



**FAO/DOF Workshop on the Options for a Potential  
Insurance Scheme for Aquaculture in Thailand**  
23 – 25 September 2009 Bangkok, Thailand



**Workshop programme**

Date and Time	Activities
<b>Day 1 – 23 September 2009 (Wednesday) – DoF Seminar</b>	
08.00 – 09.00	<b>Registration</b>
09.00- 12.00	<b>DOF Seminar on Shrimp Industry</b> - Sustainability of Shrimp Industry - How to strengthen Shrimp Industry
12.00 – 13.00	<b>Lunch</b>
13.00 – 17.00	<b>Breakout session (2 groups)</b> - Group 1: Shrimp Economic Zoning - Group 2: Shrimp Funds
17.00	<b>CLOSE</b>
<b>Day 2 – 24 September 2009 (Thursday)</b>	
08.00 – 09.00	Registration
09.00 – 09.30	<b>Opening Ceremony</b> <i>Welcome remarks</i> by Mr Hiroyuki Konuma, Deputy Regional Representative, FAO Regional Office for Asia and the Pacific <i>Opening address</i> by Dr Somying Piumsombun, Director-General of the Department of Fisheries, Thailand
09.30 – 10.00	<b>Background and Objectives of the Workshop</b> – Susana V. Siar, Fishery Industry Officer, FAO Fisheries and Aquaculture Department Introduction of resource persons – Ake Olofsson, Rural Finance Officer, FAO Agriculture Department Introduction of participants
10.00 – 10.30	<b>Presentation from the Department of Fisheries, Thailand</b> <ul style="list-style-type: none"> <li>• Facts about the Thai shrimp farming industry</li> <li>• Government objectives for handling risks of shrimp industry</li> </ul>
10.30 – 10.45	Coffee break
10.45 – 11.05	<b>A Hybrid Approach to Insurance</b> – Paddy Secretan, Managing Director, AUMS Ltd, United Kingdom <ul style="list-style-type: none"> <li>• Aquaculture insurance</li> <li>• Key points of the Bali workshop</li> </ul>
11.05 – 11.25	<b>International Aquaculture Loss Experience</b> – Mark Vos, Director of Client Services, Crawford & Company, The Netherlands
11.25 – 11.45	<b>International Reinsurance Market</b> – Erich Kasten, Managing Director, Agriculture Reinsurance Consultants GmbH, Switzerland
11.45 – 12.30	<b>Introduction to Mutual's</b> – Paul Koronka, Director & CEO, Regis Mutual Management Ltd., United Kingdom
12.30 – 13.00	Question and Answer – Panel Morning wrap-up session Summary of key points Moderator: Ake Olofsson
13.00 – 14.00	Lunch
14.00 – 14.45	<b>Mutual Structure</b> – Paul Koronka <ul style="list-style-type: none"> <li>• Corporate structure</li> </ul>

	<ul style="list-style-type: none"> <li>• Risks to be protected</li> <li>• Finance structure</li> </ul>
14.45 – 15.15	<b>Reinsuring Mutuals:</b> Pooling of individual risks into a larger pool can create a basket of risk attractive to reinsurers – Erich Kasten <ul style="list-style-type: none"> <li>• Attractive risk characteristics to reinsurers</li> <li>• Reinsurance structure supporting a mutual</li> <li>• Reinsurance programme design</li> </ul>
15.15 – 15.30	Coffee break
15.30 – 15.50	<b>The Concept of Creating a Superior Risk Pool</b> – Mark Vos <ul style="list-style-type: none"> <li>• Background on risk management</li> <li>• Relevance to Thai aquaculture</li> <li>• How would it apply in Thailand</li> </ul>
15.50 – 16.50	<b>Mutual Company Start Up and Operational Procedures, Part One</b> – Paul Koronka <ul style="list-style-type: none"> <li>• Critical mass issues</li> <li>• Steering committee</li> <li>• Determine scope and protection</li> <li>• Membership</li> <li>• Determine the funding</li> <li>• Reinsurance</li> </ul>
16.50 – 17.00	Wrap – up of day – Ake Olofsson
17.00 – 18.30	Meet the panel and Q & A
19.30	Dinner
<b>Day 3 – 25 September 2009 (Friday)</b>	
09.00 – 09.15	Moderator – Ake Olofsson <ul style="list-style-type: none"> <li>• Recap</li> <li>• Plan for the day</li> </ul>
09.15 – 09.45	<b>Mutual Company Start Up and Operational Procedures, Part Two</b> – Paul Koronka <ul style="list-style-type: none"> <li>• Management of the mutual</li> <li>• Finance structure</li> <li>• Marketing and communications</li> <li>• Timelines</li> </ul>
09.45 – 10.15	<b>Reinsurance Limits and the Role of Government</b> – Erich Kasten <ul style="list-style-type: none"> <li>• Programme design and limits of protection</li> <li>• Risk gap – insurable risk v systematic risk</li> <li>• Government role in handling the risk gap</li> </ul>
10.15 – 10.30	Aquaculture Claims – Mark Vos <ul style="list-style-type: none"> <li>• Applicable case studies</li> <li>• Lessons learned for the Thai shrimp industry</li> </ul>
10.30 – 10.45	<b>Summary of key points</b> – Ake Olofsson
10.45 – 11.00	Coffee break
11.00 – 13.00	<b>Breakout session</b> Working groups with panel as resource persons
13.00 – 14.00	Lunch
14.00 – 15.30	<b>Plenary session – Breakout groups report back</b> Moderator: Ake Olofsson
15.30 – 15.45	Coffee break
15.45 – 16.15	<b>Summary and Conclusions drawn from breakout session</b>
16.15 – 16.45	<b>Next Steps</b>
16.45 – 17.00	<b>Wrap-up</b>

