

# INSURANCE FOR RICE PRODUCTION IN THE CONTEXT OF CLIMATE CHANGE IMPACT IN VIETNAM

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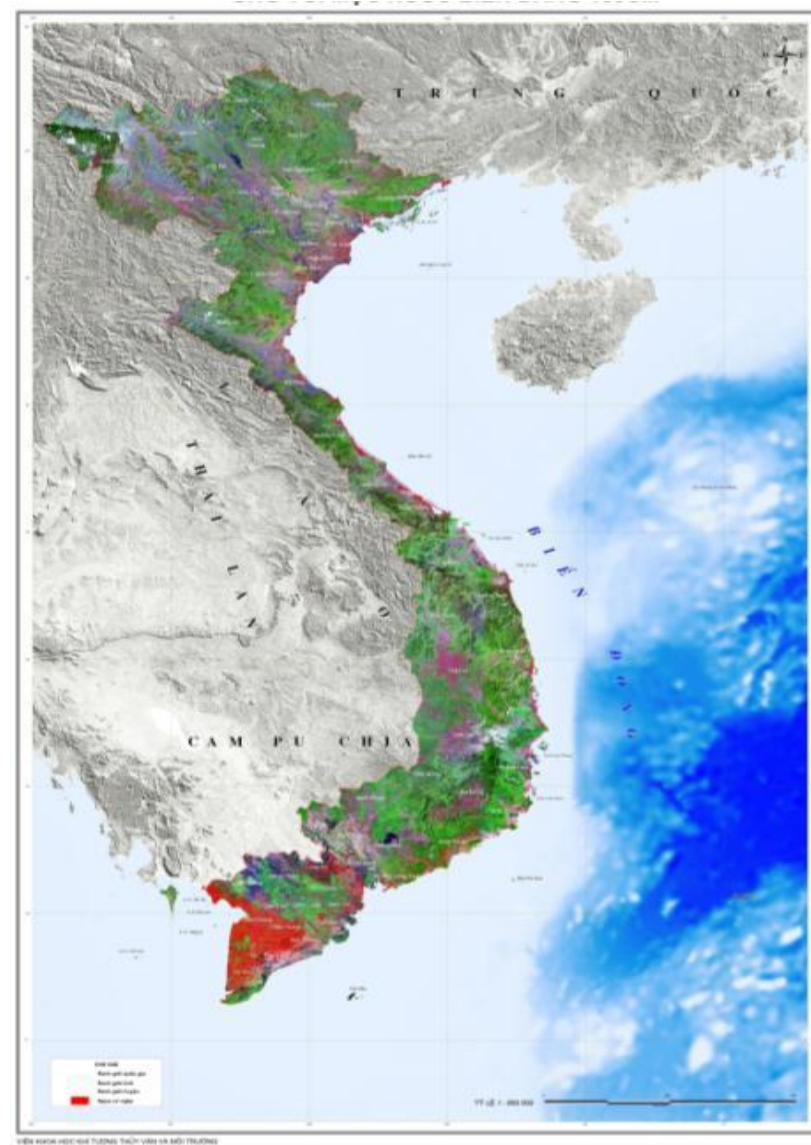
# Introduction

- Vietnam is located in the Southeast Asia
- The land territory with coordinates from  
 $08^{\circ}15'$  to  $23^{\circ}22'$  North  
 $102^{\circ}8'$  to  $109^{\circ}30'$  East
- The open sea is about one million  $\text{km}^2$ , more than 3,000 islands along the coast.
- Vietnam area is  $329,314 \text{ km}^2$ , stretching 1,662 km from north to south



# Climate

- *Vietnam has a tropical monsoon climate.*
- *Annual average temperature 12.8 °C - 27.7 °C*
- *Annual rainfall 1400 to 2400 mm.*



# Agriculture

- *The total agricultural land area of about 9.3 million ha, accounting for 28.2%*
- *Irrigated rice cultivation : 85%*
- *Agricultural products ensure adequate domestic food supply, food security and for export*
- *Vietnam's farming sector in recent years has gradually switched to producing goods and keep up with the market, to improve product quality and value.*

