

## Session 3 General Discussion

**Chairman Dr. Kunihiro Doi:** I would like to move to the general discussion. Could the three speakers please come to the front?

Before receiving the questions and answers, the remaining time is limited and the next session is very important at it as it is lunchtime, so I would like to propose proceeding punctually. So those people who would like to ask a question, please make it simple, and also please clarify to whom.

I would like to start the general discussion. So anyone that has a question, please raise your hand.

**Unidentified Speaker:** Thank you very much for the presentation. I have a question to the second presenter, Ms. Emiko Maki. I would like to make a simple question, but maybe three questions. First, do the farmers know the location of the observation points for each farmer to use? Second, do the farmers know the threshold level of rainfall for them? Third, how much is the difference in interest between the insured and non-insured loans? That is all.

**Ms. Maki:** Thank you for your questions. To the first question, the farmer can select the observation point. They are selecting the nearest observation point to buy the insurance, so in that sense they know the observation point to be indexed actually. They can select it. Normally they select the nearest observation point; we recommend this.

**Unidentified Speaker:** Do they know the level of the rainfall, so that they can get the insurance payment?

**Ms. Maki:** Yes, we have three thresholds, as I mentioned: early drought, drought and severe drought. The rainfall level for each threshold is declared in advance.

**Unidentified Speaker:** For each specific observation point?

**Ms. Maki:** For each specific observation point, the rainfall level is declared in advance.

**Unidentified Speaker:** Okay.

**Ms. Maki:** May I ask again the third question?

**Unidentified Speaker:** The third question is on the difference in interest rate between the insured loan and the non-insured loan.

**Ms. Maki:** I do not have any answer for the loan rate, but we just focus on the insurance rate.

**Unidentified Speaker:** They should have a different loan interest rate, otherwise the farmer will purchase the insured one, right?

**Ms. Maki:** That is true.

**Chairman:** Thank you. Are there any other questions?

**Dr. Islam:** My question is to Ms. Emiko Maki. How does your insurance policy applicable to the poor farmers in Africa or elsewhere? Do you have any study?

**Ms. Maki:** Thank you for your question. Actually to be honest, we do not have any study for any insurance possibility in Africa for the farmers. As I mentioned, I just want to ask you how much data you have to develop or produce the insurance product. The database is a very key factor for insurance companies to assess the risk. So if you have for example 10 years' historical data for weather, such as rainfall or temperature or something like that, maybe we have some techniques to produce insurance. But anyway the database is very important beforehand.

**Chairman:** Thank you. Any other questions?

**Dr. Mude:** Thank you very much for your presentation. I am Andrew Mude from the International Livestock Research Institute in Kenya. My question is also to Ms. Maki, being that I also work on index insurance products in Africa. My question has to do with—you called this a climate change adaptation product. It seems to me that particularly for pricing of insurance, like you said you need to have historical data. But for historical data and insurance to price, it becomes very complex if the series is moving. So if the distribution begins to change as a result of climate change, pricing also becomes problematic, and it becomes very difficult to be clear. As a result, for the insurance project that we have had, our reinsurance charges a lot of extra loading, because they say that the pattern is changing and it is ambiguous. How do you deal with that aspect of climate change on pricing?

**Ms. Maki:** Thank you for your good question. Actually, climate change is a difficult topic for insurance companies, but we have to challenge to tackle this issue. Insurance pricing is normally based on the historical data, but as global climate is changing, we have to focus on the future climate change as well. As the pattern of loss event will be changed, the historical data alone is not a reliable resource for us to assess the risk or produce the pricing. In this sense we need some loading for that. This is a very general idea of how to produce an insurance product, but in our case with indexed insurance for agriculture in Thailand we want to avoid as much as possible the loading for that, because as you mentioned, like reinsurance companies if we charge volatility on the pricing then the pricing will be higher, which means that rice farmers in north-east Thailand cannot afford to buy the insurance product at this stage our project is still a pilot project, so we minimize the loading for that.

**Chairman:** Thank you very much. I understand that you prefer the lady but are there any other questions to the gentlemen?

**Prof. Shigeru Araki, Kyoto University:** My name is Araki from Kyoto University. I just want to ask Dr. Fujii about the flood control, concerning the full-dyke and semi-dyke system. Thank you very much for the clear explanation. Concerning the flood control, it is not only the matter of the Mekong Delta; we need the full watershed management or a kind of international management. In that aspect, how do you think about the flood control or factors which affect the flood in the Mekong Delta?

**Dr. Fujii:** Yes, with respect to climate change, the Vietnamese government is announcing three issues, for example one is salt intrusion in the dry season, the second one is flood as I mentioned, and also the shortage of fresh water. So I do not know the detail of the Vietnamese government's strategy for tackling this. They are still thinking how to tackle these three issues. I just selected the topic of flood, but salt intrusion is also a very serious problem because of the Delta, because of rising sea levels, and fresh water is very critical to agriculture and especially rice. They already introduced shrimp cultures into paddy fields, because it is very difficult to get fresh water in the dry season. So there are some successful cases in the shrimp areas. They will rotate shrimp fields and paddy fields. They still have some stability problems, but at this moment they have already completed 10 years of this culture of rotational shrimp and rice fields. At this moment it is stable. Fortunately or unfortunately, there is more profit for farmers in shrimp culture than rice cultivation. So there are still ongoing countermeasures in progress in the Mekong Delta.

**Chairman:** Okay, thank you.

**Dr. Islam:** With the permission of the chair I have some sort of supplement to my presentation.

You know, at BRRI we have developed climate-resilient varieties. Some of them I did not mention. I want to mention them, with permission from the chair.

You know that vitamin A is a very essential element for human nutrition. Recently, BRRI is developing varieties that are vitamin A enriched, with beta carotene. You know that vitamin A deficiency leads to child mortality and reduces the immunity of pregnant mothers. So our strategy is that we want to integrate vitamin A in our popular varieties. Therefore, into our BRRI dhan29, the mega variety in the Boro season, we have introduced vitamin A. Out of this course of action we have finished our trial in the restricted greenhouse and we are in a position to conduct experiments in the confined field. With the permission of Bangladesh government, and when we are assured that it is safe for human consumption, we are going to release these varieties for human consumption.

We are in the process of breeding two other micronutrient varieties, zinc- and iron-dense varieties, and we are going to release them soon.

With this brief supplement I want to thank everybody. Thank you.

**Chairman:** Thank you Dr. Islam.

So the time has come and I would like to terminate this session. Today's presentations were very useful for all participants so we must continue to research at full speed, keep up with climate change, and we should also consider and work in close cooperation with insurance companies.

Thank you very much. A big hand to the participants.