



RESEARCH FOR DEVELOPMENT FOR AGROECOLOGICAL TRANSITION IN SOUTH-EAST ASIA

Hotel Khemara Battambang 1
Battambang, Cambodia, 23rd to 24th April 2018

Final workshop report



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INTRODUCTION AND CONTEXT

Smallholder farmers in Southeast Asia are constrained by productivity and profitability challenges related to fast agricultural transitions:

In lowlands areas, rice production can be increasingly constrained by water scarcity and climatic events (i.e., floods, drought, and sea level rise in the deltas). High dependency on energy, technologies, engineered landscapes, and infrastructures have also increased the fragility of the rice farming systems. In addition, climate change has become an important issue for countries and regions exposed to extreme flooding and/or drought. Rice farming is facing a dual challenge of delivering sufficient and nutritious food to meet the projected demands of population growth and markets, and overcoming issues such as climate change, soil fertility depletion and water scarcity.

In the mid to upper watersheds, land degradation and soil erosion are linked with deforestation, fast agrarian changes from swidden systems to intensive cultivation of cash crops like maize and cassava. On large areas in the uplands, soil degradation due to tillage-based intensive mono cropping is progressing at rapid pace with sometimes, extreme social and environmental consequences. This environmental degradation is both a result and a driver of social change.

To meet future food needs, it is imperative to transform agriculture to deliver food security and safety, restore ecosystem services (carbon sequestration, water quality), sustain economic growth and provide larger opportunities for small-scale farmers. Achieving these goals will demand to design and promote innovative farming systems, methods, institutional and financial mechanisms.

In 2009, the Conservation Agriculture (CA) Network for South-East Asia (CANSEA) was established to build a regional partnership promoting the development and dissemination of Conservation Agriculture in Southeast Asia.

During the last 10 years, several innovations on conservation agriculture have been produced in the framework of the Conservation Agriculture (CA) Network for South-East Asia (CANSEA)¹ while strengthening partnership among members in research, education and development, however with a limited dissemination. Thus, in agreement with all the partners involved and considering the regional challenges, CANSEA is now entering a new phase. Its future orientations aim to expand the scope of activities to include a wider range of agroecological practices and to reinforce its research and education/training component. This component is called to play an essential role in agroecological transition of the region with stronger R&D activities on all agroecological practices (i.e., agroecological crop management, crop – livestock integration, agro-forestry, conservation agriculture, among others). To boost innovation with all the stakeholders, it requires better connections between research, development operators, civil society, markets and policy makers. It is expected that the R&D component will bring science-based evidence and strategic elements to national policy makers.

These issues relate to maintaining or restoring productivity and profitability conditions for farmers in agricultural systems in a context of climate change and there is a need to strengthen food security while

¹ This research and education platform has been established in 2009 to build a regional partnership promoting the development and dissemination of Conservation Agriculture in Southeast Asia

preserving the environment and the health of populations. Thus, a large consultation of partners from diverse field of activities is necessary to establish the foundations and the design of a future regional R&D network. The main questions to be addressed by R&D will be related to climate change adaptation and mitigation, rural community's wellbeing under fast agrarian transitions, connecting small-scale farmers to markets, connecting R&D with development operators, private sectors and policy makers. Scaling-up of innovation from local to national and regional levels, sharing and managing knowledge will be two essential dimensions to be considered to move towards an agroecological transition.

OBJECTIVE OF THE WORKSHOP

This workshop "Research for development for agroecological transition in South-East Asia, ASEA" took place on 23rd to 24th April 2018, in Battambang in Cambodia.

The workshop aimed to identify and define research for development priorities that should be conducted by the platform in partnership CANSEA as well as the organizational principles to implement them. Specific objectives are:

- To share views on the role of research for development at the interface with civil society and policies,
- To identify initiatives and involve partners in keys research topics, training and higher education,
- To explore a common and collective vision to share and manage scientific knowledge and bring this knowledge to a wider audience.

Annex 1 gives the detailed program.

PARTICIPANTS

The workshop brought together 49 participants coming from 9 countries (Cambodia, Australia, France, Laos, Myanmar, Malaysia, Thailand, Vietnam and Yunnan) with different backgrounds and experiences with: research institutes, universities, development operators, non-governmental organizations, and governmental organizations.

During the two days, participants alternated work in group and plenaries sessions. Four groups of 10 to 14 people each were constituted after a random selection.

The annex 2 gives the list of participants, their role and their working group number.

METHODOLOGY

The working groups have used a brainstorming methodology called "group passing"².

The brainstorming exercises have proceeded in 2 phases:

- Idea generation phase during the first day
- Idea evaluation phase during the second day

² <http://www.theitba.com/brainstorming-group-passing-technique/>

The generation of creative ideas was made around 4 questions introduced by experimented people:

- **Question 1 introduced by Florent Tivet (Cirad):** How and for which agroecosystems R&D partners can design new production systems and sustainable management of natural resources based on the principles of Agroecology and ecological intensification?
- **Question 2 introduced by Pascal Lienhard (Cirad):** How R&D partners can accompany the ecological intensification from the field to the territory in a context of rapid changes of agriculture in Southeast Asia?
- **Question 3 introduced by Estelle Bienabe (Cirad):** How R&D partners and policy makers can improve mutual collaboration and the implementation of mechanisms to support agroecological transition?
- **Question 4 introduced by Pierre Ferrand (Gret):** How R&D can improve knowledge transfer and appropriation by stakeholders at different scales?

During the evaluation phase, all the ideas produced during the 1st day were ranked from the more to the least relevant according to 3 criteria, chosen by participants: impacting, relevant, innovative. To do so, each group gave scores on each criterion for each idea. The sums of scores lead to a final score which allow the ranking. If several ideas had the same final score, the groups discussed to reach to a consensus.

