ERASMUS+

HIGHER EDUCATION – INTERNATIONAL CAPACITY BUILDING PROGRAM

Participatory and Integrative Support for Agricultural Initiative (PISAI)

Review of the teaching modules

May 24– June 1, 2018

Final report

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The PISAI curriculum leans on three specific modules that are compulsory for all the students, whatever is the training track that they may follow within MS PISAI. The learning objectives of each of these three modules were discussed at the PISAI kick off meeting in January 2018, and their organization was given to Chiang Mai University, Khon Kaen University and Kasetsart University respectively for the modules 1,2 and 3.

Programmes for each of these modules have then been prepared and proposed by each of the Universities in charge.

The objective of this review was to examine each module proposal, assess the coherence of the learning objectives along the three modules (PISAI students' progress on their learning path) and with the general learning objectives of the module, discuss the pedagogical choices made in the programmes and, when needed, suggest adaptations and revisions to better meet the learning objectives.

The report therefore presents the conclusions of the review in three separate sections, each of them corresponding to one module. In each case, general comments and observations are presented first, and a proposal of a revised programme is given.

We underline that these are still suggestions and proposals, that each team in charge of the module (the organising university and the partners associated to the module) should fine tune before coming with a definitive programme and pedagogical organisation.

Authors thank the different teams and persons met in the framework of this review for their active contribution to the discussions. The wish that the following proposals will contribute to the design of the an attractive, innovative but still coherent PISI overall programme.

Review of Module 1

Value chain management

Chiang Mai, May 28-29, 2018

The review team has been working during two days to provide an external assessment of the module 1 proposal, including the relevance of its training objectives within the overall learning objectives of the PISAI. One day and a half have been devoted to the visit of possible locations for the surveys and the fieldwork to be done by the students, and half a day has been spent at discussing the programme of the module that had been prepared.

The review has regretted that the evaluation of the content of the teaching programme was complicated since the outline prepared was very general, and that the headings often poorly indicated the tools/theoretical frameworks that would be proposed to the students. Dr Pornsiri at CMU also seems to carry all the CMU's responsibilities on her own shoulders, and we have seen no indication that the CMU's Department in agricultural economics is collectively sharing the tasks ahead, which we see as a risk for the ownership of the module and for its sustainability within the university's framework.

I.   LEARNING OUTCOMES

The suggested learning outcomes for module 1 are very ambitious. Being the first of the 3 modules, this module is responsible for the initial ice-breaking activities, fundamental introductions to problem formulations and research questions, basic field methods and at the same time aims at introducing the students to scientific writing and different forms of scientific communication. While all these skills are obviously relevant in the context of PISAI, concerns regarding the feasibility of including all these aspects in a single module were raised. This may lead to reduce the ambitions n the domain of scientific communication, which is a domain that falls in the responsibilities of each regular programme in which every students is normally registered.

First of all, an important learning objective of the PISAI Program is to give the students experience with practical research during the modules, 3 days of field work as suggested in the original program is considered insufficient. More days have to be allocated to student led data collection in the field and the students must be activated more and be given more responsibility than in the original program.

Second, the Value Chain *Assessment* will be addressed by the module. Students should experiment directly how to identify a VC, its modalities and tracks, its stakeholders, their respective interests and advantages. However, although this is the title of the module, it remains that the Value Chain *Management* component –

the review of policies and the institutional interventions that can be planned to maximize the public interest – is not really addressed by the initial proposal. Particularly, the issue of the elaboration of norms and standards and the management of the quality through tools labels, GIs, obligatory regulations is not considered whereas it is an important component of the capacities of the PISAI graduate.

Consideration to this issue could be included at the end of the course when the students are presenting their results (either by asking the students to include reflections on management aspects in their presentations or by discussing this in relation to the presentations) and as far as possible students should be encouraged to select such a topic among their elective choices in their regular master programme at one of the two universities where they are registered.

II.   DETAILS OF THE PROGRAMME

The most important concerns raised by the review team was the very limited number of days allocated for practical fieldwork and the fact that the students were expected to identify a problem and formulate research questions before having got any insight of the chains to investigate. Efforts have been done together with Dr Pornisiri on discussing how the module could be restructured (while keeping the overall content) to create a structure that would be more didactically meaningful (in relation to the learning objectives), activate the students more and leave more responsibility to the students. The suggested changes in the structure of the course represent the results of these discussions.