	<ul style="list-style-type: none"><li>• Summary of key points of the day</li><li>• Conclusion and next steps</li></ul>
17.00	CLOSE

## List of participants

BOONCHUWONG Kulapa  
Senior Economist, Department of Fisheries  
Phaholyothin Road, Chatuchak  
Bangkok 10900  
Tel.: 02 5580194  
Fax: 02 5580212  
E-mail: kulapa\_2499@yahoo.com

BOONCHUWONG Pongpat  
Senior Expert on Fishery Economics  
Department of Fisheries  
Phaholyothin Rd., Chatuchak  
Bangkok 10900  
Tel.: 02 5620551  
Fax: 02 5620571  
E-mail: boonchuwong@yahoo.com

BUENO Pedro B.  
Freelance consultant  
Bangkok  
Tel.: 081 7316594  
E-mail: pete.bueno@gmail.com

CHONGPEEPIEN Tanittha  
Senior Fishery Biologist  
Shrimp Research Institute, Department of  
Fisheries  
Kaset-Klang, Phaholyothin Road  
Chatuchak, Bangkok 10900  
Tel.: 02 5614678-9  
Fax: 02 5614679  
E-mail: tanittha@fisheries.go.th

EK-ANANT  
Technical Manager  
Thai Union Feedmill Co.,Ltd.  
89/2 M.2, T.Kalong, A.Muang, Samutsakorn  
Tel.: 034 418094, 081 9080655  
Fax: 034 845392  
E-mail: ekanant@gmail.com

GIMYONG Teerawan  
Senior Fishery Biologist  
Chonburi Fisheries Department  
202 M.3 T.Samet, Muang, Chonburi  
Tel.: 038 398049  
Fax: 038 398050  
E-mail: terawank@fisheries.go.th

INDRAPIM Adhinaand  
Fishery Biologist  
Fisheries Foreign Affairs Division  
Department of Fisheries"  
Kaset-Klang, Chatuchak, Bangkok  
Bangkok 10900  
Tel.: +662 579 7939  
E-mail: adhinand@gmail.com

JIRAPAN Soravut  
President, Pattani Shrimp Culture Organization  
1/47 Kasemsuk Road, Muang, Pattani 94000  
Tel.: 073 331351, 081 9599107  
Fax: 073 323363

KIATPINYO Pinyo  
President, Federation of Shrimp Farmers  
Cooperatives of Thailand  
Tel.: 02 9082981, 089 7897885  
E-mail: net\_coop@hotmail.com

KONGCHAN Pimol  
President, Pakpanang Shrimp Culture  
Cooperative  
11 M.4 T.Na-satana A.Hua-sai  
Nakhonsrithammarat  
Tel.: 075 388270, 089 1089539

KONGWATANANONDA Watana  
Thai Shrimp Association  
E-mail: kwtnn@yahoo.com

LAOPRASERT Somboon  
Fishery Biologist  
Department of Fisheries  
Kaset-Klang, Chatuchak, Bangkok  
Bangkok 10900  
Tel.: 02 5792421  
Fax: 02 5792421  
E-mail: somboon149@yahoo.co.th

MAOSITHONG Puchong  
Shrimp culturist  
29 M.13 T.Bangpakong, Bangpakong  
Chachoengsao  
Tel.: 084 1210882

MARUKEE Kamnueng  
Trang Shrimp Association  
55 M.3 T.Bangrak, A.Muang, Trang  
Tel.: 081 3960154

NOORIT Kewalin  
Economist  
Department of Fisheries  
Economic Fisheries Division  
Chedchai Building  
Kaset-Klang, Chatuchak, Bangkok  
Bangkok 10900  
Tel.: 02 5580193  
Fax: 02 5580212  
E-mail: kewalin999@gmail.com

OWART Kittiya  
Cooperative Technical Officer  
Cooperative Promotion Department  
12 Krungkasem Road, Thewas  
Bangkok 10200  
Tel.: 02 6285161, 081 8990002  
E-mail: kittiya@cpd.go.th,  
Ka\_boong@hotmail.com

PANAKORN Soraphat  
Technical Manager  
Intego Feed Co.,Ltd.  
77/12 M.2 Rama II Rd., T.Nakok  
Muang, Samutsakorn  
Tel.: 086 8865223  
Fax: 034 851197  
E-mail: mamee\_d@hotmail.com

PATCHARAPOTHIWAT Ananya  
Economist  
Department of Fisheries  
Economic Fisheries Division  
Chedchai Building  
Kaset-Klang, Chatuchak, Bangkok  
Bangkok 10900  
Tel.: 02 5580194-5  
Fax: 02 5580212  
E-mail: jitlada\_59@hotmail.com

POOMPOUNG Thusnopron  
Chief of Fishmarket Management  
Fishmarket Organization  
2111 Charoenkrung 58, Sathon  
Bangkok 10320  
Tel.: 02 2112054, 081 9134295  
E-mail: thusuida@hotmail.com

POOMYAM Chalie  
Administrative Manager  
Aluayted Pochanapan  
313 C.P Tower, Bangkok  
Tel.: 081 5858722  
E-mail: chalee@cpf.co.th

PHETCHAROER Chakrarinnt  
President, Chanthaburi Shrimp Farmer Club  
41 Maharaj Road, T.Talad, Muang, Chantaburi  
Tel.: 039 314514  
Fax: 039 314131  
E-mail: kuladam@yahoo.com,  
kuladam@hotmail.com

