



**FIFTH MEETING OF GMS WORKING GROUP ON AGRICULTURE (WGA-5)
Vientiane, Lao PDR, 22-24 September 2008**

Summary of Proceedings

Introduction

1. The Fifth Meeting of the GMS Working Group on Agriculture (WGA-5) was held in Vientiane, Lao PDR, on 22-24 September 2008. The Meeting was organized and sponsored by the Asian Development Bank (ADB). The objectives of the Meeting were to (i) identify priority strategic interventions in subregional agricultural cooperation that address critical food security, energy security, and climate change concerns; (ii) review and refocus WGA's work program towards speedy implementation of priority initiatives under the Core Agriculture Support Program (CASP) as an integral component of the Vientiane Plan of Action; and (iii) catalyze support from development partners to implement CASP initiatives.
2. The Meeting was attended by participants from the six GMS countries: Cambodia, People's Republic of China, Lao PDR, Myanmar, Thailand, and Viet Nam. Resource persons from FAO, IFAD, EOC, IRRI, and ADBI, representatives of various development partners and the private sector, and individual experts also attended. A list of participants is in Appendix 1 and a copy of the Meeting Program and Agenda is in Appendix 2.
3. The main WGA-5 Meeting was preceded by a closed executive session attended by WGA delegates, representatives of FAO and IFAD, ADB staff and consultants, to discuss the proposed regional technical assistance (RETA) on Accelerating the Implementation of the CASP. The outcome of the closed executive session was later discussed in plenary.

Opening Session

4. Dr. Phouangparisak Pravongviengkham, Permanent Secretary, Ministry of Agriculture and Forestry, Lao PDR gave the welcome remarks. He noted that the GMS Program has gradually strengthened the cooperation and economic linkages among the 6 member countries and contributed to fostering harmony and prosperity in the Subregion. The ideals enunciated by the GMS Leaders in their Joint Summit Declaration at the Third GMS Summit are embodied in the Core Agriculture Support Program which Lao PDR fully supports. The Government of Lao PDR highly appreciates the invaluable support of development partners, including ADB, to the country's development and the GMS countries' efforts to achieve common socio-economic and sustainable development goals. He declared the meeting open.
5. Mr. Urooj Malik, Director, Agriculture, Environment and Natural Resources Division (SEAE), Southeast Asia Department (SERD), ADB, highlighted in his opening remarks the notable progress that has been achieved in pursuing WGA's commitment to the CASP, including the various activities and initiatives that have been successfully

undertaken to pursue the GMS agriculture agenda in partnership with key development partners. In recent months, new issues and unprecedented developments have emerged that pose more challenges and opportunities for agriculture. The unraveling of global financial centers necessitating major bailout packages, the dramatic rise in the prices of energy and food and dire consequences on food security, and the continuing threat of climate change are grave issues that require committed action at the national and regional levels. These challenges, however, hold the promise of new opportunities for strengthened cooperation to meet WGA's CASP objectives, including those that respond to the directives for the agriculture sector that were enunciated by the GMS Leaders at the Third GMS Summit. In this regard, ADB will continue to support WGA's work, particularly initiatives on rural renewable energy development, transboundary animal disease (TAD) control, implementing the biotechnology and biosafety strategy, and expanding access to agricultural information in rural areas. Concrete steps will also be taken in strengthening and sustaining regional cooperation in agriculture, enhancing cross-border agriculture trade and investment, and strengthening the food security strategy in the GMS. Mr. Malik enjoined the WGA and development partners to continue to work together by leveraging investments for agriculture and rural development, especially in the GMS economic corridors, in order to achieve those objectives.

6. Copies of the welcome remarks are in Appendix 3.
7. Messrs. Phouangparisak and Malik co-chaired the Meeting.

Session I

Significant Developments in the Core Agriculture Support Program (CASP)

Session 1.A: Updates on the CASP Priority Projects

8. Ms. Marilou Drilon, ADB, presented the key directives in the Joint Summit Declaration of the Third GMS Summit held in Vientiane, Lao PDR, in March 2008 relating to GMS cooperation in agriculture, namely, (i) implement the GMS initiative on biofuel and rural renewable energy development; (ii) expand transboundary animal disease control programs; and (iii) expand access to agricultural information in rural areas. The Leaders endorsed the Vientiane Plan of Action for 2008-2012 that includes the prioritized projects for the agriculture sector as guided by the CASP. Consequent to the Summit, a Development Partners' Meeting (DPM) was organized by ADB in July 2008 to share the outcomes of the Summit, exchange information and ideas on current and planned activities for the different sectors of the GMS Program, and explore expanded partnerships - particularly on priority projects identified in the Vientiane Plan of Action. Some of the key points discussed at the DPM relating to agriculture concerned the need to harmonize policies in trade in agriculture products and food pricing; enhance private investment, improve research and rural infrastructure to increase food productivity, give better access to financing and crop insurance schemes for smallholders, promote sustainable agriculture development, provide support to CASP programs on food security, trade, and agriculture value chains, and synergize GMS agriculture cooperation with other cooperation frameworks in the region.

