

# Agriculture MicroInsurance – a business or a charity?

Peter Book



Global Reinsurance

**Allianz** 

## Microinsurance, Business & Charity

### MicroInsurance

- Microinsurance is a financial arrangement to protect low-income people against specific perils in exchange for regular premium payments proportionate to the likelihood and cost of the risk involved.

### Business

- A **business** is an organizational entity involved in the provision of goods and services to consumers. Businesses may also be social non-profit enterprises or state-owned public enterprises charged by governments with specific social and economic objectives.

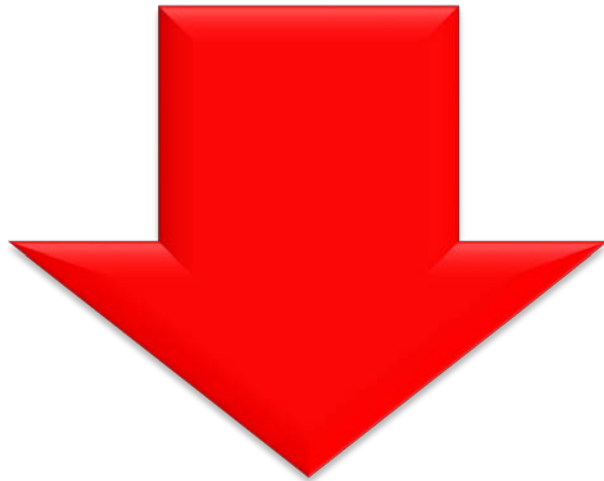
### Charity

- the voluntary giving of help to those in need, as a humanitarian act.