PHOBOOKDEE Rapeepat  
Veterinarian  
Leepattana Feedmill Public Company Limited  
33/137 Wall Street Tower, Surawongse Road,  
Bangkok  
Tel.: 081 5737817  
Fax: 02 2376020  
E-mail: mrrapee@yahoo.com

PONGTHANNAPANICH Tipparat  
Assistant Professor  
Faculty of Economics  
Department of Agricultural and Resource  
Economics  
Kasetsart University  
Tel.: 02 5613467  
Fax: 02 9428047  
E-mail: tipparat2002@gmail.com

PRACHAYANUKUL Sangchai  
Head of Shrimp Farmers in Trad Province  
P.O. Box 49 Trad, 44/6 Moo 2, Takum  
District, Muang, Trad  
Tel.: 02 722 9264

SANGGLA Natt  
Fishery Biologist  
Chonburi Fisheries Department  
202 M.3 T.Samet, Muang, Chonburi  
Tel.: 038 398049  
Fax: 038 398050  
E-mail: jummaibaby@hotmail.com

SOPON Anek  
Researcher  
Aquatic Resource Research Institute  
Chulalongkorn University, Bangkok 10330  
Tel.: 02 2188175  
Fax: 02 2544259  
E-mail: cu10330@hotmail.com

THUETRONG Mongkonchai  
Veterinarian  
Leepattana Feedmill Public Company Limited  
33/137 Wall Street Tower, Surawongse Road,  
Bangkok

Tel.: 086 8982453  
 Fax : 02 2376020  
 E-mail: tonyvet64@hotmail.com

YAMAMOTO Koji  
 Research Associate  
 Network of Aquaculture Centre in Asia-Pacific  
 Surasawadi Bldg, Kasetsart University  
 Bangkok  
 Tel.: 089 9968760  
 Fax: 02 5611727  
 E-mail: koji@enaca.org

YAWSAENG Bunpen  
 Senior Insurance Officer  
 Office of Insurance Commission  
 22/79 Jankasem Sub-District, Bangkhen,  
 Bangkok  
 Tel.: 02 5159999 ext.4212  
 E-mail: bunpeny@oic.or.th

#### **RESOURCE PERSONS**

KASTEN Erich  
 Managing Director  
 Agriculture Reinsurance Consultants GmbH  
 Villa Schlosshalde, Dorfstrasse 14  
 8422 Pfungen, Switzerland  
 Tel.: +41 523156075  
 Fax: +41 523156074  
 E-mail: dr.e.kasten@bluewin.ch

KORONKA Paul  
 Director & CEO  
 Regis Mutual Management Ltd.  
 8 Brikels Yard, 151-153 Bermondsy St.  
 London SE1 3HA, United Kingdom  
 Tel.: +44 2070430536  
 E-mail: paul.koronka@rmml.com

SECRETAN Philip A.D  
 Managing Director  
 AUMS Ltd.  
 112 Malling Street, Lewes  
 East Sussex BN7 2RJ  
 United Kingdom  
 Tel.: +44 1273488094  
 Fax: +44 1273479645

E-mail: secretan@aums.com

SONGSANGJINDA Putth  
 Trang Coastal Aquaculture Station  
 200 M.4 Maifad  
 Sikao, Trang, Thailand 92150  
 Tel.: 075 274077  
 Fax: 075 274078  
 E-mail: putthsj@yahoo.com

VOS Mark  
 Director, Client Services  
 Crawford & Company  
 P.o. Box 626, 3000 AP  
 Rotterdam, Warenarburg 1  
 The Netherlands  
 Tel.: +31 104535533  
 Fax: +31 104529204  
 E-mail: MarkVos@crawco.nl

#### **FAO**

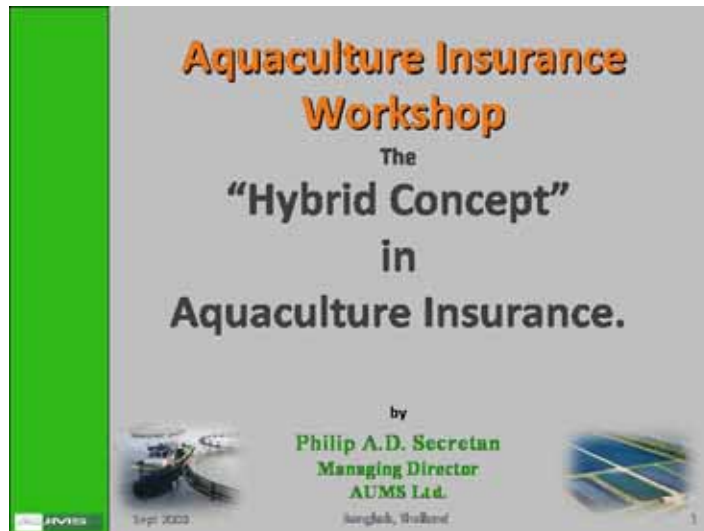
HOUTMAN Ralph  
 Agro-Industry and Finance Officer  
 Regional Office for Asia and the Pacific  
 39 Phra Atit Road  
 Bangkok 10200, Thailand  
 Tel.: +662 6974308  
 E-mail: Ralph.Houtman@fao.org

OLOFSSON Ake  
 Rural Finance Officer  
 Rural Infrastructure and Agro-Industries  
 Division (AGS)  
 Viale delle Terme di Caracalla  
 00153 Rome, Italy  
 Tel.: +39 0657052268  
 E-mail: Ake.Olofsson@fao.org