9. Ms. Drilon briefed the meeting on developments in the implementation of the CASP and Vientiane Plan of Action for the agriculture sector based on the prioritization

Panel Discussion on CASP Projects

10. The panel discussion was intended to review in detail the current status of and forward-looking directions of ongoing projects CASP projects. The discussion was led by selected project resource persons in each component.

- ***Advanced Agricultural Science and Technology: Forward Look and Implementation Plan***

11. Dr. Nizar Mohamed, ADB Consultant and Project Team Leader, presented the main features of the GMS Strategic Framework and Action Plan for Biotechnology and Biosafety endorsed by the WGA coordinators at their meeting in December 2007. Successful implementation of the Strategy and Action Plan is expected to result in 4 strategic outcomes, including (i) increased agricultural output in the GMS through organic agriculture for rice and other export crops and the safe application of GM and non-GM biotechnology; (ii) adoption and implementation of harmonized food safety standards and guidelines consistent with Codex and ASEAN requirements; (iii) equitable and sustainable management and utilization of the subregion's agrobiodiversity through the application of GM and non-GM biotechnologies; and (iv) compliance with regional and international trade standards to promote internal and external trade in the GMS. As advised by ADB, the printing of the Regional Strategic Framework and Action Plan publication is in progress; however, advance copies of the publication were distributed at the meeting.

12. Phase 2 of the project is expected to be funded by the new RETA on Accelerating the Implementation of the CASP, among other activities, and will focus on the implementation of the strategy for biotechnology and biosafety for the GMS. Phase 2 will build on and consolidate the achievements of Phase 1, support policy development and implementation on biotechnology in the GMS countries, promote regional cooperation on biotechnology, and promote the safe application of non-GM and GM biotechnology to enhance agricultural production. An amount of USD 1 million is required over 2 years to support Phase 2 starting in January 2009.

- ***Agriculture Information Network Service (AINS)***

13. Mr. Wensheng Wang, Deputy Director General, Agriculture Information Institute, Chinese Academy of Agricultural Science, PRC, briefed the meeting on developments on the AINS since it was launched by the GMS Agriculture Ministers' Meeting in April 2007. The website consists of one main site in English and six local sites in native languages. The main site serves as the central platform for exchanging information among GMS countries. In November 2007, PRC organized a workshop to review the

14. However, there are constraints encountered in the further development of the AINS. The operation of the main site and the Chinese site lacks stable support. While ADB has financed the procurement of software and hardware for Cambodia, Lao PDR, Myanmar, Thailand, and Viet Nam, similar requirements for the main site and the Chinese site have not yet been provided. PRC in the meantime maintains the fundamental operation of the AINS by renting servers and other related software and hardware, resulting in low efficiency. Information collection, analysis, translation, and website maintenance also lack stable funding support. While all sides maintain contact and communication with each other, there is a need to set-up a good communication mechanism to support and sustain the international website. PRC stressed the urgency of addressing these constraints through continued cooperation and ADB support.

15. Mr. Ian Makin, ADB, acknowledged the strong leadership that PRC has provided and the enthusiastic support given by the other GMS countries. AINS is a core part of regional cooperation under the CASP and presents a good example for decentralizing budget and implementation arrangements suggested during the closed executive session earlier in the morning. Sustainable financing could be ensured through decentralization that would enhance strong ownership and responsibility for the project by the GMS countries which have their own information services that are linked down to the provinces. The countries have a key role to play in providing information while ADB has an important role to play in developing new tools and techniques. Acceptance of AINS within the national information services is critical. A workshop will be organized shortly to discuss full integration of AINS into national information services and budgets to ensure its sustainability.

- ***Transboundary Animal Disease Control***

16. Dr. Subhash Morzaria, FAO, gave an overview of TADs in Southeast Asia and the impacts of TADs on trade, food safety and security, tourism, human health, and livelihoods. Under the Global Framework for progressive control of TADs, several international organizations are in the forefront to control TADs as international public good, including FAO, OIE, WHO, WB and ADB. TADs control is particularly important in Southeast Asia where livestock is a strategic part of small farms and constitutes 15% of agricultural gross domestic product (GDP). Phase 1 of the RETA co-financed by ADB and FAO addressed foot and mouth disease, classical swine fever, and H5N1 HPAI in Cambodia, Lao PDR, Thailand, Viet Nam, and PRC's Yunnan Province. Several collaborating organizations were involved in the project steering committee, including the 5 participating countries, FAO, OIE, JICA, ASEAN, and ADB. Linkages with additional partners to leverage existing programs/activities were also established. Major outcomes achieved under Phase 1 included agreement on policy, legislation and zoning; capacity

building of national institutions and staff; improved surveillance, diagnosis, and disease information; sero-surveillance, livelihood studies, and on farm economic impact; enhanced regional cooperation. Phase 2 of the technical assistance co-financed by FAO and ADB will pilot FMD/CSF vaccination in the Upper and Lower Mekong zones and support studies on benefits and costs of TADs control in the GMS, epidemiology of TADs, public awareness and communication, and continuation of capacity building activities. Funding for Phase 2 consists of \$430,000 committed from PRC and ADB funds, and \$1.96 million anticipated from Japan Fund for Poverty Reduction. Resource mobilization from other sources for Phase 2 is critical.