## Insurance vs Charity

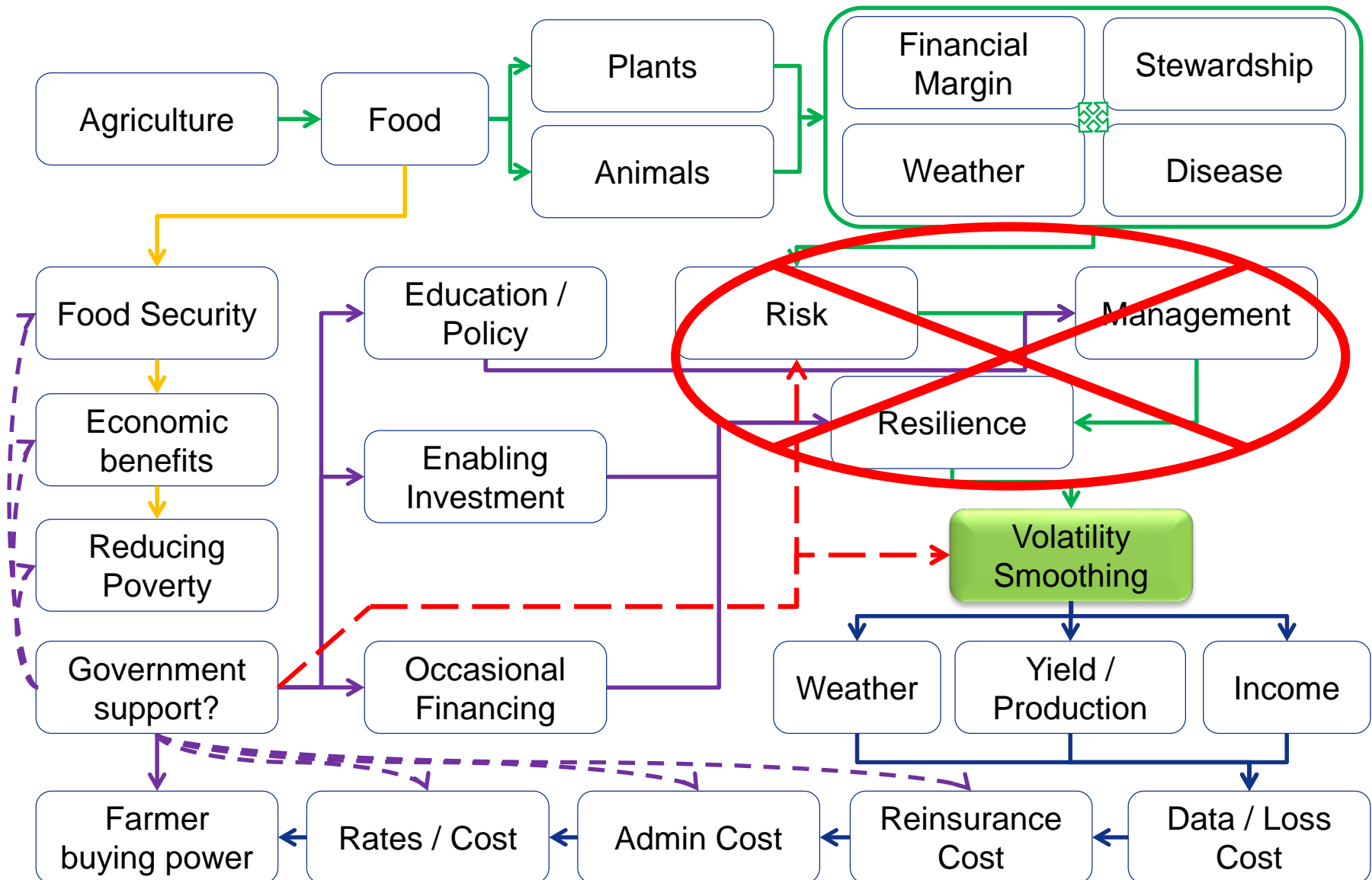


Risk Management –  
Smooth out the retained  
risk with insurance, but  
for who, banks, tenured  
farmers?



Charity – defiance in the  
face of risk, rely on third  
party actors, handouts,  
good for media coverage,  
hard to quantify benefits.

# Agriculture – a system?



# Spot loss vs Systemic Loss

**Spot Loss**

*MPCI*

\$

+/-

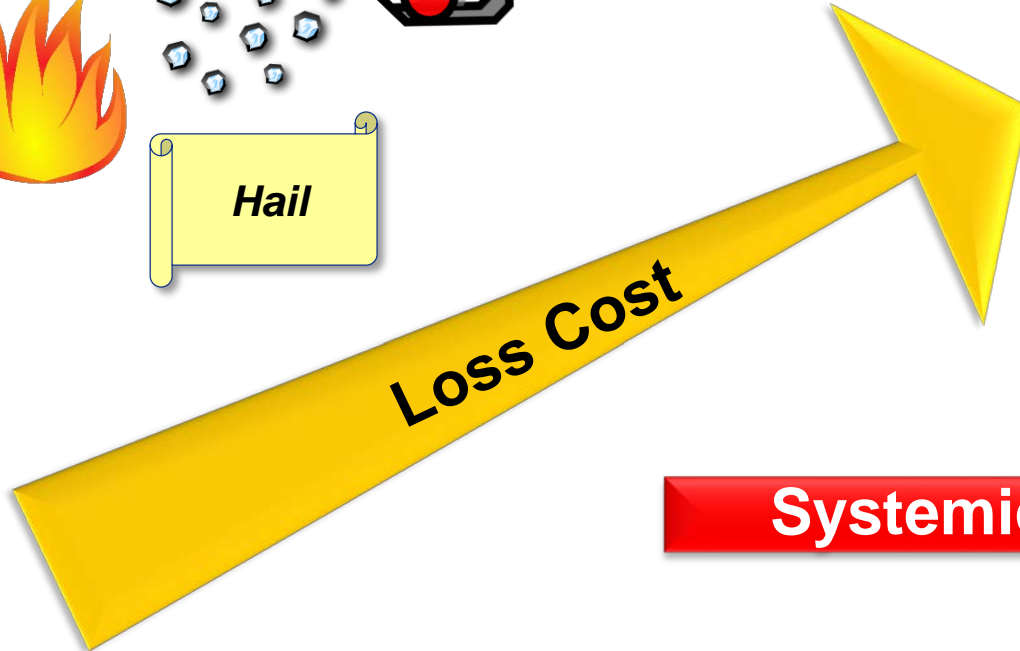
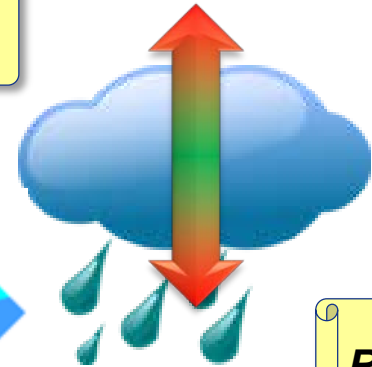
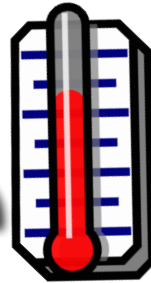
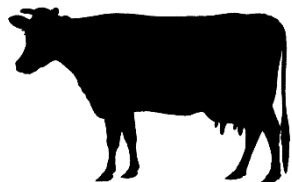
*Revenue*

