

**APPENDIX G**

**Mutual structure by Paul Koronka**

Presentation to  
The Thai Shrimp  
Industry  
September  
2009 .

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MUTUAL  
MANAGEMENT  
LIMITED



Slide 1

**A Mutual for the Thai Shrimp Industry**

- **Corporate Structures used**
- **Financial Structure**
- **Risks covered**

Slide 2

**Remember ...**

- **You own this mutual**

Slide 3

## Corporate Structures used

- **Often structured as an Association**
- **Members not shareholders**
- **Constitution – Objects, Members**
- **Board of Directors elected by members**
- **Rules – govern day to day operations**
- **Management outsourced**

Slide 4

## Structures

- **Three types of Mutual possible:**
  - **1) Mutual Insurance Company**
  - **2) Discretionary Mutual**
  - **3) Hybrid**

Slide 5

## Insurance Company Mutual

- **No precedent in Thai market**
- **New legislation likely necessary**
- **Could explore co-operative legislation**
- **Capitalisation requirements of a conventional insurer need modification.**
- **Discussions with government required**
- **Preferred option**
- **Could go offshore but not desirable**

Slide 6

## Discretionary Mutual

- Discretionary Mutual not regulated
- Claims paid at discretion of Board
- No regulatory Capital
- No reporting to Regulator

Slide 7

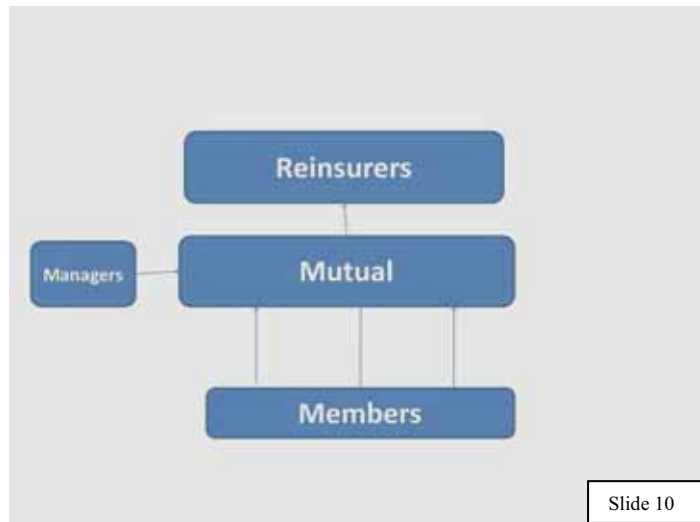
## Hybrid

- Mutual retention – discretionary
- Excess insurance policy sits above
- Can produce efficient results
- Can be best of both worlds
- May be difficult here

Slide 8

So let's concentrate on an Insurance  
Mutual

Slide 9



Slide 10

## Financial Structure

- **Very simple principle:**
- **Not 'rocket' science:-**
- **'Money in' must exceed 'money out'**
- **Everything is dependent and related**

Slide 11

## Financial Structure - Capital

- **Advance capital normally required**
- **Difficult for mutuals**
- **Additional premium mechanism possible**
- **So Reinsurance important**
- **Or Government support in early years**

Slide 12

## Financial Structure (continued)

- **Money in comes from a number of sources:**
- **Premiums**
- **Reinsurance recoveries**
- **Investment income**
- **Government support**

Slide 13

## Financial Structure (continued)

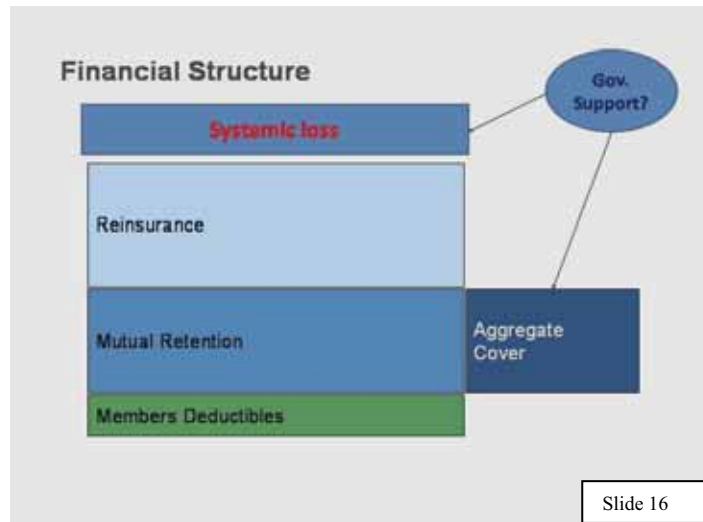
- **Money out goes to:**
- **Claims**
- **Admin**
- **Reinsurance**

Slide 14

## Financial Structure (continued)

- **Efficiency vital**
- **Balance between risk retained and risk transferred**
- **Mutual retains all expected losses**
- **Reinsurers unexpected losses**
- **Avoid usual 'leakage'**
- **Ultimately cover finite with systemic loss or charge members an additional premium; or**
- **Recourse to government**
- **'Money in' is never lost to the industry**
- **Surpluses belong to membership**

Slide 15



**Risks covered**

- **Remember:**
- **Everything is related**

Slide 17

**Risks Covered**

- Could be broad or selective
- Mutual Policy wordings
- Fortuitous losses - not normal variations

