



INSTITUT PENYELIDIKAN DAN
KEMAJUAN PERTANIAN
MALAYSIA
Malaysian Agricultural Research and
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ECONOMIC & SOCIAL SCIENCE RESEARCH CENTRE

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Reference : MD/ES/PA/063/001
Date : 23 January 2017

SUCH AS PARTICIPANTS LIST (REFER)

Dear Prof. / Dr. /Ms. /Mrs. / Mr.,

**ROUND TABLE CONFERENCE ON AGRI INSURANCE – A CLIMATE CHANGE ADAPTATION TOOL IN
AFRICAN AND ASIA PACIFIC REGION 2017**

Greetings from Malaysian Agricultural Research and Development Institute (MARDI)!

We are pleased to inform you that MARDI – CIRDAP – AARDO will jointly host the *Round Table Conference on Agri Insurance – A Climate Change Adaptation Tool in African and Asia Pacific Region 2017* which will be held at **MARDI Headquarters, Serdang, Selangor (Malaysia) on February 6 – 10, 2017.**

In this connection, we would be honored to have you as our speaker/participant at the above-mentioned international roundtable conference. We strongly believe that your participation to this important activity will greatly provide an opportunity for the participants to listen as you share your country's experience in implementing policy on agriculture insurance.

During your stay in Malaysia, the CIRDAP and AARDO will provide you with a round trip air ticket to Kuala Lumpur, Malaysia and per diem allowance while MARDI will provide the accommodation, local transportation and other technical assistances.

We anticipate your acceptance of our invitation and we hope you will join us for this important event. Please apply for an entry visa at the Malaysian Embassy/Consulate office with this letter.

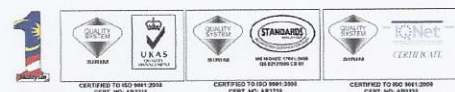
Thank you very much and I am looking forward to meet you in MARDI!

“LEADER IN AGRO TEKNOLOGY”

Sincerely,

TAPSIR BIN SERIN

Economic & Social Science Research Centre
MARDI Headquarters
For Director General
MARDI



**ROUNDTABLE MEETING ON
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– SELANGOR, MALAYSIA
(06-10 FEBRUARY 2017)**

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Round Table on
“Agricultural Insurance -
A Climate Change Adaption
Tool in African, Asian and
Pacific Regions”



6 - 10
February
2017

MARDI
Serdang
Selangor,
Malaysia

Background

African and Asia and the Pacific regions have high exposure to natural hazards including typhoons, floods, landslides, droughts, earthquakes, volcanic eruptions and tsunamis. Weather-related risks, particularly hurricanes, flooding and drought, are of a frequent occurrence and affect crop yields, livelihoods and assets, and the personal safety of vulnerable groups across the regions. The frequency with which these disasters occur often taxes the ability of such groups to rebound quickly, increasing their risk of hunger and malnutrition. Low-cost agricultural insurance schemes are increasingly viewed as mechanisms for providing social protection to the increasing numbers of people affected by such risks and in helping to lessen the impacts they suffer owing to such shocks.

Traditional or informal risk management practices adopted by farmers cannot provide protection against high severity low frequency covariate risks that in this region centre on typhoons, floods, tsunamis and droughts. In these cases, risk transfer and insurance either through private mutual insurance and commercial insurance and/or publicly provided agricultural insurance have an important role to play.

Agricultural insurance and particularly new index insurance have important roles to play in managing climatic and natural risks at different levels of aggregation, including at the individual farmer or micro level to smooth production and incomes against major weather shocks, at the meso level as a business interruption cover to protect the agricultural loan portfolio of financial institutions and even input suppliers, and also at a macro or government level to ensure early relief and food security after natural disasters.

Agricultural Insurance has a lengthy history and is widely available in most of the developed group of high income countries which have an agricultural base. Agricultural insurance is also relatively well developed and available in about 50% of the 44 countries in the Asia-Pacific Region. Agricultural insurance, is however, very poorly represented in Africa and is currently commercially available in a handful of countries only including South Africa, Sudan, Morocco, Nigeria, Malawi and Kenya and is being pilot tested in several other counties including Ethiopia, Ghana and Senegal.

In this background CIRDAP and AARDO and MARDI are organizing a Round Table on "Agri Insurance- A Climate Change Adaptation Tool in African and Asia-Pacific Regions" to provide a comprehensive review and assessment of different models of agricultural insurance provision in CIRDAP and AARDO Member countries in African and Asia - Pacific region and to evolve guidelines and recommendations to policy-makers seeking to improve or introduce agricultural insurance programmes in the countries in the region where it is not yet adopted as a practice.

Objectives

- to review and assess different models of agricultural insurance provision in African and Asia -Pacific regions and make direct comparisons between countries;
- to draw on the experience of the insurance programmes in other countries of the region to formulate guidelines and recommendations to policy-makers seeking to introduce agricultural insurance programmes;
- to provide valuable insights into the sustainable implementation of insurance programmes; and
- to provide useful basis for countries in developing their policies and programmes on the subject.