After the evaluation, the first ranked ideas were dispatched **into categories of activities** which could be carried out by a future regional R&D network: innovate, evaluate/set-up methodologies, knowledge management, educate/train, networking and link to the market.

RESULTS AND DISCUSSION

Towards an inclusive R&D network, involving all stakeholders to boost the agroecological transition in Southeast Asia.

The participants insisted a lot on the interest, for R & D, to rely on all the stakeholders to define the problematics and carry out the activities to answer them. Stakeholders are farmers, development operators, NGO, students, policy makers, private actors, consumers, at each level of the agroecology value chain (from the agricultural systems to the organizational mechanisms leading to markets). In this way, partnership with ALiSEA network, bringing together most of these stakeholders, will be essential and of great interest.

The R&D network, in relationship with multiple stakeholders, will have to address very complex questions by carrying out diverse activities, under participatory and territorial approaches. The majority of the proposals focused on how to do this and with whom, in a participatory way and at different scales.

The Figure 1 illustrates the prior R&D network activities in connection with all the stakeholders.

While some activities to be considered may, for some, concern mainly in the research profession (innovate, evaluate/setting up methodologies), others activities (knowledge management, educate/train, networking/linking to the market) should involve a wide variety of actors. The main

challenge of this regional R & D network will be to succeed in carrying out its activities closely with all the players. The following proposals were made during the workshop:

- **Innovate:** To generate new integrated and diversified systems using relevant practices, engaging with champions and using a participative approach. Create market- oriented innovations related to marketing AE products: certification, value chain development, and marketing.
- **Evaluate / setting-up new methodologies:** To understand, compare, test, measure, preserve technical and organizational innovations under a participatory approaches. Evaluation is necessary to demonstrate and prove the agroecology efficiency to a broad coalition of actors.
- **Knowledge management:** to give recommendation, explanation and advocacy, under a comprehensive format from the farmer to the consumers, policy makers and private sectors by using new and adapted technologies.
- **Educate / train:** to develop agro-ecology curriculum in schools and university, strengthen the link between research and education and to build capacities to understand and implement agroecological innovations.
- **Networking:** To share information and practices in agroecology with all stakeholders.

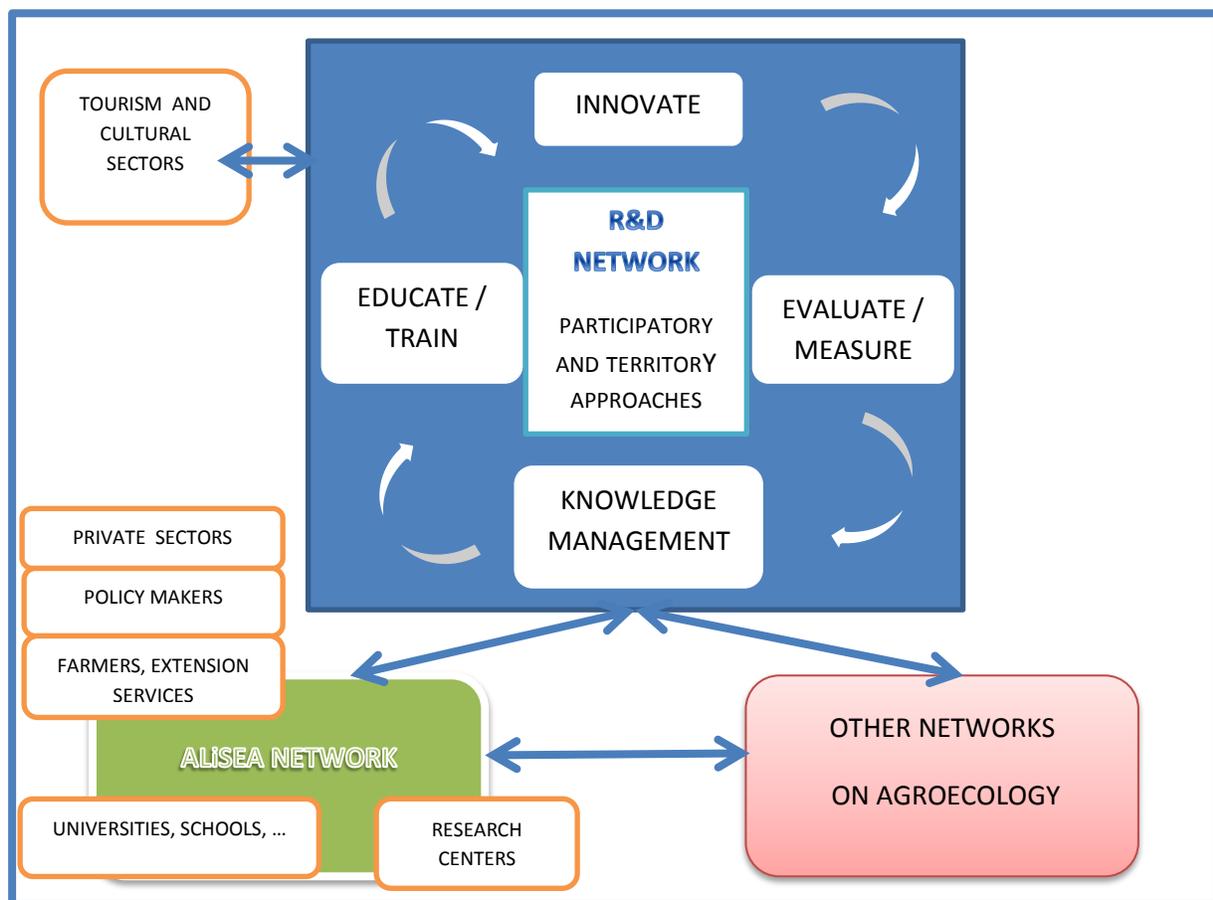


Figure 1: ASEA R&D activities and relationship with main stakeholders in South East ASEA

