GMS Agricultural Information network

Promoting public private partnerships in sharing agricultural information
Communication learning and training in Agroecology
The AGRIMEK initiative

Concept working note

1. Background

- The process of implementation of national agroecology projects has been initiated and developed by Cirad and its partners[1] under the following agenda :

  1999: The SAM Project in Chon Don, North Vietnam,
  1999: Agricultural Diversification Project, Central Vietnam (Pleiku),
  2001: The Sayaboury Project, west Laos,
  2002: Creation of NOMARC, Yen Bai Center North, Vietnam,
  2003: The Soil biology laboratory, Sakhon Nakon, Kasetsart University, Thailand,
  2003: The Rubber - DMC Project in Cambodia,
  2005: The PRONAE, Sayaboury and Xieng Khouang Provinces, Laos,
  2007: Implementation of NOMAFSI Project, Vietnam, (tea and rice),
  2008: starting of the Yunnan initiative in Agroecology.

- The achieved on fields and on farm activities (see annex 3) are now providing a strong basis for further implementation and dissemination of know-how in other situations and countries of the GMS and for capacity building, participatory tools development, extension staff training. To assist policy-makers and local stakeholders, it is needed to sustain a global synergy among GMS projects, research and training centers, private sector, through creating new links between research, extension services and producers.

- In December 2005, in the context of a regional workshop held in Vientiane, partners from Vietnam, Cambodia, PRC, Thailand and Laos, have identified a common need for the creation of a network in agroecology devoted to improving smallholders livelihood and aiming at boosting the transfer of innovations with the following objectives:

  i) to promote partnerships through new mechanisms for dialogues, information and e-learning through a GMS website; ii) to build up national and international expertise through training sessions, fields visits and workshops; iii) to develop sub-regional strategies and links between research institutions, universities and extension agencies.

- In December 2006, a proposal for the creation of an e-service under the GMSAIN framework was proposed to DMCP (WGA-4) and accepted for further development under a desirable leadership by Laos, MAF, especially NAFRI in collaboration with the PRONAE[2] who has presently 5 years of successful experience in agroecology and R&D.

- Taking in account this evolution, the way forward, proposed at the WGA-4 was to present officially this Agroecological initiative at the next GMSAIN workshop, to be held, end of January 2007 in Beijing, PRC, having he objective of analyzing the compatibility aspects with the other data bases and e-services in development within the present GMSAIN core project.

- Based on this clear house, to propose a tentative agenda for fund raising and activity implementation within a project expected to start in the coming months: feasibility study on contents, training of users and 4 years of activity (see details in annex 1).

[1] National Research & Developpement Centres, Universities and also, French Mae, AFD, World Bank...
[2] PRONAE : National Program in agroecology (Lao Government priority).

2. Objectives of the network based WEB sub-site in Agroecology.

Objective 1: To share experiences capitalized in the several national agro-ecology projects in South-East Asia (Laos, Vietnam, Cambodia, Thailand, Yunnan) and the need of each country in order to build and to enhance a regional network on agro-ecology, more specifically on *Direct seeding Mulch based Cropping Systems* with c*over crops*, **DMC.**

Objective 2: To boost the development of partnerships with private sector, especially in the field of machinery designing and maintenance, quality approach for inputs delivery, as seeds (main and cover crops) and service offering for technical advices and expertises.

Objective 3 : To facilitate through the e- leaning service, the access to specific knowledge, know how and professional skill in order to promote performant farming and marketting systems in the GMS.

Objective 4 : To develop communication and information sharing among stakeholders and users especially through a permanent *question & answer* process coordinated by selected experts.

Objective 5 : Through the development of this knowledge platform, to allow donors (ADB, AFD, World Bank, Regional Co-operation..), at learning from the on going activities and at identifying priorities in term of recommendations, outlines and action plans, while avoiding redundancy and overlapping in the GMS Agriculture sector.

3. Description of activities and assistance(s).

3.1 Participatory identification of specific needs and expectations

This first step will have to deal both i) with the institutional aspects – general rules for action and role of the Coordination Unit (see Annex 1) and, ii) with the agroecological technical aspects in term of definition of contents to be included in the web and that are effectively expected by each partner.

