

## Comment 2

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First of all, I would like to express my sincere thanks to the organizing committee, particularly to Prof. Yasunari, Prof. Okamoto and Dr. Yokoyama, who are chairing the Global COE Program and organizing this workshop. I would also like to extend my congratulations to the six speakers today. I enjoyed all of them.

As far as I understand, my assignment today is to connect six presentations with the aim of the workshop, this being the much broader topic of the Global COE Program. Actually, it is the first time for me to be part of the activities of this Global COE Program. My understanding of the Global COE Program may not be enough. I tried to catch up and actually, as you know, the Global COE is a priority program, so when we initiate or when we research projects, we spend a lot of time on discussions, expanding ideas and collaborating ideas. I tried to catch up with the ideas in this program. I did this during the whole day today, but I am not sure whether my understanding is sufficient. But anyway, I will start.

I will briefly review each of your presentations today. First, Ms. Somkhit, who talked about climatic variability and the vulnerability of a rice-based livelihood, using case studies from Savannakhet. Prof. Sekson talked about the case of forests in Kohn Kaen, Northeast Thailand, and discussed the conversion process since the 19<sup>th</sup> century, a 200 year history of a conversion process from forest to agricultural land. I will talk about this slide later, but first I will just give an overview of the six papers. The third presentation was by Dr Hyakumura. He also tried to focus on the various kinds of forests in Laos, including the spiritual forest, cremation forest or plantation forestry. The major message from his talk was maybe that forest resources are gradually becoming commercialized. That was the point he wanted to explain, I guess. This was followed by Mr. Ito's presentation. He is from the Oji paper and pulp company. Anyway, he introduced how private sectors get along with tree plantation enterprises, not only in Laos but also in other countries like Brazil. The next presentation was by Prof. Kanok. He talked a lot about many things, including the transformation of shifting cultivation in the mountainous regions of Mainland Southeast Asia. Finally, Dr. Benjamin also presented Lao IRRI's recent achievement in rice planting systems. He emphasized changing the virtuous cycle, food insecurity, the increasing cultivation of fragile land, and land rotation with low productivity to a virtuous cycle, including food productivity.

I will go back to the first presentation today, the one by Dr. Yokoyama. As far as I understand, he explained the aim of this workshop. There seem to be two spirals simultaneously going on in present-day Laos. One is a spiral of economic development through modernization or through the spread of a market economy, which is more modern, and this has been going on since the 1990s. The second spiral is one regarding nature-friendly life through traditional knowledge, which is kind of the foundation of Laos. According to his work, his point is that these spirals are confronting the aforementioned, becoming bigger and bigger and eroding this spiral. I thought this was aimed at telling us how we should cope with this situation. That is what he explained as the aim of the workshop.

As for questions, I think today's presentations, particularly the questions at two presentations this morning, were answered clearly. Ms. Somkhit is studying rice farming in Savannakhet. She measures the vulnerability of the climate and she illustrates its data. Apparently, income diversification is a major strategy or provides measures to cope with vulnerability, in order to enhance resilience in Laos. What is income diversification? It can be the production of vegetables or livestock or fishery or aquaculture, but one of the biggest ones is off-farm income, and now they can find a job. So farmers can become factory workers.

Prof. Sekson also presented a discussion on 'international marriage'. He said that cash comes from outside and that money may be invested in forest temples. Villagers donated money for forest temples and forest temples can protect the forests. Anyway, now, villagers' lives are heavily dependent on cash from outside and that makes them less vulnerable. So, it is not an alternative but it must co-exist, in a synchronized way. The two spirals must be synchronized. There are no other options. We cannot have only one of them, we should go with both, but in a synchronized way.

Going back again to Prof. Yasunari's presentation about the global symposium, From Earth Sciences to Basic and Clinical Environmental Studies, as far as I understand, so far the diagnostic environmental studies are moving towards treatment environmental studies. For this, we need two components, one is clinical environmental studies and the other is environmental studies. So far, it is a little bit difficult for me to understand the difference between these two, so I will just focus on one.