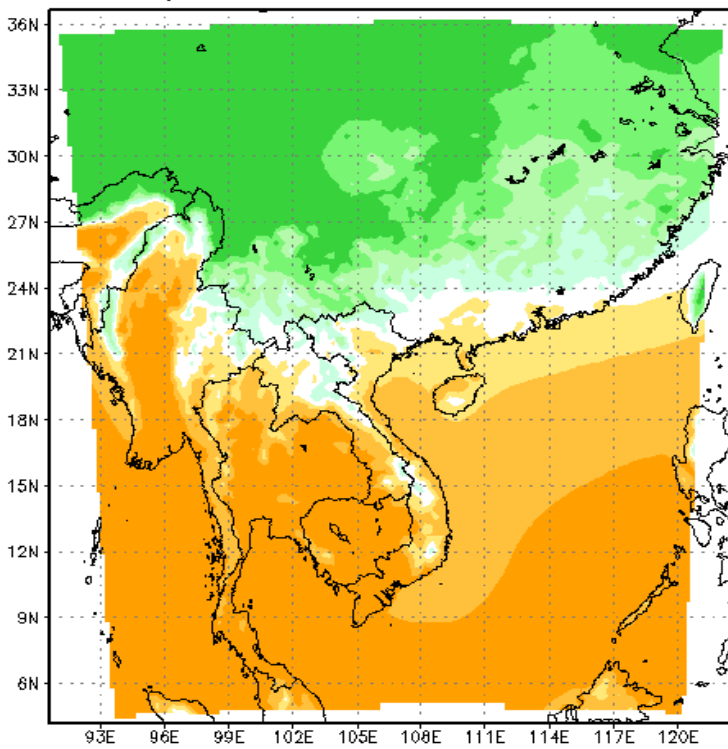
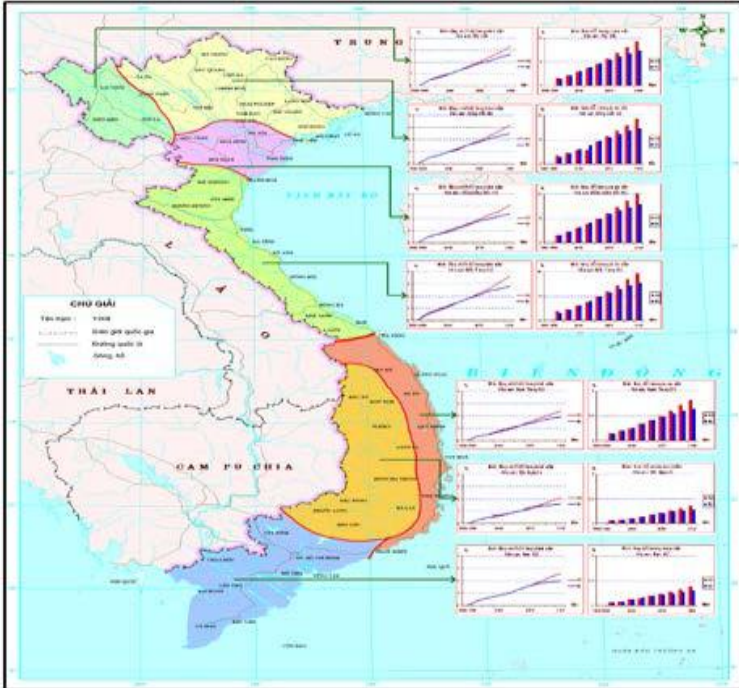
# Agriculture



- Vietnam is among the most vulnerable to climate change and sea level rise countries.
- Climate change, particularly sea level rise seriously affects the production, life, environment, infrastructure facilities, community health and threatens achievement of poverty reduction, food security, energy security, sustainable development, and the implementation of the Millennium goals of Vietnam

# Climate change in Vietnam

- *Climate Change and SLR scenario: Temp. may increase 2-3°C by the end of 21st century*
- *Sea levels may increase by 33 cm in 2050, 45 cm in 2070, and 100cm in 2100 (ADPC, 2003)*



# Impact of climate change in Vietnam

## ***Impact on plant growth***

*The temperature rise will increase the growth rate, growth duration of the crop. When the temperature rises 1°C, the duration of rice can be shortened from 5 to 8 days*