In order to guarantee the overall pertinency and compatibility between technical matters and the proposed *software – web environment* proposed for the sub-site (see annex 2), this activity would include a 3 months consultancy (including 1.5 month trip and visit to GMS stakeholders) to be undertaken by experts (skill both in agroecology and web) under the coordination of Lao national authorities (planning division at M.A.F) in collaboration with Nafri agronomic DMC oriented staff.

3.2 Creation and development of a GMS expert group in Agroecology.

Taking advantage of this inventory study, each partner will identify and nominate, both from public and private sector, human professional resources able and wishing to take ownership in the process. These staff will constitute the national focal points of the network and will interact with the Lao coordination Unit.

3.3. Implementation of the Project (mid 2007 – 2011)

On the basis of the conclusions of the feasibility study, the GMS stakeholders will negotiate and sign a consortium agreement and will then implement the project for a 4 years period. This agreement will clarify and define with precision the contribution of each body to the project. In particular, the devoted technical staff by the GMS institutions including young staff to be involved and trained in agroecology and regarding the technical assistance, the identification of DMC agronomists from CIRAD to be posted in GMS countries during the project duration. A mid-term and final review and annual meeting of the steering committee and Coordination Unit should be desirable and proposed as simple but mandatory ways for monitoring and assessing efficiently the activities. In a second step, after the mid-term review, perspectives of opening the web site activity to Livestock sector and to Periurban agriculture will be explored (see the global AGRIMEK Cirad initiative).

Annex 1

Description of the GMS E- Service Project devoted to Information sharing and transfer of knowledge to farmers in the field of agroecology

Rationale

The countries of the Greater Mekong Subregion (GMS) are all confronted with the same constraints due to the need for intensifying agricultural production while preserving the environment. This is especially true - although not exclusively - for family-based agriculture in the mountainous regions, as cultivation on slopes is particularly susceptible to erosion and rapid depletion of soil fertility (irrigated plains are also concerned..).

GMS countries have all conducted their own research and launched their own pilot development programmes with the aim of promoting conservation agriculture. The latter, in Laos, is most often based on the principles of agroecology and DMC (direct seeding mulch-based cropping systems).

Laos, Vietnam, Cambodia, Thailand and China (Yunnan Province) are so particularly advanced in the field of agroecology and DMC. Each of these countries in one way or another cooperates with Cirad (French Agricultural Research Centre for International Development**)**. However, each GMS country has its own priority land utilisation systems in accordance with its specific policies and its agro-climatic or socio-economic context.

Objectives of the WEB e-service

- Setting up a knowledge sharing e-service among GMS countries in the field of agroecology.

- Processing and summarising information obtained in each country by a Coordinating Unit (CU). The CU with the participation of qualified resource persons then rewrites it as non-specialist material and send it back to the countries to make it accessible for farmers (vertical sharing).

- With time, step by step identification of site specific viable technologies and regional priorities in agricultural innovations and improved available assistance to small producers and traders to acquire the knowledge needed to meet the modern challenge of DMC based agriculture.

