

**THE AGRICULTURAL KNOWLEDGE PLATFORM
FOR THE GREATER MEKONG SUB-REGION (GMS)**

(AGRIMEK PLATFORM INITIATIVE)

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ABBREVIATIONS AND ACRONYMS

ADB – Asian Development Bank
AFD – Agence Française de Développement (French Agency for Development)
AgriMek – Agricultural Knowledge Platform for the Greater Mekong sub-region
CIRAD – Centre de Coopération Internationale en Recherche Agronomique pour le Développement
DMC – Direct seeding Mulch based Cropping systems
GMS – Greater Mekong Sub-region
IRCC – Institut de recherche sur le Caoutchouc du Cambodge (RRIC)
KU – Kasetsart University Bangkok Thailand
MAE – Ministère des Affaires Étrangères (France) / French Ministry of Foreign Affairs
MAF – Ministry of Agriculture and Forestry Lao PDR
MAFF – Ministry of Agriculture, Forestry and Fisheries Cambodia
MALICA – Markets and Agriculture Linkages to cities of Asia
MARD – Ministry of Agriculture and Rural Development Vietnam
NAFRI – National Agriculture and Forestry Research Institute (Lao PDR)
NARES – National Agricultural Research and Extension Systems
NGO – Non-governmental organisation
PRC – People's Republic of China
PRISE – Pôle de Recherche sur l'Intensification des Systèmes d'Élevage (Collaborative Research on Husbandry Systems Intensification)
VASI – Vietnam Agricultural Sciences Institute
WGA – Working Group on Agriculture
WTO – World Trade Organization
YAAS – Yunnan Academy of Agricultural Sciences

INTRODUCTION

1. The Working Group on Agriculture (WGA) was established by the Asian Development Bank (ADB) in January 2003 among countries in the Greater Mekong Sub-region (GMS) – Cambodia, Lao People's Democratic Republic, Myanmar, Thailand, Vietnam, and the Yunnan Province of the People's Republic of China – to facilitate consultations on common issues in the agricultural sector and identify opportunities for increased regional cooperation. CIRAD (Centre of International Co-operation in Agricultural Research for Development) has participated in WGA meetings and has shared its experience in the development of collaborative research platforms with National Agricultural Research and Extension Systems (NARES) in the region. Based on WGA discussions and a meeting at the ADB Headquarters in Manila in October 2004, it was suggested to write a concept note on the development of an Agricultural Knowledge Platform for the Greater Mekong Sub-Region (AgriMek Regional Platform Initiative) to be proposed to the Agriculture, Environment & Natural Resources Division, MKRD, of the ADB, in close coordination with the French Ministry of Foreign Affairs (MAE), its Bangkok-based Regional Co-operation Unit, and AFD (French Agency for Development).

ISSUES

2. The agricultural sector is a major contributor to the economies of the countries of GMS. Sustained agricultural growth is essential to maintain economic strength and to improve people's livelihoods while reducing poverty. About 62 million people or 25% of the total population in the GMS live below the poverty line.

3. There are increasing concerns in the GMS regarding (i) the widening gaps between rural and urban areas in terms of income and living standards; (ii) unsustainable management of the environment, inducing deforestation, water and air pollution, soil erosion, depleting water resources, decreasing soil fertility, endangering the livelihoods of rural communities, especially in the mountainous areas.

4. Rapid urban development and increased globalization of trade in agricultural and agri-based commodities is reflected by the recent entry of several GMS countries in the World Trade Organization (WTO). Agricultural systems, especially in peri-urban areas with good market access, are increasingly being intensified to satisfy the needs of a growing population¹.

5. However most farmers are still smallholders, using subsistence farming systems that rely on less than one hectare per household. An important constraint to more market-oriented and diversified agriculture and increased revenues is the limited access of farmers to improved appropriate technology and knowledge. One key reason is the need to adapt technologies to local settings through innovative on-farm research that take into account both cultural, socio-economical and environmental issues. Moreover, farmers' links with (sub-) regional and international input and output markets are often weak. Profitable but sustainable agriculture requires improvements in quality of agricultural products and the implementation of adapted policies and regulations. The other main reason is the lack of resources and adequate methods dedicated to research and extension. Numerous research and development agencies are present in the GMS, but they have often overlapping mandates and limited financial resources. Institutional strengthening and capacity building for the development, field testing and transfer of improved technology and dissemination of information are essential for agricultural development in the GMS region.