SIAR Susana V.  
 Fishery Industry Officer  
 Fishing Operations and Technology Service  
 (FIRO)  
 Viale delle Terme di Caracalla  
 00153 Rome, Italy  
 Tel.: +39 0657056612  
 E-mail: Susana.Siar@fao.org

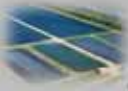


**APPENDIX C**

**The hybrid concept in aquaculture insurance by Philip A. D. Secretan**

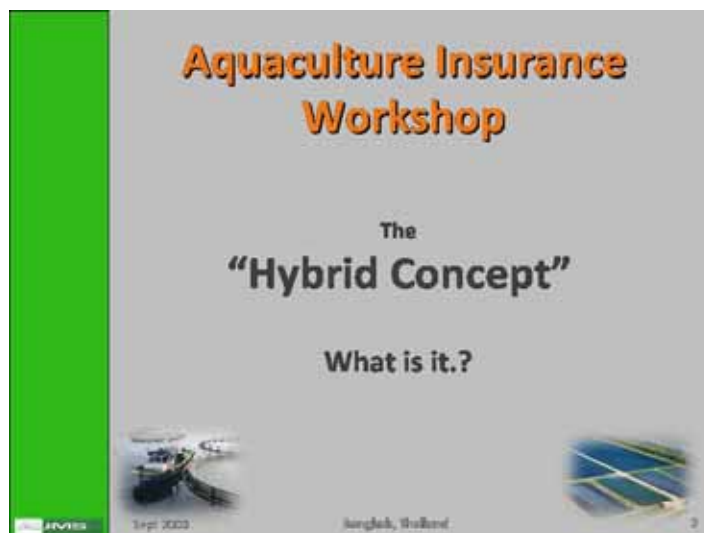


**Aquaculture Insurance  
Workshop**  
The  
**“Hybrid Concept”**  
in  
**Aquaculture Insurance.**

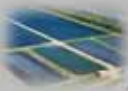


by  
**Philip A.D. Secretan**  
Managing Director  
AUMS Ltd.  
Bangkok, Thailand



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**Aquaculture Insurance  
Workshop**  
The  
**“Hybrid Concept”**  
What is it.?



2



**Aquaculture Insurance  
Workshop**  
The  
**“Hybrid Concept”**  
is:  
**a way for small and medium-sized  
producers to organise effective  
insurance coverage on aquaculture  
businesses.**



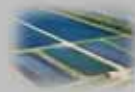
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## Aquaculture Insurance Workshop

### Some facts about the insurance market:

1. It is based in the major financial centres of the world.
2. Insurance companies who provide the insurance protection are "profit driven"!
3. They have to be! Their shareholders demand it!



EVIS

Sept 2022

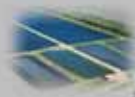
Surfak, Wollerau

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## Aquaculture Insurance Workshop

### Players in the insurance market:

1. National and international insurance companies.
2. National and international insurance brokers (*Typically earning commissions of 20% to 30%*) who connect insurance buyers to insurance companies.
3. Buyers of all kinds of insurance – including aquaculturists.
4. Reinsurance Companies.



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## Aquaculture Insurance Workshop

### Some facts about the market for aquaculture insurance:

1. It has been dominated by major international aquaculture producers (mainly of fin fish, especially Salmon!).
2. These producers have sophisticated management, and extensive equipment and technology budgets.



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## Aquaculture Insurance Workshop

**In spite of “sophisticated” management:**

1. There have been heavy losses in every sector of the business that has been insured, it has only, at best (!), been marginally profitable to insurance companies.
2. Many insurance companies have entered the market, made big losses, and pulled out!



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INVEST

## Aquaculture Insurance Workshop



**Storm, Disease, Pollution, Flood, Predation, Theft, Tsunami, have all caused major losses in key production sectors.**



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INVEST

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**This has resulted in insurance companies:**

1. being very “selective” about the aquaculture business they underwrite.
2. demanding very high standards of management and operation in the farms they agree to insure.
3. seeking high premiums!



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INVEST

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The way the aquaculture insurance market has developed has resulted in:

1. Insurance is being restricted to very large and sophisticated producers, with big financial resources and highly sophisticated management and risk management capabilities.
2. small and medium-sized operators finding it extremely difficult to buy suitable insurance!



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## Aquaculture Insurance Workshop

Recognising these problems, the FAO organised a workshop on aquaculture insurance, in Bali, in 2007 it asked a very important question:

What action can be taken to meet the insurance and risk management needs of small and medium-sized producers in developing aquaculture in Asia?

**It proposed an answer:**

All interested parties need to work together and adopt a "Hybrid Approach" to managing risk.



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Who are the interested parties?

**Governments.**

**Producers (and suppliers?).**

**The specialist aquaculture insurance market.**



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Governments are interested in insurance because it can:

1. directly lead to raised operating standards.
2. sustain producers in the face of disasters.
3. contribute to wealth creation / poverty alleviation.
4. reduce the financial burden of their disaster relief obligations.



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Producers want insurance because it provides:

1. Financial protection in the face of disasters!
2. Support in recovering losses from 3<sup>rd</sup> parties.
3. Access to cutting-edge risk management processes.
4. Much improved access to sources of finance.
5. A higher reliability profile with customers.



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But what are the benefits to the insurance market? Why should insurance companies get involved?

“To make a profit” is the only answer!

They will only get involved in aquaculture if they can do so profitably!



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**This is a situation which might appear to involve severe conflicts of interest:**

Government wants industries to be insured, but has an altruistic, political, approach that seeks to protect producers against all risks, including risks that insurers cannot cover.

