
INTRODUCTION OF SOMPO JAPAN PRODUCTS —WEATHER INDEX INSURANCE FOR AGRICULTURE (WIIA) IN THAILAND—

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Emiko Maki is manager of the Alternative Solutions Section in the Commercial Risk Solutions Department at Sompo Japan Insurance Inc., which is the second largest property and casualty insurance company in Japan. Her specialty is “reinsurance,” an area in which she has some 20 years’ experience. Since April 2011, she has been engaged in developing new insurance products, including index-type insurance coverage for natural disasters.

ABSTRACT

Sompo Japan, which is the second largest Property and Casualty Insurance Company in Japan, has produced variety of index-typed products over 10 years period. While the traditional insurance products compensate the actual loss after the cause of loss has to be duly verified, the index-typed products provide compensation when the index during the observation period matches the predefined condition, which makes it possible to pay out compensation at an earlier date.

The Weather Index Insurance for Agriculture (WIIA) is the weather index insurance designed to mitigate economic losses of rice farmers due to drought in northeast Thailand. Sompo Japan Thailand, which is our subsidiary in Thailand, commenced the sale of WIIA in January 2010.

In 2007, the Japan Bank for International Cooperation (JBIC) studied the possibility and potential of Weather Index Insurance for Agriculture together with Sompo Japan and other experts. Following this study, Sompo Japan produced WIIA in order to verify the effectiveness of the functionality of the insurance as a climate change adaptation measure.

Economic losses caused by abnormal weather impact agricultural communities where infrastructure improvements and other disaster management measures are insufficient. Effective adaptation measures for climate change, including the mitigation of economic damage caused by abnormal weather, require vast funding. It suggests that private funding via market mechanisms could play a role, in addition to each nation's public funding.

Many of the farmers in Thailand's agricultural regions borrow money from banks prior to commencing farming operations. There has been a serious problem with farmers being unable to repay their loans due to decreased crop yields resulting from drought and other such climate associated challenges.

The WIIA will pay out contractually predetermined insurance payments when the observed result of accumulated precipitation as measured against the Thai Metrological Department accumulated rainfall index fall below a determined value for the predefined period.

The JBIC supported us to introduce the Bank of Agriculture and Agricultural Cooperatives (BAAC), which has strong presence in the farming region of Thailand, as our local partner for sales of this product.

The Thai Meteorological Department also supported our project by providing the historical rainfall data and setting up new observation points since the historical data and reliable observation system is necessary to develop the insurance product. Thus, public-private partnership was achieved for this project.

Since 2010 the sales area has been expanded from one prefecture to nine prefectures in northeastern Thailand. The product is revised this year and the number of the insurance contracts sold has been in good progress.

Sompo Japan Group will continue to make efforts to develop and offer new insurance products as effective adaptation measures for climate change.

KEYWORDS

Sompo Japan, WIIA, climate change adaptation, PPP

Chairman Dr. Kunihiro Doi: I will move to the next presenter, Ms. Emiko Maki from Sompo Japan. Sompo Japan is one of the biggest insurance companies and also I am aware that Sompo Japan is the first company to introduce weather-index insurance for agriculture in Thailand. Ms. Maki, please start.

Ms. Emiko Maki: Chairperson, thank you for your introduction. Hello ladies and gentlemen. I am Emiko Maki. I am a Chief Underwriter in the Alternative Risk Solutions Section of Sompo Japan Insurance. Today, I thank you for the opportunity to introduce our insurance product for rice farmers in Thailand. The name of this insurance is “Weather Index Insurance for Agriculture” (WIIA).

This product is designed to mitigate the farmers’ financial loss caused by drought. We started this project in 2010. This is one of the private sector’s initiatives for adaptation measures towards climate change.