Slide 18

## Risks Covered

- Monsoon
- Flooding
- Tsunami
- Disease
- Property
- Business Interruption
- Equipment
- Fire
- Theft
- Dams/Dykes
- Liability
- Death/Illness

Slide 19

## 'Omnibus' Clause

- **Mutuals have ability to pay even when claims excluded by policy terms – if:-**
- **Board exercises it's discretion, and**
- **Mutual has funds to pay**

Slide 20

## Any Questions?

Paul Koronka



07909528628



paul.koronka@mml.com

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**APPENDIX H**

**Reinsuring mutual insurance companies by Erich Kasten**

## Reinsuring Mutual Insurance Companies

Dr. Erich Kasten  
Managing Director  
Agriculture Reinsurance Consultants GmbH  
Switzerland

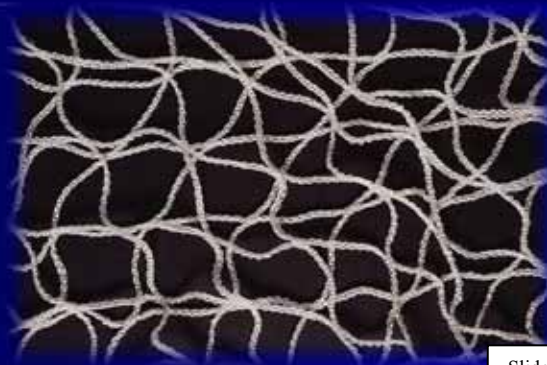
Slide 1

### Content of Presentation

- Reinsurance of Mutual's
- Why reinsurer prefer Mutual's
- Risks in Aquaculture
- Systemic Risk & Reinsurance
- Agriculture Reinsurance Market
- Reinsurance Design (Forms & Structures)
- Conclusions

Slide 2

### Mutual Insurance Companies Grassroots level Network



Slide 3

### Reinsuring Mutual's Advantage for Reinsurer

- Members are Customers & Owners
- Joint business interest of all member
- Implementation of best business practises
- Customized insurance solutions
- Self control mechanism at grassroots level
- Low or no moral hazard
- Cost efficient operation

Slide 4

### Risks in Aquaculture

"On Farm Risk Management"

Infrastructure      Shrimp      Equipment

Aquaculture Risks are only partially controllable

Slide 5

### Aquaculture Risks – Reinsurance

Risk Transfer demand

	High				
				Market Typhoon	
			Disease Flood	Epidemics Tsunami	
		Accident	Feed	Pollution	
	Low	Management			
		Independent	Semi Systemic	Systemic	<b>Risks</b>

Slide 6

## Product design

Food for Thought



- Listen to clients & explore clients needs
- Different clients have different needs
- **Mutual's know best local risks and needs of their members**

Slide 7

## Product design

Food for Thought



- Too many options confuse clients & are too expensive
- Too complex products are difficult to explain & to handle
- Clear and transparent products are successful
- **Mutual's can create their products themselves**

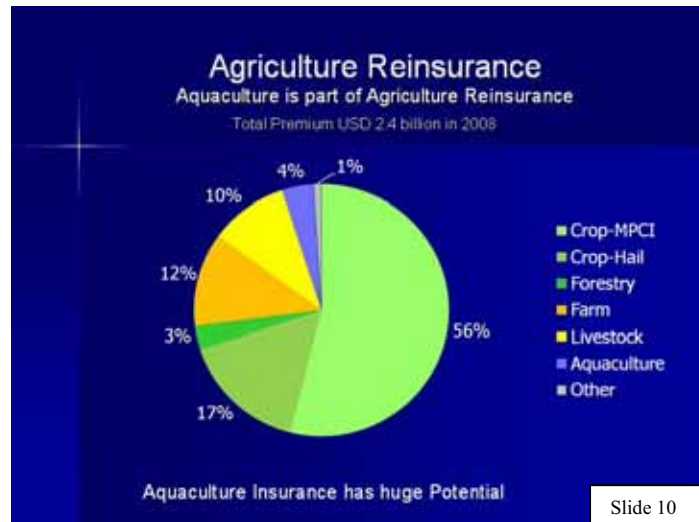
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## Reinsurance Market

Aquaculture is underwritten by Agriculture Reinsurer

- Relative low number of participants
- Limited lead capabilities (proportional)
- Some new non-prop capacity (Bermuda)
- Despite global development, market is still dominated by North American business
- Aquaculture reinsurance market is very narrow but capacity is available