Producers want insurance against the widest risks and at the cheapest cost.

Insurers can provide cover, but only on a basis that they believe will be profitable – by, for example, excluding extremely high risks (eg Cyclones in low-lying areas).



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## Aquaculture Insurance Workshop

**Conflicts of interest can definitely be overcome, providing a role is played by Government that is clearly understood:**

If the insurance industry cannot cover a peril, but the Government judges that it is in the national interest that the aquaculture industry be protected against that peril, then it is up to the Government to provide protection\*.

*\*this situation is often called the "Systemic" risk.*



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**Providing systemic risk cover, need not be a problem for a government. If the insurance industry is covering the "non-systemic" risks:**

**They are able to easily and effectively handle the Government's interest in the systemic risk, alongside their own!**



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### Insurers can:

1. Evaluate each production unit.
2. Quantify the risks to each unit, and to aggregated groups of units to establish industry MPLs and PMLs.
3. Establish a correct basis of valuation.
4. Implement and develop risk management practices on an on-going basis.
5. Establish legally binding Insuring conditions, in a fully documented framework.



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Insurers' loss adjusters, can handle claims **very efficiently and reliably, and with high integrity:**

1. Organising first response and situation evaluation (on a 24/7 basis).
2. Evaluating and implementing loss mitigation action (take samples, organise salvage action, etc.).
3. Quantifying amount of loss (avoiding fraud!).
4. Protecting rights of recovery from responsible 3<sup>rd</sup> parties.
5. Agreeing ultimate payments with producers.



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This is how the  
**“Hybrid Concept”**  
 can work!



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**One thing is needed to implement the Hybrid Concept:**

- An industry wide insurance scheme!
- Unless there is one central insurance scheme that is operating for producers, the systemic risk that insurers cannot provide, would have to be handled and administered separately by government.
- That would be an extremely "messy" and very expensive arrangement for the Government.



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AVRDC

## Aquaculture Insurance Workshop

**There is a tremendous opportunity here, for the Thai shrimp producers! It is called:**

**Mutualisation!**



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AVRDC

## Aquaculture Insurance Workshop

**It involves:**

**Creating an Insurance Company that is owned and operated by producers, who share a financial interest in it.**

**This would be a Company that the Government can cooperate with, in the knowledge that everything agreed between the Government and the Mutual, will benefit producers- because the producers own the Company!**



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AVRDC

## Aquaculture Insurance Workshop

**This may seem to be a very “scary”  
direction to take. It is not!**

Mutualisation is very common in many countries of the world!

There are hundreds of successful mutual insurance companies operating in many industries, especially in agricultural

There are some significant development funds available to help create mutuals.







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## Aquaculture Insurance Workshop

**The function of this Workshop is to give delegates the opportunity to look, in detail, at all issues that lie behind both the mutualisation option, and other insurance options available to the Thai Shrimp Industry.**

**Thank you for your kind attention.**

**Philip A.D. “Paddy” Secretan**


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**APPENDIX D**

**International aquaculture loss experience by Mark Vos**



## International Aquaculture Loss Experience

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

WORKING TOGETHER:  
*the Crawford Difference*

## Fish Mortality Insurance



The standard policy for Onshore/Offshore sites as at listed

- 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.
- De-oxygenation 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

2 WORKING TOGETHER: the Crawford Difference

## Hull - Working Craft, Support Vessels, Equipment & Cages Covers



- Perils of the seas, rivers, lakes or other navigable waters.
- Fire, lightning, explosion.
- Theft.
- Contact with land conveyance.
- Accidents in loading / discharging.
- Negligence of repairers.
- Malicious acts.



Mooring connection



600 m3 Ocean Spar Sea station



Towing of cage

3 WORKING TOGETHER: the Crawford Difference

Storm or maintenance 



4 WORKING TOGETHER. the Crawford Difference

Design or maintenance 



5 WORKING TOGETHER. the Crawford Difference

Wear on shackle from 33 to 22 mm 



6 WORKING TOGETHER. the Crawford Difference

## An insured event → loss




- What is an insured event.
  - Any loss or damage resulting from an insured peril
- How long will the event/disease last.
  - Generally 3 month maximum cover for disease
  - Intermittent events ? Wording defines
- Vet support to control an event/ disease outbreak.
- Biomass value per date of loss per site.
  - Accounting review of proper procedures

7 WORKING TOGETHER. the Crawford Difference

## Mortality stock & Stock values



- Biomass
- Proper book keeping and accounting procedures
- Normal mortality, harvest in books recorded
- Events accounting
- Mandatory slaughter deducted when subsidy income protocol applies



Strategic Management  
of Marine Ecosystems

Edited by  
Eugene Levner, Igor Litkov  
and Jean-Marie Proth

© 2011 CRC Press

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8 WORKING TOGETHER. the Crawford Difference

## Interdependence & Sue and Labour



- In view of financial exposures and investments of the entrepreneurs mini-companies (Ltd's) per group of cages or sites were founded.
  - Extra attention required for insurance wording
    - Are sites properly defined in the policy
      - What is a site ; Which ponds / on shore containers
      - Which surface co-ordinates.
    - A policy per site viz. Ltd or Holding with subsidiaries

9 WORKING TOGETHER. the Crawford Difference

## Regional economic dependence & mandatory slaughter



- Regional economic dependence
  - Up-stream
    - Regional public interests/ tax income
    - Financial resources
  - Down-stream
    - more contractors → higher supply demand
    - Too high density of farms → economic instability
- Mandatory slaughter to save the local economy or trade of your colleague competitor in case of disease.
  - Authority in control
  - Insured is not in control of his assets

10

WORKING TOGETHER. the Crawford Difference

## Biomass value & Business Interruption insurance



- Mortality based on biomass: value/kgs.
- It represents the original stock value plus a gross / variable and fixed margin allocation.
- No loss of net profit of existing stock is added.
- No indemnity for starting up new ponds is provided.
- In case of mandatory slaughter national subsidies will be deducted as partial indemnity to the insured. Generally these subsidies do not provide for an imaginary profit margin component.