Topics

- Importance of agriculture in African and Asia -Pacific region and exposure to climatic hazards
- Growth of public and private agricultural insurance in the region
- Risk management and the role of agricultural insurance
- Agricultural insurance provision in African and Asia -Pacific regions
- Public sector support for agricultural insurance in African and Asia - Pacific regions
- Small farmer agricultural insurance initiatives in African and Asia - Pacific regions
- Options and recommendations for government support to agricultural insurance in African and Asia -Pacific regions

PROGRAMME

Tentative Programme

February 6, 2017 (Monday)

Arrival of Participants

February 7, 2017 (Tuesday)

Opening Ceremony

08:30 - 08:45 Arrival of guests & participants

08:45 - 09:00 Arrival of Distinguished guests

09:00 - 10:15 Arrival of *YBhg. Dato' Azizan bin Mohamad Sidin*
Deputy Secretary General
The Ministry of Rural and Regional Development (KKLW)

Welcoming Remarks

YBhg. Datuk Dr. Sharif bin Haron

Director General

Malaysian Agricultural Research and Development Institute (MARDI)

Remarks

His Excellency Eng. Wassfi Hassan El-Sreihin

Secretary General

African-Asian Rural Development Organisation (AARDO)

Remarks

His Excellency Mr. Tevita G. Boseiwaqa Taginavulau

Director General

Centre on Integrated Rural Development for Asia and the Pacific
(CIRDAP)

Opening Speech

YBhg. Dato' Azizan bin Mohamad Sidin

Deputy Secretary General

The Ministry of Rural and Regional Development (KKLW)

Group Photo

Exchange gift ceremony

Visit to MARDI Gallery

Press Conference

10:15 - 10:30 Tea Break

Session 1 Keynote Addresses

10:30 - 10:50 Prospects of Agricultural Insurance in Africa - Nigeria

10:50 - 11:20 Prospects of Agricultural Insurance in Asia and Pacific Regions
- Sri Lanka

11:20 - 11:40 Prospects of Agricultural Insurance in Asia and Pacific Regions
- Singapore

February 7, 2017 (Tuesday)

Session - 2 Country Presentations Agricultural Insurance Models, Stakeholders (public, private, planters) Model, Perspective, Challenges and Opportunities

- 11:40 - 13:00
- Bangladesh
 - Republic of China
 - Fiji
 - Ghana

13:00 - 14:00 Lunch

- 14:00 - 15:20
- India
 - Indonesia
 - Iran
 - Jordan

15:20 - 15:50 Tea break

- 15:50 - 17:30
- Lao PDR
 - Lebanon
 - Mauritius
 - Morocco

17:30 - 17:45 Wrap up

19:00 Dinner

February 8, 2017 (Wednesday)

08:30 - 09:00 Recap of day 1

Session - 3 Country Presentations Agricultural Insurance Models, Stakeholders (public, private, planters) Model, Perspective, Challenges and Opportunities

- 09:00 - 10:00
- Malaysia
 - Myanmar
 - Nepal
 - Oman

10:20 - 10:35 Tea Break

- 10:35 - 12:35
- Palestine
 - Philippines
 - Sudan
 - Thailand
 - Vietnam
 - Zambia

12:35 - 14:00 Lunch

Session - 4 Group Session - 1 Wider Role of Public Sector: Design, Promotion and Sustainability

14:00 - 14:30 Briefing and group formation

- 14:30 - 15:30 Group discussion
- Group 1 - African
 - Group 2 - South East Asia, Fiji & R.O. China
 - Group 3 - South and West Asia

15:30 - 16:00 Break

16:00 - 17:30 Group presentations

17:30 - 17:45 Wrap up

20:00 - 22:00 Official dinner - Kuala Lumpur

February 9, 2017 (Thursday)

08:30 - 09:00 Recap of day 2

Session - 5 Group Session - 2 Levels of engagement in risk transfer: regional, country, corporate, farm

- 09:00 - 10:00 Group discussion
- Group 1 - African
 - Group 2 - South East Asia, Fiji & R.O. China
 - Group 3 - South and West Asia

10:00 - 10:15 Tea Break

10:15 - 11:15 Group presentations

11:15 - 11:30 Wrap up

Session - 6 Group Session - 3 Role of Insurance: what it can and can't resolve

- 11:30 - 12:00 Group discussion
- Group 1 - African
 - Group 2 - South East Asia, Fiji & R.O. China
 - Group 3 - South and West Asia

12:00 - 13:00 Group presentations

13:00 - 14:00 Lunch

14:00 - 14:45 Final Q&A - Recap session

Session - 7 Group Session - 4

14:45 - 15:30 Open forum to brainstorm ideas and formulate
group recommendations

15:30 - 16:30 Closing Ceremony

19:00 Dinner

February 10, 2017 (Friday)

Departure of Participants

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Country Paper

Experience of Agricultural Insurance Systems in the Republic of China (Taiwan)

6 Feb.,-10 Feb., 2017

Selangor, Malaysia

**Experience of Agricultural Insurance Systems
in the Republic of China (Taiwan)**

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Abstract

Agriculture is the foundation of economic development in Taiwan, ROC. It always plays a significant and multifunctional role. The agricultural strategies and measures of the Taiwan, ROC had been adjusted during the past fifty years. In Taiwan, ROC, crops damage are caused by typhoons and torrential rainfall in summer and fall as well as the frost in winter. From 1991 to 2015, the total loss amount reached to NT\$ 123 billion and over 89% of the loss was caused by typhoons and torrential rainfall. Therefore, it's necessary to implement the agricultural insurance to eliminate the risk of damages caused by disasters and to enhance protection for farmers.