Open Forum

17. Delegates from the GMS countries reaffirmed their strong support for the ongoing initiatives on TADs, biotechnology/biosafety, and AINS as well as the new proposed RETA for Accelerating the Implementation of the CASP. With regard to biotechnology/biosafety, PRC mentioned the platform established by a consortium of GMS national academies of agricultural sciences that could be used to advance ongoing work under Phase 2. On AINS, PRC will continue to fund the project in addition to ADB's support for project equipment; support from the other GMS countries by way of providing additional funds and updated information is encouraged.

18. Development partners also expressed their support for WGA initiatives. FAO indicated its readiness to co-finance and take a part in implementation the new umbrella RETA's components relating to biotechnology/biosafety (\$100,000 in cash plus \$220,000 in kind contribution). FAO would also like to collaborate as much as it can on the AINS as it has established a data collection system such as AGROVOC, FAO-STAT and FIVIMS that can contribute to the project's objectives, in addition to \$90,000 that is being set aside to promote agricultural information exchange and market monitoring. On TADs, FAO noted that AFD is setting aside approximately \$0.5 million to support Phase 2 activities and hoped that ADB would be able to secure remaining balance of \$1.5 million.

19. Mr. Malik, ADB, noted that concerns regarding price stabilization and other food security concerns will be discussed at the GMS Development Dialogue videoconference the following day. The new proposed RETA will also look into this and other factors affecting the food crisis. For the AINS, all payments for equipment have been processed; delays that have been encountered in this regard further reinforce the proposed decentralization arrangement. The planned AINS workshop on 2-7 November 2008 in Yunnan, PRC will discuss further work to advance project activities.

20. Copies of presentations and other reference materials for this session are in Appendix 4.

Session 1.B: Prospects for Renewable Energy in Rural GMS: Regional Strategic Framework for Rural Renewable Energy (RRE) Development

21. Dr. Mercedita Sombilla, ADB Consultant, presented the key findings of the GMS RRE study, one of the activities funded under the ongoing RETA on Expansion of Subregional Cooperation on Agriculture in the GMS, co-funded by ADB, PRC and IFAD. A planning workshop on strategies and options for integrating biofuels and rural

22. Dr. Huanguang Qiu, PRC, presented the preliminary findings and recommendations of the global and regional biofuels study, another activity funded under the ongoing RETA on Expansion of Subregional Cooperation on Agriculture in the GMS, and co-funded by ADB, PRC and IFAD. The study used modeling techniques to preliminarily analyze the implications of major biofuel development scenarios on agricultural prices, production, trade and food security in the GMS and other regions. Trends and projections in biofuels production worldwide and in the GMS in the next 25 years using various reference and alternative scenarios, sensitivity analysis on crude oil prices, and elasticities of substitution between gasoline and biofuel were presented. Preliminary results indicate the following:

- If energy prices remain high, food prices will rise significantly in both developed and developing countries, including GMS. There will be large effects from the world price changes driven by US/EU/Brazil, regardless of whether or not there will be a biofuel program in the GMS.
- GMS regional biofuel development will have very little impacts in global food prices; very large impacts on domestic production, composition of food trade, and domestic prices of less tradable crops such as cassava and sweet potato; and moderate impacts on food security and self-sufficiency.

23. The research team recommends further work to be done on impact and policy studies, capacity building and networking.

Panel Discussion on Rural Renewable Energy Development

24. Mr. Andreas VonBrant, FAO, and Mr. Mahfuz Ahmed, ADB, acted as panel discussants.

25. Mr. VonBrant discussed the linkage between food security and bioenergy, i.e, biofuels are one of the several key drivers of high food prices; biofuels will have a modest impact on energy markets and varying impacts on greenhouse gas emissions

but much bigger impacts on agriculture and food security. FAO has developed a sequence of bioenergy filters for a realistic potential assessment of sustainable bioenergy while safeguarding food security. FAO's Bioenergy and Food Security (BEFS) Project is helping to mainstream food security concerns into national and sub-national assessments of bioenergy potential. The political economy of food security and bioenergy presents opportunities (increased productivity, higher value-chain activities, increased energy security, diversification of agriculture, employment/income generation, extended energy access to rural areas, and reduced household energy burdens) and risks that need to be taken seriously (higher food price, competition for inputs, more stress on existing inequalities of power and asset, and effects on biodiversity conservation, forestry, and climate change) for developing countries. The BEFS analytical framework consists of several modules that are looking at national and international socio-economic impacts, and household socio-economic impact from which food security implications and bioenergy potential could be drawn. FAO's call for urgent policy action emphasizes the following: protect the poor and food insecure; invest in agriculture and rural development; ensure environmental sustainability; review current biofuel policies; and promote international policy coordination. There are synergies between FAO and ADB approaches in terms of data sharing, policy advice, land use and natural resources planning, land rights protection, sustainable investment, and certification and governance.