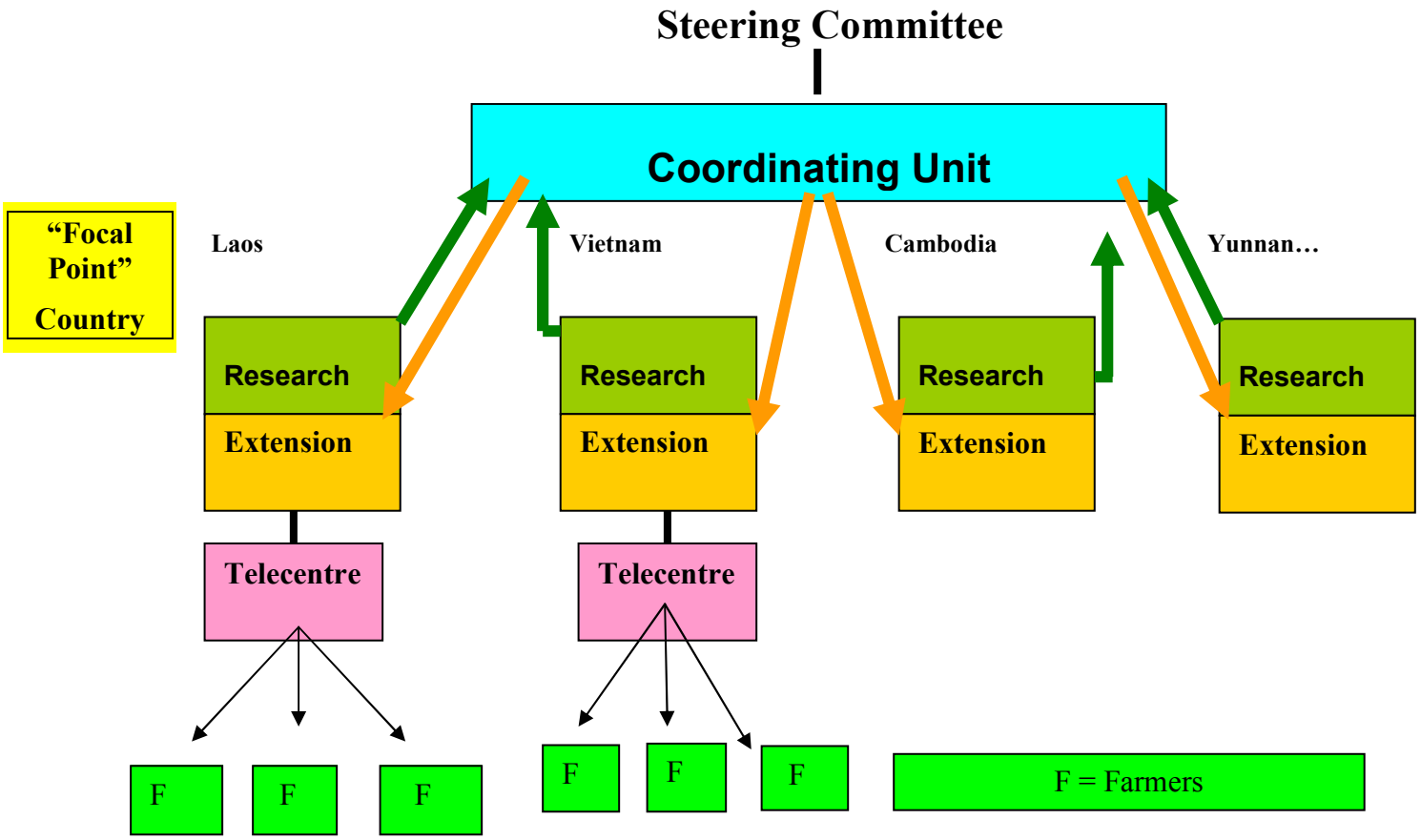
Project organisation

- The Focal Point in each GMS country forwards information to the Coordinating Unit on research and results obtained in this particular country in the field of agroecology**.**

- The Coordinating Unit, CU summarises this information and posts it on the website, organises seminars to the benefit of member countries and publishes summarised information in the form of CD ROMs or leaflets. CU is based in one of the GMS countries and managed by this country under the supervision of a Steering Committee (Laos is expected to welcome the website).

- The Coordinating Unit is sending back processed and summarised information to each country's Focal Point in the form of recommendations for a non-specialist readership aimed at farmers in the relevant country. The Focal Point verifies the technical recommendations, adapts them to the country's situation and translates them into the national languages.

- The Focal Point conveys the technical recommendations to farmers via telecentres providing online access to this information. Commercial information – e.g., cost of agricultural products, production statistics and costs are managed in collaboration with private sector and farmers.