*Fire only*

*Hail*

**Loss Cost**

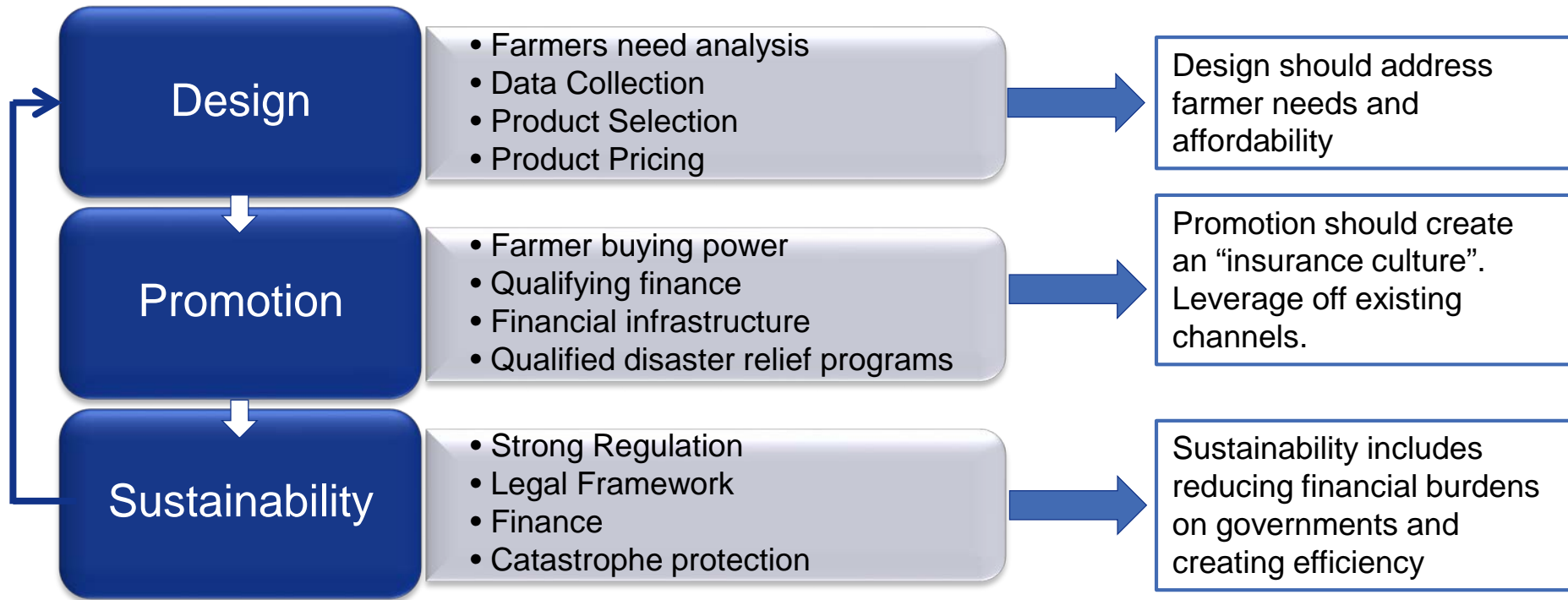
**Systemic**



## Level of subsidisation

Country	Agriculture as % of GDP		Rural Population as % of total		Agriculture support as % GDP	Insurance as a % of agriculture support	Agriculture Insurance support as % of GDP
	1970	2012	1970	2012			
<b>India</b>	41	18.2	<b>80.2</b>	<b>68.4</b>	<b>3.1%</b>	0.3%	0.009%
<b>China</b>	35.2	9.53	<b>82.6</b>	<b>48.1</b>	<b>3.2%</b>	1.6%	0.051%
<b>USA</b>	2.3	1.24	26.4	18.9	0.4%	10.15%	0.041%
<b>Canada</b>	≈5.0	1.76	24.3	18.7	0.4%	22.51%	0.090%
<b>Indonesia</b>	44.9	13.3	82.9	48.5	<b>4.6%</b>	0.06%	0.003%
<b>Vietnam</b>	40.2	17	81.7	68.3	0.5%	1.11%	0.006%