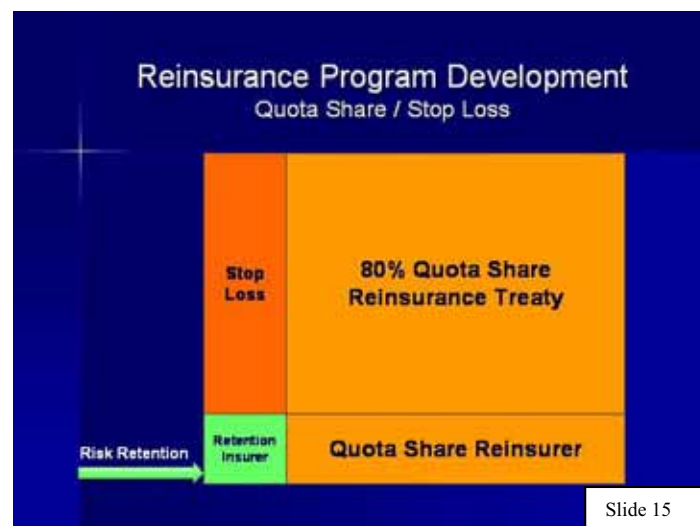
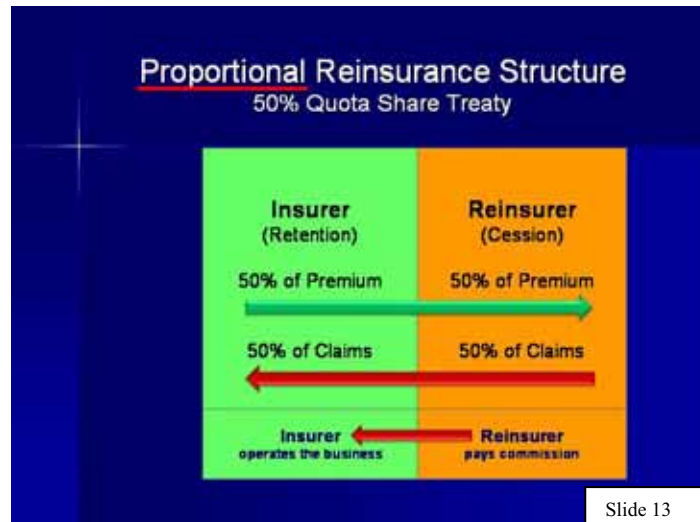
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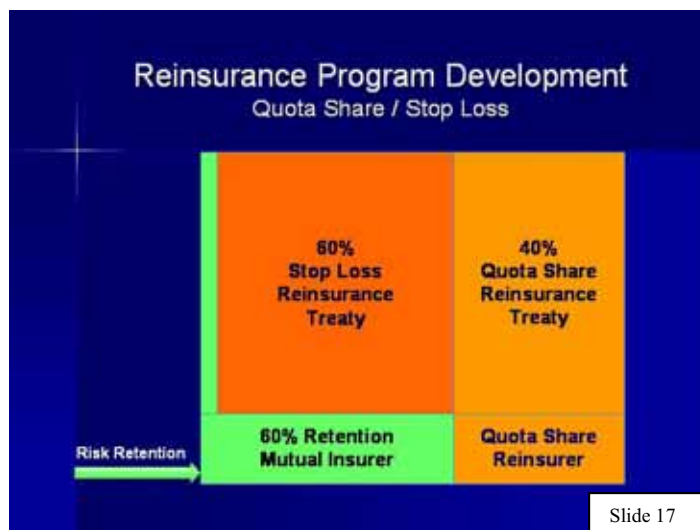


- ### Reinsurance Premium
- Reinsurance cost are a result of . .
- Information (*Insurance products*)
  - Information (*Historical losses*)
  - Information (*Insurance statistics*)
  - Actuarial analysis's (*Exposures & Losses*)
  - Administrative cost
  - Solvency ratio & ROE requirements
  - Trust in Insurer (*Know-how / Commitment*)
- Slide 11

### Reinsurance Program Design

Slide 12







### Conclusions

- Systemic risks are e.g. Earthquake, Drought, Storm, Typhoon, Flood and Epidemics
- Risk transfer of systemic risks is possible
- Government support is needed to insure systemic risks

Slide 20

### Conclusion . . .

- Insurance facilitates access to capital and modern technology
- Insurance supports economic growth
- Mutual agriculture (aquaculture) insurance is preferred by reinsurer
- All stakeholder – Farmer, Government, Insurer and Reinsurer – need to cooperate
- Let's work together for joint success

Slide 21



Thank you for your attention



Dr. Erich Kasten  
Agriculture Reinsurance Consultants GmbH  
Switzerland

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**APPENDIX I**

**The concept of creating a superior risk pool by Mark Vos**



## The Concept of Creating a Superior Risk Pool

**Mark Vos,**  
 BSc, FCIA, FUED-ELAE  
 Global Practice Leader Aquaculture,  
 Client Service Director Continental Europe, Middle East & Africa

WORKING TOGETHER:  
*the Crawford Difference*

### Agenda

- Fish mortality Insurance
- Background on risk management
- Relevance to Thai aquaculture
- How would it apply in Thailand

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### Fish Mortality Insurance

The standard perils for Onshore/Offshore risks are as follows:

- Pollution
- Theft, predators
- Predation or physical damage caused by predators or other aquatic organisms (but not by sea lice or other ectoparasites).
- Storm, lightning, flooding, tidal wave, collision, sudden and unforeseen structural failure of equipment a.o. moorings
- Drought, fire, lightning, explosion, earthquake.
- Freezing, super cooling, ice damage.
- Deoxygenating due to competing biological activity or to changes in the physical or chemical condition of the water, including upwelling and high water temperature.
- Any other change in concentration of the normal chemical constituents of the water, including change in pH or salinity.
- Disease
- Mechanical breakdown or accidental damage to machinery and other installations
- Electrical breakdown, failure or interruption of the electricity supply, electrocution

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## Asian risks do they differ?