6. Because most of the GMS countries have specific agricultural research requirements, expectations and constraints, there is a need for better management and coordination of the agriculture-oriented activities in the sub-region dealing with participative development-

¹ 2.0 % annual population growth rate in Myanmar, 2.8% in Lao PDR, and 2.6% in Cambodia, to be compared to 0.8% in Thailand

oriented Research, capacity building, technology exchange and extension, availability at regional level of on-site joint task forces devoted to integrated agricultural development. The agricultural knowledge platform proposed here will stimulate the sharing of operational means and information within the GMS region among NARES, universities and other stakeholders on specific topics identified as priorities for agricultural development in the GMS.

THE AGRIMEK REGIONAL PLATFORM INITIATIVE

A. Purposes and proposed priority areas

7. The Agricultural Knowledge Platform for the Greater Mekong Sub-region (AgriMek Regional Platform Initiative) will allow national agricultural research institutes, universities as well as professional organizations, farmers and local communities from the GMS countries and regions to join hands to facilitate capacity building, training, on-farm research, technology transfer and information dissemination related to agriculture development across the GMS.

The AgriMek Regional Platform Initiative focuses on **three** major priority areas:

- a) **Innovative and sustainable farming systems in the mountainous regions of the Mekong Corridor using agro-ecological approaches**
- b) **Innovative livestock systems including animal health and biodiversity**
- c) **Sustainable quality food chains for urban areas**
- d)

B. Innovative and sustainable crop farming systems in the mountainous regions of the Mekong Corridor using agro-ecological approaches

8. Much of the mountainous areas in the GMS are affected by shifting cultivation and slash and burn agriculture, seriously compromising the quality of the agricultural resource base (soil erosion, loss of soil fertility). Stabilizing such systems is of paramount importance to sustainable agricultural development. Technology development based on sound understanding of interactions between soil and crop using agro-ecological approaches is key to the development of more productive and sustainable agriculture in these regions. The main entry point for innovative and sustainable crop production is the development of zero-tillage, mulch-based, direct-seeded systems. These so-called DMC² systems ensure that:

- the soil is no longer disturbed by mechanical action and is kept covered by crop residues and/or cover crops;
- soil structure is improved through biological instead of mechanical actions
- weeds are controlled through shading and / or allelopathic affects
- nutrients leached are recycled through deep rooting systems of the cover crops;
- sub soil insect and microbial activity is enhanced, improving soil structure and plant nutrition.

9. The development of sustainable agricultural systems through the use of agro-ecological approaches requires:

- on-farm research involving farmer groups at field, village and watershed level
- training of researchers, extension agents and pilot farmers
- information campaigns to involve policy and decision makers and other stakeholders

² DMC : Direct seeding Mulch based Cropping systems

- sharing of experiences among stakeholders in the GMS to accelerate up- and out-scaling of successful technologies and approaches
- setting up at national and regional level of on-site joint task forces devoted to integrated ecological farming systems.

10. CIRAD and its partners are currently actively using agro-ecological approaches and DMC systems to stabilize upland areas in Vietnam, Laos, Cambodia, Yunnan / PRC and Thailand. A regional workshop held in Vientiane mid December 2005 (*"Building up an agro-ecological network in South East Asia"* – Vientiane, December 12 – 15, 2005) strongly supported the concept of a GMS initiative on this topic.

C. Innovative livestock systems including animal health and biodiversity

11. Urbanization and population growth are triggering a growing demand for animal products, and therefore a need to intensify livestock production in a sustainable manner. Four main commodity chains are targeted: pigs, poultry, milk production and aquaculture.

12. The Livestock platform set-up by CIRAD in Vietnam is aiming at bringing together several national partners involved in animal production and veterinary science to achieve a number of common objectives: increasing rural employment, improving livelihood and income in rural families, surveillance of animal health and protecting the environment. The main targets of this Livestock platform are:

- to increase rural productivity in scattered small scale production units,
- to set up epidemio surveillance networks on wild and farm animal diseases (present such as Avian flu and future such as likely emerging diseases...)
- to participate in supplying quality products
- to manage domestic and wild animal biodiversity,
- to enhance animal product commodity chains,
- to promote livestock integration into agricultural systems.

13. The activities of the Livestock platform include:

1. development oriented research
2. on-farm implementation
3. training: academic courses, qualifying training, training for trainers and extension agents
4. technology transfer and information exchange.
5. setting up at national or regional level of on-site joint task forces devoted to innovative livestock systems.

D. Sustainable quality food chains for urban areas

14. Domestic and export markets are rapidly developing in SE Asia, with several key factors: globalization, urbanization and increasing purchasing level. At the same time, there are signs of disturbed correlations between demand and supply: farmers complain about market changes while traders and consumers complain about lack of regularity in quantity and quality of supply.