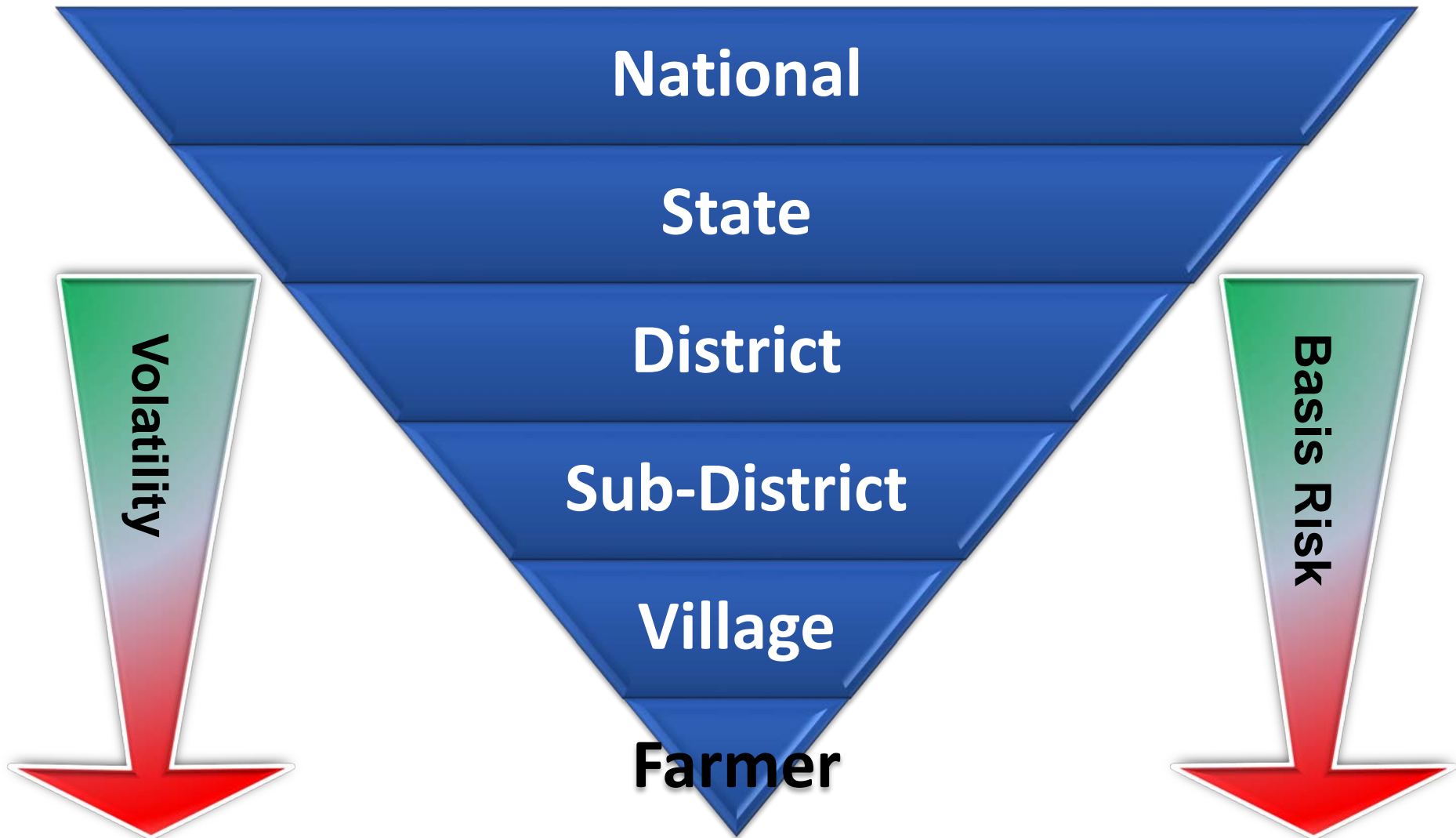
# Components of support in agriculture insurance



The key role of the **Public** entities in each of the 3 components is to address the systemic component of agriculture risk and smooth the informational asymmetries to ensure a thriving agricultural market

The Key role of the **Private** entities in the above 3 components is to bring efficiencies and harness commercial goals