When I listened to Prof. Yasunari's presentation, a question came into my mind as a first impression. If we have to care for the environment, we have to support an ideally healthy condition. What are the healthiest conditions for the environment? We first have to know what should be done to care for the environment. But it depends on the definition of the health condition of the environment. That determines the necessity for environmental studies. These two questions arose when I listened to Prof. Yasunari's talk this morning. To some extent, I found answers to these two questions throughout today's talks. Very simply speaking, there seem to be two kinds of clinical

studies. One is a clinical study in a narrow sense, and the other is a clinical study in a broader sense. What are they? Prof. Ito's presentation was very clear. The tropics, that is a good place for tree biomass production. Tree plantation will be much more developed in the future. But so far, we do not have good cultivars or good varieties that are suited to a tropical environment. We should fix the land in order to maximize production there, then look at what kind of variety we need, how to do it, what kind of soil treatment we have to do. That is what he talked about. I am sure that this is one of the clinical environment studies. I believe Prof. Hyakumura's studies are also clinical studies, but his study has a rather broader perspective. He is looking at the transformation of forests and also of some official forest institutions and local institutions, but in his conclusion, there is a very big difference between official forests and informal forests, which could cause problems.

Dr Benjamin's study is also a very clinical study. The upland rice shifting cultivation in the northern part of Laos is facing problems. Food insecurity causes degradation of the environment and lowers food quality. He tried to develop technology to increase not only the production but also the whole cycle. So it is a typical clinical study, I think, and it also applies modern technology. But from what Prof. Kanok said, I think he has a will to develop and care for the area to make the region better, but food insecurity or land failure often lead to land use conflict. Yes it's true. There is a wide number of indigenous minorities, and the people are selecting adoptive management. They have several options in adoptive management, depending on the situation. We cannot say there is only one solution; there are always several solutions.

I think that Prof. Ito's and Prof. Benjamin's studies are a clinical study in a narrow sense. Dr. Hyakumura's and Prof. Kanok's studies are clinical studies in a broader sense. In the case of the narrow sense, their target is very specific and goal-oriented, but they try to rush to the goal and it is driven by technology or science. We can see this type of development in many domains, but in the case of environmental studies, we have to also consider the clinical studies that Dr Hyakumura or Prof. Kanok proposed. The targets or drivers are not clear. But what we seem to know at this moment is that the process of change does not seem to be much more important than the goal itself. I think that that is what Prof. Kanok emphasized finally in his talk about participatory development, and I think that adaptive management is also one of the process oriented measures. The most important thing is that we have to do address the issues in both ways. I sincerely expect that we should do both.

In addition, in environmental studies, we have to concern ourselves with complexities, and complexity is not only about ecosystems but also about livelihood, and there are many, many cases today, for example income diversification, job diversification, agro-bio-diversification. We use the term diversification many times, and this is what the regional characteristics of Asian society and nature are like. There is one point about change, how we should consider change.

In clinical studies, we have to assume some kind of timescale, and actually it is a kind of contemporary issue, but the area itself or the system itself is changing very rapidly. I have myself been working for Thailand and Laos, maybe 20 years now, but still the changes are beyond all my expectations. So we cannot presume how things will be many years later, 20 years later, and we should not miss this point.

Thank you very much.

## *Questions and Answers*

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(Tetsuzo Yasunari) Prof. Kono, thank you very much for a very nice comment about our program. I really learned a lot from your comments. You mentioned the clinical environment studies in a narrow sense and a broader sense, but you have also raised the question of the analogy of medical science with environmental science, is this okay or not. We also had very similar questions from the beginning, and of course medical science may provide treatment to recover health or from other illnesses, etc. So we can see the condition of body health more clearly than that of the environment. But as far as our environment is concerned, what is the illness in the environment? It is really a tough issue, as you pointed out. You showed that there are proper diagnostic studies for the various kinds of treatment study. One way, I think, when we proposed this, is that there should be a kind of two-way dialogue, and that is maybe the role of basic environmental studies, which you didn't mention as being important. Within basic environmental studies, we should think about what is a good environment for human beings, for the environment in the ecosystem. This is what we should think about.