## ***Impact on water demand of crops***

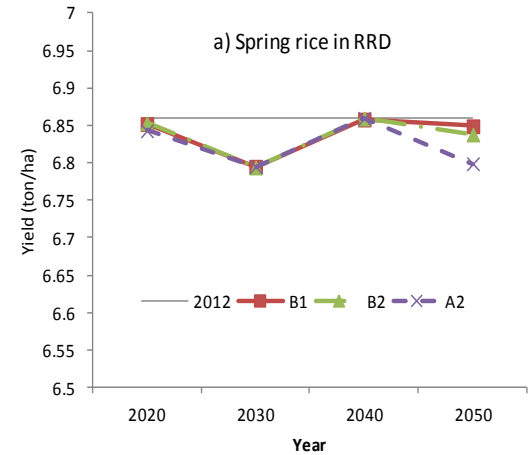
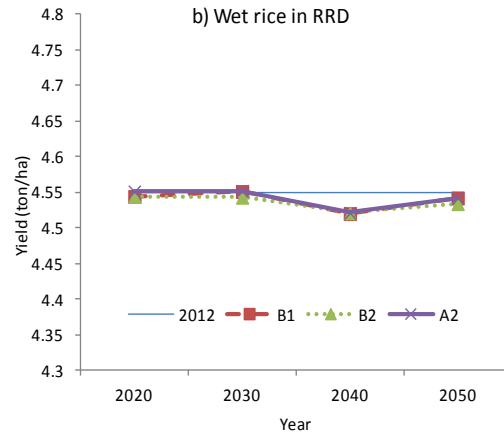
*Water demand in agriculture can increase two to three times in 2100 compared with current conditions. There will be more risk of drought and water shortages and with higher severity.*

## ***The impact on the development and spread of pests***

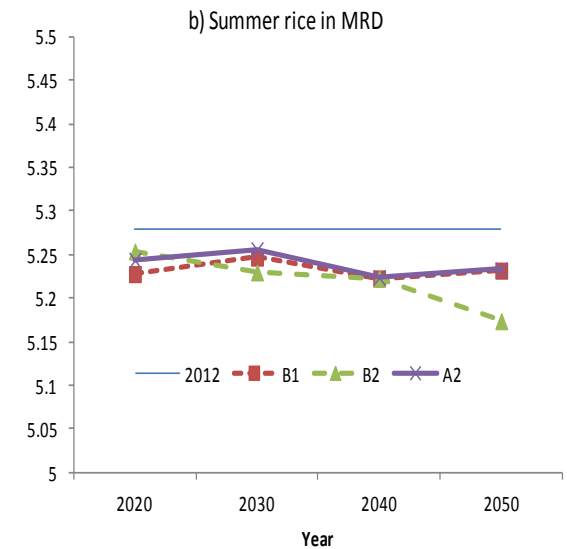
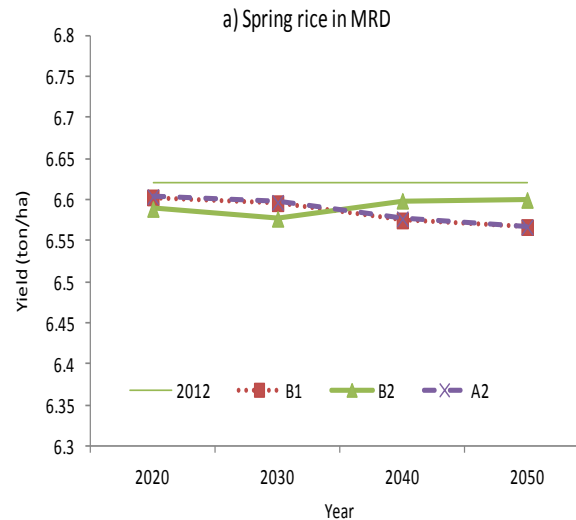
*Growth, development and spread of pests such as BPH, LF, virus, bacteria, fungus ... may increase in conditions of high temperature and rainfall fluctuations*