Micro or Macro basis risk





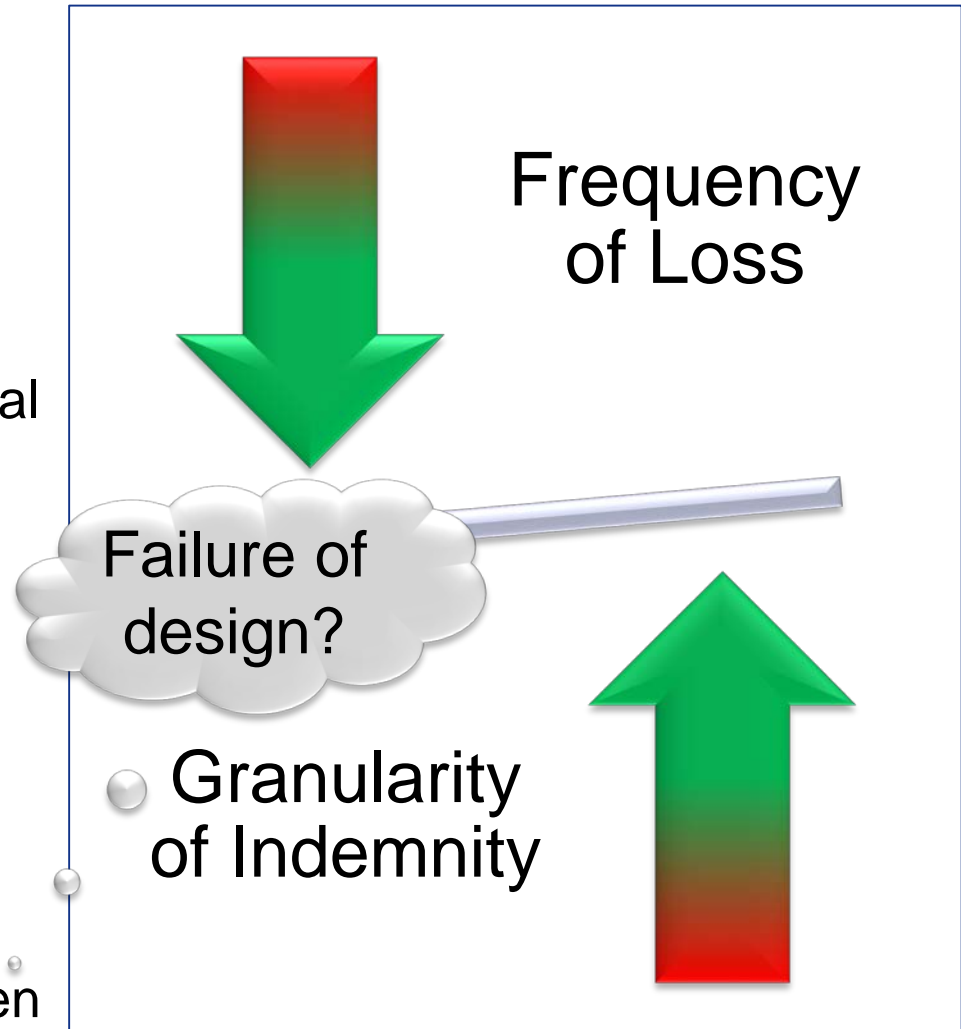
## Frequency vs Granularity

### Motorcycles:

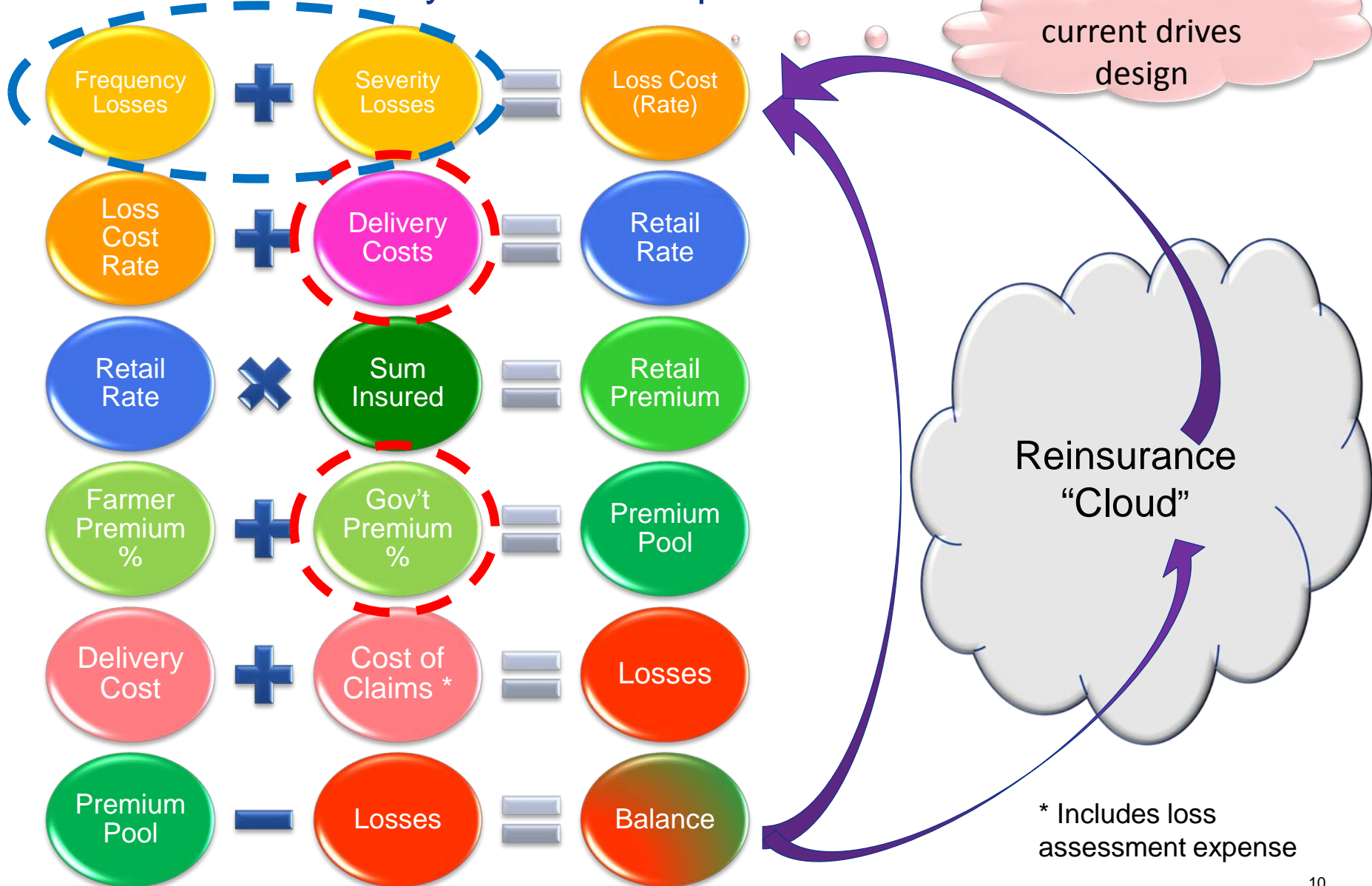
- Value: 200,000
- Rate: 8%
- Policy holder: Owner
- Indemnity: Real/physical
- Loss Frequency: One in Ten