26. Mr. Ahmed presented the main features of a new proposed GMS Rural Renewable Energy Development Project included in the ADB assistance pipeline for 2009-2011. Development of the project has taken into account the increase in energy demand fuelled by improved economic performance of the GMS countries, the large share of GMS population dependent on traditional sources of energy (fuel wood, charcoal), and the need for renewable energy technologies as environmentally sound and least-cost options to replace coal and firewood in rural areas.

27. The proposed project will examine the role of renewable energy sources (biomass, biogas, biofuels, and agricultural wastes) in meeting the energy demands of rural households in Cambodia, Lao PDR, and Viet Nam, and thereby enhance agricultural production and improve the welfare and income of rural farmers. It is expected to contribute to improved energy security and enhanced living conditions for rural households in the participating countries through the efficient utilization of agricultural wastes or renewable energy sources. The project will support the conduct of workshops, training programs, and piloting of small-scale renewable energy development models (biogas digesters, biogas plants, and biomass gasification plants) in selected provinces.

28. Copies of presentations and other reference materials for this session are in Appendix 5.

Discussion

29. FAO indicated that it has allocated \$370,000 from its own TCP resources as a cost-sharing to ADB's rural renewable energy programme, in addition to the contribution being made by BEFS project. The TCP project can be adjusted to finance a part of proposed ADB activities such as organization of workshops or/and modified its inputs to synergize the activities of the two programmes to be implemented by ADB and FAO. FAO indicated its readiness to implement the programme jointly.

Wrap-up and Synthesis of Day 1

30. Mr. Urooj Malik, ADB, summarized the main points arising from the discussions in Session 1. The closed executive session in the morning confirmed that WGA is moving in the right direction with regard to TADs, AAST, and AINS. The new proposed umbrella RETA will take the WGA agenda forward in addressing food security, energy security, and climate change concerns, and in leveraging investments to provide the balance for software and hardware inputs, particularly for RRE development.

Session 2. GMS Economic Corridors: Cross-border Challenges and Opportunities for Agriculture

- ***Agriculture Nexus in Accelerating GMS Economic Corridor Development***

31. Mr. Ronald Antonio Q. Butiong, ADB, presented the developments in infrastructure connectivity in the GMS as the key building block leading to greater competitiveness and sense of community in the subregion. He briefed the meeting on the progress of the GMS economic corridor development approach involving the North-South, East-West, and Southern Economic Corridors. This approach integrates transport corridor development with those of other infrastructure and economic activities, and leads to the creation of major hubs of economic activity and exchange between and among countries in the GMS. Already, some positive outcomes are reported on the ground in terms of reduction in travel time, cost savings, increase in bilateral trade and border crossings, job creation in special border economic zones, increase in foreign direct investments and joint ventures, and improved access to education and safe water facilities. Hand-in-hand with the hardware aspects of corridor development, the software aspects including those relating to the social and environmental dimensions are also being addressed.

32. Following the directive of the GMS Leaders at the Third GMS Summit to transform transport corridors into economic corridors, a strategy and action plan for the North-South Economic Corridor has been completed, while those for the other corridors are being formulated to provide a holistic framework for corridor development. The agriculture sector has an important role in economic corridor development particularly in direct and indirect linkages with the transport, environment, energy, telecommunications, tourism, trade, and human resource development sectors. Several agriculture investment opportunities have been identified, including food production, food processing, contract farming, and livestock production and processing. A number of priority projects under the CASP have the potential to support and contribute to the corridor development efforts. WGA needs to fast track the implementation of these projects and mobilize the needed resources to achieve the desired results.

- ***Cross-Border Contract Farming and Market Facilitation for the Poor***

33. Ms. Sununtar Setboonsarng, ADBI, presented globalization and market trends that drive increased food imports from developing countries and heightened focus on

food safety. Trends, issues, and challenges for contract farming, the role of the public and private sectors, the benefits and disadvantages, particularly to poor farmers were discussed. The benefits (income and non-income) of organic contract farming in the context of poverty reduction, ensuring food safety and compliance with international trade requirements and food security, contributing to biodiversity protection/preservation, and reversing climate change trends were discussed in detail. Organic farming was identified as particularly appropriate for the GMS, with the private sector playing the lead role in engaging poor farmers and connecting them to markets, and the public sector providing the necessary market infrastructure, enabling environment, and incentives. Regional cooperation would help towards harmonization of trade standards, provision of carbon credit for organic agriculture, support for regional infrastructure, research and sharing of best practices, and recognition of genetically-modified-free zone.

Discussion

34. Some delegates expressed concern on (i) whether contract farming could indeed ensure equal distribution of income between producers and processors; (ii) how capturing carbon credit for small farmers could be arranged effectively; and (iii) how to balance pricing of organic produce which is very expensive in developed countries vis-à-vis unprecedented rise in food prices.