# Climate change and impacts on rice yield

**Figure 1.** Trend of change in rice yield for different scenario in Red River Delta Region



**Figure 2.** Trend of change in rice yield for different scenario in Mekong River Delta Region



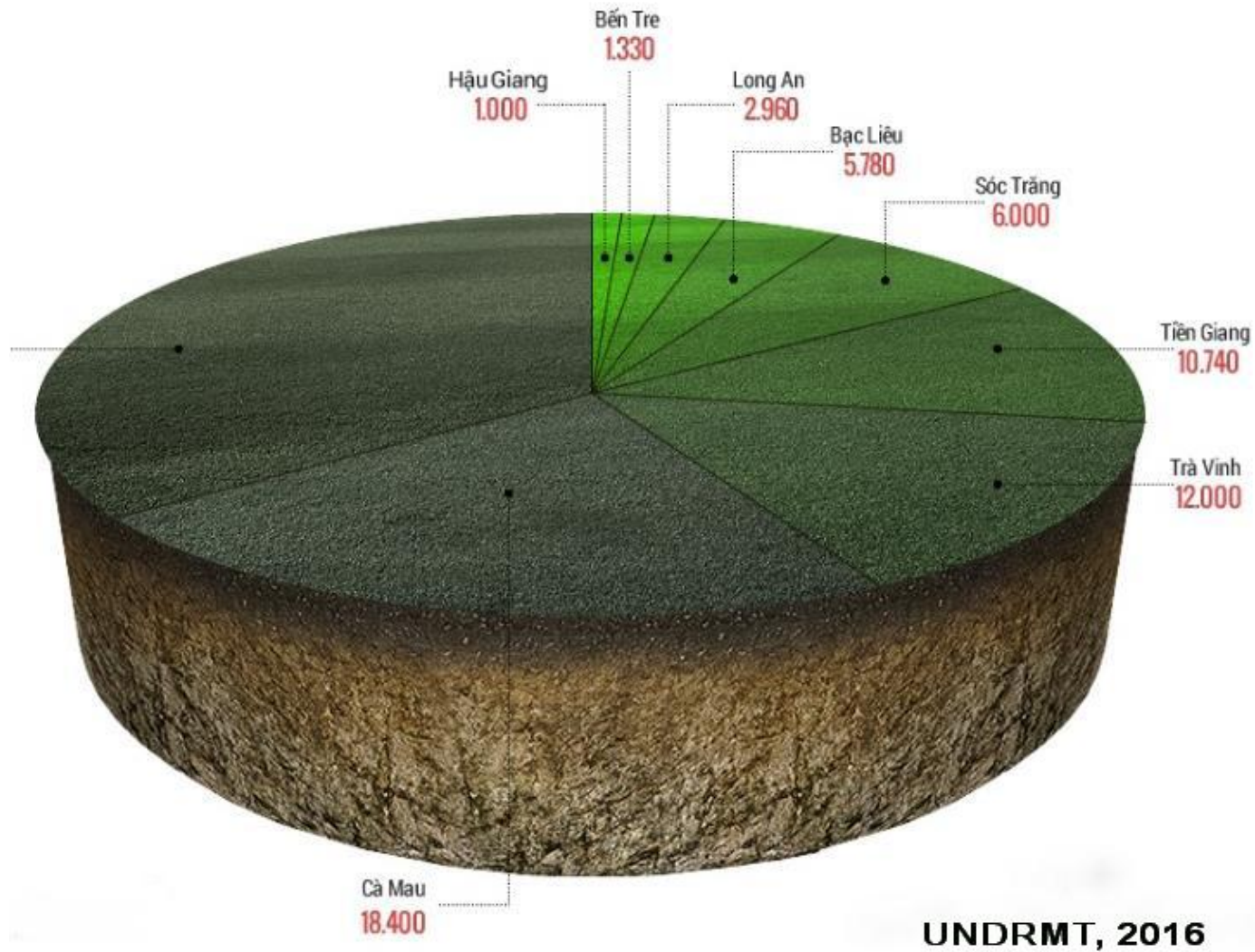


# Impact of change in rice quantity to national food security and rice exportation

**Table 1. Change in rice quantity in RRD and MRD up to 2050**

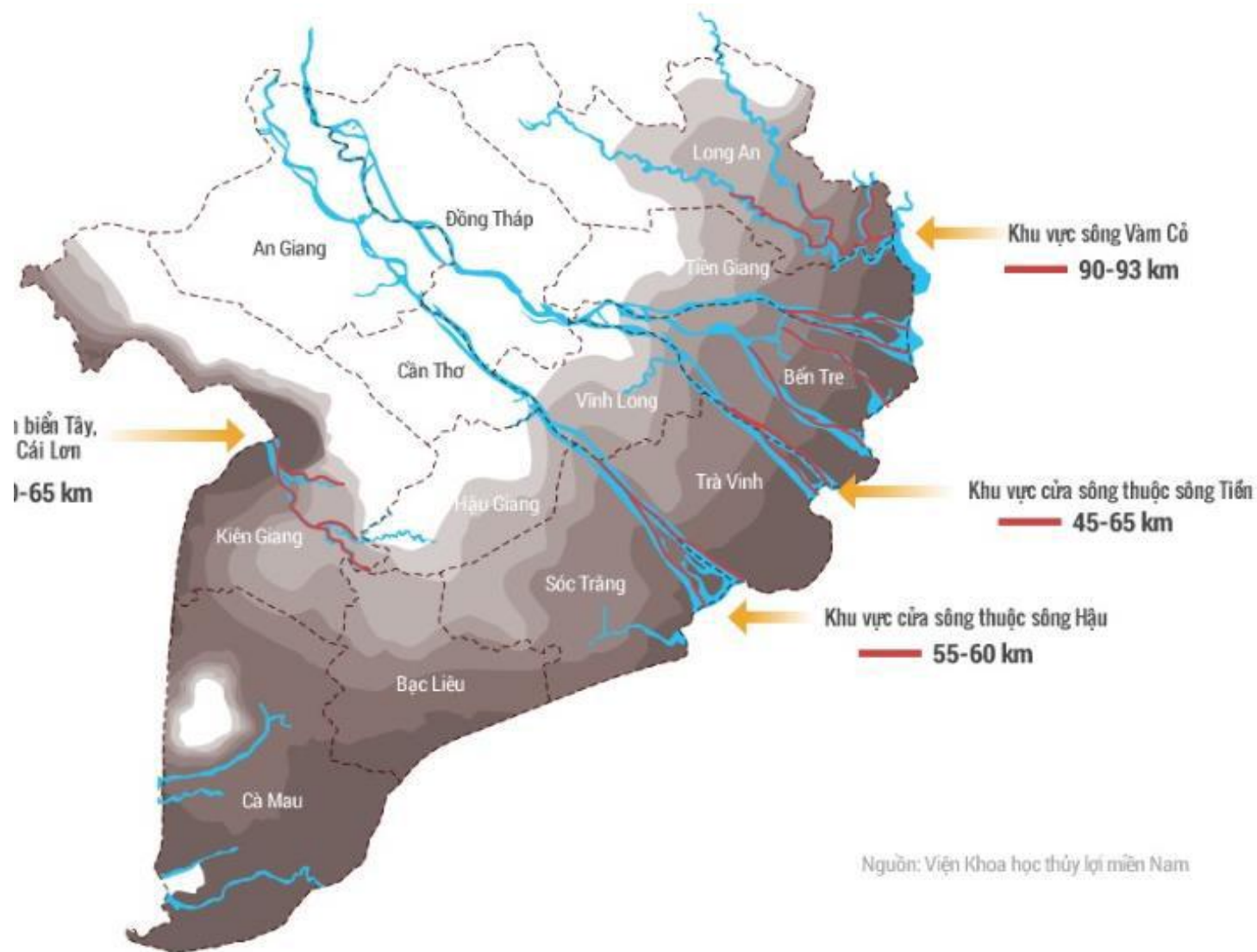
Year	Reduced in quantity (1000 ton)			
	Spring rice	Summer rice	Wet rice	Total rice
<b>Red River Delta Region</b>				
2020	-39.35	-	-34.43	-73.79
2030	-371.05	-	-5.74	-376.79
2050	-123.68	-	-51.65	-175.34
<b>Mekong River Delta Region</b>				
2020	-489.89	-575.28	-	-1,065.17
2030	-679.53	-531.02	-	-1,210.55
2050	-331.86	-1,239.06	-	-1,570.92
<b>Total change</b>				
2020	-529.25	-575.28	-34.43	-1,138.96
2030	-1,050.58	-531.02	-5.74	-1,587.34
2050	-455.55	-1,239.06	-51.65	-1,746.25
<b>% change</b>				
2020	-2.61	-2.84	-0.17	-5.62
2030	-5.18	-2.62	-0.03	-7.83
2050	-2.25	-6.11	-0.25	-8.61

