Symposium on Climate Change: Adaptation Strategies with Mitigation Potential for Food and Water Security in February 2011 (ATC 04/2011A)

Purpose: Information
Submitted by: Philippines
Background/Overview

The Climate Change Symposium is a commitment of the Philippines under the Action Plan on Food Security which was approved by the Ministers in the First APEC Ministerial Meeting on Food Security in Niigata in November 2010. It examined climate change adaptation strategies with mitigation potential in agriculture, particularly crop and livestock, within the APEC region.

Several adaptation and mitigation strategies have been identified and examined to address the adverse effects of climate change. While mitigation technologies and management practices in agriculture have been proven to reduce GHG emission, a significant number of adaptation technologies and practices were also found to have mitigation potential, depending on how they are being developed and adopted. The presentations by APEC member economies focused on their respective experiences concerning climate change adaptation strategies with mitigation, institutional arrangements, policy and financing options for wider adoption.

Objectives

The objectives of the symposium are as follows:

1. To have an increased understanding and promote information exchange on climate change adaptation strategies with mitigation potential in crop and livestock production, as well as identify sources of greenhouse gas (GHG) emission in agriculture and long-term outlook for GHG mitigation in agriculture.

2. To come up with recommendations on effective institutional arrangements for wider dissemination and adoption of adaptation strategies with mitigation potential at the national and local levels in APEC economies.

3. To promote region-wide dissemination and adoption of these strategies through the establishment or strengthening of networks and linkages with international and regional organizations.

Date, Venue, Duration

The symposium was held on February 6-8, 2012 at the Edsa Shangri-la Hotel, Metro Manila, Philippines.

Participation/Target audience

A total of 54 experts from 12 APEC member economies, international organizations and multilateral agencies who are actively engaged in climate change either as researchers/scientists, policy makers, or implementers/practitioners attended the symposium. Eleven of the 12 participating economies were able to present papers to share their experiences and initiatives in addressing adverse effects of climate change, and Australia circulated a paper on adapting agriculture to climate change. Experts from the International Rice Research Institute, the Food and Agriculture Organization, International Labor Organization, World Bank, Asian Development Bank, Asia Pacific Adaptation Network, International Fund for Agricultural Development Medium-Term Cooperation Programme (IFAD-MTCP) in Asia Pacific Region Farmer’s Forum, SEARCA, Biotechnology Coalition of the Philippines and the Climate Change Congress of the Philippines complemented the economy reports with 14 technical presentations.

Output

The first objective was addressed through the reports of member economies on their respective
experiences. Notable adaptation strategies/best practices that have mitigating benefits surfaced during the presentations, as follows:

1. Genetics improvement, change in feeding formulas, upgrading of animal housing, waste and manure management in livestock. These measures have been shown to help farmers in the livestock sector adapt to climate change and at the same time help reduce greenhouse gas emissions. Genetic improvement will help produce resilient breeds and varieties. GHG formulated diets, a well-managed disposal or recycling process of waste and manure, and upgrading of animal housing will reduce CH4 emissions.

2. Precision agriculture for efficient utilization of production inputs, resulting to minimization of inputs and therefore, lesser carbon emission.

3. Nutrient recycling through the decomposition of plant materials and straw significantly reduces fertilizer application.

4. Improved land management through improved cultivation techniques specific to soil type and topography and reduced tillage.

5. Improved water resources management through Integrated Water Resources Management, Alternate Wetting and Drying (AWD) irrigation management technique and other water saving techniques in agriculture which has a potential of reducing water requirement by 15-20% and the GHG emission by 30-50%.

Emerging strategies were also reported and should seriously be considered:

1. Demand shift to ease the demand of rice to other staples, resulting to more food with limited water and less energy requirement. It could also mitigate the effects of typhoons on food production, because other staple crops can better withstand adverse effects then rice. Demand shift from rice will result to lesser GHG emission from the use of energy for field operations.