First of all it is suggested that the students spend more days in the field than the 3 days originally suggested in the program. The field days in the suggestion are divided into an 'explorative phase' during which the students collect some basic information from different stakeholders and based on this they continue to work on identifying the problem and the research questions. It is suggested that the first visits are made to a production site as this can (and should) be planned by CMU beforehand, while it is not possible to make pre planned arrangements for where the groups should go after having formulated the research questions (as this will depend on the questions and the methods suggested by the students themselves). Making the necessary appointments with relevant stakeholders will then be the responsibility of the students - but before formulating the research questions, the students should be briefed about which stakeholders it is realistic to make arrangements with on a relatively short notice (e.g. it would not be a good idea to base a study on interviews with procurement officers in supermarkets etc.). Ajarn Pornsiri raised concerns about the logistical challenges associated with giving the students so much freedom to develop their own topics and research questions as it would not be possible to make any logistical arrangements and appointments beforehand. However, it would certainly be possible to talk with traders, middlemen, customers and other stakeholders at the market and leaving the responsibility to the students (while at the same time providing them with some form of mobility) would, from a pedagogical point of view, be very valuable.

Practically, it is expected that the research questions that the students will finally define will require to mobilize two families of tools commonly used in VC assessments:

- Market analysis (consumers preferences, willingness to buy, consumption studies
- Creation of value and labour productivity at the different stages, share of global added value between stakeholders

On these two points, it is recommended to prepare lectures and exercises so that the students master the different tools when they need them for their analysis.

III. OTHER COMMENTS:

The lectures about different topics are given at the times they are needed (= when the students need the theories and tools to move on with their research).

The literature search should be of direct relevance to the topics that the students have investigated and used to discuss these. In order not to break the flow between data collection, analysis and development of the research questions, this exercise is currently placed at the end of the module.

Time for an assessment of the module has been allocated at the very end of the module.

Also it is recommended that the grade given to each of the students does consider (for 50%) the student's attitude, active participation in the field work and quality of the group's final presentation and for the other 50% the students performance at an individual evaluation given at the end of the module.

Due to the increased number of days with practical data collection in the field, it was suggested to delete the visit to the Royal Project from the programme of the module.

The importance of allocating time to talk about how to work as a group and especially how to handle the interpretation during interviews was stressed, and it was suggested to invite a former interpreter to give a small presentation about common challenges associated with this.

An introduction to how to behave (and how to dress) during field work in Thailand should be given before the European students arrive to Thailand.

Module 1 – Proposition of a revised plan for the module programme

The programme starts on Wednesday.

Morning/Afternoon	Time	Activity	Lecture/Team work/Group discussion
D1 Morning session	**8:45 -10:15 coffee break 10:30 - 12:00**	**Registration of participants** **Official opening, introducing the summer school objectives and Introducing the participants** **A short presentation about CULS, and the projects in Asia** **Each student will introduce themselves and their background (maximum 10 mins/person with ppt)**	**- Dean of Chiang Mai University (CMU) - lecturers from (CMU&CULS)**
D1 Afternoon session	**13:00 - 14:30 coffee break 14:45 - 16:30**	**Ice breaking: a guided trip into the forest and city centre**	**organizing by lecturers from CMU and CULS**
D2 Morning session	**8:45 -10:15 coffee break 10:30 - 12:00**	**Value chain management and Management (Farming systems), Market orientation of Thailand markets (Introduction)**	**Lecture, local experts/researchers**
D2 Afternoon session	**13:00 - 14:30 coffee break 14:45 - 16:30**	**Local market visit with some questions related to value chain management in mind** **F.e. the students (by groups) inventory and propose a classification of the retailers of rice. Allows to introduce to the questions of having a survey guide, building a survey plan, and which are the criteria that are chosen for the classification ("relevance). Also allows to form the groups (who can remain after for the whole module...)**	**Field trip**