### Area Yield cover:

- Value: 200,000
- Rate: 8%
- Policy holder: Bank
- Indemnity: Area Yield
- Loss Frequency: Three in Ten



# Insurance – its really not that complicated!!



# Excessive rate smoothing

Example is Thailand National Disaster Scheme for Rice.

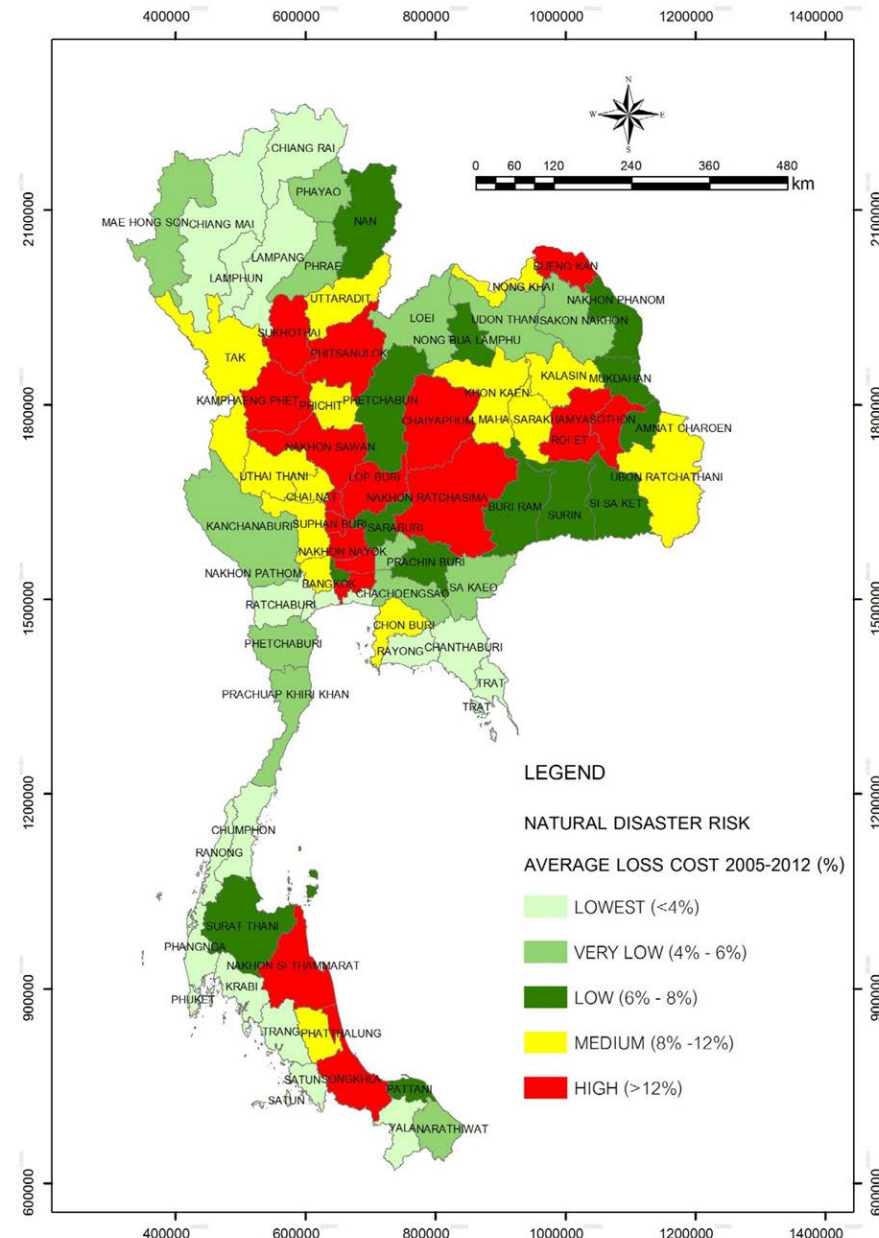
- Average loss cost for lowest zone is 2.91%
- Average loss cost for highest zone is 15.63%