Recommended priorities of the R&D network and organization to stimulate the transition of agroecology in South-East Asia

The working orientations of the R & D network are summarized in the figure 2. The participants prioritized the actions to reinforce these orientations on the basis of 3 criteria:

1. Impacting: It that mean that activities should deliver practical results that will be used and having measurable impacts in a short time for beneficiaries.
2. Relevant: Activities should respond to practical issues expressed by beneficiaries taking into account the political, economic and environmental context.
3. Innovative: The results should lead to real innovations compared to what already exists and what is already used.

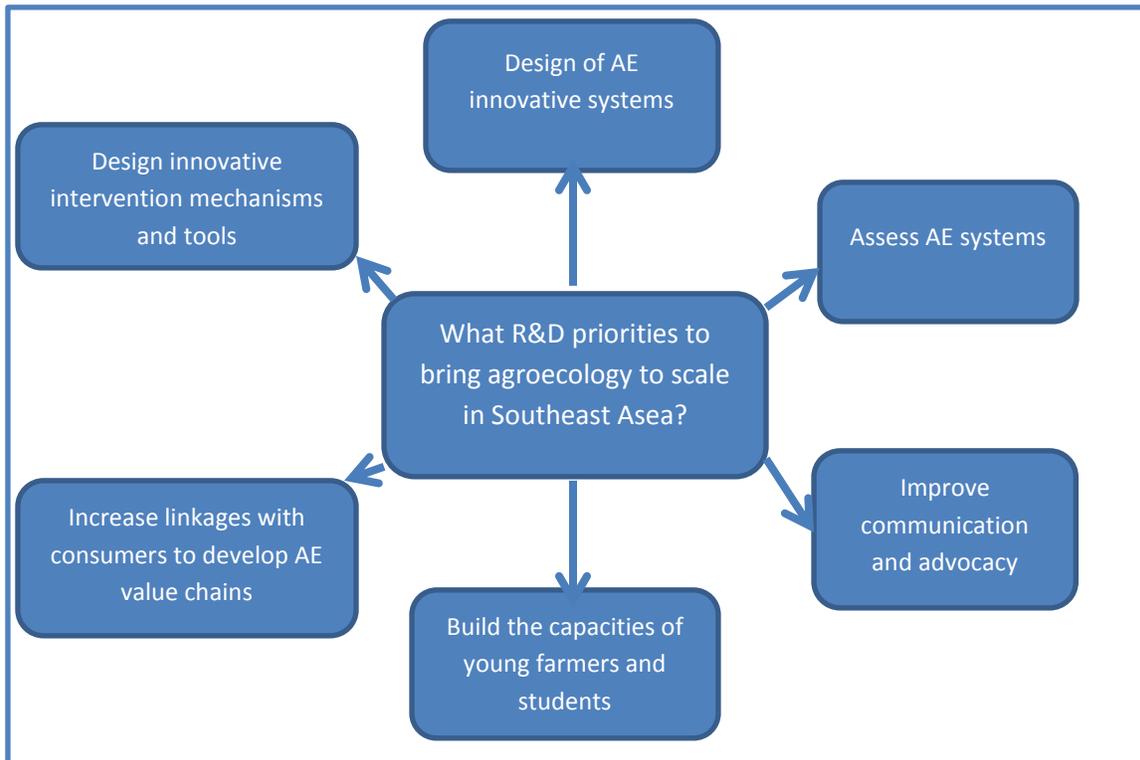


Figure 2: ASEA R&D priorities in South East ASEA

Again, for each orientation, the proposals largely reflect practices to improve R & D in the agroecological transition (Annex 3).

Design AE innovative systems:

- To create and manage new farming systems, priority could be given to agroforestry and rice integrating livestock, other food crops by inter-cropping (agro-forestry-rice, rice-fish system, for example). The identification of soil health indicators would be suitable to assess changes in soil properties.
- To involve all stakeholders under a participatory approach.
 - Put farmers at the core of R&D process and encourage involvement of local decision makers, extension and farmers in R&D
 - Increase multi-stakeholder partnerships in the consortium.
 - Engage partnership with local private sector and funding agencies at the beginning of the process.
 - Apply new practices with actors:
 - Develop role-playing games on economic scenarios
 - Organize AE festival and concert
 - Develop agro-ecological eco-tourism
 - Facilitate exchanges of experiences

Design innovative intervention mechanisms and tools:

- To scale-up the innovation, use a multi-scale and territorial approach for the farming systems.
- To support policy makers, engage with them as powerful earlier adopters, provide evidence-based policy recommendations and ensure the participation of all stakeholders in the development of policy framework lobbying.
 - Encourage involvement of local decision makers, extension and farmers in R&D.
- To develop/aggregate/combine adapted and attractive knowledge transfer tools:
 - Develop smartphone applications for diagnosis of pest/diseases, fertilizer application and documentation of good practices.