			Lecture
D3 Morning session	8:45 -10:15 coffee break 10:30 - 12:00	Postharvest management for agribusiness Food Quality	
D3 Afternoon session	13:00 - 14:30 coffee break 14:45 - 16:30	Preparation of the planning of data collection for the first round of interviews (interview guide) and team work during the survey (e.g. how to work with an interpreter and how to interpret, how to conduct interviews as a group (e.g. task distribution among different group members), how to tackle cultural differences within the groups. TBB suggested to invite someone who has a lot of experience with interpreting during field courses to talk about the challenges and potential conflicts and how to handle this - in an entertaining way :)	
D4	Whole day	Field trip to the study site for first time for identification of the value chains for one given commodity setting the research problem. The students go randomly in the study site and interview a few people to identify the different stakeholders and the chains (for a given commodity)	
		D5 **free day**	
D6 Morning session	8:45 -10:15 coffee break 10:30 - 12:00	Each group works on its results, represent the VC identified and discuss the questions raised	
D6 Afternoon session	13:00 - 14:30 coffee break 14:45 - 16:30	Presentation of the results . Description of the value chain with the various stakeholders identified	**Team work and group discussion**
D7 full day	Whole day	field trip second round : survey and interviews at the down stream stakeholders (trader, processor, consumer or shop or supermarket) each group discusses and prepares for presenting their result s	**Team work and group discussion**
D8 Morning session		Presentation of the results and the question for the second round survey and problem identification for the next stage of the survey	**Team work and group discussion**
D8 Afternoon session		Problem identification, Research question formulation, Methods and tools (Sampling) (1 hour lecture) Students work on formulating their research <u>questions</u> (only for consumer and trader) and identify methods (Group work)	

D9 Morning session	whole day	Marketing research method (consumer behaviour) and prepare for data collection according to research question	Lecture
D9 Afternoon session		Economic evaluation and prepare for data collection according to research question have to related to economic point of view	lecture
D10 and D11 Morning session	whole days	Field work - Data collection related to research question	
D12 **Day off**			
D13 and D14 whole day		Field work - Data collection related to research question	Lecture and team work
D15 whole day		Preparation for conclusion and analysis (have to present about value chain management and show the link of each stakeholder) Or: It is the responsibility of the teaching staff to ask clever questions to make the students reflect on this?	Field trip
D16 morning session	8:45 -10:15 coffee break 10:30 - 12:00	Scientific writing - poster, ppt presentation	Field trip
D16 Afternoon session	13:00 - 14:30 coffee break 14:45 - 16:30	Poster preparation	
D17 Morning session	8:45 -10:15 coffee break 10:30 - 12:00	Scientific writing - how to write an article/thesis	Team work
D17 Afternoon session		Poster preparation	
D18 **D19** **Free time with locals to discover Chiang Mai.**			

D20 **Morning session**	**8:45 -10:15** coffee break **10:30 - 12:00**	**Scientific news: Individual presentation of selected scientific paper (published in last 3 years) on value chain** Ideally the selected papers should be of relevance for the topics that have been studied and for the findings so they can be used to discuss the findings and put these in a larger context.	
D20 **Afternoon session**	**13:00 - 15:30** coffee break **16:00 - 17:00**	**Posters presentation and discussion for the study** **Evaluation of the module**	
D21 **Morning session**	**8:45 -10:15** coffee break **10:30 - 12:00**	**Final exam (individual evaluation of the students)** **Assessment of the module**	
D21 **Afternoon session**	**13:00 - 14:30** coffee break **14:45 - 16:30**	**closing (provide the information for the next activity of PISAI) and certificates award ceremony**	

Review of Module 2

Environmental/Ecosystem Services

for Sustainable Agriculture

Khon Kaen, May 24-25, 2018

The proposal for the module 2 is made of three different parts, corresponding to the three weeks of the programme:

The first week is devoted to initiate the students to farming systems analysis, exert them to on-farm survey techniques. The second week is to assess the sustainability of some selected farming systems that can be compared, while the third week is devoted to visiting a number of animal rearing systems before wrapping up the whole tools into a package on environmental assessment.

Following the discussions and visits held in KKU on May 24 and 25, we bring forward some suggestions:

- to better consider the progresses in the learning objectives between the module 1 on value chain and the module 2 on environmental/ecosystem services of and to different kinds of farming systems,
- and to also prepare what will be addressed in the module 3 (see especially the LCA)
- to allow maximum of time to active learning by the students (versus lecturing)

I. GENERAL ORGANISATION

1 - Like it will be the case at module 1 on value chains at Chiang Mai in August, it is suggested to build a programme with working on Saturdays (except the last Saturday afternoon, left for traveling back to the home university).

2 – Generally speaking, it is recommended to spend more time on the field where students are placed in an active investigation position (compared to visits where they are more passive receivers of knowledge).