35. The pro-poor characteristic of organic farming and its long-term effect on food security present a strong argument in its favor. Gaining carbon credit is not easy but it could be done with proper facilitation and in a collective manner for groups of farmers who could work together towards certification to get credits.

36. WGA will implement a study on integrating contract farming with the GMS economic corridors to promote cross-border agriculture trade under the new umbrella RETA.

- ***Operationalizing the Economic Corridor Development Agenda: A Case of Lao PDR***

37. Ms. Atsuko Toda, IFAD, noted that globalization and market requirements provide both threats and opportunities for Lao PDR where poverty is concentrated in the uplands, and forests cover a substantial proportion of the land area. Certain development challenges need to be overcome, including those that relate to weak capacity for strategic planning and implementation at the provincial level. Opportunities for facilitating dialogue on pro-poor trade to meet sanitary and phytosanitary (SPS) and food safety requirements, designing sustainable environmental management initiatives, and linking rural communities with markets being opened by the economic corridors were outlined. IFAD is considering a proposed \$37.8 M project covering 5 southern provinces in Lao PDR involving capacity building, agricultural productivity and commercialization of subprojects, and project management. The project has a subcomponent for Lao-Viet Nam collaboration involving crop cultivation (rice, maize), commercial crop plantation (fruits, cashew, tea, cassava, peanut, cardamom, cinnamon), livestock production (cattle, goat), fish and other aquatic animals to serve processing industries and potential markets in Viet Nam and other countries in partnership with the private sector.

Open Forum

38. GMS delegates stressed the need for good information system on contract farming, particularly on land availability and suitability for particular crops, climatic conditions, market price and supply structure, cross-border customs clearance mechanisms and procedures, food safety and SPS standards requirements. Capacity building for farmers to enable them to access market information and effectively respond to market trends through production of high quality products that meet international standards is needed. The issue of intellectual property rights in contract farming, such as those for indigenous rice varieties and high altitude coffee which are highly valued in global markets, is another concern.

39. It is relevant to focus on contract farming; however, the issue of informal cross-border trade and the problem of food safety (as in the presence of high levels of chemical fertilizer residues on agricultural produce) should also be addressed by converting informal trade to contract farming.

40. ADB has an ongoing technical assistance to support the Cross-Border Transport Agreement, including assistance in the areas of SPS inspection. A fact-finding mission will soon be launched and issues could be brought to their attention.

41. Copies of presentations and other reference materials discussed in this session are in Appendix 6.

Session 3: Food Security and Climate Change: Strategic Directions and WGA Response

- ***Highlights of the GMS Development Dialogue on Food Security***

42. Mr. Urooj Malik, ADB, briefed the meeting on the highlights of the Third GMS Development Dialogue (GDD) on Food Security held separately as an activity under the GMS Phnom Penh Plan for Development Management. The Dialogue succeeded in: (i) setting the basic principles to guide policy choices in addressing the impacts of increasing food prices; (ii) suggesting the focus of the role of government partners - the private sector, and academic and research institutions and civil society organizations - in promoting productivity and long-term food supply; and (iii) identifying potential areas for regional and international cooperation. The Dialogue set out some principles to guide policy choices, namely:

- The protection of the most vulnerable from food price shocks should be a priority so that health, nutrition and education are not compromised as a result of higher expenditures on food.
- Short-term safety net programs should be linked with medium- to long-term productivity improvement measures.
- Social protection programs should combine social transfers with policies that enable stakeholders to respond quickly to market opportunities.

43. It was articulated that the private sector could play an important role in agricultural investments. Contract farming could be an important approach to enhance domestic supply; but careful consideration should be given to ensure mutual benefits - or a win-win situation - between the investor and the host country.

44. Investments in technology would also be vital to long-term agricultural productivity. Government, private sector and academic institutions, working together and with support from international organizations and development partners, could create the synergies needed for technological innovation in agriculture. Civil society organizations can play an advocacy role for providing social protection for vulnerable groups, in identifying target groups that should benefit from safety net programs, and in ensuring that agriculture policies are responsive to farmers' needs and concerns.

45. The Dialogue also suggested some potential areas for regional and international cooperation, including: (i) information sharing and joint research on good practices that promote efficiencies in irrigation, land cultivation and farm management, and post-harvest handling and management; (ii) harmonization of SPS Standards under the WTO framework; and (iii) greater international engagement and collaboration to address the competing demands of clean energy and food security.

46. The biggest challenge for the GMS, as pointed out during the Dialogue, is that the subregion stands in a unique position in the world market for rice, with Thailand and Viet Nam, two of the world's largest rice exporters, accounting for about 50% of global rice trade volume. PRC and Cambodia are also net rice exporters, while Myanmar has a high potential to become an active rice exporter. The GMS, therefore, has a social and moral responsibility to the rest of the world to stabilize the supply and price of rice through policy coordination.