Although the agricultural insurance law hasn't been made yet in Taiwan, ROC, to accumulate pilot experience, crop disaster insurance pilot program was first implemented in 2015. Insurance Company Fubon was in charge of insurance product development and selected grafted pears as its insured subject matter. In 2016, Insurance Company Fubon added pears to its coverage and Insurance Company Cathay Century also developed a disaster insurance pilot program for mangoes. Currently in Taiwan, ROC, farmers rely heavily on the government's natural disaster relief program, and it is hoped that, by improving the insurance mechanism and strengthening the promotion effort, the disaster relief would gradually be covered by insurance. In the future, we will take into account the successful experience of other countries, including the regulatory system and the content of their insurance plan, as well as our own result of piloting to establish and adjust the agricultural insurance system, making it conforms to the nature of ROC Taiwan's agriculture, as well as its scale of operation.

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Foreword

Human survival and activity are inextricably linked to agriculture. In the past half century, ROC Taiwan's agricultural development has made possible an abundance of nutritious agricultural, fishery, and livestock products, providing the people of Taiwan, ROC with a wholesome living environment, and establishing a solid foundation for ROC Taiwan's economic development.

However, in the past 70 years, Taiwan, ROC economy fast development, the economic structure hurriedly has changed, the agriculture the status relatively drops compare to other economic department. During 1950s agricultural production occupied the Taiwan, ROC production gross figure 32%, the agriculture employed population accounts for 56% of total employed population, the agricultural product exportation value accounts for 92% of total export value. However, in 2015, the agricultural production accounts for the GDP proportion fall to 2%, the agriculture employed population accounts for ratio of the total employed population reduce to fewer than 5.0%.

As Taiwan, ROC had implemented serial successful programs in the past times, the average growth rate reached as high as every year 10% in 1970s. And the per capita income got fast increase. It got the peak in 2000s. However, in Taiwan, ROC, the value of the agricultural production drops step by step in the past times. But, it still provides an important value. Such as stabilizing the countryside society, green landscape and ecology care reveals. In the early time, our country adopted the successful policy, which was "By the agricultural sector supported industry, by industrial sector developed agriculture". As the harmonious development policy on agriculture and non- agriculture department, Taiwan, ROC had achieved the illustrious economical fruits.

Table 1 : The Value of Imports and Exports of Taiwan, ROC

Unit: US\$ Billion; %

Terms	Imports		Exports		Balance of Trade	
	Total	Agri-Pro.	Total	Agri-Pro.	Total	Agri-Pro.
2000	140.0	7.6	148.3	3.3	8.3	-4.3
2001	107.2	6.9	122.9	3.0	15.6	-3.8
2003	127.2	7.8	144.1	3.2	16.9	-4.5
2005	181.6	9.4	189.4	3.6	7.8	-5.8
2011	280.6	14.9	291.9	4.7	11.3	-10.2
2013	269.1	14.8	288.0	5.1	19.0	-9.7
2015	227.8	14.5	264.3	4.9	36.5	-9.6

Source : Agricultural Statistics Yearbook, Council of Agriculture, Executive Yuan

Table 2 : Overview on Taiwan, ROC Agricultural Aspects

Unit: Ha; Household; %

Terms	Farmland	Farming Households	Full-time Farming Households		Hectare per Farming Household
			Amount	Percentage	
1981	900,062	847,997	148,378	17.50	1.06
1991	884,443	824,256	117,988	14.31	1.07
2001	848,743	726,575	144,421	19.88	1.20
2003	844,097	724,949	159,280	21.97	1.16
2005	833,176	721,418	177,449	24.60	1.15
2011	808,294	777,473	194,827	25.06	1.04
2013	799,830	780,307	244,814	31.37	1.03
2015	796,618	784,490	260,211	33.17	1.02

Source : As shown in Table 1

Table 3 : Industrial Origin of Gross Domestic Product

Unit : NT\$ Billion ; %

Terms	Total Amount	Agriculture	
		Amount	Percentage
1952	14.57	5.23	35.90
1972	319.96	38.56	12.05
1992	5,502.80	189.85	3.45
2002	10,411.64	188.44	1.71
2012	14,077.10	249.17	1.78
2015	16,687.86	295.92	1.78

Source : As shown in Table 1

Principal Figures

Taiwan, ROC, the territory is 36,194 square kilometers with only 7,966 square kilometers available for agricultural cultivation. At ROC Taiwan's initial stage of economic development, it focused on agriculture. During the past 30 years or so, Taiwan, ROC has turned from agriculture-based economy to service-based one.

With the change of economic structure, the overall contribution of agriculture in terms of GDP (Gross Domestic Product) is decreasing. During the period of 2015, agricultural productions amounted to US\$16 billion (NT\$502 billion) (Crops, livestock, fishery and forestry respectively accounted for 48.87%, 32.69%, 18.39%, and 0.05%). Total GDP amounted to US\$523 billion (NT\$16.7 trillion), and agriculture amounted to US\$9 billion (NT\$296 billion), 1.7% respectively. However, agriculture has been the country's foundation for long-term development.