2. Biotechnology is applied in the development of varieties with superior traits including resiliency to climate change and less input requirements. Some biotech crops were genetically engineered to help reduce GHG emissions from agriculture, and therefore contribute to climate change mitigation. Combined biotech crop-related carbon dioxide emission savings is equivalent to the removal of 7.853 million cars from the roads (Brookes and Barfoot, 2011).

3. Seed banking and selection using an indigenous practice as a model. The women members of the Matigsalog tribe in Davao City, Philippines have played a crucial role as seed-keepers and have been taught to select the suitable variety of rice to be planted for each cropping season. Because of their traditional knowledge in seed banking and selection process, they were able to survive the problems caused by climate change, and were able to preserve the right seeds for the future.

4. Adaptation with mitigation potential of coconuts. Coconut is an excellent tree crop in the high water-table zones and in the cyclone prone coastal regions as it can easily reduce the wind speed of storm and can withstand temporary water-logging. It is a salinity tolerant crop and is greatly adaptable for the coastal zones of tropical and equatorial regions. In the Philippines, annual carbon sequestration in a local tall variety is equivalent to 17.54 tons of CO2 per hectare.

As output for the second objective, the following institutional arrangements were recommended to be put in place to promote dissemination and adoption of adaptation strategies with mitigation potential:

1. Innovative financing packages in the context of climate change to enhance the resilience of farming communities. A resilient community can anticipate and plan for a sustainable future, thus ensuring jobs to millions of people through agriculture. An innovative integrated package includes a well designed credit, savings and weather index-based insurance products bundled with non-financial services such as financial literacy, training on technologies and entrepreneurship, and disaster risk reduction initiative with early warning systems.
2. Institutional framework on climate change that will empower farmers to build resilient communities. Resource-poor farmers are the first to be affected by climate change consequences. Because of their limited capacity to cope with these devastating effects, they are also expected to be the last to recover. Farmers therefore should play an active role in the policy and action program planning on how to deal with the worst impacts of climate change. Providing resource-poor farmers access to basic services, technology, tools and relevant information will empower farmers against climate change through adaptation and mitigation, subsequently strengthening their reliance. A swift disaster response mechanism should be put in place, with swift timely relief assistance to enable farmers to recover from their loss in the event of destructive floods or drought.

3. Adoption of an Integrated Watershed Resource Management (IWRM) in agriculture development planning and implementation. An integrated watershed resource management (IWRM) in agricultural development planning will help ensure food and water security in the face of the worst impacts of climate change. IWRM looks at an ecosystem rather than political boundaries as a planning domain. Rivers, lakes, watersheds and key physical bioresources provide the fundamental basis for agricultural development planning that cuts across political boundaries. Furthermore, landslides, severe soil erosion, flooding, drought, and sea level rise do not respect political boundaries.

IWRM operates based on the interconnectedness of ecology, economy and society, as it intends to assist communities and local government units in managing water resources in a cost-effective and environmentally sound manner.

A successful community stewardship of water-shed requires “top down” interventions such as policy, funding, institutional building, technical support and enforcement. On the other hand, “bottom up” planning intervention is required in its sustainable management.

4. Policy and institutional support for the adoption of climate smart agriculture in transforming agricultural systems towards food security in the face of climate change impact. The transformation should sustainably increase productivity and income, strengthen resilience to climate change and variability, and reduce agriculture’s greenhouse gas emissions through strategies like increased production efficiency and increased carbon sequestration as part of climate change mitigation.

In fulfillment of the third objective, the participants called for a stronger cooperation to ensure food and water security in the region in the face of climate change. They further expressed support by signing a resolution identifying the next steps to move the symposium recommendations forward. Foremost among the recommendations is the launching by APEC of the APEC Adaptation with Mitigation Initiative in Agriculture (AAMIA) as a vehicle for follow-up collective action and continuing focus on climate change adaptation with mitigation benefits. Representatives from the Food and Agriculture Organization, World Bank, Asian Development Bank and the Asia-Pacific Adaptation Network expressed their support for AAMIA.