On the week 1, 2 days of fieldwork are maintained, but it is recommended that the groups sleep in the villages of investigation so that (i) we save the time of transportation (ii) interviews surveys can be done early morning and late evening, more favourable moments (iii) the experience of sleeping on the spot is a learning objective at PISAI.

On the week 2, it is suggested to increase the time for fieldwork from one to three days.

0n the week 3, decrease the number of visits, but deepen the analysis of the case studies considered, by putting the students in an active position.

3 - Assessment of the students should include both:

(i) 50% of the grade based on the involvement in group work, evaluated by the final presentation of the result of the fieldwork at the end of week 2,

(ii) the other 50% being based on individual performance (final exam on the last Saturday morning).

II. RELEVANCE AND COHERENCE OF THE LEARNING OBJECTIVES

1 –The learning objectives of the week 1 concentrate on the capacity to identify, characterize and compare (classify) different farming systems in the same area. Students exercise themselves to surveying and interviewing, then modelling the farming systems identified (representation).

2 - the learning objectives of the week 2 concentrate on the capacity to precisely observe and measure quantities (yields when possible, densities, soil characteristics, biodiversity…) to characterise the FS and the environment, and not only to remain at assumption level, in order to respond to some of the questions raised by the comparison between the farming systems identified in week 1

3 – The learning objectives of the week 3 should address possible innovations within the said systems and how the relevance of these innovations can be assessed (interrelations between the system elements, analyses of the flows labour, organic matter, mulching materials and measure/representation of the environmental impact).

The visits and comparisons of animal production and fishery systems are completed by an initiation to the Life Cycle Assessment tools, at least at the level of the production units, while this will be re-detailed in module 3 (then at the level of a whole value chain).

III. DETAILS OF THE FIELDWORK

1. Week 1

- Suggestion to split the whole group of around 16 students into 5 groups of 3-4 students, and that the first there groups work in one area (during the 2 days, sleeping there) whereas in parallel the 3 other groups are the others are going to the other area, also sleeping there.
- Each group should interview /analyse at least 5 farms/farmers in very diversified conditions, this making the sample analysed at 15 per area or 30 in total (hence making the classification required).

2. Week 2

- Practice the tools in the field on organic, conventional and integrated farms in only one day is not realistic…
- Suggestion to consider the ecostaking /biocontrol as one parameter (insect and microorganisms population) characterizing the state of the environment. This allows to allocate one day more to the field work.
- Considering working on Saturday allows to allocate another additional day of fieldwork, making the total at 3 days.
- Biofunctools: OK but also other characterisation of the environment (waterholding capacity?) or the output (period of the paddy harvest : practice of sampling and measuring yield components to raise assumptions for responding to some questions raised on week 1).

3. Week 3

- Suggestion to limit the visits to 2 farms, easily opposed, but go in more in depth analysis of each of them;
- Introduce Life Cycle Assessment as a tool for assessing the impact of specific production systems (LCA at the whole integrated value chain being addressed in module 3) : exercise of application to the 2 farms visited + some of the systems identified in week 2;
- Organise a participative assessment by students of the whole module;
- Organise individual assessment of the students (personal assignment being done on the spot).

Proposed revised objectives and programme for module 2

General Learning Objectives
        1) To understand the effect of agriculture practice on environment
        2) To identify the various of cropping systems for the sustainable agriculture

Arrival date of participants:			

*Session 1 Ecosystems service for sustainable agriculture in a challenging environment (week 1)
Learning Objective(s):
        1) To understand the common farming systems in northeast Thailand
        2) To develop capacity for building a farming systems appraisal, to conduct an interview of farmer and to build a survey plan.
……………3) To be able to identify and characterize a farming system at the farm scale, i.e; a set of agricultural activities combined and interrelated with each other (cropping systems and animal rearing systems), guided by coherent decision taking;
…………….4) to be able to classify the farming systems surveyed into types (economic and social strategy).
Keywords: plant production, animal production, farming system, cropping system, animal husbandry system, environment, farmer's survey, Participatory Rural Appraisal, farm typology.