At first, I will introduce our company briefly. Sompo Japan is a very long-standing company; we originally established in 1988, and we now have 124 years of history. Our premium income in the domestic market is around JPY1.3 trillion. This is the second largest among non-life insurance companies in Japan. Our head office is located in Tokyo. We have an international presence in 172 cities in 28 countries. As for external recognition, we have been elected as one of the world’s most ethical companies, and our holding company, NKSJ Holdings, has also been one of the top-30 CSR performers in East Asia.

At first, I will explain about the general idea of weather-index insurance. This insurance is for the reduction in profit and increase in expenses that may be faced due to extraordinary weather. We set a weather index and the trigger of the compensation is whether or not the index matches a predefined condition. This differs from indemnity-based insurance, in which compensation is made on verified actual loss. There could be gaps between actual loss and the compensation. This is called “basis risk.” However, the index insurance could realize simple and swift payment and cheaper pricing without the time and cost of lost investigation. We thought that this concept fit the insurance arranged for farmers in Thailand.

In order to develop the product, it is important to find the correlation between the weather index and the loss event, to minimize the basis risk. And the index should of course be objective and neutral. We normally apply the data provided by the meteorological department for the weather index. In Japan we have much information, such as temperature, precipitation, snowfall, sunshine length and so on. They are observed by 1,400 sites of the Japan Meteorological Department.

Thanks to the existence of such a rich database and four seasons in Japan, we are in a position to create a variety of products by weather indexes to respond to our customers’ needs. Sompo Japan started to develop index-style products in the late 1990s, and we have been expanding the product lineup since then. Nowadays, when the weather risks are becoming more serious problems globally, we are trying to transfer our techniques and know-how in Japan to overseas, by adjusting it to the local demands and needs. WIIA is our first trial for this aim.

To start our project, we focused on the agricultural sector, because we assume that climate change is a big challenge for agriculture. Changes in the rainfall pattern may lead to a negative spiral in the sector. Extreme weather impacts agricultural communities, especially where infrastructure improvements and other industrial management measures are insufficient. We thought that it is beneficial for rice farmers to restore or mitigate the economic loss caused by extreme weather by index insurance.

We picked Northeast Thailand. The rice crop in the north-east of Thailand mainly relies on rainfall, because the irrigation system is not sufficient in the area. The Thai meteorological department was supportive of our project, by providing historical rainfall data and setting up new observation points. May to October is the rainy season in the north-east of Thailand. After hearing from the farmers, we found is that rainfall from July to September impacts their crop yields, and we applied cumulative rainfall from this July to September for the index of our

product.

Let us look at the scheme of WIIA. We have three parties. First, the Sompo Japan group. Sompo Japan Tokyo supports Sompo Japan Thailand—which is our subsidiary in Thailand—for product design and pricing. Sompo Japan Thailand is the insurer. Second, the Japan Bank for International Cooperation (JBIC), who coordinated this project. Third, the Bank for Agriculture and Agricultural Cooperatives (BAAC) who has a big presence in the farming region of Thailand. JBIC and BAAC have an MOU agreement for this project. Many farmers in Northeast Thailand borrow money from banks. They buy rice seeds or farming implements with the money. There has been a serious problem with farmers being unable to repay their loans due to decreased crop yields resulting from drought or other climate-associated challenges. JBIC supported Sompo Japan by introducing BAAC. BAAC can introduce WIIA to the farmers together with their loan. Sompo Japan Thailand collects the insurance premiums through BAAC and also pays the insurance compensation through BAAC.

This is the outline of WIIA. We set three thresholds according to the timing and degree of drought. They are: early drought, drought and severe drought. The compensation is a fixed loan percentage of the loan principal between BAAC and each farmer, and the percentage is fixed for each threshold in advance. If the sum of rainfall in the month of July is below the threshold of an early drought, 10% of the insurance principle is paid as compensation. The policy contract is terminated afterwards. If the sum of the rainfall in July is above the threshold then the policy contract continues until the end of September. When the sum of rainfall during the months of August to September is below the threshold of drought or severe drought, 15% or 40% of the insured loan principal is paid respectively.