47. A copy of the highlights of the GDD on Food Security is in Appendix 7.

Discussion

48. Mr. Hiroyuki Konuma, FAO, indicated that the agriculture sector has been neglected in past decades with a very little investment which resulted in the slow production growth of cereals (less than 1% per year) and decline of cropped land for cereal production in the past decade. In fact, agriculture's share in ODA fell from 17% in 1980 to 3% in 2006. This situation poses a great uncertainty for future food availability to meet the demand of rapidly growing world population which might reach 8 billion by 2030, while land and water for food production would face heavy competition with the growing demand for biofuel and animal feed production, and decline of arable land due to land degradation and industrial use. It was also indicated that the potential for bio-energy development should also be analyzed based on available natural resource base especially land and water in order to avoid heavy competition with those for food production and to identify long-term sustainable solutions including the promotion of 2nd and 3rd generation bio-energy.

49. It was confirmed that there are concrete opportunities for intersectoral integration and cross-over between agriculture and environmental concerns and approaches.

- ***Climate Change and Food Security: Threats and Opportunities***

50. Mr. Javed Mir, ADB, gave an overview of the threats of climate change to the GMS, including changes in temperature and rainfall patterns; increased frequency of extreme events like heat waves, droughts, floods and storms; changes in growing season; changes in water quality and quantity; and sea level rise resulting in salt water intrusion. These threats could affect food security by way of decreasing agriculture productivity, affecting agriculture inputs, rendering lives and properties vulnerable to extreme weather events and sea level rise, affecting distribution patterns, market linkages, and agriculture infrastructure, and increasing competition for food and fuel. A substantial portion of greenhouse gas emissions in the region is from agriculture and land use conversion.

51. A number of opportunities for regional cooperation were identified, including mitigation measures for lowering carbon intensity and emissions from land use conversion, and utilizing the biodiversity conservation corridors in the GMS as gene pool for forest products which are sources of local livelihood. Response and adaptation measures could be instituted through disaster preparedness and response, water conservation, improved agricultural efficiency, biodiversity and natural resources conservation (carbon sequestration), use of alternative energy and energy efficiency. Existing knowledge and initiatives could be built on to map out the high risk agro-ecosystems, maximize the use of the Agriculture Network Information System Center (AgNIC) for new crops and varieties, apply current knowledge (Homologue tool developed by CIAT) and emerging technologies (biotechnology, precision agriculture for increasing productivity), and develop stress-tolerant rice varieties. There are existing financial mechanisms that could be tapped, including ADB's new Climate Change Fund (\$40 M), Climate Investment Facility (\$6 B) of the World Bank, Japan, and the US, and the Global Environment Facility (\$280 M). Subregional cooperation to address climate change through WGA-WGE joint collaboration could be pursued in several areas including regionalization and subregionalization of global climate impact models, mapping of high-risk agro-ecological and farming systems, consolidation of AINS, regionalizing Homologue tool, promotion of low carbon agriculture production and marketing technologies, and promoting green technology.

- ***Issues and Prospects for Improved Rice Productivity and Food Security in the GMS***

52. Dr. Sushil Pandey, IRRI, discussed the institute's strategic response to the challenge of improved rice productivity against the backdrop of the unprecedented rise in the price of rice and other food items experienced recently. Historical and global trends in rice production and in the GMS and the underlying demand and supply factors that explain the recent spike in rice prices were discussed. One of the contributory factors has been the reduced public investment in research and development. IRRI has adopted a strategic plan for 2007-2015 that aims to reduce poverty in rice-dependent regions through improved and diversified rice-based systems; improve health and nutrition of poor rice consumers and farmers; ensure sustainable and stable rice production with minimal environmental impact and coping features for climate change; ensure equitable access to information and knowledge on rice; and provide usable genetic resources for future generations. An effective response to the rice crisis in Asia would consist of several measures including implementing an agronomic revolution to reduce existing yield gaps, delivery of new post-harvest technologies, adoption of higher

yielding rice varieties, strengthening rice breeding pipelines for developing new varieties, utilizing the vast reservoir of untapped genetic resources, and producing a new generation of rice scientists and researchers for the public and private sectors.

- ***FAO's Initiatives on Soaring Food Prices and Response to the Rome High-Level Conference Declaration***

53. Dr. Simmathiri Appanah, FAO, presented global food price trends and the challenge faced by Asian countries, i.e., food prices are expected to remain high, the number of hungry people is increasing, and smallholder farmers cannot afford the high prices of agricultural inputs which have doubled in since 2007. FAO has launched a program called Initiative on Soaring Food Prices (ISFP) to assist member countries to put in place urgent measures to boost the supply response and to give policy support to improve access to food in the most affected countries. In the declaration of the High Level Conference on World Food Security held in June 2008, participating countries committed to stimulate food production and to increase investment in agriculture. FAO has been active in conducting needs assessment, mobilizing resources for country action plans and projects, and implementing a series of emergency projects. These are being done in collaboration with other regional organizations (SAARC and ASEAN), UN, ADB, WB, NGOs, and donors in support of national governments. Of the estimated \$1.7 billion global requirement to finance the initiative, FAO has mobilized for the Asia-Pacific region about \$16 million as of July 2008 out of its TCP resources and various donor countries and financial agencies, with additional commitments of over \$51 million from additional other donors. Projects under ISFP are now underway in Myanmar, Lao PDR, and Cambodia. As far as the GMS Program is concerned, FAO has collaborated with ADB in a number of initiatives including those on TADs Control, initial study on biofuels development, and advanced agricultural science and technology (biotechnology and biosafety). FAO looks forward to further collaboration in other areas including AINS link with FAO's databases e.g., AGROVOC, parallel funding contribution to WGA's project on rural renewable energy development, and food security and climate change adaptation-related activities.