- Tsunami / Tidal wave
- Typhoon / Storms
- Pollution
  - open waters
  - coastal zone
- Diseases
- Neurotoxins
- algae bloom
- Deoxygenating
  - water temperatures
- Power supply to hatcheries

- Company management
- Vet supervision & support
- Bio Research & Developments
- Financial resources and mandatory accounting
- Regional economic dependence
- Where to situate my site
  - On shore /dams/containers
  - Off shore / moorings

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## Positive involvement of Authorities to improve quality and sustainability of trade and to follow-up to the changes in demands of consumers



**According to the Ministry of Trade, recently, the Philippines' Ministry of Agriculture has removed the ban on white shrimp import and hatchery in the country.**

**The ban on white shrimp hatchery was imposed in 2001, when the country attempted to protect black tiger shrimp from Taura syndrome.** However, the Bureau of Fisheries and Aquatic Resources still decided to hatch white shrimp in a trial period as it realized the high demand of the world's market. The shrimp breeders were imported from the US's Florida, and the hatchery of white shrimp has shown satisfactory results.

**Thailand now also is shifting to hatch white shrimp and it has become the biggest supplier of frozen white shrimp to Japan.**

The change in the tastes of Japanese consumers will lead to the adjustment in the imports structure of the country. It would be wise for Vietnam, the biggest supplier of black tiger shrimp to Japan, to consider breeding and exporting white shrimp to Japan.

In 2006, the frozen shrimp imports by Japan increased by 1.1% over the previous year, reaching \$264 (Vietnam-sourced shrimp accounted for 23% of the market share). The white shrimp imports increased by 104% while the black tiger shrimp imports decreased by 10%.

*TheFishSite News Desk*

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## Positive involvement of Authorities to improve quality and sustainability of trade



Japanese authorities have begun testing all shrimp imported from Vietnam for AQZ (Shrimp-2-oracle) after recent tests revealed high levels of the antibiotic residue.

**Japan permits an AQZ threshold of 1 ppb (parts per billion). Since last September it has also been testing all Vietnamese shrimp for chloramphenicol and cuttlefish for antibiotics since August.**

Vietnam's fisheries and trade ministries have instructed authorized agencies and seafood exporters/processors to tighten control over seafood quality to avoid problems. But the situation is yet to improve.

Last December Vietnam's National Fisheries Quality Assurance and Veterinary Directorate sent a letter of apology to Japanese importers for antibiotic residue in shrimp to Japan, also reporting the causes of the contamination.

First, some Vietnamese enterprises failed to check raw materials for antibiotic and other prohibited chemicals before processing.

Second, the creatures were bought from farmers in remote areas where there wasn't a strong enough check on the use of the chemicals.

Finally, some workers at the processing plants had used skin cream which contained chloramphenicol.

The quality agency also assured the Japanese it was toughening analysis and supervision measures to improve quality.

**In the last two months of 2006 the Vietnamese fisheries industry suffered a major fall in exports to Japan because of a recurrence of antibiotic residues.**

Japan has long been one of Vietnam's major seafood customers, buying 27 percent of its fisheries exports last year, second only to the US.

Source: VNA – Compiled by Dong Ha

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## Relevance to Thai shrimp farmers



- Dept. of Fisheries & shrimp trade introduced inspection
- Fishing Institutes successfully support certification of ponds & traceability of crop (birth to death registration)
- Better managed farming, but still 100% self-insured
- High financial exposure remains
- Dependence on subsidy in case of a major loss
  
- Need for sustainable professional production
- Need for financial support & risk sharing

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## Message

### The mutual as constructive aid in the trade



- Risks are uncertain, but can be managed
- Mutual is co-operative sharing of risk based on
  - existing biological experience of Fishing Institutes and
  - operational experience of co-operatives, larger farmers and Government, NGO's etc.
- Objective: To-morrow better managed risk than To-day
- Value added proposition (What is in it for me?)
  - Farmer
  - Processor & Storage
  - Transport & ECO trade label (rejection)
  - Financing & Banks

8

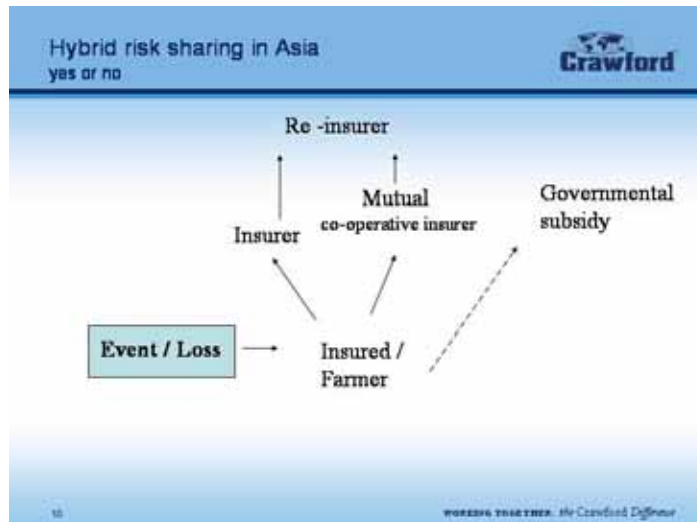
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## Risk sharing is insuring