Access agroecological systems:

- Evaluate performances
 - Realize socio-economic and technical analysis of single crop farming versus intercropping.
 - Develop long-term pilot areas / observatories of change and understand the institutional mechanisms (conditions for upscaling).
- For a sustainable management of agroecosystems:
 - Map current land use changes
 - Remote sensing, GIS.
 - Develop impact assessment methodologies

Increase linkages with consumers to develop AE value chains:

- Evaluate market trends and what future customers may look like
 - Finding the right mechanism / incentives to guide the transition to AE
- Study the link to the market :

- Identify institutional framework to input participatory certification
- To know how AE product are integrated into existing market
- Integrate creative innovation in small and medium scale enterprise to identify their production

Improve communication and advocacy about agroecological benefits:

- Support policy makers by:
 - Identifying gaps and creating indicators that could be used by policy makers to compare counter-productive effects of policy
 - Advising governments to set-up agroecological zones
 - Advising policy makers to set-up subsidy / incentives for AE practices/tax for companies who don't follow gap.
 - Communicating on the benefits of AE to consumers and policy makers (success stories, convincing evidence),
 - Giving a better explanation of the impacts on non-AE practices at the country level reporting ecosystem services and their values (total economic value).
- Improve knowledge management by:
 - Reinforcing and using ALiSEA
 - Developing a strategy for knowledge management.
 - Taking into account the indigenous knowledge as solution to problems
 - Studying the previous and the current transfer strategies and identifying the gaps/weaknesses
 - Better understanding the innovation processes
 - Developing mobile applications for information
 - Using of big data for personalized recommendations
 - Setting up farmer networks on AE
 - Identifying AE messenger, ambassador and champion
 - Organizing study tours, workshop, sharing events and putting the results of agroecology to scale of the country and their impacts at that scale and promote long-term agro-ecological platforms.

Build the capacity for youth, women, young farmers and students:

- Allow farmers to modify/adapt (not only follow the recommendations), to learn how to adapt the technology (adaptive research process).
- Integrate agroecology thematic in the college, university, high school: Agroecology curriculum promoting research disciplines related to AE, AE gardens, vocational courses
- Set-up e-learning courses on agroecology
- Organize training in evidence base models and policy developments.

CONCLUSION

This workshop is a first step in the construction of a broader regional R&D network on agroecology in South-East Asia from the CANSEA network.

Research, by producing knowledge, is in the middle of technical and organizational innovation process involving all the agroecological stakeholders.

Many ideas have expressed the necessity to enlarge the partnership beyond the scientific sphere, by applying participatory methods, and to expand the scope of activities including a wide range of agricultural, organizational and societal practices.

The discussions clearly highlighted the priorities of R & D to be implemented to undertake the agroecological transition and thus contribute to a more sustainable agriculture, able to produce enough healthy food for the populations.

The next step in this consultation could be to build, with the participants, and possibly other stakeholders, a framework of intervention and a regional strategy that would guide all interventions towards a common goal, an agroecological transition. This should be done in synergy and collaboration with existing regional platforms and networks, such as ALiSEA.

ANNEX 1: Workshop program
Research for development for Agroecological transition
in South-East Asia

April 23rd to 24th, Battambang, Cambodia

Monday Avril 23rd 2018

8:00 – 08:30 Welcoming participants

8:30 – 08:45 Welcome by Mr. PECH Sovanno, Deputy Director of the General Directorate of Agriculture, MAFF

08:45 – 09:00 Introduction of the workshop by Dr. Florent Tivet, Coordinator of the CANSEA network: Ecological intensification, agro-ecological transition and their challenges in South East Asia

09:00 – 09:15: Presentation, by Dr. Catherine Marquie, Cirad project manager, of the brainstorming process, the methodologies used during the two days and the organization

09:15 – 9:25 Plenary: Introduction to the question 1 problematic by Dr. Florent Tivet (Cirad)
Question 1: How and for which agroecosystems R&D partners can design new production systems and sustainable management of natural resources based on the principles of Agroecology and ecological intensification?

09:25 – 10:30 Group work in separated rooms

10:30 Coffee break

10:50 – 11:00 Plenary: Introduction to the question 2 problematic by Dr. Pascal Lienhard, researcher CIRAD, Agronomist and Ecological Engineering, coordinator of EFICAS project (Lao PDR)

Question 2: How R&D partners can accompany the ecological intensification from the field to the territory in a context of rapid changes of agriculture in Southeast Asia?

11:00 – 12:00 Group work in separated rooms

12:00 Lunch

13:30 – 13:50 Plenary: Introduction to the question 3 problematic by Dr. Estelle Bienabé, CIRAD researcher on linking rural and urban transformations, visiting researcher at CASRAD, Vietnam
Question 3: How R&D partners and politics can improve mutual collaboration and the implementation of mechanisms to support agroecological transition?

13:50 – 15:00 Group work in separated rooms

15:00 Coffee Break

15:20 – 15:30 Plenary: Introduction to the question 4 problematic by Pierre Ferrand, regional coordinator of ALiSEA (GRET)

Question 4: How R&D can improve knowledge transfer and appropriation by stakeholders at different scales?

15:30 – 16:30 Group work in separated rooms

16:30 End of the group work Session reserved for facilitators

Tuesday April 24th 2018

08:00 - 08:30 Welcoming participants

08:30 – 10:15 Plenary: Introduction to the next session by Dr. Catherine Marquié and synthesis of the first day facilitated by Dr. Florent Tivet. The groups give back all the ideas expressed followed by questions.

10:15 Coffee break

10:30 – 12:00: Group work in separated rooms:

How to build an agroecology research and development platform that is innovative, stimulating and adapted to the current and future challenges of agriculture in South East Asia?
Each group selects the best ideas according to predefined criteria.

12:00 Lunch

14:00 – 15:30 Plenary: What would be the R&D future orientations and organization with partners to boost agroecological innovation and transition in South Asia?
Restitution by the groups and discussion. Session facilitated by Dr. Florent Tivet.