Expected impact

Farmers in GMS accessing to this knowledge and know how in a timely manner and in an appropriate format

Tentative budget - estimated budget over 4 years:

Items	ADB T.A	E-Asia	Cirad	Nafri Pronae MAF	Total
Coordination Unit					
Regional coordination (Laos, 2 staff, 1/3 t) Planning and steering workshops (6 staff *) GMS final Conference (20 participants)		25,000 45,000 85,000	50, 000	5,000	
Communication – NICT small equipments		40,000			
Travel costs and subsistence (6 staff x 4 trips)		25,000			
Technical CIRAD & GMS Consultancy Cirad expert in agroecology - web site GMS countries experts technical assistance CIRAD world wide expertise (L Séguy & al)	 45, 000 45, 000.		 20 000	 5,000	
Running the WEB & services Graphics - drawing – designing (2 x 40 m.m) Translation in national languages (6 x 20 m.m)		 13, 000 22, 000			
GMS Maintenance cost during the experimental phase (4 years)		12, 000			
Regional tour in the 6 GMS countries (3 staff & 6 x 8 days)		24, 000			
Final report, Website handbook, leaflets and dissemination of multimedia products.		40, 000		5.000	
Impact assesment and reviews	10, 000				
Total in usd dollars	100,000	331, 000	70, 000	15,000	516, 000
Need for funding	100,000	331,000			**431,000**

(*) each country will put forward a representative for the annual steering committee.

Tentative timetable

Activities / Semester	S 1 2007	S 2 2007	S 3 2008	S 4 2008	S 5 2009	S 6 2009	S 7 2010	S 8 2010
1 - Identification of needs								
2- Report delivery								
3. Consortium agreement								
4. Web installation								
5. Implementation of activities								
6. Review and Assesment								
7. Coordination meetings	*	*	*		*		*	
8. Dissemination actions & final conference.								FC

Annex 2

About the designing of the web sub-site devoted to Agroecology in GMS

The agroecological information system proposed by Cirad, Nafri and its specialized expert [3] is based on Internet use allowing to create and monitor in interactivity all contents written in *XML* and *PDF* under *WAMP-5* that includes the last versions of open sources *PHP* engines – version 5.1.6 , *MySQ*L- data base manager system- version 5.0.24a, and *Apache server* – version 2.0.59.

This progiciel is using the last recent libraries available in open source in order to manage *XML* with pages having *XSL* style, a *CSS* presentation designing, under the recommendations of the *W3C*[4].

On the monitoring point of view, the system is managing the contents under conventional *XML* pages, all type of documents and images. On the user's point of view, it allows at selecting the desirable languages (three options are proposed) and styles for presentation in the context of specific needs.. In this respect, various context of design may be created , modified on request in order do fit to different contexts or demands (information, technical training, learning …).

Files for configuration to each context are small, easy to write and automatically traduced in XML by the progiciel. Contents who are prepared by agronomists and other related technicians, are so easily fueling the different, flexible presentations that are proposed on the web depending on the demand.

- thematic pages on existing knowledge and know how
- practical exercises on how to create and manage DMC system
- Forum of discussion on hot and urgent questions
- Diaporamas
- Learning lessons from farmers
- Economic and environnemental expertises and surveys
- Practical training
- Academic learning – contents for master session…
- Question & answer service managed by expert ' s group.
- Access on request to a bank of images, diaporamas through the web or through a CD-Rom on request.
- Permanent updating of a shared common library (PDF) including documentation and bibliography.

The overall software and its Operating System is conceived to be mobile and locally acceptable by any recent conventional computer (windows, linux, mac). The first location for implementing the system is proposed to MAF, Nafri, Vientiane, who has a sound experience in Agroecology and has accumulated important experience and data. Location in other place or countries is also possible and easy, depending on the evolution of local contexts.

In conclusion, the tool being compatible with GMSAIN framework and installed in one GMS country, the most important and urgent matter is to train stakeholders, mainly *agronomists and staff from private sector* at making the best efficient use of the system : which contents, how to organize it and ho to make it evolutive for the maximal benefits for final users : farmers, private sector, local, national and regional authorities, planning and policy makers.