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Accounting & Vet management  
drivers for insurance

- Accounting & vet mngt in insurance & loss adjusting.
  - Veterinarian support.
    - National Authorities
    - Regional Authorities
  - Risk + Accounting management.
    - National Financial / Credit Authorities
    - Regional Financial / Credit Authorities
    - Financial + Insurance market
  - Accounting guidelines part of insurance program.
    - Setting **sum insured** and required administrative supporting systems / site
    - Price models for biomass value calculation

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Lessons learned for  
the Thai Shrimp industry

- Risk management is a top down process and should not rely on the enthusiasm of the employee
- Introduction of insurance implies expected
  - Care of stock, (vet monitoring & farm management)
  - Investment, (quality of equipment)
  - Administration (data retrieval of feed, growth and harvest)
  - Information discipline (mutual is partner in business)
- Mandatory slaughter in case of diseases
  - an enforced activity to mitigate loss of stock,
  - but also to sustain the up-stream economy

12 WORKING TOGETHER. the Crawford Dialogue

Sustainable farming 



13 WORKING TOGETHER. At Crawford Dyfleur


The image is a slide from a presentation. At the top, there is a blue header bar with the text 'Sustainable farming' on the left and the 'Crawford' logo on the right. The logo consists of a small globe icon above the word 'Crawford'. Below the header is a central photograph of a woman with short grey hair, wearing a yellow polo shirt under a light grey jacket. She is smiling and holding several large, brown prawns in both hands. The background of the photo shows a body of water, greenery, and a building in the distance. At the bottom of the slide, there is a blue footer bar containing the number '13' on the left and the text 'WORKING TOGETHER. At Crawford Dyfleur' on the right.

**APPENDIX J**

**Mutual company start-up by Paul Koronka**



**Presentation to  
The Thai  
Shrimp  
Industry  
September  
2009 .**



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## Mutual Company start -up

- Critical Mass Issues
- Steering Committee
- Membership
- Determine scope of cover
- Funding
- Reinsurance

## Mutual Process

Identify potential membership	Industry Group
• Critical mass?	Premium Volume
• Risk sharing?	Explicit
• Data gathering and analysis	rubbish in / rubbish out
• Validation	Same
• Feasibility	Prospectus
• Acceptance	Members
• Still critical mass?	Premium Volume
• Implementation	Military Precision
• Migration strategy	Forces of Darkness
• Start	Go

## Critical Mass Issues

- So who is interested in joining?
- Chicken and egg situation
- Must be good expression of interest from sector to begin with
- More support there is the easier it will be
- Attracting reinsurers and government

## Steering Committee ...

- You will own this mutual
- So you will need to ensure it does what you want

## Steering Committee

- Drawn from potential membership
- And supporters – government / reinsurers advisors
- Guided by your future managers
- Committee of no more than 12 recommended
- Steering Committee likely to compose the first Board of Directors

## Steering Committee Questions

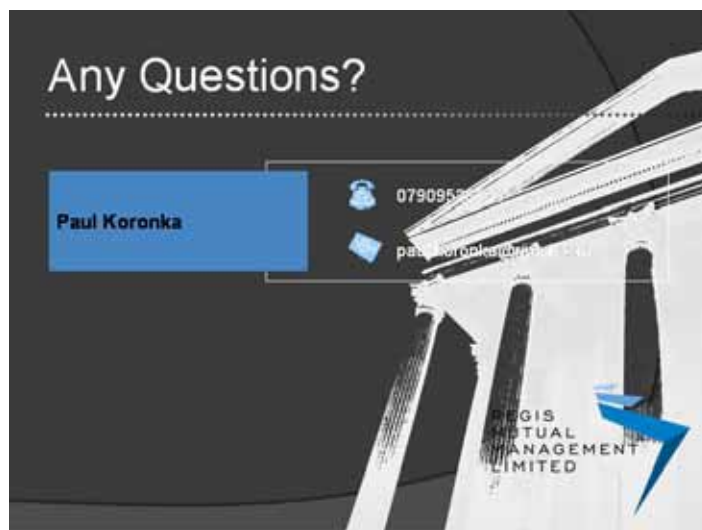
- Who are the members going to be?
- What legal format can mutual take?
- Will government support be available?
- What cover will the Mutual offer initially?
- Gathering of data
- How will the Mutual be financed?
- How will we ensure it is fully funded?
- Are there any unforeseen risks?

## Steering Committee Answers

- Initial start up costs identified
- Enable Constitution to be finalised
- Cover wordings to be drawn up
- Pricing of cover to be determined
- Financial models produced
- Authorisation from government
- Reinsurance layers negotiated
- Management contract negotiated

## Forces of Darkness?

- These are people will try to sabotage your efforts
- Whose interests are not your interests
- Why will people try to stop you?
- This is a chance in a lifetime for the industry
- None of the critical issues is insuperable



**APPENDIX K**

**Aquaculture claims by Mark Vos**



## Aquaculture Claims

### Mark Vos,

BSc, FCIA, FUED-ELAE  
 Global Practice Leader Aquaculture,  
 Client Service Director Continental Europe, Middle East & Africa