Complete symposium proceedings can be accessed at:

Suggestions/Recommendations

Implement a follow-up project that will launch AAMIA to pursue the recommendations of the symposium. The project should be able to create an appropriate framework for cooperation to operationalize the recommendations of the APEC Climate Change Symposium; identify programs and activities to be supported by the initiative; and identify and establish viable and sustainable partnership arrangements for climate change adaptation financing and networking.

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SYMPOSIUM ON CLIMATE CHANGE:
Adaptation Strategies with Mitigation Potential
for Food and Water Security

February 6-8, 2012
Edsa Shangri-la Hotel
Manila, Philippines

APEC Symposium on Climate Change: A Call for
Stronger Cooperation for Adaptation and
Mitigation

Fulfills commitment of the Philippines under
the Action Plan on Food Security

Focused on the experiences of APEC member
economies on the adoption of climate change
adaptation technologies with mitigation
Participants

- 54 experts from 12 APEC member economies, international organizations and multilateral agencies who are actively engaged in climate change either as researchers/scientists, policy makers, or implementers/practitioners
- 11 economy presentations and 1 circulated paper
- 14 technical experts’ presentations

Objective 1:

To have an increased understanding and promote information exchange on:

- Climate change adaptation strategies with mitigation potential in crop and livestock production

Output

Notable adaptation strategies with mitigating benefits:
- Genetics improvement, change in feeding formulas, upgrading of animal housing, waste and manure management in livestock
- Precision agriculture
- Nutrient Recycling
- Improved land management
- Improved water resources management
Objective 1:
- Identify sources of green house gas (GHG) emission
- Long-term outlook for GHG mitigation

Output
Emerging Strategies
- Demand shift
- Biotechnology
- Indigenous seed banking and selection
- Adaptation with mitigation potential of coconuts

Objective 2:
To come up with recommendations on effective institutional arrangements for wider dissemination and adoption of adaptation strategies with mitigation potential at the national and local levels in APEC economies

Output
Institutional arrangements that should be put in place:
- Innovative integrated financial package
- Institutional framework that will empower farmers against climate change
- Adaptation financing
- Swift disaster response mechanisms with swift timely relief assistance
- Adoption of an Integrated Watershed Resource Management (IWRM)
Innovative financing to build climate-resilient communities and create jobs, ILO Expert

Innovative integrated package includes:

- well designed credit
- savings and weather index-based insurance products
- non-financial services:
  - financial literacy
  - training on technologies and entrepreneurship
  - disaster risk reduction initiative with early warning systems
Empower farmers, build climate-resilient communities, IFAD expert

- Access to basic services, technologies, tools
- Timely, accurate and useful meteorological, geological and other relevant information
- Swift disaster response mechanisms with swift timely relief assistance including credit and other support services
Integrated Water Resource Management, an imperative for development, Climate Change Expert

Elements of IWRM

- Ecosystem-based vs political boundaries
- Interconnectedness of ecology, economy and society
- “top-down” interventions for policy, funding, institutional building, technical support and enforcement
- “bottom-up” planning intervention in sustainable management
Policy and Institutional Support for Climate-Smart Agriculture, FAO Expert

Climate-Smart agriculture is a concept to transform agricultural systems towards food security in the face of climate change challenges. The transformation should:

- Sustainably increase productivity and income
- Strengthen resilience to climate change and variability
- Reduce agriculture's contributions to climate change

Objective 3:
To promote region-wide dissemination and adoption of these strategies through the establishment or strengthening networks and linkages with international and regional organizations

Output
The way forward: A Resolution was signed by participants identifying the next steps to put the recommendations in place.
The way forward...

APEC to launch the

“APEC Adaptation with Mitigation Initiative in Agriculture (AAMIA)”

as a vehicle for follow-up collective action and continuing focus on climate change adaptation with mitigation benefits.

Suggestions/Recommendations

Implement a follow-up project that will launch AAMIA, which will serve as a vehicle to pursue the recommendations of the symposium.
Contact

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