The island of Taiwan, ROC lies between the Tropical Zone and the Subtropical Zone. Because of its geographical location, the climate is complex and ever changing. In Taiwan, ROC, crops damage are caused by typhoons and torrential rainfall in summer and fall as well as the frost in winter. Climate change is increasing the frequency and intensity of extreme weather events. These events usually have great consequences and cause serious damages to our properties and environment. From 1991 to 2015, the total loss amount reached to NT\$ 123 billion and over 89% of the loss was caused by typhoons and torrential rainfall.

Table 4 : 1991-2015 Amount of Products Loss from Natural Disasters

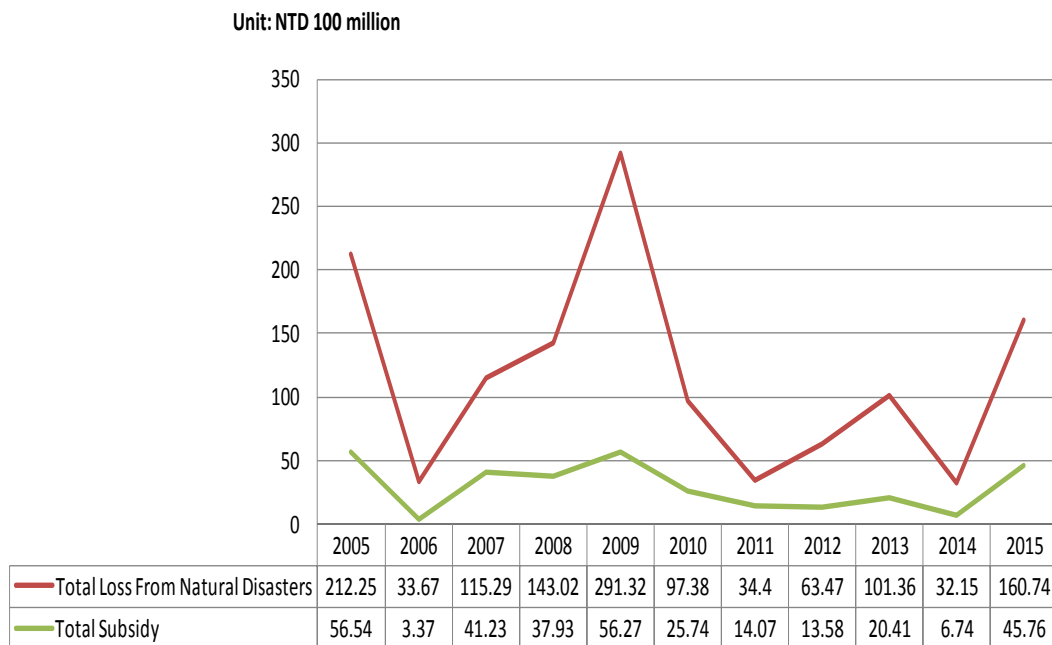
Unit: NT\$ billion ; %

Category of Disaster	Amount	Percentage
Typhoon	94.14	76.52
Flood/Torrential Rainfall	15.37	12.49
Earthquake	2.06	1.67
Frost Damage	7.09	5.76
Hailstone	3.58	2.91
Drought	0.79	0.65
Total	123.03	100

Source : As shown in Table 1

Natural disasters did a lot of damage to the agriculture production and affected farmers' income; hence, the government has compensated for agriculture production damages and losses by redressing subsidy since 1990. From 1990 to 2015, the total subsidy is over NT\$ 41.5 billion. According to the official data, it shows that the total loss amount reached to NT\$ 123 billion, but only 34% of loss was covered by subsidy. It is actually not enough to offset farmers' damages. Therefore, it's necessary to implement the agricultural insurance to eliminate the risk of damages caused by disasters and to enhance protection for farmers.

Chart : 2005-2015 Total Loss from Natural Disasters and Subsidy



Source: http://lci.ly.gov.tw/LyLCEW/lcivComm.action#pageName_searchResult=1

Major Risks Affecting Farming in Taiwan, ROC

I. Climate Change Dramatically

There was an abrupt climate change occurs recent years. With the rising problems of global climate change and increasing frequency and severity of extreme weather, growing attention has been given to problems like resource conservation and agricultural production. These dramatic climate changes will affect the agricultural production, at the same time increase the damage of agriculture. Owing to the degrade of agricultural natural resources because of the climate change, how to keep it productive, sustainably reduce the impact become a challenging issue.

II. Small Farm Scale and Fragment Farmlands

The average cultivated land area per farm household was about 1.02 ha in recent years. The farming householders usually operated small scale farmlands which were separated into several different pieces. The blamed inefficiency of farm management was mostly due to the small size and scattered farmland ownership.

III. Regional Integration and Economic Liberalization

Since the year 2002, Taiwan, ROC joined the World Trade Organization, since then our agricultural industry face further trade liberalization.

After the accession into WTO, Taiwan, ROC has continued to open its agricultural market in full obedience with market access commitments made in the working party report. The agricultural sector has been adversely affected, and the farmers' income has stagnated. Since we faced with the internationalization of the trade is unavoidable, the agricultural sector sincerely will face strong challenges.

Policies for Farmers to Mitigate and Manage Risks

As risks mentioned above, Taiwan, ROC implemented several different policies including price and income support measures.

I. Price Support Mechanisms

Rice is the most important crop in Taiwan, ROC. To better reflect the realities of operating conditions and costs of production, the price for public purchases of rice was modified in time. Owing to the better

public purchase system on rice product, it is helpful to reduce the cost burden to farmers and improve their income.