15:50 Plenary: Perspectives and closing remarks by Dr. KOY Ra, Director Department of Agricultural Land Resources Management, GDA, Cambodia

16h00 End of the Workshop

ANNEX 2: Participants - Research for development for Agroecological transition in South-East Asia

Battambang, 23rd and 24th April, 2018

N°	Country	Origin	Institution	Name	Work group	Role in the group
1	Australie	International	Queensland University	Gunnar KIRCHHOFF	2	Facilitator
2	Cambodia	Local	General Directorate of Agriculture	Mr. PECH Sovanno (Deputy DG GDA, opening session)	ND	ND
3	Cambodia	Local	General Directorate of Agriculture	Dr. CHAN Saruth	ND	ND
4	Cambodia	Local	General Directorate of Agriculture	Dr. KOY Ra	2	Participant
5	Cambodia	Local	General Directorate of Agriculture	Mr. LENG Vira	3	Participant
6	Cambodia	Local	Institute of Technology of Cambodia	Dr. KUOK Fidero	2	Rapporteur
7	Cambodia	Local	Institute of Technology of Cambodia	Ms. HIN Kimchhin	2	Rapporteur
8	Cambodia	Local	Institute of Technology of Cambodia	Mr. Mithona OUK	4	Participant
9	Cambodia	Local	University of Battambang	Dr. Pao Srean	1	Participant
10	Cambodia	Local	Royal University of Agriculture	Dr. NEANG Malyne	2	Participant
11	Cambodia	Local	IRD, UMR G-Eau	Jean-Philippe Venot	3	Participant
12	Cambodia	Local	CIRAD	Florent Tivet	3	Participant
13	Cambodia	Local	GRET	Lucie Reynaud	2	Rapporteur
14	Cambodia	Local	IRRI	Dr. Rica Flor	1	Rapporteur
15	Cambodia	Local	IRRI	Dr. Hadi Buyung	4	Participant
16	Cambodia	Local	WCS	Mr. Nick Spencer	3	Rapporteur
17	Cambodia	Local	AVSF	Mr. Dara SOK; d.sok@avsf.org	2	Participant
18	Cambodia	Local	AVSF	Kimlieng LY; k.ly@avsf.org	2	Participant
19	Cambodia	Local	GDA/DALRM	Mr. Hou Chansithon	ND	Participant
20	France	International	CIRAD	Catherine Marquié	All	Facilitator
21	France	International	CIRAD	Mathilde Sester	2	Participant
22	France	International	CIRAD	Régis Goebel	3	Facilitator
23	France	International	GRET	Dominique Violas	1	Participant
24	France	International	GRET	Laurent Levard	1	Participant
25	France	International	CIRAD	Camille Giraudet	3	Participant
26	France	International	CIRAD	Jacques Pages	3	Participant
27	Laos	International	Department of Agricultural Land Management	Dr. Nivong SIPASEUTH	4	Participant
28	Laos	International	Ministry of Agriculture and Forestry	Dr. Khamzone SYSANHOUTH	2	Participant
29	Laos	International	Department of Agricultural Land Management	Mr. Thisadee CHOULAMOUNTRY	4	Participant
30	Laos	International	CIRAD	Pascal Lienhard	4	Participant
31	Laos	International	CIRAD	Patrick D'Aquino	3	Participant
32	Laos	International	CIRAD	Isabelle Vagneron	4	Rapporteur
33	Laos	International	CIRAD	Hoa Tran Quoc	1	Participant
34	Laos	International	CIRAD	Philippe Cao Van	2	Participant
35	Laos	International	GRET	Pierre Ferrand	4	Facilitator
36	Malaysia		CABI-SEA	Dr. Arnaud Costa	1	Participant
37	Myanmar	International	YAU - Agri Economics	Dr. Moe San Aye	3	Participant
38	Thailand	International	Kasetsart University	Dr. Buncha Chinnasri	1	Participant
39	Thailand	International	Kasetsart University	Dr. Wutthida Rattanapichai	3	Participant
40	Vietnam	International	NIAS	Mme thanh Le thi Huyen	4	Participant
41	Vietnam	International	NOMAFSI	Dr Pham Thi Sen	3	Rapporteur
42	Vietnam	International	SFRI	Dr. Vu Manh Quyet; vmquyet@gmail.com	1	Participant
43	Vietnam	International	CIRAD	Philippe Girard	1	Facilitator
44	Vietnam	International	CIRAD	Didier Lesueur	3	Participant
45	Vietnam	International	CIRAD	Philippe Vaast	2	Participant
46	Vietnam	International	CIRAD	Mélanie Blanchard	4	Participant
47	Vietnam	International	CIRAD	Estelle Bienabe	3	Participant
48	Vietnam	International	CARES, Vietnam National University of Agriculture	Dr Pham Van Hoi	1	Participant
49	Yunnan	International	YAAS	Dr. ZHU Hongye	3	Rapporteur

ANNEX 3: Ideas expressed by the 4 groups during the brainstorming

The most relevant ideas retained by the groups are highlighted in green

Question 1: How and for which agro-ecosystems R&D partners can design new production systems and sustainable management of natural resources based on the principle of agroecology and ecological intensification?