Date	Time	Topics	Resource persons
Monday	8:30-9:00	Opening ceremony	Dean of Agriculture, KKU
	9:00-12:00	Introduction on sustainability in North-East Thailand: Challenge issues on sustainable agriculture (Lecture)	KKU/IRD/SupAgro/ Helsinki U.
	13:00-16:00	1) Practice on Literature review (provide the selected publication to students) 2) Provide the topic for group or individual presentations	KKU/IRD/SupAgro/ Helsinki U.
Tuesday	9:00-12:00	Methodology of simple survey of farmers (Lecture)	KKU/IRD
	13:00-16:00	Students prepare survey guide or questionnaire for farming system identification	KKU/IRD
Wednesday	9:00-12:00	Farming systems identification survey 5 goups of 3 to 4 students : 2 work in zone 1, 3 work in zone 2. In two days, each group surveys 5 households, both "integrated" and "conventional"	KKU/IRD/SupAgro/ Helsinki U.
	13:00-16:00		KKU/IRD/SupAgro/ Helsinki U.
Thursday	9:00-12:00		KKU/IRD/SupAgro/ Helsinki U.
	13:00-16:00		KKU/IRD/SupAgro/ Helsinki U.
Friday	9:00-12:00	Agriculture a threat for Biodiversity (Lecture)	KKU/IRD/SupAgro
	13:00-16:00	Discussion on cases studies (organic/integrated vs conventional farming systems)	KKU/IRD/SupAgro/ Helsinki U.
Saturday	9:00-12:00	Agriculture a threat for Biodiversity (Lecture)	KKU/IRD/SupAgro
	13:00-16:00	Discussion on cases studies (organic/integrated vs conventional farming systems)	KKU/IRD/SupAgro/ Helsinki U.

*Session 1 Ecosystems service for sustainable agriculture in a challenging of environments (week 2)
Learning Objective(s):
      1) To learn on the tools for evaluate of environment conditions
      2) To analyze the sustainable agriculture systems
Keywords: plant production, soil quality, biodiversity

Date	Time	Topics	Resource persons
Monday	9:00-12:00	Integrative soil quality assessment (Lecture)	KKU/IRD/SupAgro
	13:00-16:00	Functional biodiversity (Lecture)	KKU/IRD/SupAgro
Tuesday	9:00-12:00	Crops effect on water cycling (Lecture)	KKU/IRD
	13:00-16:00	Practice the tools in the field (Biofunctools): organic, integrated, general farms	KKU/IRD
Wednesda y	9:00-12:00	Practice the tools in the field (Biofunctools): organic, integrated, general farms	KKU/IRD
	13:00-16:00	Practice the tools in the field (Biofunctools): organic, integrated, general farms	KKU/IRD
Thursday	9:00-12:00	Practice the tools in the field (assessing flows of a limiting resource): organic, integrated, general farms	
	13:00-16:00	Practice the tools in the field (assessing flows of a limited resource): organic, integrated, general farms	KKU/IRD
Friday	9:00-12:00	Groups work on dataWork	KKU/IRD
	13:00-16:00	Groups work on data	KKU/IRD/SupAgro/ Helsinki U.
Saturday	9:00-12:00	Group presentations Feed back session (evaluated)	KKU/IRD/SupAgro/ Helsinki U.
	13:00-16:00	Discussion on agriculture effect on environments	KKU/IRD/SupAgro/ Helsinki U.

Session 2 Utilizing genetic resources for sustainable agriculture
Learning Objective(s):
      1) To understand on the animal production in term of sustainable agriculture
      2) To understand of the importance of the genetic resources for sustainable agriculture
Keywords: Genetic resource, animal production, fishery production

Date	Time	Topics	Resource persons
Monday	9:00-12:00	Genetic resource for animal production in sustainable agriculture (Lecture)	KKU/IRD
	13:00-16:30	Genetic resource for crop production in sustainable agriculture (Lecture)	KKU/IRD
Tuesday	9:00-12:00	Animal and fishery productions in northeast Thailand (Lecture)	KKU/IRD/SupAgro
	13:00-16:00	Visit the integrated animal/fishery farm in KKU	KKU/IRD/SupAgro
Wednesday	9:00-12:00	Visit the animal/fishery production in the small farmer scale (Farm 1)	KKU/IRD/SubAgro
	13:00-16:00	Visit the animal/fishery production in the commercial scale (Farm 2)	KKU/IRD/SupAgro