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## Biomass value



- Biomass value.
  - Starting book / asset value of acquired stock  
ADD
  - Weekly / daily allocation of
    - Fixed cost like labor, feed, normal scheduled vet support and cage/ equipment write off
    - Variable cost as feed, medicine, extra vet visits
    - Mortality
  - To arrive at biomass value
  - Value, quantum & kgs are declared on a monthly basis.

12

WORKING TOGETHER. the Crawford Difference

Extra expense to mitigate the loss 

- Upon discovery of a potential insured peril like a disease, algae bloom, jelly fish or storm measures to reduce the impact are reviewed.
  - Insured is always expected to act as "though uninsured" i.e. do what he would do to save the crop if no insurance was involved.
  - **When the loss falls within the deductible**
    - Generally no cover for extra expense to reduce the potential loss
  - **When the loss is over the deductible**
    - Extra expense cover is provided for a.o.
      - Vet support + medicine to contain the disease
  - **When to slaughter / pre-harvest to protect the remaining stock value remains a valuable questions, which needs to be considered with vet support too.**

13 WORKING TOGETHER. the Crawford Difference

Storm or design 



**APPENDIX E**

**International reinsurance market by Erich Kasten**



# International Reinsurance Market

Dr. Erich Kasten  
Agriculture Reinsurance Consultants  
Switzerland

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

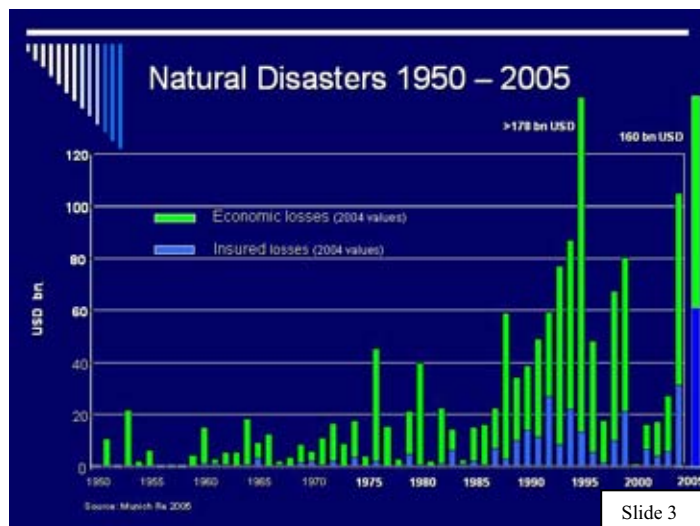
Slide 1




## Content of Presentation

- Natural Disaster – Trends & Perils
- Why Reinsurance is needed
- International Reinsurance Market
- Agriculture Insurance & Reinsurance
- Food for Thought

Slide 2







Typhoon, (Hurricane or Cyclone)

Slide 4

This slide features a dark blue background with a decorative graphic of white and blue vertical bars of varying heights in the top-left corner. The central image is a satellite or aerial photograph of a typhoon, showing a distinct dark eye surrounded by a white, swirling cloud structure. Below the image, the text 'Typhoon, (Hurricane or Cyclone)' is written in white. In the bottom-right corner, a white box contains the text 'Slide 4'.

### World Map Natural Hazards



Source: Munich Re

Slide 5

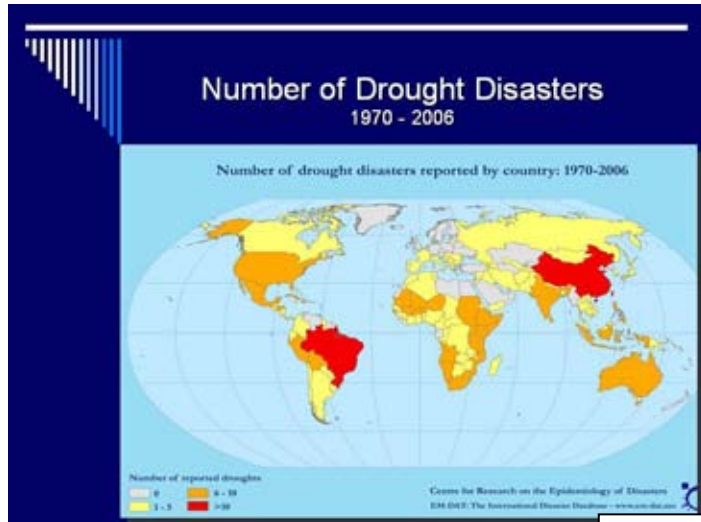
This slide has a dark blue background with the same decorative graphic as the first slide. The title 'World Map Natural Hazards' is centered at the top in white. Below it is a world map where different regions are color-coded to represent various natural hazards: red and orange for high-risk areas, green for moderate risk, and blue for low risk. The map shows high concentrations of hazards in the tropical and subtropical regions, particularly in the Atlantic, Pacific, and Indian Oceans, as well as parts of Africa and Asia. Below the map, the text 'Source: Munich Re' is written in small white font. In the bottom-right corner, a white box contains the text 'Slide 5'.