# Impact of climate change in Vietnam



Rice Production lost due to drought and salinity in Mekong Delta (March, 2016)

# Impact of climate change in Vietnam



Saltwater intrusion mapping in Mekong Delta (Feb., 2016)

# What Government do?

## *Short term operational measures*

- . **Subsidiary farmers** with seed for replanting, seedlings for changing from rice to other crops
- . **Launching campaigns** on potential risks, fresh water water conservation and mobilizing various sources (from farmers, locals, national and international supports)
- . **Upgrade infrastructure:** Constructing dams for water supply and regulation, irrigation measures such as efficient and saving sprinklers, drip irrigation.

# What Government do?

## *Short term operational measures*

### **. Technical assistance:**

- + Technical risk assessment, risk mapping and prediction to help farmers actively control;
- + Subsidiary for research Institutions to breed and select new plant varieties highly tolerant salty, drought, food .
  - + Guiding farmers restructuring planting season to avoid unfavorable conditions.
- + Issuing and delivering to farmers technical guidelines.

# Vietnam in response to climate change

## ***Long-term operational measures for risk controls***

- *Change of structure of crops in fields relevant to climate change.*
- *Breeding of new varieties adapted to climate conditions, varieties resistant to drought, salinity, water logging, pests ...*
- *Modernization of farming techniques and practices (SSNM, SSR,...)*
- *Effective management of water use (AWD)*
- *Improvement and management of soil capacity and conservation.*

# NATIONAL CLIMATE CHANGE STRATEGY

## ***Long term measures for Food security***

- *Maintain sustainable land for agricultural cultivation;*
- *Research and implement effective agriculture and husbandry schemes;*
- *Research, develop and apply biotechnology, advanced manufacturing process towards a modern agricultural system;*
- *Develop and improve the system of control and disease prevention;*
- *Develop mechanisms and policies, strengthen the system of insurance, risk sharing for agriculture*

# Agricultural Insurance in Vietnam

- Agricultural insurance was introduced in Vietnam in 1982.
- Focusing on ensuring social security and sustainable rural development.
- Agricultural insurance faces many difficulties and challenges, especially in attracting the participation of the people.
- to implement agricultural insurance extensively, it is necessary to grasp the needs of households and to implement comprehensive support policies for agricultural production.



# Agricultural Insurance in Vietnam

- 1982: Bao Viet insurance company started service in agriculture
- 1999: GRET had set up a particular insurance to assist credits program of pig feeding, however it had to be closed in 2004 due to so many reasons
- 2001: Groupama Vietnam has started its insurance programme on livestock, crops, and aquaculture productions (most of them is shrimp growing) in Mekong Delta and Southern East provinces of Vietnam.
- Bao Viet has restarted this service only in some industrial crops as rubber and livestock (cow),
- Bao Minh provides climate index insurance for agricultural loans at Dong Thap  
→ *almost it is not successfull.*

# **Vietnam Pilot Agricultural Insurance Program under the Decision 315/QD-TTg**

- **Natural catastrophes and epidemic;**
- **Pilot program in 20 provinces for 3 years (2011-2013) ;**
- **Rice, livestock and aquaculture;**
- **Government rate subsidy – varying from 20% to 100%.**

# THE PILOT OF AGRICULTURAL INSURANCE

## The insured objects

### RICE

- Yield index insurance
- Cover for reduced yield to insured yield
- Insured risks: main natural perils & main diseases
- Insured unit: commune/district

### LIVESTOCK

- Buffalo, cow, pigs, poultry
- Named risks covered
- Cover for loss of livestock caused by main natural perils, main diseases & emergency slaughter
- Insured unit: household/farm