Open Forum

54. Organic agriculture was highlighted as a concrete response for addressing climate change and contributing to getting carbon credits. The issue of water is an important consideration in the climate change debate. Creative storage, utilization of reservoirs and land resources as storage, and creative ways of increasing the productivity of water and the role of irrigation in improving agricultural productivity were stressed as some of the response and adaptation measures to drought and drought mitigation risks. The application of biotechnology to reduce the cost of production was stressed as a win-win solution in dealing with climate change. Other approaches to balance the benefits for farmers and reduce cost within the production system are crop diversification, and reduction of post-production losses and wastage. Closer integration between agriculture and natural resources was repeatedly emphasized in addressing adaptation response to climate change and ensuring food security.

- ***Response and Strategies of GMS Countries on Food Security and Climate Change Issues***

55. Cambodia has launched an agriculture sector strategic development plan whose primary objective is to achieve and ensure food security and conserve natural resources. The policy emphasizes agricultural productivity, diversification, and competitiveness. Two issues related to climate change are of particular concern to Cambodia: drought and floods, and the spread of diseases that could impact on food production. Efforts are underway to develop drought- and disease-resistant rice varieties but advanced technology application is needed to be extended to farmers. The government is also putting in more investment in irrigation and water management to address irregularity in the weather and water flow. Cambodia needs more investment and support from the donor community to improve its irrigation and flood prevention systems, apply advanced technologies that balance productivity and the environment, and ensure availability, accessibility, and affordability of farm level inputs.

56. PRC has taken measures to counter rise in food prices including provision of subsidies to increase cereal production, and improve the trade regime for farm products. Grain self-sufficiency is above 95%. The Government gives priority to enhancing cereal production and improving self-sufficiency; a super-rice is now at an experimental stage. PRC will continue to support international and regional cooperation, coordinate policies, carry out technical exchange programs and training courses in rice and maize production, and share knowledge and experience with other GMS countries.

57. In line with Lao PDR's 6th Five-Year National Socio-Economic Development Plan (2006-2010), the Ministry of Agriculture has formulated an Agriculture and Forestry Development Plan which emphasizes 4 goals: food security, commodity production, slash and burn cultivation eradication, and sustainable forest management. Toward this end, important measures are being pursued concerning (i) land allocation for poor farmers and investors; (ii) plant seeds and animal breeds supply to promote indigenous species and promote organic agriculture; (iii) irrigation schemes to store water in wet season and for use in dry season; (iv) strengthening extension services to promote efficiencies in irrigation, land cultivation and farm management, post-harvest handling and management; (v) capacity building in SPS to ensure plant and animal health and food safety; and (vi) supplying credit for purchase of farm inputs. The government is also looking into policy options for interventions to ensure household food security including subsidies, emergency food aid, and school feeding programs; lower domestic food prices through short-run trade policy measures; and strengthening institutional linkages internally and with other countries through technical cooperation. Lao PDR proposed for ADB and other development partners to look for ways to assist GMS countries to access carbon credits.

58. Myanmar expressed its appreciation to the international community for their support in the aftermath of cyclone Nargis which devastated the Ayeyarwady delta and some townships in Yangon division in May 2008. Myanmar is making great efforts not only to ensure rice sufficiency for its population but also to share the surplus with neighboring countries. The country is promoting its agricultural productivity through the development of irrigation and allocating more resources to agricultural research and development. Myanmar emphasized the importance of strong partnership among GMS countries and development institutions including ADB.

59. Viet Nam has made significant achievements in agricultural development during the last 20 years. It has become the second largest rice exporter in the world, and also exports of coffee, cashew nuts, black pepper, rubber, tea, fruits, and fishery

and wood products. These achievements in agricultural development and production are attributed to extensive and intensive reforms including the grant of long-term land use rights to farmers, transformation of the centralized economy to a market economy, investment in rural infrastructure development particularly irrigation schemes, promotion of research and extension, and provision of credit to farmers. But there are difficult challenges facing Viet Nam such as sea level rise, natural disasters, and diseases. Viet Nam is one of the countries which are most severely impacted by climate change and sea level rise, flood displacement in the Mekong River Delta and Red River Delta which could severely affect its national food security. The Ministry of Natural Resources and Environment is now preparing a National Target Program for climate change adaptation. The Ministry of Agriculture and Rural Development has set up a standing office under the Steering Committee for Action Plan for climate change adaptation to develop a framework(action plan), prepare research proposals, and develop a website and database.