Date	Time	Topics	Resource persons
Thursday	9:00-12:00	Assessing the environmental impact at the production unit scale : introduction to Life Cycle Assessment (lecture)	KKU/IRD/SupAgro
	13:00-16:00	Practical by groups Application of LCA principles on farm 1 and farm 2 and on some of the systems identified the week before	KKU/IRD/SupAgro
Friday	9:00-12:00	Crop animal integration - Discussion on integration and sustainability in a case of northeast Thailand	KKU/IRD/SupAgro
	13:00-16:00	Discussion and conclusion in whole Module 2	KKU/IRD/SupAgro/ Helsinki U.
	16:00-17:00	Closing ceremony	Dean of Agriculture, KKU
Saturday	9:00-12:00	Individual evaluation/ exam (principles for the LCA of a whole value chain = integration of modules 1 and 2, preparation of module 3)	

* Remark: number of session depends on each module design

Review of Module 3

Agricultural production

The review team has been working during two days to provide an external assessment of the module 3 proposal, including the relevance of its training objectives within the overall learning objectives of the PISAI. One day was devoted to visiting possible locations for the fieldwork (in Nakhon Rachasrima province) and one day was spent discussing the suggested programme of the module. The day in Bangkok included a well prepared presentation by the responsible coordinator – Dr Buncha Chinnasri – as well as a presentation and subsequent discussion with the manager of the National Corn and Sorghum Research Center (Suwan Farm). The day at the field site included a visit to Suwan Farm, surrounding villages and farms as well as an agricultural support center.

Being the last of the three PISAI specific modules, module 3 is the one where all the main competences that will then be needed for starting the master thesis research could be exerted by students. The review team was particularly happy to note that the duration of the fieldwork within the programme of the modules is increasing; three to five days in module 1, six days in module 2, and finally 11 days in module 3. The challenges requiring the highest and most complex level of integration should be addressed in module 3, giving to it a special importance.

Furthermore, the review team was pleased to learn that Dr. Oranutda Chinnasri from Faculty of Social Science will be working on the overall planning and coordination of the module together with Dr Buncha. Dr Oranutda has experience from agricultural extension, which is considered highly relevant for this module and a relevant supplement to Dr Buncha's areas of expertise. The level of participation from other staff members from Faculty of Agriculture (and potentially other Faculties at Kasetsart University, especially Faculty of Economics) is not yet clear, but specific competences on soils, climatic data analysis, GIS and economic evaluation would be welcome.

Beyond the MS PISAI, module 3 can also be considered as experimentation for developing a new module that could be offered in the regular programme at KU. This is interesting when taking into account the project of reforming certain curriculums at the faculty of Agriculture/KU, which could include these learning objectives in the future. Similar projects exist also at Faculty of Economics, and, in this regard, it would be interesting to develop a joint capacity of implementation.

Beyond KU itself, the level of integration of the competences that are addressed by the training, together with the good conditions of accommodation on the field (cf. *infra*), are such that the module should attract the participation of staff from the other PISAI universities. Internationally, the initiative would certainly meet the interest of other highly recognised universities of SE Asia[1]. a small group of scholars from the South-east Asian region could be invited to participate.

We certainly encourage such a development, whereas we recommend that this is not achieved at the cost of good group dynamics among the students and their staff on the field. For that, minimum conditions should be raised:

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[1] Several universities of the university Consortium , such as UPLB and(Philippines) and UGM (Indonesia)

(i)   The invited staffs are carefully <u>selected</u> so that they can also fully contribute with their own competences to the proposed module (no free seat passenger…!);

(ii)   They come for the whole duration of at least one session of the fieldwork period (and not for short visits that disturb the on-going dynamics).

I.   LEARNING OBJECTIVES

The review team was happy to note the many improvements have been made to the suggested learning outcomes and the general content of this module. The balance between the numbers of days used for preparations at KU in Bangkok (5) and the number of days allocated for fieldwork (11) also appears meaningful.

The proposed learning objectives are presented as follows (for the global module)

1. Describe and define central concepts and terms within farming system analysis (agricultural production)
2. Critically discuss theoretical and methodological approaches to interdisciplinary studies of agricultural production
3. Critically evaluate contemporary theories within sustainable land use and agricultural intensification
4. Translate theoretical knowledge into practical solutions that are suitable for a given context
5. Select relevant methods and construct a research plan for investigating a real-life "problem" related to agricultural production
6. Apply selected methods in the field
7. Analyse and report collected field data
8. Reflect on research plan and reliability of collected data
9. Generalize and reflect on results observed/obtained at the case level to broader issues of agricultural production, sustainability, self-sufficiency, natural resource management

These learning objectives are ambitious, and they more apply to the whole MS PISAI rather than specifically to the module 3. The learning objectives of the respective two sessions of module 3 (the preparation week in Bangkok and the two weeks fieldwork) are closer to this module specifically:

Session 1 - Preparation week in BKK:

1. Breaking the ice between participants from different origins and being able to identify the capacities of the other students.
2. Breaking the traditional attitude of Thai students that they remain passive as soon as academic training is concerned (whereas they can be very active in other domains).
3. Improving self confidence among students so that they can analyse the situation and propose options that can be discussed with the local people at the feedback session closing the module.
4. General introduction to the study site.
5. Get the skills for an analysis of the climatic, environmental, socio-economic constraints of crop production
6. Get the skills for soils observation and distinction (classification), agricultural intensification theories, adaptation theories, farmers' decision making processes, food security and safety issues
7. Prepare a research project proposal

Session 2 - Fieldwork:

8. Be able to identify the diversity of the natural conditions of agriculture (climate, soils, water) .

9. Be able to identify the various cropping systems done by the farmers (identification and broad characterisation).
10. Be able to identify problems as perceived by the local stakeholders interviewed.
11. Be able to characterise and assess the various cropping systems practiced in the area.
12. Be able to characterise and assess the various animal rearing systems practiced in the area.
13. To identify the interactions within a system.
14. To investigate on research questions along a research plan.

These 14 objectives form a very complete list but it will be difficult to manage it as a guiding milestone for building the programme. Ranking or grading is required.

Objective 1 is already addressed at module 1. When they start module 3, students will have done module 1 and 2 together and will certainly know each other quite well then. We consider that objectives 2, 3, 5, 6, and 8 to 13 are priorities. These imply to put the students in an active position, where they have to define by themselves the methodology and the tools that they will use for responding to the questions raised on the field. Hence the lectures should be limited, and they are not limited at the session 1 in Bangkok: they should bring the necessary tools when there is a need for it rather than on a predefined way.

II. CHOICE OF THE FIELD SITE

The session 2 of the module, devoted to the field work, will be accommodated at the National Corn and Sorghum Research Centre (Suwan Farm) in Nakhon Rachasrima Province, 2 to 3 hours drive East from Bangkok. This choice is logistically smart as Suwan Farm can accommodate the expected number of staff and students and has facilities that can be used for presentations, group work, etc. It is in the middle of an area in very active transformation

Field work can be carried out in a number of yet unidentified villages in the surrounding sub-districts: Klang Dong (focusing on fruit production), Nong Nam Daeng (focusing on field crop production) and potentially Nong Sarai or Pak Chong (focusing on dairy production). In the next province, Muak Lek District in Sara Buri Province, where the Thai-Danish Dairy Farm is located, is not far from Klang Dong and can be added to the zones that could be investigated.

During the meetings in Bangkok and during the field trip we had fruitful discussions about the choices of specific field sites and what the rationales behind these choices should be. Moreover there are potentially many relevant issues to study in the surrounding area - e.g. interactions between farmers and the research station, adoption of recommendations from the stations (maize and milk), breeding characters, water management and sustainability of the water resources... There are, however also some challenges due to the dynamic development that is taking place in the area - especially because the speculation on land seems extremely active. The perspective of the new highway leading to Issan, the proximity of a National Park and recreation area make the land market very active. CP is currently also buying up large tracks of land in the area, to a point that agricultural production may be discouraged, or that it may become marginal in the strategies of the local farmers.

It is therefore still unclear how many small and medium scale farmers are actually still present in the area and who owns the agricultural land in the different Pak Chong sub-districts. It is thus imperative to conduct more preparatory trips to get a better understanding of this situation before deciding on exact study sites.

Another concern raised by the review team was the apparent absence of a 'gradient' of farmers within the general study area. Based on what could be observed from driving around in the general area, the wealth status of the inhabitants is relatively high (abundancy of large modern houses) and the agricultural systems were very dominated by input intensive cultivation of high value crops. In order to comply with the general

learning objectives of the module it is considered important that the students will be able to study a diversity of farming systems and that some kind of gradients are present within the study site (e.g. different levels of intensification, farmers with different resource endowments and different challenges). This is especially important in order for the students to understand the different decision making contexts that farmers are operating within and hence e.g. recognize various barriers to adoption of agricultural practices. This issue thus has to be investigated further to ensure that areas with diversity in resource endowments, farming systems etc. are indeed present in the overall area.

