Seminar

The seminar was organized on 30 October 2023 at the department of of agricultural economics, Zhejiang University, Hangzhou. Seminar was attended by factulty members and graduate students of various departments in Zhejiang University. Seminar was opened by Kevin Chain, the China leader of Low Emission Food System Initative. Tek Sapkota from CIMMYT delivered the seminar followed by questions and answers moderated by Lois Verchot, the leader of Low Emission Food System Initiative.

Seminar Schedule

Session	Time and duration
DEPART FOR ZHEJIANG UNIVERSITY	**8:30 am**
FSL Seminar given by Tek at Zhejiang University *Greenhouse Gas Mitigation Potential of Food Systems and Approach to Quantify Them*	9:00 am – 11:00 am
LUNCH	**12:00 pm – 2:00 pm**

Seminar Output

The framework's distinguishing features include the use of minimal and readily available data yet scientific enough that helps countries to identify mitigation hotspots; and scientifically robust estimates of mitigation potential and cost. This help countries to compare their estimates with the level of ambition needed to meet the 2-degree target based on their NDCs. The bottom-up analysis is based on identification of jurisdictional zones and the feasibility of implementing mitigation options relevant to them. Such

analysis help countries to identify mitigation hotspots by geography and commodity and priortise their investments according to their food security and environmental goals.

The seminar was well taken by students and faculty members as evidenced by the level of questions and interaction followed by presentation. It is expected that the seminar was successful in sharing knowledge on food systems climate change interaction, climate change impact and food systems and vice-versa, solution measures across food systems to address climate crisis. The seminar also help building capacity around quantification of climate mitiation potential at the country level. We believe that such knowledge sharing and capacity building activities help set targets for food systems mitigation based on local agro-environmental conditions, the mitigation options best fitted for those conditions and stakeholder input.

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ABOUT Research on Low-Emission Food Systems

Supports co-creation of knowledge, information, and tools needed to make robust evidence-based decisions for food system transformation toward low-emission pathways.

ABOUT CGIAR

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