L. Fauveau
Expert in Web and agroecology.

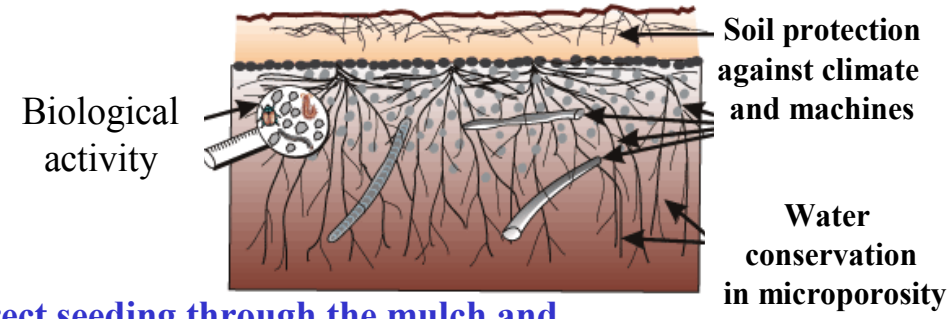
[3] Dr Laurent Fauveau, consultant to Cirad , WEB expert on DMC and Agroecology.
[4] The World Wide Web Consortium (W3C) develops inter-operable technologies (specifications, guidelines, softwares, and tools) to lead the Web to its full potential.

Annex 3

The Agroecological Action Plan on DMC Direct seeding Mulch based Cropping systems

1/ No removing the soil

2/ Permanent vegetal cover



3/ Direct seeding through the mulch and

4/ Rotation succession of diversified crops

In order to produce more high quality products while protecting soil water and guaranteeing crops potentiality
How to do it with zero ploughing and a permanent cover crop ?

An international agronomic network devoted to DMC creation

monitored by national partners and Cirad

2001 - 2006

Cirad research has been initiated in tropical brasilian region by Dr L. Séguy and al in the eighties… DMC is suitable for equatorial agrobusiness (see below, area near Amazonia).

with positive results on sustainable soybean production as in Mato Grosso, Brazil, see following page….

In the nineties, research has been extended by Cirad, Fofifa and NGO Tafa to small farmers in Malagasy with positive impact on beans, corn and upland rice productivity. In 2002, a national NGO, called GSDM, has been created to promote DMC systems in the country.

First agroecological DMC project in south-east Asia was implemented in north of Vietnam in 1999. For small farmers, DMC systems were allowing growing upland rice and fodder even on sloppy fields. A significant effect of DMC system on run off and erosion control and on yield increase and stability was put in evidence.

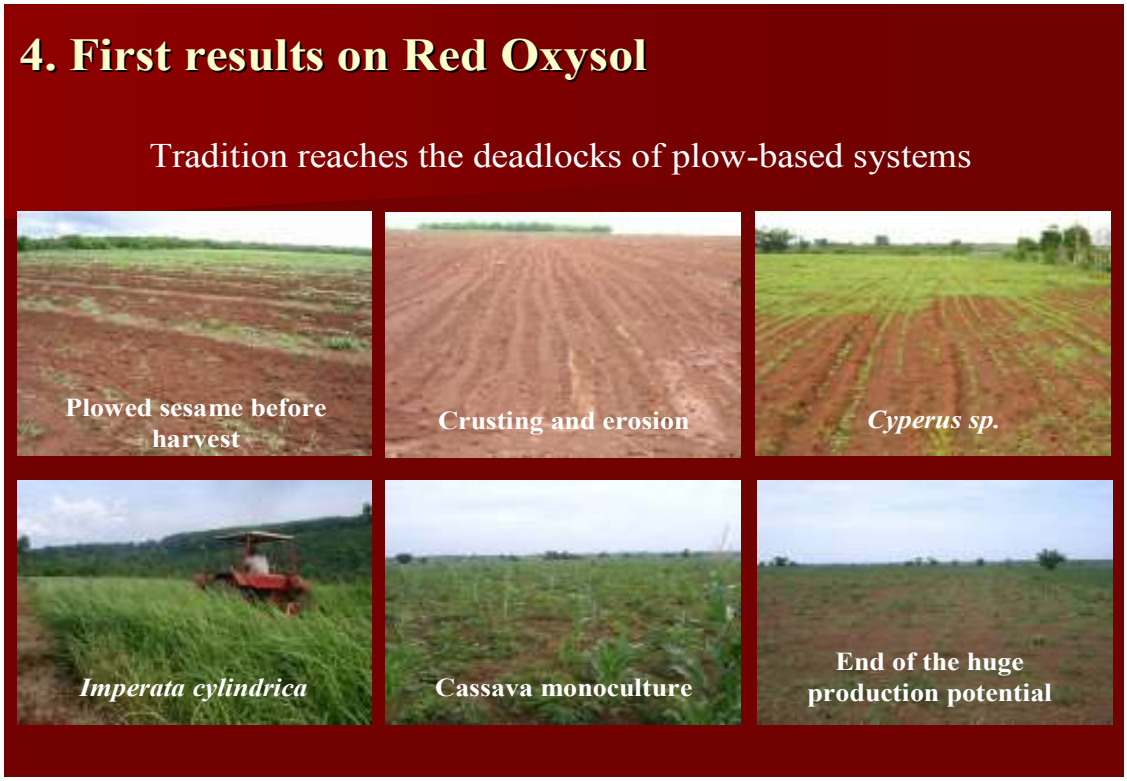
Cho Don SAM Project. (VAAS – Cirad)