II. Making Special-purpose Policy Loans

The Council of Agriculture, Taiwan, ROC, handles policy-oriented special agricultural loans focused on specific problems of agricultural development and rural welfare. In general, we provided more than NT\$38 billion per year in new loans to farmers. We also assisted farmers using the agricultural credit guarantee mechanism to enhance the efficiency of capital friendly.

III. Disaster Relief

To ensure that farmers get appropriate, reasonable assistance when natural disasters strike, the COA implemented the Regulations Governing Emergency Relief to Agriculture in the Event of Natural Disaster. There are more than 14 types of crops divided into several major disaster relief categories. The amount of Cash Relief for various kinds of crops has been increased year by year.

IV. Agricultural Insurance Scheme

Agricultural insurance system could be a newer and more advanced concept for farming nowadays. The agricultural insurance plays a critical tool to support farmers' welfares and maintain agricultural development under the rules of WTO Green Box. For example, by the insurance system, the risk of damages caused by natural disasters could be managed and mitigated efficiently.

The Prospects and Problems of Agricultural Insurance

Agricultural insurance plays a critical role in the process of agricultural development. The government is planning to implement the agricultural insurance so that the risk of damages caused by natural disasters could be managed. Furthermore, the life quality of the farmers could be improved. Hopefully, it could facilitate the economic development in the rural areas. In the process of implementing the agricultural insurance, some problems have arisen, stated as below:

- I. The crops in Taiwan, ROC are various and the production is small-scale. In addition, because of ROC Taiwan's geographical location and climate, natural disasters happen frequently and usually cause huge damage to farmland and the rural environment. With all the factors involved, the risk of agricultural disasters is huge. The premium rate of the insurance calculated based on historical data of the disaster frequency and loss severity is high. The higher premium rate places heavier burden on farmers and fishermen.
- II. In general, the macro investigation and survey of agricultural production exist. However, owing to the lack of more sufficient and sounder details statistic data make it very hard to determine the optimal premium rate and the amount of insurance.
- III. Actually, because of the subject matter insured of agriculture insurance is agricultural products. We always should take the natural, biologic and intrinsic characteristics into consideration very carefully. And it is true that the judgment of insurance accident is very hard and controversial sometimes.
- IV. As the agricultural insurance is a newer concept and a pilot program, the cost of implementing agricultural insurance is very higher. Besides, due to the fewer experience and professionals specialized on skills in agricultural damage assessment.

V. Farmers' knowledge about and understanding of agricultural insurance is very insufficient nowadays, so that the insurance coverage ratio still remains lower. It seems that the problem of insurance coverage could be a huge task for us in the future.

For the smooth operation of the agricultural insurance and solving the above-mentioned problems, the government should provide historical statistic data on the cost of production, losses from natural disasters, and so on so that it can assist insurers to design insurance products, handle insurance underwriting, and assess damages. The government should also collect opinions from farmers, disseminate agricultural insurance products, and develop human resources for damage assessment, etc. Furthermore, to diversify catastrophe risks, the government should establish a risk assumption mechanism and cooperate with commercial insurance companies for implementing agricultural insurance.

Agricultural Insurance Pilot Program

The agricultural insurance law hasn't been made yet in Taiwan, ROC. In order to accumulate pilot experience, crop disaster insurance pilot program was first implemented in 2015. Insurance Company Fubon was in charge of insurance product development and used grafted pears as the subject matter insured.

I. Pear natural Disaster Insurance

In 2016, Insurance Company Fubon added pears to the subject matter insured, stated as below:

- (I) The Subject Matter Insured: pears (include grafted pears)
- (II) The Insured: the farmer who plants pears
- (III) The Insured Perils: typhoon, torrential rainfall and frost damage
- (IV) The Insurance Period: from top-working to harvest
- (V) There are two types of insurance policies: first loss insurance policies and policies linked natural disaster relief.
 - (i) First Loss Insurance Policies:
 - ① Master Policy: If typhoons or torrential rainfall occur during the policy period and thereby pears insured are damaged, insurance company will pay insurance benefits.
 - ② Additional Pear Scions Frost Damage Insurance: If the degree of damage caused by frost is more than or equal to 20 percent and the insured receives government subsidies according to Implementation Rules of Agricultural Natural Disaster Relief, insurance company will pay insurance benefits.
 - (ii) Policies Linked Natural Disaster Relief:
 - ① If pears insured are damaged by typhoons or torrential rainfall, or pear scions insured are damaged by frost during the policy period.
 - ② The degree of damage is more than or equal to 20 percent.
 - ③ The insured receives government subsidies according to Implementation Rules of Agricultural Natural Disaster Relief.
 - ④ Insurance company will pay insurance benefits if the above conditions are all met.

Table 5 : The Premium Amount and Amount of Insurance

Unit: NT\$; Ha.