Activity	Expressed ideas by participants	Group N°	Total score
NETWORKING	Develop agroecological eco-tourism	2	15
NETWORKING	Identify institutional framework to input participatory certification	3	10
LINK TO THE MARKET	AE products integration into the existing market	2	14
LINK TO THE MARKET	Label for good practice, Certification, GI	2	11
KNOWLEDGE MANAGEMENT	Mobile App development for information/emergency response for farmer	2	15
KNOWLEDGE MANAGEMENT	Promoting intercropping, agroforestry, agro-food	3	12
KNOWLEDGE MANAGEMENT	Use of big data for personalized recommendations	4	12
KNOWLEDGE MANAGEMENT	Agroecological eco-tourism	2	10
INNOVATE	Agroforestry	1	25
INNOVATE	Crop diversification & rotation- diversification in lowland	1	24
INNOVATE	Certification standards	1	17
INNOVATE	Mechanization for agroecological systems	1	15
INNOVATE	How to reduce GHG emission in cropping systems?	2	15
INNOVATE	Integrating trees into food crop system Upland agroforestry for farming system Promoting fruit trees for food security and revenue diversification	2	15
INNOVATE	Identification of soil health indicators	3	15
INNOVATE	How to reduce the penibility of farming and to sustain employment and livelihoods in agriculture?	3	14,75
INNOVATE	How to reduce pesticide use by promoting AE crop protection	3	14,5
INNOVATE	Forage and livestock- Diversification	1	14
INNOVATE	Food crops farming integrating livestock (including rice) Manure and nutrient management in integrating farming system	2	14
INNOVATE	Assessing room for manoeuvre to implement AE practices in different AE systems	3	14
INNOVATE	The effect on soil properties of land use changes from rice to cash crops	3	14

INNOVATE	Crop-livestock, integrated farming, inter-cropping, agro-forestry-rice, rice-fish system	4	14
INNOVATE	System participatory design	4	14
INNOVATE	How to improve water use in drought conditions	3	13
INNOVATE	Crop diversification: how to deal with the blocking factors	3	13
INNOVATE	Incentives for farmers to adopt AE practices	4	13
INNOVATE	Improve sustainability of rice production system in the lowland Lowland rice agro-ecosystem and diversified rice & non-rice	2	12
INNOVATE	Economic value of Biological Nitrogen Fixation - Legumes	3	12
INNOVATE	Impact analysis	4	12
INNOVATE	Biological control	1	11
INNOVATE	Assessment of crop protection on low land	2	11
INNOVATE	Life-cycle analysis	4	11
INNOVATE	Smart irrigation for upland and mountainous region	2	10
INNOVATE	Labor market dynamics	4	10
INNOVATE	Semiochemicals and pheromones	1	9
INNOVATE	Crop diversification & rotation- Diversification in upland	1	8
INNOVATE	Ecological Engineering	1	7
INNOVATE	Direct seeding systems	1	2
INNOVATE	Rice-fish cultivation- Diversification	1	0
EVALUATE/SET-UP METHODOLOGIES	Institutional mechanisms (conditions for upscaling)	1	15
EVALUATE/SET-UP METHODOLOGIES	Economic analysis of single crop farming vs inter-cropping	2	15
EVALUATE/SET-UP METHODOLOGIES	Multi-scale approach for the farming system	2	14
EVALUATE/SET-UP METHODOLOGIES	Mapping current land use changes - remote sensing, GIS	3	14
EVALUATE/SET-UP METHODOLOGIES	System participatory design	4	14
EVALUATE/SET-UP METHODOLOGIES	Technical options to mitigate economic and environmental risks	3	13,75
EVALUATE/SET-UP METHODOLOGIES	Co-designing of innovation and field-test Combining traditional and scientific knowledge	2	13
EVALUATE/SET-UP METHODOLOGIES	Integrating nutritional value of crop into farming system	2	12
EVALUATE/SET-UP METHODOLOGIES	Impact assessment of interventions promoting AE	3	12
EVALUATE/SET-UP METHODOLOGIES	Preservation of crop identity, cultural, traditional varieties	2	11

EVALUATE/SET-UP METHODOLOGIES	Short and long term analysis of farming system	2	9
EDUCATE/TRAIN	NO PROPOSAL	1	0
EDUCATE/TRAIN	NO PROPOSAL	2	0
EDUCATE/TRAIN	NO PROPOSAL	3	0
EDUCATE/TRAIN	NO PROPOSAL	4	0

Question 2: How R & D partners can accompany the ecological intensification from the field to territory in the context of rapid change of agriculture in South East Asia?

ACTIONS	IDEAS	Group	Total score
NETWORKING	Government should set up agroecological zones	1	ND
NETWORKING	Engage partnership with large private sector	3	12
NETWORKING	Engage with funding agencies	4	ND
LINK TO THE MARKET	Promote quality standard, certification and added-value to products on domestic markets	2	14
LINK TO THE MARKET	Integrating creative innovation in small and medium scale enterprises to diversify their production	2	15
LINK TO THE MARKET	Integrate total economic value of ecosystem services provided by agro-ecology into the policy brief	2	15
KNOWLEDGE MANAGEMENT	Evidence based policy recommendations	1	22
KNOWLEDGE MANAGEMENT	Model communities for others to copy	1	17
KNOWLEDGE MANAGEMENT	Resolve competing interest by involving local communities, dialogue	1	15
KNOWLEDGE MANAGEMENT	Produce comprehensive materials to advertise	2	11
KNOWLEDGE MANAGEMENT	Co-building references with farmers; built/adapt knowledge tools based on local context	2	15
KNOWLEDGE MANAGEMENT	Farmer field schools / farmer study groups	2	8
KNOWLEDGE MANAGEMENT	Smartphone for diagnosis of pest and disease and documentation of good practices	2	15
KNOWLEDGE MANAGEMENT	improve training capacity and knowledge of grassroots organizations	2	8
KNOWLEDGE MANAGEMENT	Use modelling to assess what will happen at the territory scale	2	10
KNOWLEDGE MANAGEMENT	Communicate the benefits of AE to consumers	4	ND