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## Risk management



- Production stages
  - Hatcheries breeding shrimp
  - Nurseries growing post larvae to marine conditions
  - Grow out ponds growing juveniles to market condition
- Uniform risk management to reduce existing mortality levels or improve operational yield
  - Reliable water & testing and quality mgmt (inclusive soil/farm and feed/sediment)
  - Vet & Bio toxin medication (ppb tests at EU border)
  - Pollution risk like salinity, oil etc
  - Power conditions & back-up

2

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## ISA in salmon in Chili



- "Infectious Salmon Anemia" – commonly known as "ISA".
- ISA is a disease whose virulency, mortality, geographic extension and catastrophic potential have never been seen in the aqua cultural industry in Chili.
- The problem worsens in the case of ISA, because, although it is known that the genotypes of the virus in Chile are European-like and come from at least five different "strains", **The laboratory analyses do not respond well to the re-actives so far used to identify the disease.**

3

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## Occurrence Clause

- 1.- The detection of an abnormal behavior in the fish suggesting the existence of a disease, which will usually be noted in the respective logbooks of the site;
- 2.- The existence of one or more laboratory tests that confirm the existence of an *identifiable pathogen agent*; and,
- 3.- That the above manifests itself in mortalities that significantly exceed the natural or *historic* mortality for the particular site.
- Clause 6.2.1. of the applicable General Conditions excludes any claims notified after 72 hours from the occurrence of the loss.

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## Policy and clauses

- *"take any measures, as may be reasonable, to mitigate the losses; and to: "do whatever is necessary to save or protect other stock not affected by the event and which might give rise to losses"*.
- the policy, excludes losses arising from *"Deliberate slaughtering, whether by order of an official entity or for other reasons"*.

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## Lessons learned for the Thai Shrimp industry

- Risk management is a top down process and should not rely on the enthusiasm of the employee
- Introduction of insurance implies expected
  - Care of stock, (vet monitoring & farm management)
  - Investment, (quality of equipment)
  - Administration (data retrieval of feed, growth and harvest)
  - Information discipline (mutual is partner in business)
- **Mandatory slaughter in case of diseases**
  - an enforced **activity** to mitigate loss of stock,
  - but also to sustain the up-stream **economy**

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Crawford & Company  
Global & ASIA



- Its focus is to provide global claims solutions.
  - To maintain and grow its ability to provide (co-ordinated) aquaculture loss adjusting services in the global regions of interest
- Is interested to assist in the loss adjusting & risk components, which are faced by the aquaculture insurance market and financial hybrid solutions in the Asian region to come .
- Crawford & Company (Thailand) Ltd, Bangkok

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**APPENDIX L**

**Reinsurance limits and the role of government by Erich Kasten**



# Reinsurance Limits and the Role of Government

**Dr. Erich Kasten**  
ARC – Agriculture Reinsurance Consultants  
Switzerland

 FAO & DoF Aquaculture Insurance Workshop – Bangkok, Thailand 24-25 September 2009


Slide 1



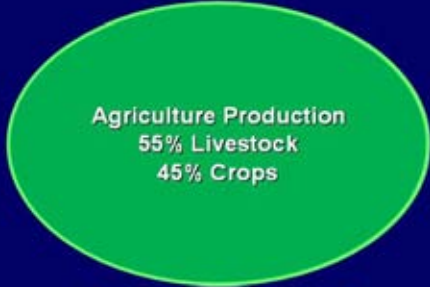
## Content of Presentation

- Importance of Agriculture
- Global Trends affecting Agriculture
- Global Agriculture Insurance
- Risks and farming systems
- Need for insurance
- Role of Government
- Food for Thought