Pentes - Laos

In Laos, the project was initiated in 2001 in the Sayaboury Province. Main objective was to propose DMC viable alternatives to the soil destruction process caused by intensive ploughing machines and mono-cropping (corn, cotton…). In 2004, the national program PRONAE was officially created by the government of Laos with the implementation of new projects in other Provinces.

To increase viability of DMC innovation, adapted machinery is a priority even for small farmers. It means that mechanization is an important issue with the necessity of sharing knowledge and know-how (first direct seeding equipments are coming from Brasil).

DMC Activities in Cambodia started in 2003 in the Province of Kampong Cham.



Above : Damaged soils in Cambodia due to unadapted soil ploughing with invasion of vegetal pests

DMC researches are resulting in prompt soil fertility recovery under the cultivation of cover crops followed by main crops (Campong Cham Province. Cambodia).

4. First results on Red Oxysol

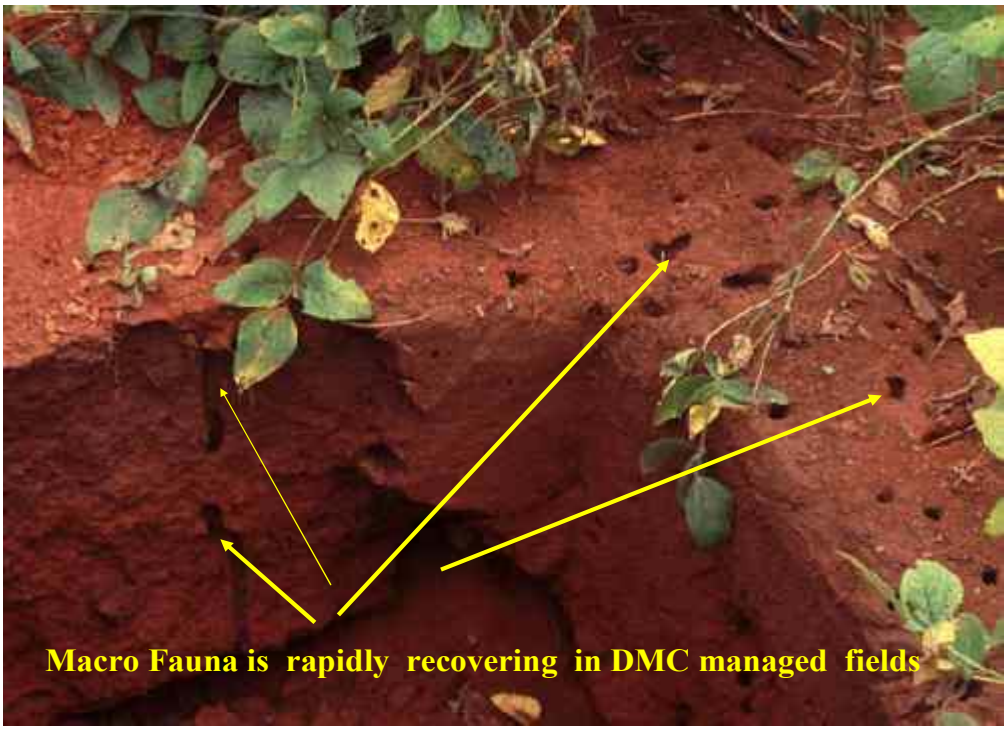
building of the first DMC proposals … photos