INNOVATE	Increase the multi-stakeholder actors in the consortium, involve private sector (at beginning of the process)	1	24
INNOVATE	Joint applied researches in different agroecological zones	1	23
INNOVATE	Value chain added to research, consumer must be involved at the beginning, market-oriented research	1	21
INNOVATE	Prioritize innovations that deal with both short term (food security, income) and long term (environment)	1	13
INNOVATE	Design user friendly package	1	11
INNOVATE	Strong M&E for dissemination	1	9
INNOVATE	Consider impact in design (not always market but other impacts)	1	9
INNOVATE	Evaluate market trends and what future customers may look like	3	11
INNOVATE	Finding the right mechanism / incentives to guide the transition to AE	4	15
EVALUATE/SET-UP METHODOLOGIES	ICT tools	1	19
EVALUATE/SET-UP METHODOLOGIES	Local experimentation - -Improve feedback loop	1	8
EVALUATE/SET-UP METHODOLOGIES	Identify and value ecosystem services by agro-ecological practices	2	15
EVALUATE/SET-UP METHODOLOGIES	Prove to farmers that ecological intensification translates to better return in the short and medium term	2	15
EVALUATE/SET-UP METHODOLOGIES	Multi-stakeholder platform: working through a broad coalition of actors	4	ND
EVALUATE/SET-UP METHODOLOGIES	Strengthen the links with the consumers	4	ND
EVALUATE/SET-UP METHODOLOGIES	Strengthen the links between research and education	4	ND

EVALUATE/SET-UP METHODODOLOGIES	Develop tools to upscale agroecology	4	ND
EVALUATE/SET-UP METHODODOLOGIES	LT pilot areas / observatories of change	4	ND
EDUCATE/TRAIN	Capacity building for Youth, young smart farmers, gender	1	25
EDUCATE/TRAIN	Involve national authority in incentive systems (certification, PGS)	1	18
EDUCATE/TRAIN	Support service centers for R&D	1	11
EDUCATE/TRAIN	Strengthen the links between research and education	4	ND
EDUCATE/TRAIN	Work through ASEAN networks to foster exchange	4	ND

Question 3: How R& D partners and policy makers can improve mutual collaboration and the implementation of mechanisms to support agroecological transition?

ACTIONS	IDEAS	Group	Total score
NETWORKING	Subsidy/incentive for AE practices/tax for companies who don't follow GAP	1	ND
NETWORKING	Assuring the representability of the people contributing to the platform: take into account the variety of stakeholders	3	11
KNOWLEDGE MANAGEMENT	Improve policy dialogue	4	ND
KNOWLEDGE MANAGEMENT	Success stories, convincing evidence (benefits of AE)	1	27
KNOWLEDGE MANAGEMENT	Policy advocacy: link with policy and influential stakeholders (not only national but local levels)	1	18
KNOWLEDGE MANAGEMENT	Better explanation of the impact of non-AE practices at the country level	2	15
KNOWLEDGE MANAGEMENT	Produce simple materials for media/social network; Find good messenger in government to share AE concept	2	10
KNOWLEDGE MANAGEMENT	Niche innovations	1	9
KNOWLEDGE MANAGEMENT	Inspire policy makers to share the same vision of researcher; Establishment of communication mechanism between scientist & policy makers	2	9
INNOVATE	Documenting gaps and counterproductive effects of policies	2	15
INNOVATE	Engaging with local policy makers as powerful earlier adopter's	3	15
INNOVATE	Create indicators that could be used by policy makers to compare systems	2	14
INNOVATE	Developing evidence-based policy materials	2	13
INNOVATE	Identify and engage with champions in key positions	3	12
EVALUATE/SET-UP METHODOLOGIES	Promote LT agro-ecological platforms	4	ND
EVALUATE/SET-UP METHODOLOGIES	Alignment of agro-ecology with country strategies	4	ND
EVALUATE/SET-UP METHODOLOGIES	Promote LT agro-ecological platforms	4	ND

EVALUATE/SET-UP METHODOLOGIES	Alignment of agro-ecology with country strategies	4	ND
EVALUATE/SET-UP METHODOLOGIES	Communication tools: (policy briefs, infographics, think tank, side events...)	4	ND
EVALUATE/SET-UP METHODOLOGIES	Decentralized development fund for direct support to communities	4	ND
EVALUATE/SET-UP METHODOLOGIES	Study tours, workshop, sharing events	1	20
EVALUATE/SET-UP METHODOLOGIES	Comparative baseline studies on policies across countries (countries compete or copy policies; mechanisms for sharing)	1	18
EVALUATE/SET-UP METHODOLOGIES	Demo plots for extension to policy stakeholders (convincing scale)	1	15
EVALUATE/SET-UP METHODOLOGIES	Ensuing participation of all stakeholders in the development of policy framework	2	15
EVALUATE/SET-UP METHODOLOGIES	Integrate AE concept in education system for youth	2	15
EVALUATE/SET-UP METHODOLOGIES	Put the results of AE at the scale of the country and their impacts at that scale	2	15
EVALUATE/SET-UP METHODOLOGIES	Creating "Win-win" context between agricultural and private sectors to gain support by policy makers	2	14
EVALUATE/SET-UP METHODOLOGIES	Drafting policies rewarding adoption of agroecological practices	2	11
EVALUATE/SET-UP METHODOLOGIES	Inviting policy makers to workshop/training; field visit	2	10
EVALUATE/SET-UP METHODOLOGIES	Encourage green farmers; Encourage green consumers	2	9
EVALUATE/SET-UP METHODOLOGIES	Taking into account the political agenda when design R & D	2	8
EDUCATE/TRAIN	Agro-ecology curriculum (college, university, high school: AE gardens, vocational courses)	1	20
EDUCATE/TRAIN	Training in evidence base models and policy developments	3	15
EDUCATE/TRAIN	learning centers	1	7