Slide 2



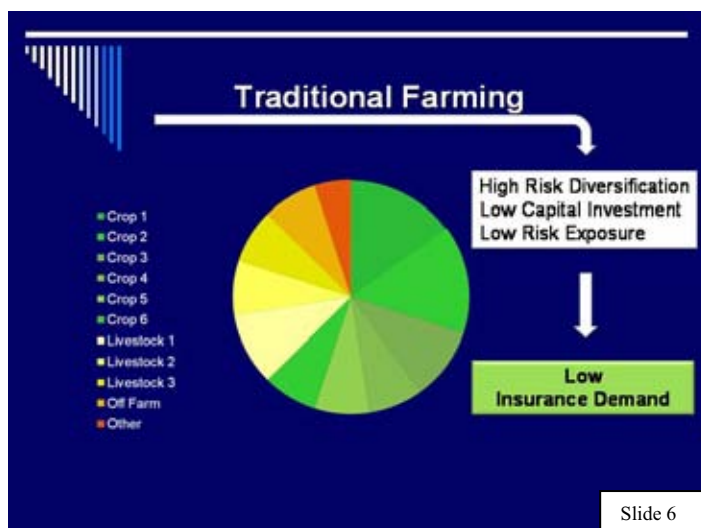
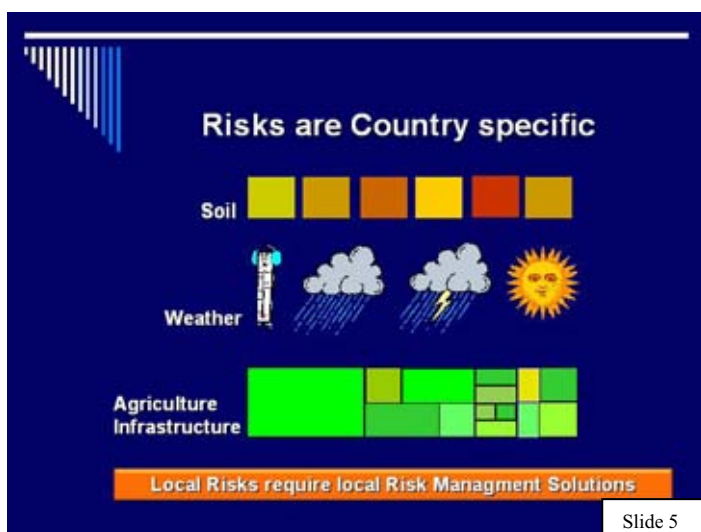
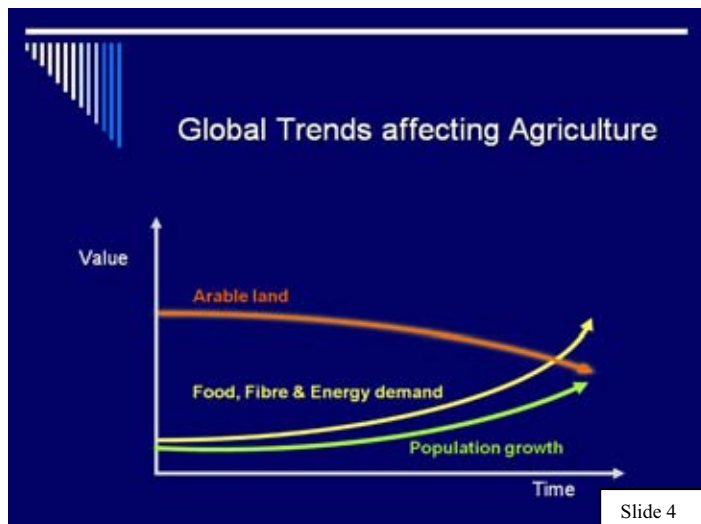
## Global Agriculture Industry



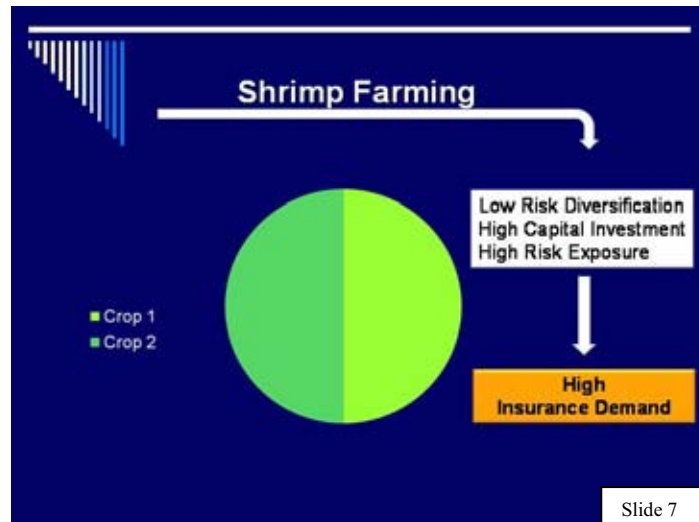
Agriculture Production  
55% Livestock  
45% Crops

Source: ARC Estimation based on FAO Data 2007

Slide 3



Slide 6



## Private-Public Partnership

Systemic Risks in Agriculture

The diagram consists of three vertical bars of different colors: a green bar on the left with the word 'FARMER' written vertically, a yellow bar in the middle with 'INSURER' written vertically, and a yellow bar on the right with 'STATE' written vertically. These bars are positioned below an orange horizontal bar that contains the text 'Systemic Risks in Agriculture'. The entire diagram is set against a dark blue background with a decorative pattern of white and blue lines in the top-left corner.

Systemic Risks require State support

Slide 10

## Stakeholder Agriculture Insurance

The diagram features four interlocking gears of different colors: a green gear at the top labeled 'Farmer', a yellow gear on the left labeled 'Insurer', an orange gear at the bottom labeled 'Banks', and a grey gear on the right labeled 'State'. The gears are arranged in a circular pattern, suggesting they all work together. The background is dark blue with a decorative pattern of white and blue lines in the top-left corner.

Cooperation of all Stakeholder is required

Slide 11

## Role of Government Agriculture Development

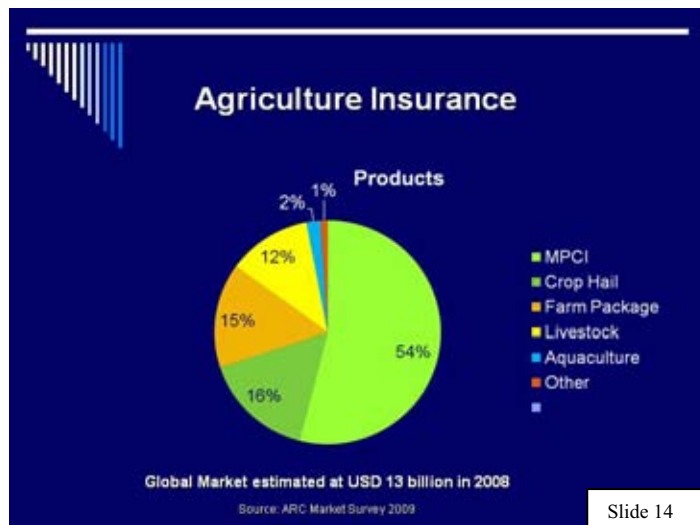
A large, light green rectangular box with a gradient effect is centered on the slide. The text 'Holistic Agriculture Policy' is written in bold black font inside the box. The background is dark blue with a decorative pattern of white and blue lines in the top-left corner.