Drought in Maize Production

Slide 6

This slide features a dark blue background with the decorative graphic. The central image is a photograph of a person standing in a field of maize plants that appear to be severely affected by drought, with many plants being dry and yellowed. Below the image, the text 'Drought in Maize Production' is written in white. In the bottom-right corner, a white box contains the text 'Slide 6'.



Slide 7



Slide 8



Slide 9



## Need for Reinsurance

- Capacity risks
- Low frequency high severity risks
- High risk accumulation
- Systemic risks
- New risks
- Limited capital basis of insurer

Slide 13

## Global Reinsurance Market

- More than 200 Professional Reinsurance Companies
- More than 1000 Insurance Companies with reinsurance activities
- Professional Reinsurer = Reinsurer focused on reinsurance activities only
- Top 50 reinsurer receive USD 200 billion
- Top 5 reinsurer receive USD 100 billion

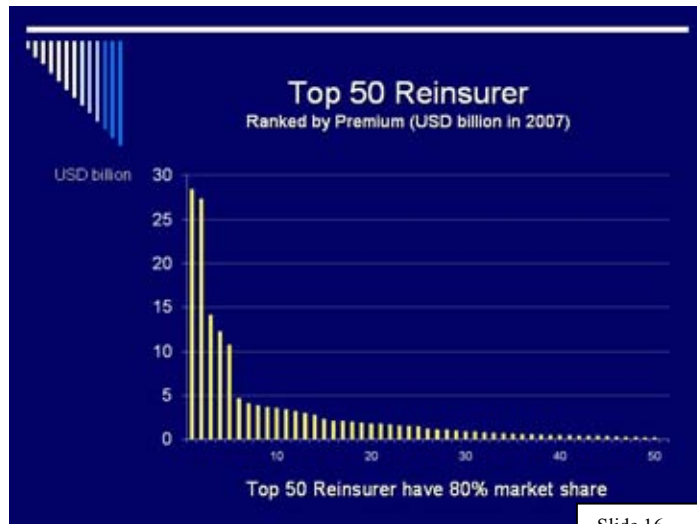
Slide 14

## Global Reinsurance Market

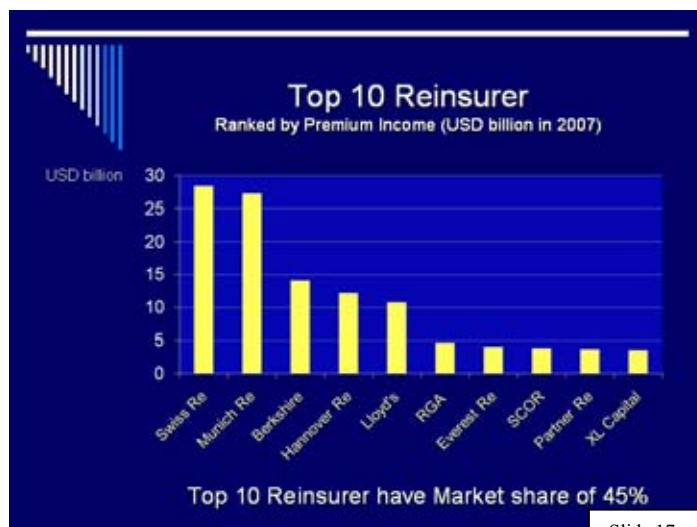


Global Market est. at USD 250 billion in 2008

Slide 15



Slide 16



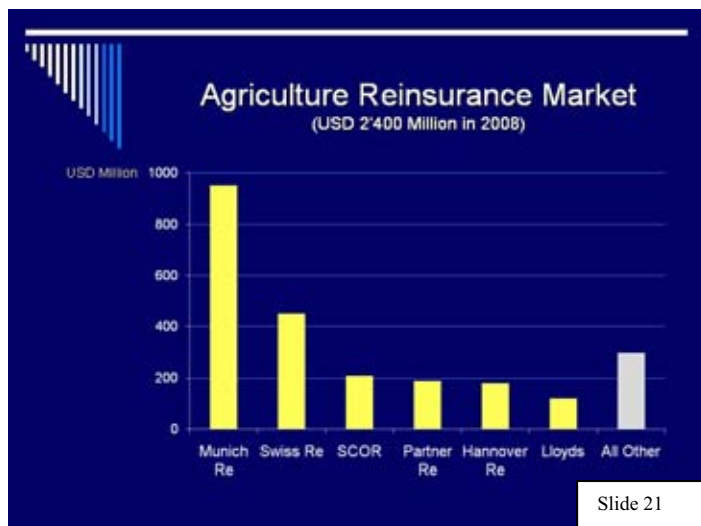
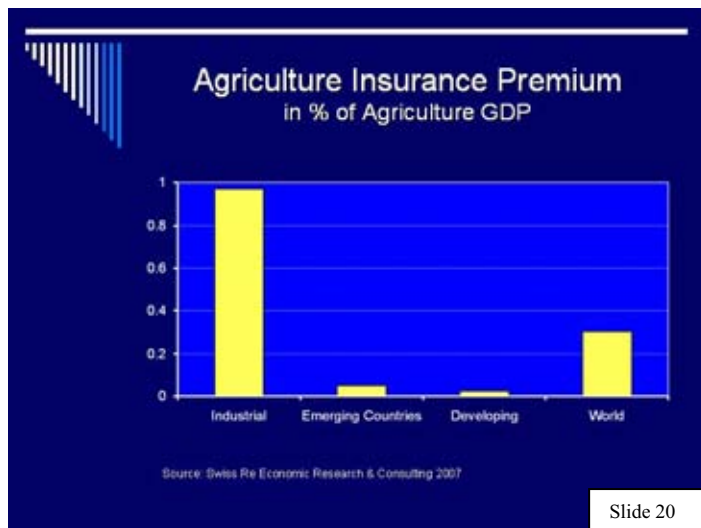
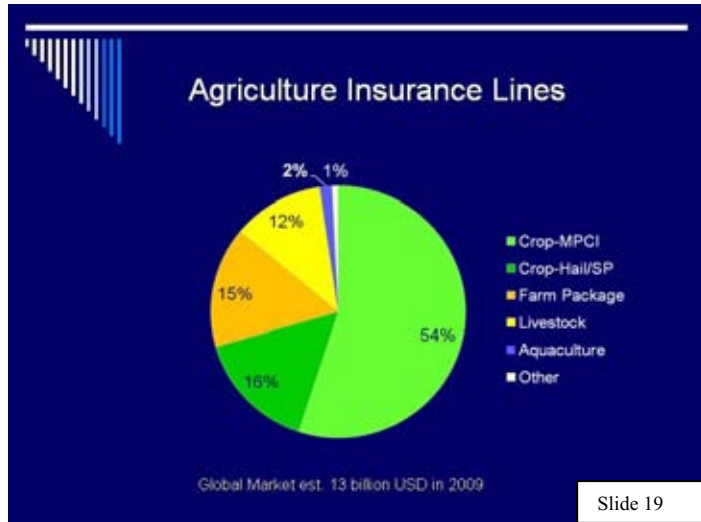
Slide 17