This illustrates how to pay out. In this example, the insured loan principal is 10,000 Baht. “Early drought” means that the sum of rainfall in July is below 100 mm. “Drought” or “severe drought” means the sum of rainfall from August to September is below 320 mm or 220 mm respectively. Case one shows the sum of rainfall in July as 80 mm, below the 100 mm of early drought. Then we pay 10% of the insured loan principal. That means 1,000 Baht as compensation. The insurance is terminated afterwards. Case two shows we pay nothing for early drought, but to pay 15% of the insured loan principal, which means 1,500 Baht, because the sum of rainfall is below the 320 mm of drought. Case three shows you pay 40% of the insured loan principal, 4,000 Baht, because the sum of rainfall is below the 220 mm of severe drought. In this way, the insurance compensation is made on the loan principal. For farmers, even if they face difficulty to fully repay their loan debt to BAAC due to drought, they may exempt part of the insurance compensation from their debt. This is a benefit not only for farmers but also the BAAC, who may avoid unrecoverable loans.

In the first year we produced WIIA, 2010, Sompo Japan won a Prime Minister’s Award for Outstanding Management, since our business contribution in Thailand, including the development of the weather-index insurance, was highly appreciated. Furthermore, our product was introduced in “Adaptation Private Sector Initiative” by the United Nations Framework Convention on Climate Change.

Our WIIA sales area was expanded since the start of 2010. In the first year, we started selling in Khon Kaen province, and expanded into five provinces in the second year. This year, the sales area was further expanded to 9 provinces in north-east Thailand.

The insurance was sold above the target of 1,000 in the first year, 2010. This was more than we expected. In the second year, the number of sales was increased to over 6,000. However, we regret to say that this year, the sales were down despite expanding the sales area. We have to say that the flood in Thailand last year influenced our sales activity. This year, the farmers faced droughts during July to September in north-east Thailand. As a result, WIIA provided compensation for about 85% of the policyholders. We think that we could actually show the effects of the insurance to mitigate the economic loss due to drought. We anticipate that understanding of the benefit of insurance will promote the purchase of insurance, and WIIA will become more common among

farmers.

For the future, we will continue to improve the product to respond to the farmers' demand. We are considering developing new products for other crops and other risks. Furthermore, we are looking forward to expanding the territory within Thailand and other Asian countries.

Expectation is growing internationally towards the insurance function as an adaptation measure for climate change. For future discussion, we think that public private partnership is a key factor to succeed. To promote the insurance product for this purpose, public support for finance such as premium subsidy and assistance in operation costs could help private sectors to give their commitment to the market. Furthermore, building a reliable database and observation system relating to weather is strongly anticipated from private sectors in developing countries and areas. In order to assess the risk and develop the insurance product practically, a reliable database is essential for insurance companies. For WIIA, the Thai Meteorological Department was willing to provide the historical rainfall data and to set up new observation points for our project. Furthermore, as JBIC introduced BAAC for WIIA, cooperation with powerful local distributional channels is another key factor to succeed. The public function of go-between is also anticipated.

This is our picture for future expansion. In the first step, the insurance for the limited crops, areas and risks is provided locally to respond to the local concern or demand. If the local government can subsidize the insurance premium, the insurance penetration may be escalated. In the second step the insurance coverage will be expanded by crops, risks and territory. The local and international reinsurance markets can support the local insurers for the hedge of their accumulated risk exposures. The third step is the stage that expands to other countries. Diversification of the risks should be achieved in the international framework, including international banks, capital markets, reinsurance markets as the large-capacity providers. At this stage, our WIIA is still at the first step, but we are looking one step ahead. From this first initiative, we look forward to working for establishment of anticipated international framework towards the future.

This is the end of our presentation. Thank you for your kind attention.

Chairman: Thank you very much Ms. Maki. I would like to say that 12 years ago I was director of JBIC, and I was joining the appraisal for the BAAC concessional loan. But at that time I did not consider such a decision method. I am very happy to hear today's presentation regarding the BAAC loans. So thank you very much, Ms. Maki.