Program			Premium Amount	The Amount of Insurance (Typhoons or Torrential Rainfall)	The Amount of Insurance (Frost Damage)
First Loss Insurance Policies	Grafted Pears	1	45,400	350,000	-
		2	57,938	350,000	30,000
		3	70,477	350,000	60,000
	Pears	4	38,914	300,000	-
Policies Linked Natural Disaster Relief	Grafted Pears	1	12,538	-	30,000
		2	25,077	-	60,000
		3	15,462	60,000	-
		4	23,192	90,000	-
		5	28,000	60,000	30,000
		6	35,730	90,000	30,000
		7	40,539	60,000	60,000
		8	48,269	90,000	60,000
	Pears	9	15,462	60,000	-
		10	23,192	90,000	-

Source: https://www.fubon.com/insurance/b2c/content/farm_insurance/index1.html

(VI) Government Support: The central government shall pay one thirds of the premium. In addition, the local government shall pay one thirds of the premium depending on its financial condition.

II. Mango Natural Disaster Insurance

Insurance Company Cathay Century also developed the agricultural insurance product and used mangoes as the subject matter insured in 2016, stated as below:

- (I) The Subject Matter Insured: mangoes
- (II) The Insured: the farmer who plants mangoes
- (III) The Insured Perils: typhoon, torrential rainfall and frost damage
- (IV) The Insurance Period: from flowering to harvest
- (V) Policies Linked Natural Disaster Relief: If typhoons, torrential rainfall or frost occur during the policy period and thereby mangoes insured are damaged, insurance company will pay insurance benefits.

Table 6 : The Premium Amount and Amount of Insurance

Unit: NT\$; Ha

Program	Premium Amount	Amount of Insurance
1	14,978	30,000
2	29,955	60,000
3	44,933	90,000

Source:

<http://www.chunan.gov.tw/chunan/13-4-1.php?menuID=546&forewordID=243663&forewordTypeID=0&secureChk=568219d89e2a4b634e0da46f9b584d92>

The Requirements for Farmers to Apply to Agricultural Insurance

I. Natural Persons

Under the current provision, only natural persons, namely, individual farmers can apply for agricultural crop insurance and income insurance.

As for the reason why legal persons like cooperatives and agricultural enterprises are excluded from these programs, it's mainly because they have sounder structure in management and finance, which allow them to better withstand external risks. This groundwork will likely stay put in the foreseeable future.

II. No Additional Qualification on Farmland

In order to enlarge participation to spread the risk participation, according to the law of large number, no additional qualification on either farmer or farmland as long as the applicant is a farming natural person. Even lands of unlawful use are still allowed be insured; however, these lands are not eligible to receive premium subsidies.

Challenges of Agricultural Insurance in Taiwan, ROC

I. Creating New Insured Crop Types

The insurance industry has a complete insurance framework and the government has provided agricultural technology and related supporting measures, so the ground for development and implementation of agricultural insurance policies are already in place. But due to the high frequency and concentration of agricultural disasters, the operation of such insurance policy becomes increasingly difficult. For the sustainable development of agricultural insurance and to encourage the insurance industry to engage in agro-insurance business, most governments, such

as the ones of United States and Canada, do provide business tax and other tax deduction for companies willing to provide this kind of policies. Also because agro-insurance is professional area, the government should provide all necessary assistance to the development of agricultural insurance products.

II. Enhancing Insurance Coverage

Since the subject matter agricultural insurances cover is relatively risky, the premium rate is higher than the general commercial product insurance. To reduce the burden on farmers and improve their willingness to adopt insurance, the government would, as most governments do, subsidy farmers' insurance payment.

Taiwan, ROC only pilot natural disaster insurance on grafted pear; however its current adoption rate is only 1%, which poses a difficulty to insurer, since the number is not great enough to effectively spread the risk. According to this experience, as the agricultural insurance has the characteristics of high risk and higher premium than the general commercial insurance, the farmers' willingness to participate was strongly affected, and therefore the government would have to subsidize the farmer insurance premium.

III. Farmers' Willingness to Purchase Insurance

In addition, farmers have long been relying on the government's natural disaster relief mechanism, so they have yet built a sense of risk management. Besides the government's own promotion effort, farmers' associations also have roles to play. This can accomplish by providing them with promotion bonuses or allowing them to collect administrative fees. For those who success in promotion, more incentivizing rewards are warranted. In sum, agricultural insurance and relief measures should be able to work jointly, or otherwise the natural disaster relief mechanism might be adjusted to incentivize farmers' willingness to

participate.

IV. Improving Accumulated Loss Experience

The subject matter of agricultural insurance is living things or property attributable to agricultural, forestry, fishery, and animal husbandry productions. Due to their natures, their values are constantly changing along with the growth conditions. It is difficult and requires great deal of agricultural knowledge to clearly identify the coverage scope and payout amount after each loss, much more difficult than the general property insurance.

V. Establishing an Complete Insurance Database

Regarding this, the government can assist by establishing an agricultural insurance assessment system and training professionals in this field.

With the analysis on historical data, the insurance department may estimate the potential losses with the law of large numbers to delineate the coverage scope and calculate the premium rates. In order to obtain the relevant statistics, the insurer shall disclose all the relevant insurance details, claims, and disputes cases to the government to build a database for achieving better actuarial calculation for product design and set reasonable insurance premiums and payouts.