### AQUACULTURE (SHRIMP & FISH)

- Shrimp (black-ledged, white) & fish (ca tra, basa)
- Named risks covered
- Cover for loss of shrimp & fish caused by main natural perils & main diseases
- Insured unit: aquaculture facility

**Table 2: Revenue of agricultural insurance in Vietnam 2007-2012**

	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>
Proportion of agricultural insurance (%)	0.01	0.02	0.01	0.05	0.08	1.18
Revenue (USD)	833,341	1,000,848	1,201,319	1,441,253	1,722,345	1,942,359
Indemnity (USD)	142,830	216,529	248,034	296,350	411,396	417,000
Retained indemnity (USD)	113,068	159,783	185,872	223,122	316,412	284,012
Indemnity rate (%)	30.71	37.60	36.12	36.04	42.26	36.09

*(Source: Ministry of Finance , 2013)*

# LEGAL FRAMEWORK

- Decision 315/QD-TTg dated 01/3/2011 of Prime Minister on Implementing agricultural insurance plan for period 2011-2013.
- Circular 47/2011/TT-BNNPTNT dated 29/6/2011 of Ministry of Agriculture and rural development on guiding the way how to implement agricultural insurance on cropping, livestock feeding, and aquaculture activities
- Circular 121/2011/TT-BTC dated 17/08/2011 explaining some articles in decision 315/QD-TTg and Circular 43/2012/TT-BNNPTNT dated 23/8/2012 to adjust and complement some points in Circular 47/2011/TT-BNNPTNT.
- Decision 3035/QD-BTC Dated 16/12/2011 of Finance ministry about Rules, premium fees, and indemnity rates in agricultural insurance

# LEGAL FRAMEWORK

- Decision 2114/QD-BTC dated 24/08/2012 on adjusting and complementing some points of Decision 3035/QD-BTC Dated 16/12/2011 of Finance ministry about Rules, premium fees, and indemnity rates in agricultural insurance
- Circular 57/2013/TT-BTC dated 06/05/2013 about Adjusting and complementing the Circular 121/2011/TT-BTC
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# LEGAL FRAMEWORK

- Decision 1042/QD-BTC dated 8/5/2013 of Finance Ministry on adjusting and complementing some points of Decision 3035/QD-BTC Dated 16/12/2011 of Finance ministry about Rules, premium fees, and indemnity rates in agricultural insurance
- Circular 96/2013/TT-BTC (active on 23/07/2013) about adjusting Circular 121/2011/TT-BTC and 101/2012/TT-BTC
- Decision 358/QD-TTg dated 27/02/2013 adjusting decision 315/QD-TTg

# CONSTRAINS

- High premium rate
- Small scale, unstable, low tech, experience bases, and spontaneous;
- Farmers awerranes and attitudes: Farmers are familiar with risk, do not recognize how much they may loosed and how much they can be returned when joying insurance. Households who pay for insurance premium now are almost imitating their friends and neighbors or just because of thinking that they are sponsored for insurance fee. Very few people understand that "spending for insurance premium could protect their profit from risk"
- Regulation and policy to support insurance in this field somehow still do not meet its demand.
- Shortage of technical support, so that can not define how much is loose and its reason
- Shortage of PPP in the field of insurance



# A Policy Vision for Developing Agricultural Insurance in Vietnam

- Government can facilitate insurance market development

Not all risks are insurable

- Government role — social investments and social safety nets

Risk mitigation

Disaster relief

Protecting the chronic poor

- Government policies should be carefully considered

What incentives do these policies create?

Do they encourage unnecessary risk taking?

Do they encourage insurers to create products that are sustainable?

# CONCLUSION

- Rice production in Vietnam faces severe challenges from climate change
- There are still some weaknesses in policy for the climate change adaptation (financial resources, institutional capacity), as well as requiring more participatory and transparent in climate change policy implementation
- Many problems existing during the development process of the agricultural insurance , GoV support can be important for market development:
  - Legal and Regulatory Framework (Department of Insurance)
  - Enhancing Data and Information Systems (General Statistics Office, others )
  - Education and Capacity Building (Extension Office and Market development Entity (MDE))
  - Supporting Product Development (MDE)
  - Financing for Catastrophic Losses (Risk Pooling Entity)

***THANK YOU FOR YOUR ATTENTION !***