Within basic medical sciences, sometimes there are scientists who discuss what life is. In the same sense, we should think about our world environment or the human population, including local people and minorities in some areas, but anyway, that's why we really need to kind of have the two way introduction between the clinical and basic environmental studies. That's why we proposed not only the clinical environmental studies, but also the basic environmental studies. What is important for us? Then, of course, human beings have been involved in the life-long history of the social system and organization. What is good for human beings? That is what we should all consider. It is very important. Then we have to go back to treatment. That is why we propose these two. These are my comments. I am not sure whether you . . .

(Kono Yasuyuki) Thank you very much. At that point, my understanding was not sufficient, but just one additional comment or idea. When we discussed what the healthiest environment is, it may not be the answer to the question, but the process to develop the idea, and so that may be much more important than the final outcome.

(Tetsuzo Yasunari) Yeah, I agree with you.

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### Today's Presentations: Society and Environment

Ms. Somkhith Boulidam

- Climatic variability and vulnerability of rice-based livelihood
- Income diversification is the strategy for villagers to cope with the vulnerability of their livelihood.

Prof. Sekson Yongvanit

- Conversion process from forest to agricultural lands
- In addition to population, market and policies, we have to consider much wider range of factors including religion.
- Cash comes from outside, which enhance the resilience of rural livelihood.

## Today's Presentations: Forestry and Environment

Dr. Hyakumura Kimihiko

- Commercialization of forest resources
- There is a big gap between forestry policies, official forestry institutions and the reality.

Dr. Ito Kazuya

- Tree plantation enterprise by the private sector
- Forestry for the global market by the advanced technology including clone plantation and soil and water management

## Today's Presentations: Agriculture and Environment

Prof. Kanok Rerkasem

- Transformation of shifting cultivation in the mountain region of mainland Southeast Asia
- Insecurity of land tenure often leads to land use conflicts.
- A wide range of indigenous knowledge, alternative adaptive management, no unique solution

Dr. Benjamin K. Samson

- Changing the vicious cycle of Food insecurity, intensive cultivation of fragile land, land degradation, low food productivity to virtuous cycle using food productivity as the entry point.
- Applying the modern technology to shifting cultivation development

## Aim of the Workshop

(by Dr. Yokoyama)

A spiral for economic development  
through commercialization



A spiral for nature-friendly life  
through traditional knowledge

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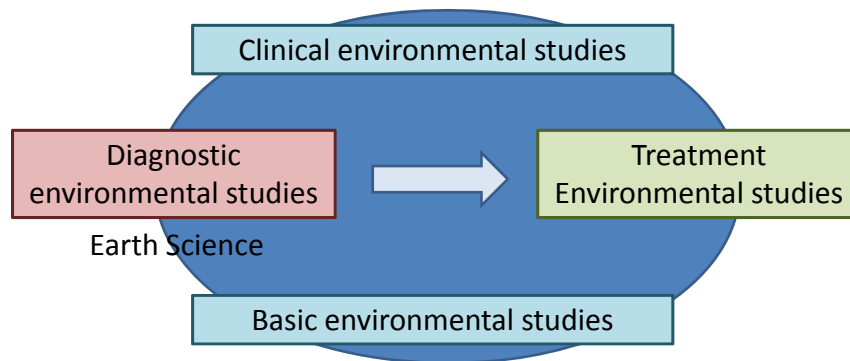


A spiral for nature-friendly life  
through traditional knowledge



## From earth science to basic and clinical environmental studies

(by Prof. Yasunari)



## Questions

- What is the most healthy condition of the environment?
- What are the necessary scope for environmental studies

## Clinical studies

### Clinical study in a narrow sense

- Target-specific
- Technology/Science-driven
- Goal-oriented

### Clinical study in a broader sense

- Target not clear
- Driver not clear
- Process-oriented

## In addition,

- Complexity in ecosystem and livelihood systems is an indispensable characteristics of Asian nature and society.
- Livelihood system can be transformed beyond the imagination of scholars.