60. Thailand recognizes that land competition between food and fuel crops is a concern even though it encourages the use of alternative energy from fuel crops (ethanol from maize, sugarcane and cassava; biodiesel from oil palm). The current production of staple food crops such as rice, cassava, sugarcane, and oil palm ensures sufficient supply for domestic consumption with surplus for export. Under the East Asia Emergency Rice Reserve (EAERR) project, Thailand is keeping 337,000 tons of rice on stockpile. To address food security and climate change concerns, Thailand is allocating lowland and irrigated areas for food production, and others for fuel crops; maintaining the level of cassava and sugarcane production; and expanding oil palm production to other areas. Climate change strategies for 2008-2011 have been formulated covering capacity building for climate change adaptation, promoting greenhouse gas reduction activities, support for research and development, promotion of public awareness and participation, institution building for coordination and integration, and international cooperation.

61. Copies of presentations and other reference materials for the Session are in Appendix 8.

Session 4: WGA and CASP: Next Steps

- ***Proposed New RETA: Accelerating the Implementation of the CASP***

62. Ms. Marilou Drilon, ADB, briefed the meeting on the outcome of the closed executive session held immediately preceding the WGA-5 meeting to discuss the new proposed RETA that will continue to support WGA's activities. The current RETA which will be completed in 2009 has supported the establishment of the WGA Secretariat, the conduct of WGA meetings and workshops, the development of the Strategic Framework for GMS Cooperation in Agriculture and CASP endorsed by the GMS Agriculture Ministers in 2007, initial studies on bioenergy and rural renewable energy development, the establishment of the AINS, and the development of the regional strategy on biotechnology and biosafety, among others. The new RETA, to be financed by ADB and included in its indicative assistance pipeline for 2009-2011, will fund activities of WGA aimed at accelerating the implementation of the CASP and the Vientiane Plan of Action for Agriculture relating to biotechnology and biosafety, rural renewable energy development, AINS, cross-border trade and food security. In line with suggestions made during the closed executive session, the WGA Secretariat will develop a detailed

workplan for RETA implementation, consider decentralization arrangements for some RETA activities to enhance GMS country ownership, draw in the participation of the private sector including farmers' organizations and SMEs in CASP activities, enhance agriculture sector linkages to support economic corridor development, mobilize investments and strengthen synergies with current programs of development partners, and consider measures to strengthen the WGA Secretariat including possibility of secondment of GMS staff. A copy of the RETA paper and highlights of the closed executive session appear in Appendices 9 and 10 respectively.

63. The meeting participants expressed broad agreement and support for the proposed RETA, subject to further refinements as suggested.

- ***Interventions from Development Partners***

64. IFAD and Finland confirmed the complementation of WGA's work under the CASP with their own programs and looked forward to close cooperation with the working group. Although no concrete co-financing commitments were indicated, possibilities for parallel or linking financing will be actively explored. Finland specifically mentioned interest in rural renewable energy, concentrating on non-food feedstock such as algae for biofuels.

65. FAO emphasized partnerships, sharing of knowledge and technical expertise, and utilizing its country offices to provide easy access nodes. FAO confirmed that \$370,000 is available for the RRE initiative, US\$90,000 for food security information and market monitoring, and another \$100,000 for additional activities in advanced agriculture science and technology (biotechnology). They are also willing to work together with WGA and ADB in exploring co-financing possibilities through their existing TCPs and trust funds (total over \$8 million in Myanmar, Laos and Cambodia) particularly in addressing food security concerns, on top of other individual financing that FAO is providing to GMS countries.

66. CIRAD as a research agency can contribute to human resources development, collaborate with other development partners and participate in research platforms in the region on such topics as market-driven biodiversity enhancement, agro-ecology, improving linkages between farmers and markets to ensure food security, and TADs (particularly avian flu).

67. SEARCA whose primary mandate is to strengthen human resources development through scholarships and round table discussions on emerging issues, is very interested to partner with ADB and WGA in advancing the CASP.

68. CIAT acknowledged that it continues to benefit from ADB's transport projects that help provide access to markets for farmers in remote areas. CIAT can contribute technical resources, particularly on RRE, and projects related to climate change mitigation. They have interest in technical cooperation to link farms with agro-industries in line with economic corridors development.

69. JIRCAS, a research agency, seeks collaboration for capacity building on such topics as biofuels, and inland aquaculture.

Other Matters

- ***Tentative Date and Venue of WGA-6***

70. The Meeting agreed to hold WGA-6 in October 2009 in Thailand. Exact dates and venue in Thailand will be determined and communicated later.

Closing Session

71. Mr. Malik recapitulated on the main points discussed during the meeting, particularly the issues of food security and climate change, and how to integrate them into the WGA's work plan. He expressed his thanks to the co-chair for his able stewardship of the Meeting, to the development partners, and to all the participants for their active participation.

72. Dr. Phouangparisak expressed his thanks to ADB for organizing the meeting, to the delegates from the GMS countries, and the representatives of the Development Partners for their constructive insights that contributed to the lively and fruitful discussions.

73. The Meeting expressed appreciation to the officials and secretariat staff of the ADB for their efficient arrangements.