Holistic Agriculture Policy

Slide 12



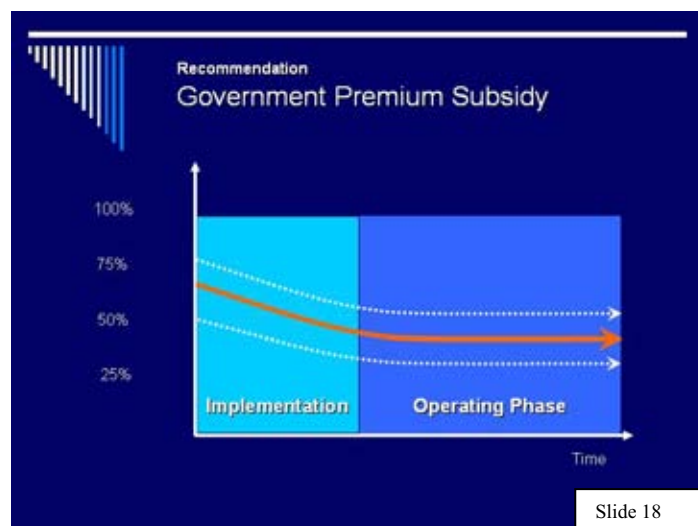
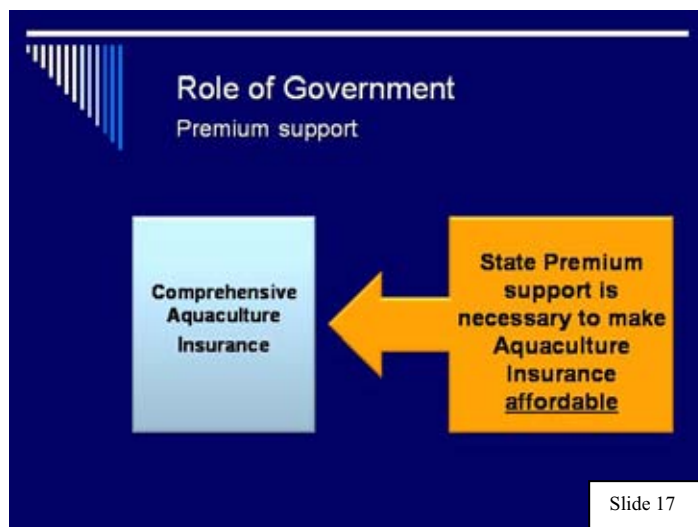
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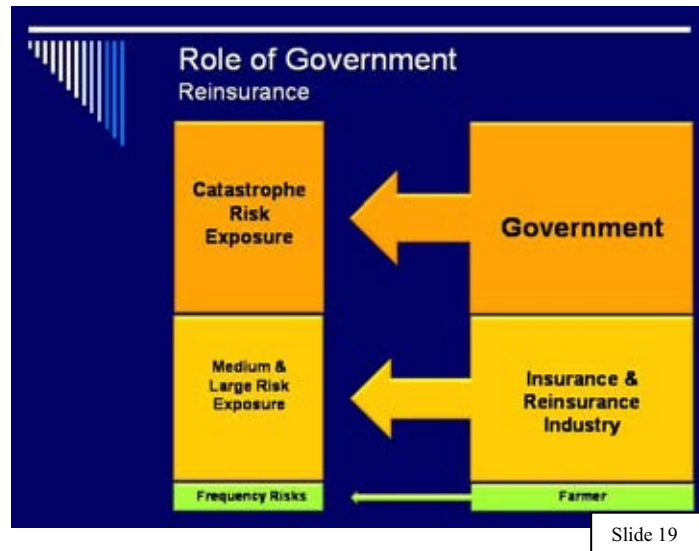


Slide 14



Slide 15







## Conclusion

- The Role of Government is vital for viable agriculture or aquaculture insurance schemes
- Many countries support agriculture insurance with premium subsidy and reinsurance
- Aquaculture is a high risk industry and needs risk transfer via insurance solutions
- Lets work together for the welfare and a sustainable future of the Thai Shrimp Industry

Slide 22

## Thank you for your attention



Dr. Erich Kästen  
Agriculture Reinsurance Consultants  
Switzerland

Slide 23

**This report gives an account of the presentations and discussions during the two-day FAO–DOF Workshop on the Options for a Potential Insurance Scheme for Aquaculture in Thailand, held from 24 to 25 September 2009 in Bangkok. The workshop was a collaborative activity between the Department of Fisheries of the Royal Government of Thailand and the Food and Agriculture Organization of the United Nations. Resource persons from the global insurance industry who are leaders in the field of mutualization, reinsurance, claims and loss adjustment, and aquaculture insurance and with over 30 years of experience in their respective fields in different parts of both the developed and the developing world provided their expertise.**

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