15. The activities of the Malica platform (Markets and Agriculture Linkages for Cities in Asia) initiated by CIRAD in Vietnam, aims at building capacity on food market analysis, through applied research and training (academic degree, extension). In cooperation with ADB, Malica has developed into an international network (Asia and Europe)

It is expected that Malica :

- produces adapted decision making tools for technicians, professional groups at

national provincial and district levels in the GMS,

- develops models for pro-poor standards procedures and certification,
- facilitates trans-border exchanges based on complementarities.
- promotes production and marketing of “bio” quality agri-products obtained through sustainable organic agriculture,
- provides training and capacity building in the GMS.
- makes available at national or regional level on-site joint task forces devoted to marketing and supply to mega-cities of quality agri-products.

E. Approach and organization

16. The proposed AgriMek Regional Platform initiative offers several key comparative advantages:

- There are already existing partnerships among the GMS countries (working on same areas, sharing experience and know-how) in close collaboration with Cirad and other European and international institutions.
- This collaboration already involves rural communities, professional organizations and local authorities, through on-farm experiments, favoring scaling-up actions
- Capacity building activities at regional and local levels are aiming at meeting the training needs of decision makers, researchers, technicians and extension agents.
- Availability of regional on-site expertise capacities³

17. All six GMS countries⁴ will be invited to participate in the AgriMek Regional Platform Initiative. It is proposed to start the AgriMek Regional Platform with a 3-year pilot phase devoted to the main priority area: Innovative and sustainable farming systems in the mountainous regions of the Mekong Corridor using agro-ecological approaches, which is already on-going in 5 out of 6 GMS countries (Cambodia, Laos, Thailand, Vietnam, Yunnan / PRC).

18. The two complementary actions: (a) Innovative livestock systems and biodiversity and (b) Sustainable quality food chains to urban areas (meat, dairy products, vegetable and fruits), will be proposed during the same 3-year period, with a 1-year assessment phase aimed at identifying partners and priorities, followed by a 2-year phase of building up a regional platform program in partnership in other GMS countries, in line with their national needs and priorities.

19. Because of the multi-disciplinary aspects of this project, and the specificity of each sites to be taken into consideration, it is proposed that each GMS country designates their implementing agencies from the relevant ministries, research or academic institutions and nominates a national coordinator, as well as the national thematic focal points for implementing the AgriMek activities.

20. It is proposed to take profit from the existing assets and above mentioned activities spread over the GMS countries and which are related to the AgriMek Regional Platform Initiative. One obvious advantage would be the cost effectiveness: no central building to set-up or to rehabilitate, no heavy central operating costs. The AgriMek Regional Platform Initiative would federate and coordinate local institutions or sub-regional networks, favoring partnership, regional commitment, experience sharing and synergy.

21. This approach would need an executing agency working in close coordination with the

³ regional on site expertise capacities : e.g.: Avian flu crisis

⁴ As country member of the GMS, Myanmar will be involved. The modalities of its participation will be discussed with the other GMS countries .

national coordinators and focal points and with the national stakeholders. CIRAD has already been committed for many years in this kind of collaborative activities in several countries of the GMS, involving several scientific staff and experts posted on full time basis who can be made available without delay in the sub-region⁵. Hence, CIRAD could play a catalyst role. An organizational structure of the AgriMek Regional Platform Initiative is proposed in figure 1.