Strategies for Development on Agricultural Insurance

Try to deal with matters in an objectively and rational way, that Taiwan,

ROC is located in a highly threatened area of natural disasters, within small farm scale and fragment farmlands. So that it is predictable that the complexity of agricultural insurance program will be a great challenge. No matter that Taiwan, ROC for the first time had been implementing a pilot program on agricultural insurance since 2015. In the future, we will do our best and we very seriously expect the true that the agricultural insurance system in our country could be perfectly step by step. The article indicates that the strategies could be divided into two aspects as follows:

I. Macro Aspect

(I) Learning and Modifying New Ideas from Advanced Countries

We will take into account the success experience of foreign countries including laws and regulations, insurance policies, systematic pattern etc. And then, modify the model and experience on the nature of agriculture, operation scales, and the successful results, and so on. All of the situations will be formulated very profoundly.

(II) Establishing Profound PPP Relationship

To promote the perfect process of agricultural insurance system, it is necessary to combine different sector into a coherent group. The agricultural insurance stakeholders are agricultural producers, agricultural enterprises, insurance companies, reinsurance companies and public sector. We will achieve the agricultural insurance policy by a profound public private partnership cooperative arrangement.

II. Micro Aspect

(I) Farmers Promoting and Education

There is a very famous saying that Heaven helps those who help themselves. However, it seems that Taiwan, ROC farmers' understanding of insurance is still not yet sufficient to widely adopt agricultural insurance. So, the promotion and education on agricultural insurance is an important task. And the government

should cooperate with all of the stakeholders including farmers association, insurance company, and so on.

(II) Moderating the Insurance Rate

One of the keys to moderate the insurance rate is to expand insurance coverage. In order to moderate and reduce the fee and risk, under the law of large numbers on insurance, the government should develop different and profitable insurance types, such as crops insurance and income insurance. And then, it will be attractive and seems to be practicable to farmers.

Conclusion

Based on IPCC(Intergovernmental Panel on Climate Change) of United Nation at the 4th evaluation report estimated, during the past 100 years, the earth temperature rise $0.74\text{ }^{\circ}\text{C}$ annually in average. The rising trend is continuing, and unfortunately, rising more quickly than the last 100 years. The rise of earth temperature surely will drive the sea level rising also and making the earth climate change even more dramatically and more difficult to predict.

These dramatic climate changes will affect the agricultural production, at the same time increase the damage of agriculture. Owing to degrade of agricultural natural resources by the climate change, it is very important to keep it productive, sustainable development. And agricultural insurance system could be a helpful antidote to maintain agro-development.



Experience of Agricultural Insurance Systems in the Republic of China (Taiwan)

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7 Feb. , 2017

1



Outline

- I. Taiwan's Agriculture**
- II. Major Risks Affecting Farming in Taiwan**
- III. Policies for Farmers to Mitigate and Manage Risks**
- IV. Agricultural Insurance Pilot Program**
- V. Main Lesson Derived by Pilot Program**
- VI. Conclusion**

2



I. Taiwan's Agriculture

3

Natural Environments

23 millions
population

36,194
square km

7,966 square
km of land are
suitable for
farming (22%)



Lies between the
Tropical Zone
and the
Subtropical Zone

The climate is
complex and
ever changing

4

Statistical Synopsis of Taiwan

The Value of Imports and Exports of Taiwan

Unit: US\$ Billion; %

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Source : Agricultural Statistics Yearbook, Council of Agriculture, Executive Yuan

5

Statistical Synopsis of Taiwan

Overview on Taiwan Agricultural Aspects

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1991	884,443	824,256	117,988	14.31	1.07
2001	848,743	726,575	144,421	19.88	1.20
2003	844,097	724,949	159,280	21.97	1.16
2005	833,176	721,418	177,449	24.60	1.15
2011	808,294	777,473	194,827	25.06	1.04
2013	799,830	780,307	244,814	31.37	1.03
2015	796,618	784,490	260,211	33.17	1.02

Source : Agricultural Statistics Yearbook, Council of Agriculture, Executive Yuan

Statistical Synopsis of Taiwan

Industrial Origin of Gross Domestic Product

Unit: NT\$ Billion; %

Terms	Total Amount	Agriculture	
		Amount	Percentage
1952	14.57	5.23	35.90
1972	319.96	38.56	12.05
1992	5,502.80	189.85	3.45
2002	10,411.64	188.44	1.71
2012	14,077.10	249.17	1.78
2015	16,687.86	295.92	1.78

Source : Agricultural Statistics Yearbook, Council of Agriculture, Executive Yuan

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Statistical Synopsis of Taiwan

Main Agricultural Produces of Taiwan

Flowers



Rice



Vegetables



Fruits



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II. Major Risks Affecting Farming in Taiwan

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Major Risks Affecting Farming in Taiwan

- **Climate Change Dramatically**
- **Small Farm Scale and Fragment Farmlands**
- **Regional Integration and Economic Liberalization**

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Amount of Products Loss from Natural Disasters

- Crops damage by typhoons, torrential rainfall and frost.
- The total loss amount reached to NT\$ **123** billion and over **89%** of the loss was caused by typhoons and torrential rainfall.