Despite wide variance in risk zones parallel insurance program is flat rated across country

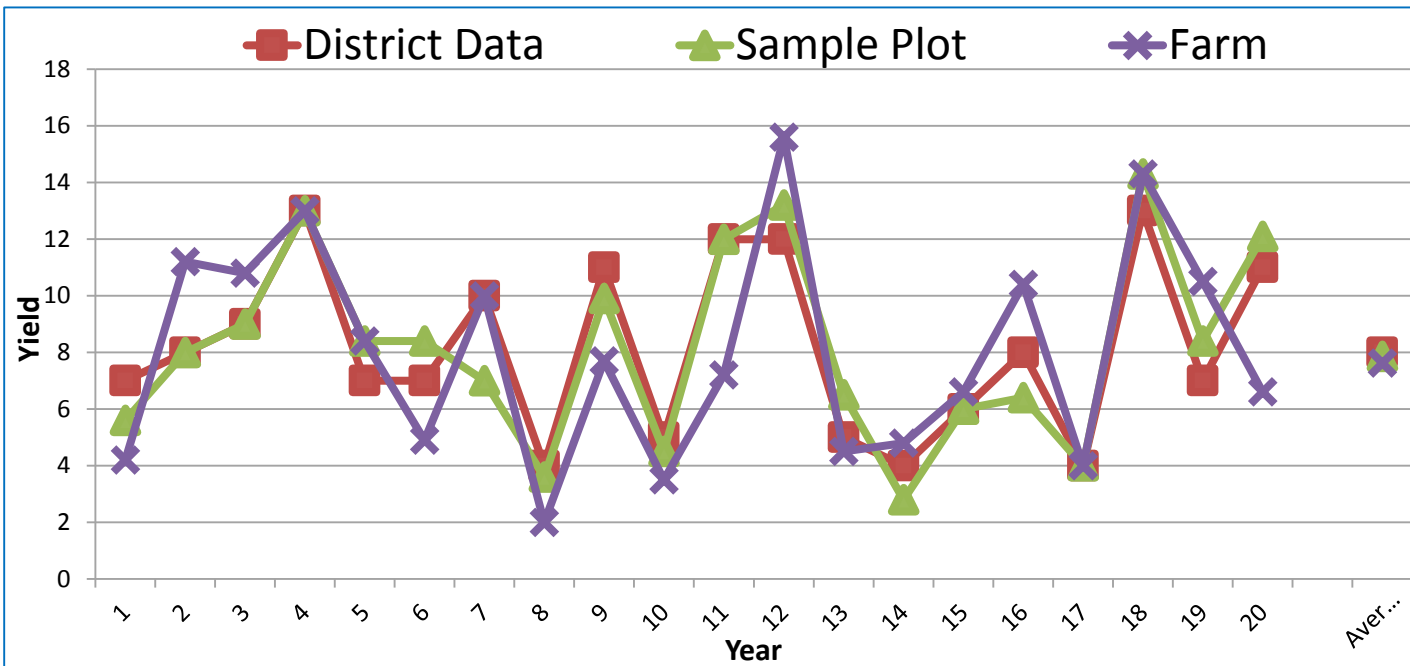
Creates dis-incentive for farmers in low risk zones and encourages take-up in high risk zones – antiselection