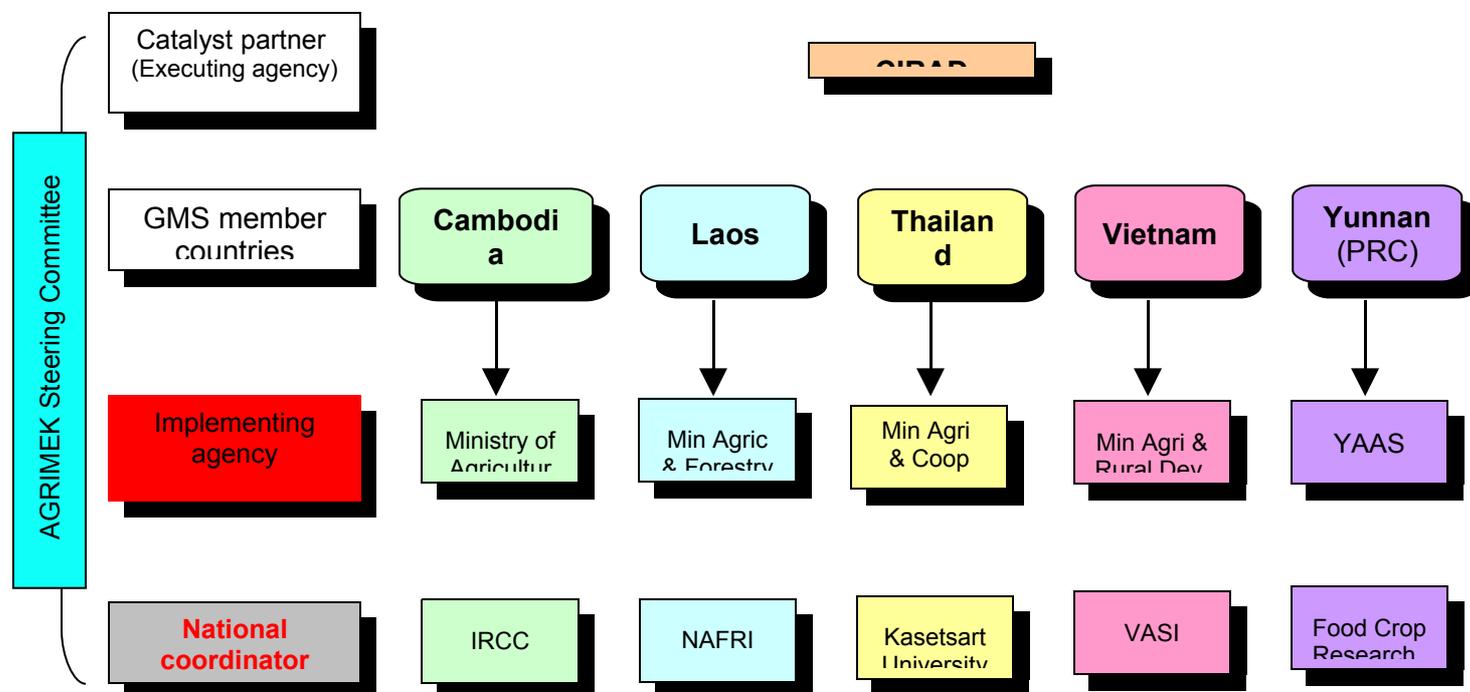


Figure 1: Proposed organizational structure of the AgriMek Regional Platform Initiative.

(1) Myanmar is to be involved in the AgriMek Regional Platform Initiative. The implementation will have to be defined.

(2) For the Agro-ecology action, several GMS Authorities have already expressed their interest in being involved in the regional network involving Cirad, e.g.: Cambodia, Laos, Thailand, Vietnam (since 2000) and Yunnan (in 2004).

F- Outputs and milestones

22. Outputs of the AgriMek Regional Platform Initiative include:

- **Capacity for training** at several levels, from executive staff and technicians to trainers and extension specialists will be strengthened through specific national and regional workshops, field trips and seminars
- **Technical information and experiment results** will be broadly and extensively disseminated all over the GMS countries, at national, provincial and district level,
- **Applied research** will be conducted through on-farm experiments and field activities with specific adaptation and adjustment to local conditions and priorities,
- **Education at university level** of scientists and decision-makers will be organized in selected universities, through adapted curricula.
- **Joint expertise task force** made available at national and regional level devoted to sustainable agricultural development

⁵ A good illustration is the rapid mobilization of CIRAD veterinary experts during the Avian Flu crisis in 2004 in the ASEAN countries.

23. The milestones along the first 3-year period are:

- **Inception regional workshop**, with country representatives (stakeholders, to finalize, objectives, activities along with a workplan and a budget for the AgriMek. Respective roles and mandates of national and international partners (eg. ADB, CIRAD, ...) will be discussed as well.
- **Steering committee meetings**: combining institutional matters and technical review and guidance. They should be held tentatively at the end of every operational year.
- **Final regional workshop** at the completion of the project: to present main results and outputs, and to analyze impact of the AgriMek project on the agriculture sector.

G- Main activities

24. They would be discussed and finalized during the inception regional workshop and would consist of:

Activity 1: On-farm – watershed oriented research and participatory experiments.

- Adaptation of cropping systems to local conditions, testing of various viable technical options and validation by smallholders
- Technical training through demonstration units located on selected sites representing socio-economic and biophysical diversity, devoted to technicians, extension specialists, researchers, development agents and farmers.

Activity 2: Capacity building through qualifying thematic workshops.

- Workshops at national or regional level devoted to strategic matters in order to strengthen specific knowledge and competencies

Activity 3: Academic degree training .

- Creation of a regional Masters Degree in a regional or international training / education institution. The practical component of the training would be adapted to specific needs and organized in one of the GMS countries.

Activity 4: Information technology development.

- E-learning activities combined with “thematic fora” and a web site

Activity 5: National and regional on-site expertise capacities.

- Development of a joint task force composed of experts and specialists involved in the GMS countries that can be mobilized at national or regional levels to solve problems (e.g.: emerging diseases, specific feasibility studies for integrated development projects taking care of water soil environmental issues...)