Question 4: How R & D knowledge transfer and appropriation by stakeholders at different scales?			
ACTIONS	IDEAS	Group	Total score
NETWORKING	Develop AE platform for information exchange and sharing; Develop network for system co-design	2	15
NETWORKING	Set-up farmer networks on AE	3	14
NETWORKING	Develop tools facilitating communication between different platforms linked to AE	3	13
NETWORKING	Strengthen the links with universities	4	ND
NETWORKING	Closely associate local authorities	4	ND
NETWORKING	Facilitate exchange of experiences	4	ND
KNOWLEDGE MANAGEMENT	Phone apps for pests and disease diagnostic, fertilizer application and practices	1	28
KNOWLEDGE MANAGEMENT	At local level, demonstration models/systems would help farmer in “learning by doing” (Empirical based knowledge transfer)	1	25
KNOWLEDGE MANAGEMENT	Farmer to farmer learning avenues can be enhanced through ICT (eg. social media), interactive manner	1	17
KNOWLEDGE MANAGEMENT	Organization of AE fairs	1	15
KNOWLEDGE MANAGEMENT	Create a forum (online, offline) for farmers to exchange with experts	1	15
KNOWLEDGE MANAGEMENT	Starting with the youth; Gender based events addressing minorities women and young farmers	1	13
KNOWLEDGE MANAGEMENT	Strategic communication to specific stakeholders	1	13
KNOWLEDGE MANAGEMENT	Multi-level trainings in the key technique to transfer new approaches to stakeholders at all level	1	9
KNOWLEDGE MANAGEMENT	Aggregate / combine different knowledge transfer tools	4	ND
KNOWLEDGE MANAGEMENT	Use of big data	4	ND
KNOWLEDGE MANAGEMENT	Develop a strategy for knowledge management	4	ND
KNOWLEDGE MANAGEMENT	To encourage involvement of local decision makers, extension and farmers in R&D	3	13
KNOWLEDGE MANAGEMENT	Build synergies within ALISEA Platform through new tools (social networks)	3	9
INNOVATE	Indigenous knowledge as solution to problems	1	19

INNOVATE	Promoting community-based land management approach at village scale	1	15
INNOVATE	Strong participative surveys about agrarian systems	1	10
INNOVATE	Including management of invasive pests such as golden apple snail in rice (through community based events)	1	10
INNOVATE	Study the previous and the current transfer strategies and identify the gaps/weaknesses	3	15
INNOVATE	Needs to identify the barriers to adoption by farmers and options for overcoming them	3	14
INNOVATE	Document the traditional knowledge practices and to incorporate them to AE approaches	3	14
INNOVATE	Better understand the innovation process	4	ND
EVALUATE/SET-UP METHODOLOGIES	Allow farmers to modify/adapt (not only follow the recommended) to learn how to adapt the technology (Adaptive research process)	1	21
EVALUATE/SET-UP METHODOLOGIES	Sharing, experimentation of existing solutions (in other regions, country, etc.) by farmers; Farmer-to-farmer, key farmers for sharing (access to funding)	1	20
EVALUATE/SET-UP METHODOLOGIES	Also needs should not only consider farmers (men and women) but others who affect the farmers (laborers, etc.)	1	7
EVALUATE/SET-UP METHODOLOGIES	Top down and bottom-up approach must be mixed/iterative feedback loop/learning methods	1	6
EVALUATE/SET-UP METHODOLOGIES	Produce more testimonial about success of AE to share	2	15
EVALUATE/SET-UP METHODOLOGIES	Develop role-playing exercises on economic scenarios	2	15
EVALUATE/SET-UP METHODOLOGIES	Identify AE messenger; AE ambassador; AE Champion	2	15
EVALUATE/SET-UP METHODOLOGIES	Organize AE festival and AE concert	2	13
EVALUATE/SET-UP METHODOLOGIES	Willing to work in AE farm (WWOOF)	2	13

EVALUATE/SET-UP METHODOLOGIES	Overcome barrier for language/knowledge	2	12
EVALUATE/SET-UP METHODOLOGIES	Farmer to farmer visit/exchange (land care)	2	12
EVALUATE/SET-UP METHODOLOGIES	Develop game on smart phone and tablets	2	12
EVALUATE/SET-UP METHODOLOGIES	Farmers documenting their practices through video making	2	11
EVALUATE/SET-UP METHODOLOGIES	Making “jingles” for promoting AE based on popular song	2	10
EVALUATE/SET-UP METHODOLOGIES	Integrate AE idea into forms of arts, and/or use prime time for dissemination	2	9
EVALUATE/SET-UP METHODOLOGIES	Develop Online course (e-learning tools) for academia/students	2	9
EVALUATE/SET-UP METHODOLOGIES	Make books, cartoon, technical book etc. for different target: farmers academics, policy makers	2	7
EVALUATE/SET-UP METHODOLOGIES	Put farmers at the core of R&D process	4	ND
EDUCATE/TRAIN	Integrate/incorporate the AE concept into general education system since primary school.	2	15
EDUCATE/TRAIN	Build capacity of extension agent of MAFF on AE and facilitate supporting to farmers.	2	13
EDUCATE/TRAIN	Set-up e-learning courses on AE - communicating through university programs (new curricula promoting research disciplines related to AE)	3	15
EDUCATE/TRAIN	Training of extension officers, researchers and farmers on AE principles and approaches.	3	13