### Financial Crisis & Reinsurance

- > Reinsurer are Bankers of Insurers
- > Financial Stability is very important
- > Highest security is granted by top 10 reinsurer
- > All top 10 Reinsurer are A, A+ or AA rated by International Rating Agencies

**WALL ST**

Slide 18




**Food for Thought**  
Aquaculture Insurance

- Natural Disasters increase globally
- Aquaculture is a high risk industry
- On farm risk management is important
- Risks beyond control require risk transfer
- Strong, reliable Reinsurance is vital
- Government support is needed for systemic risks in aquaculture insurance

➤ Let's work together on the basis of a Public-Private-Partnership

Slide 22

**Thank you for your attention**



Dr. Erich Kasten  
Agriculture Reinsurance Consultants GmbH  
Switzerland

Slide 23

**APPENDIX F**

**Introduction to mutuality by Paul Koronka**



Presentation to  
the Thai Shrimp  
Industry  
September  
2009 .

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**Introduction to Mutuality**

.....

What is a Mutual?  
Characteristics of a good Mutual  
Why form a Mutual?  
Examples of Mutuals  
Why mutualise the Thai Shrimp Industry?  
The future

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**What is a Mutual?**

- You own it
- You control it
- Just like a co-operative

## You own it

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Ownership means no outside shareholders

Ownership means focussed on your needs

Ownership means control

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## You control it

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You control it means:

membership

pricing

claims handling

cover provided

just like a co-operative

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## Decision making

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All decisions taken by your industry for the benefit of the industry

Member interests only balanced by interests of membership

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## What is a Mutual? (continued)

- Group with commonality of risk
- Not necessarily identical risk
- Group pools together all or some of the risk
- Provides link to reinsurance market
- Owned and controlled by the members not outside shareholders
- Entirely member focussed

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## Characteristics of a 'good' Mutual

- Covers 'bad luck' not 'bad husbandry'
- Could be selective or compulsory
- Needs critical mass
- Needs good spread of business
- Mutual retains expected risk
- Ideally transfers unexpected risk
- Systemic risk understood
- Risk management embedded

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## Why form a Mutual?

- Particular group out of sync with insurance market
- Cover required not available
- Premiums unrelated to claims experience
- Group requires stability of premiums
- Achieving results as a group that not available individually

Plus or minus

Or at high cost

No incentive

Avoid cyclical market

Collective

## Why form a Mutual? (cont'd)

- |  |                        |
|--|------------------------|
| • Cover as wide as is prudent                  | Not minimum necessary  |
| • Costs close to cost price as is possible     | Structural efficiency  |
| • Premiums related to actual claims experience | No cross-subsidisation |
| • Control rests with members                   | An elected board       |
| • Superior data                                | And dissemination      |
| • Proactive risk management                    | Incentive              |
| • Superior claims handling and service         | Membership control     |

## Some examples

- Farmers' mutuals – US, UK, Australia & NZ, Europe etc.
- Universities
- Oil Companies
- Ship Owners
- Professionals - Lawyers, Doctors, Accountants, Insurance Brokers
- Banks
- Co-operatives

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## Why Mutualise the Thai Shrimp industry?

- Already have Co-operatives in Thailand
- Need to provide cover at cost price
- Shrimp Industry too young for insurance industry
- Insurance industry too risk averse
- Need to demonstrate credentials to reinsurers
- Need to ensure that industry develops good reputation
- Mutual likely to attract Government and international support
- Need Mutual mechanism to protect economy
- Need Mutual to attract finance

## Future in developing markets

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- Growing interest in mutuality worldwide
- Issues are always selectivity (standards) and critical mass
- Most mutuals enjoy mutually beneficial relationship with their insurer/reinsurance partners
- - Or can develop them once confidence achieved
- Aquaculture difficult area
- Much customisation required
- Ideal for mutuality

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## Any Questions?

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Paul Koronka



07909528628



paul.koronka@rmml.com

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