Ex. :system with short term bio pump before the main crop

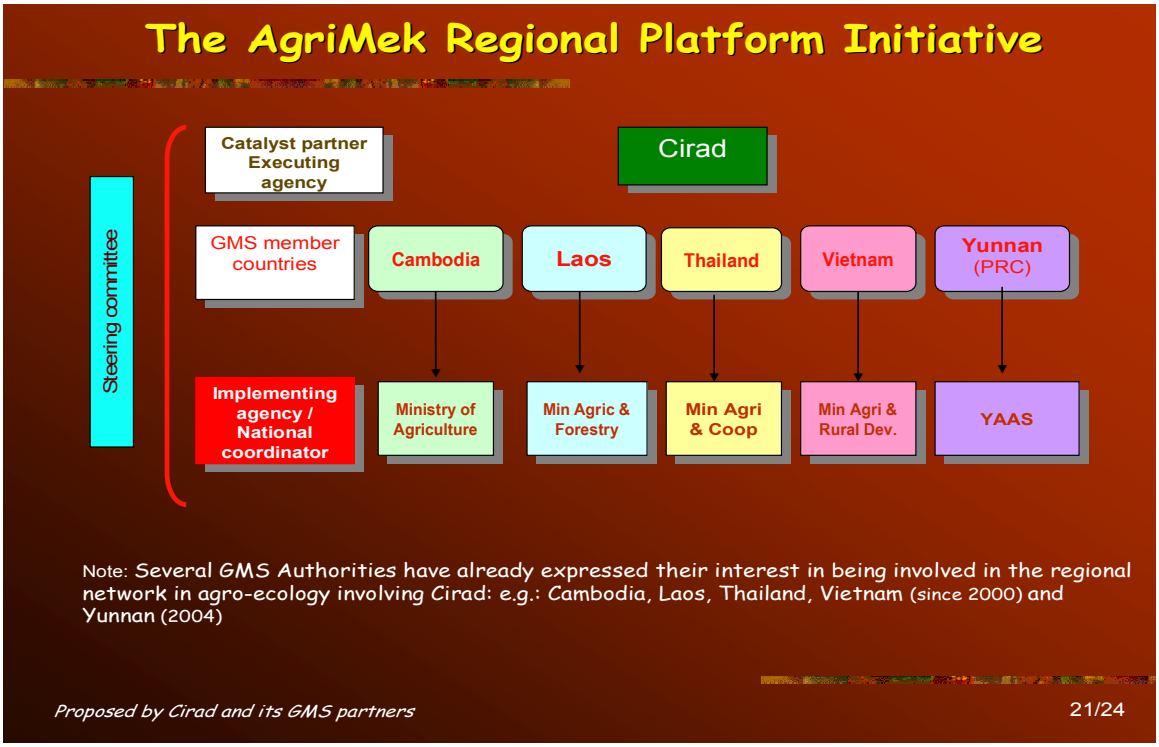
In the coming years, adaptation of DMC technology to rice cultivation and diversification with Small farmers in Cambodia is expected to have a strong positive economic and sociologic impact.

5. First results on rainfed lowland rice

Soil biological activity, as development of macrofauna and microfauna biodiversity under the DMC technology is studied at the Campus of Sakhon Nakon in northern Thailand (Kasetsart University and Cirad).



In Conclusion, linking and bridging these R&D activities becomes a true GMS challenge



Addendum.

For detailed agronomic informations, the present CIRAD agroecology website is easy to access : http://agroecologie.cirad.fr and http://www.cirad.fr/ur/couverts_permanents

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Sharing knowledge and know how on the agroecological challenge throughout the Greater Mekong sub region GMS requires a network oriented activity combining permanent information delivery (website) and training activity on the spot (regional technical training sessions)

[5] PRONAE : National Program in Agroecology.