Unit:NT\$ billion

Category of Disaster	Amount of Products Loss	Percentage
Typhoon	94.14	76.52%
Flood/Torrential Rainfall	15.37	12.49%
Earthquake	2.06	1.67%
Frost Damage	7.09	5.76%
Hailstone	3.58	2.91%
Drought	0.79	0.65%
Total	123.03	100%

Source : Agricultural Statistics Yearbook, Council of Agriculture, Executive Yuan

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III. Policies for Farmers to Mitigate and Manage Risks

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Policies for Farmers to Mitigate and Manage Risks

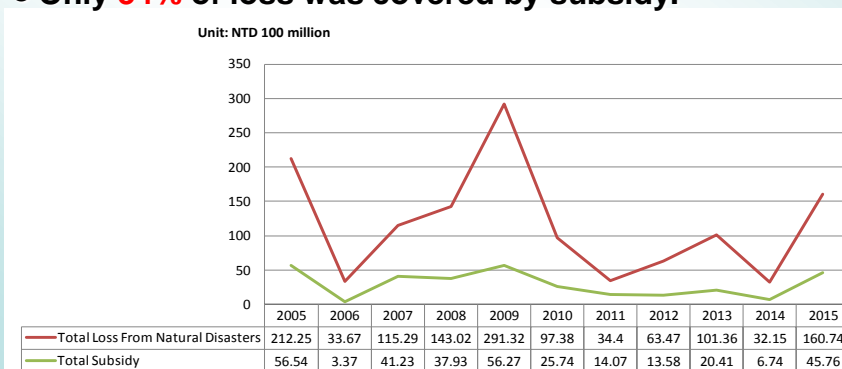
- Price Support Mechanisms
- Making Special-purpose Policy Loans
- Disaster Relief
- Agricultural Insurance Scheme

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Amount of Redressing Subsidy

- The government has compensated for agriculture production damages and losses by redressing subsidy since 1990.
- The total subsidy is over NT\$ 41.5 billion.
- Only 34% of loss was covered by subsidy.



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IV. Agricultural Insurance Pilot Program

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Agricultural Insurance Pilot Program

- **The agricultural insurance law hasn't been made yet**
- **Crop disaster insurance pilot program was first implemented in 2015. Insurance company developed the insurance product and selected grafted pears as its insured subject matter.**
- **In 2016, Insurance company added pears to its coverage and also developed a disaster insurance pilot program for mangoes.**

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Pear Natural Disaster Insurance

**The Subject
Matter
Insured**

Pears (include grafted pears)

**The Insured
Perils**

**Typhoon, torrential rainfall and
frost damage**

**Type1-
First Loss
Insurance
Policies**

**Typhoons or torrential rainfall
occur during the policy period
and thereby pears insured are
damaged.**

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Pear Natural Disaster Insurance

**Type2-
Policies
Linked
Natural
Disaster
Relief**

- 1.Pears or pear scions insured are damaged by the insured perils during the policy period.**
- 2.The degree of damage is more than or equal to 20 percent.**
- 3. The insured receives government subsidies**

**Government
Support**

- 1.The central government: 1/3 of the premium.**
- 2. The local government: 1/3 of the premium depending on its financial condition.**

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Pear Natural Disaster Insurance

Premium Amount and the Amount of Insurance

Program		Premium Amount (Unit: NTD per ha)	The Amount of Insurance (Typhoons/Torrential Rainfall) (Unit: NT\$)	The Amount of Insurance (Frost Damage) (Unit: NT\$)
First Loss Insurance Policies	Grafted Pears	1	45,400	350,000
		2	57,938	350,000
	Pears	3	70,477	350,000
		4	38,914	300,000
Policies Linked Natural Disaster Relief	Grafted Pears	1	12,538	-
		2	25,077	-
		3	15,462	60,000
		4	23,192	90,000
		5	28,000	60,000
		6	35,730	90,000
		7	40,539	60,000
		8	48,269	90,000
	Pears	9	15,462	60,000
		10	23,192	90,000

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Mango Natural Disaster Insurance

**The Subject
Matter
Insured**

Mangoes

**The Insured
Perils**

**Typhoon, torrential rainfall and
frost damage**

**Policies
Linked
Natural
Disaster
Relief**

**Typhoons , torrential rainfall or
frost occur during the policy
period and thereby mangoes
insured are damaged.**

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Mango Natural Disaster Insurance

Premium Amount and the Amount of Insurance

Program	Premium Amount (Unit: NT\$ per ha)	The Amount of Insurance (Unit: NT\$)
1	14,978	30,000
2	29,955	60,000
3	44,933	90,000

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In The Future to Promote Crop and Insurance Projects

- Continue to expand its coverage to more crops.
- The government also implements **income insurance** on farmers who cultivate **sugar-apple**.
- Encourages farmers to set up greenhouse facilities and promote disaster insurance for these facilities to reduce the risks for farmers.

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V. Main Lesson Derived by Pilot Program



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Challenges of Agricultural Insurance

- **Creating New Insured Crop**
- **Enhancing Insurance**
- **Farmers' Willingness to Purchase Insurance**
- **Improving Accumulated Loss Experience**
- **Establishing an Complete Insurance Database**

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Strategies for Development on Agricultural Insurance

- **Macro Aspect**
 - Learning and Modifying New Ideas from Advanced Countries
 - Establishing Profound PPP Relationship
- **Micro Aspect**
 - Farmers Promoting and Education
 - Moderating the Insurance Rate

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VI. Conclusion

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Conclusion

- **The successful experience of pilot insurance programs will be taken into account to adjust the agricultural insurance system.**
- **The relationship between the public and private sector should be symbiotic.**

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**Thank You
For Attention**

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Round Table on "Agricultural Insurance - A Climate Change Adaptation Tool in African , Asian and Pacific Regions"



6 -10 February 2017 | MARDI Serdang Selangor, Malaysia