III.   DETAILS OF THE PROGRAMME

Initially, the proposal was that the students would first study the local systems around Suwan farm, mostly based on maize and sorghum, then would move to Klangdong District for studying the orchards expansion, and then would study dairy oriented production in Muak-Lek District.

From the discussions we had, it was agreed that students should stay in the same area for the two weeks. Two weeks is not a long time to perform a whole regional study, with a zonation of the area (transect walks, mapping the area using the Google images), interviewing about the history and building historical scenarios, identifying the various cropping /animal rearing systems and assessing them from the technical, social and economic triple points of view, + some … Concentrating on one area should also offer the opportunity to test if students master the tools for the value chain appraisal (taught at module 1) and environmental impact assessment (taught at module 2).

However, there are still two options:

(i)   Either to concentrate with the whole cohort (5-6 groups of four) on the same sub-district, when this one can afford enough social and economic diversity (which seems to be the case of Tambon Klang Dong). This would offer the advantage of having more surveys in one place, therefore get a better typology, and certainly to go further with the economic analysis,

(ii)   Or that we consider 2-3 different sub-districts (Klang Dong, Nong Nam Daeng, or Nong Sarai in each of which 2 groups would work in parallel, while exchanging regularly on their preliminary results. Such a choice would of course allow a broader range of situations, while the analysis would go less deep than under the previous option.

Both options are possible. Beyond the respective pedagogical advantages of each of them, the logistical constraints linked with each are different[2].

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[2] In option 2, it will be required that the bus drops students at their survey place in there different sub-districts instead of one in option 1, which may be more complicated…

Proposed revised programme for module 3

Dates of the module (to be confirmed): March 17 to April 6, 2019

Day 1	9:00-16:00	Welcome, mutual presentation of the participants, discussion of the programme
Day 2	9:00-16:00	Active lecture 1: Groups of students work on different cases regarding reductionism/analytical approaches versus systemic/integrative approaches mutual presentations of the results and general discussion. The lecturer is present, while he is as a moderator of the discussion, not giving a formal presentation
Day 3	9:00-16:00	Active lecture 2 : To address the levels of complexity of agricultural activity, agricultural intensification theories, adaptation theories, farmers' decision making processes, food security and safety issues : several groups per level : the plant (the animal), the plot (the herd), the farm, the community, the country, the world.
Day 4	9:00-16:00	Active lecture 3: Lecture on climate (or rather on climatic data analysis, climate change), institutional setup in the area (e.g. conflicts over land, title deeds, how does agriculture fit into over livelihood activities? Other income activities), sustainable livelihood framework, soils /fertility management/water management, farming system analysis. Following the all lecture topics, groups work in parallel on one of them to gather and process data on these issues from the field place
Day 5	9:00-16:00	A general introduction to the study site. The students present the data that they have collected about the study site. Students work on research questions, make data matrix and a fieldwork plan (in groups)
Day 6	Saturday	
Day 7	Sunday (Travel to Nakhon Rachasrima province and check in the National Corn and Sorghum Research Center	
Day 8	8:00-17:00	The visit of fields belonging to the local farmers around the center (Suwan Farm) will be conducted. The activities will include transects walks, landscape analysis, historical surveys about the transformations of the agricultural activity (old people), focus group discussion (6 groups of 4 students), PRA's (e.g. cropping calendars, mapping, ranking exercises), Interviews, questionnaires, soil sampling, use of GPS, land use history timeline.

		Subdistrict: Nong-Nam-Deang (More field crops) Subdistrict: Klang Dong (More fruits but diversified, including some dairy) Subdistrict: Nong Sa Rai or district Muak Lek (More Dairy) Transect walks, landscape analysis
Day 9	8:00-17:00	Analysis of the transects + historical surveys
Day 10	8:00-17:00	Feed back on Historical surveys + complement
Day 11	8:00-17:00	Joint elaboration of the survey guide + Test with one farmer
Day 12	8:00-17:00	Continue working in the village - surveys
Day 13	Saturday	Elaboration of typology - Economic assessment principles +surveys
Day 14	**Sunday**	
Day 15	8:00-17:00	Economic assessment
Day 16	8:00-17:00	Synthetise economic assessment – preparation of special topic
Day 17	8:00-17:00	Special topic
Day 18	8:00-17:00	Special topic
Day 19	8:00-17:00	Feedback session preparation and feedback session with local people and government officials.
Day 20	**Saturday (Travel back to Bangkok)**	