**Saving factor** in 2016 is that insurance for loanees is free (quasi compulsory).

If not compulsory program would become unbalanced and unsustainable



# Basis Risk in index insurance – works both ways!



Rice image: NGMN Plant

Loss Cost at 80% coverage	
District	6.38%
Village	7.30%
Farmer	10.37%

## Claims: Not just the dollars



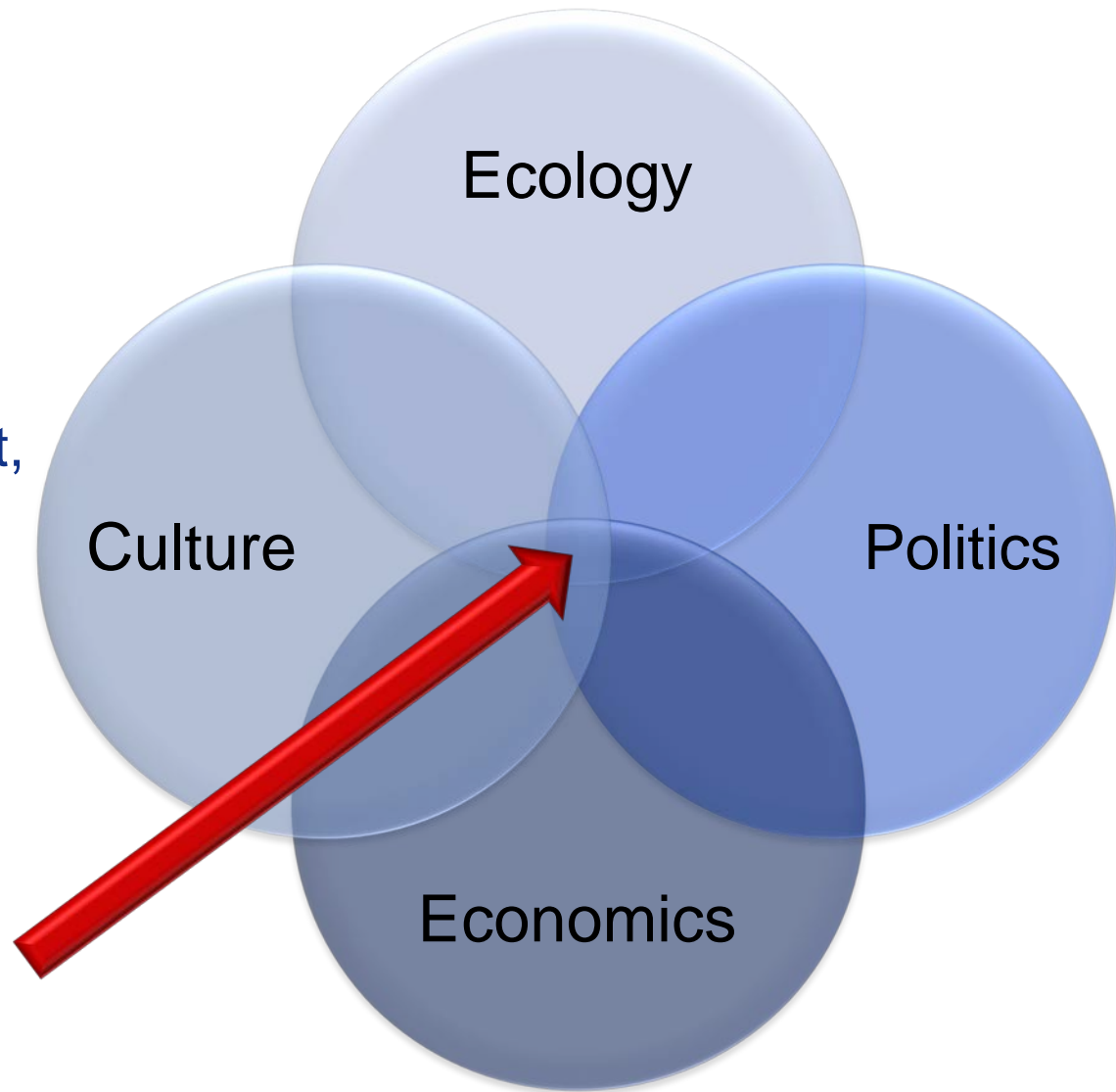
- Accuracy of loss assessment is critical but not sacrosanct
- Farmers need confidence in and transparency of loss assessment process
- Ideally claim settlement period should mirror cash flow from undamaged/harvested crop or sold animals (temporal indemnity)
  - If cash crops – in time to replant/plant next season
  - If subsistence farming – quick enough to put food on table
- Sum insured should be meaningful – ability to rebound from losses and continue farming

The solution/design should be sustainable

\* Sustainability: the endurance of systems and processes.

The organizing principle for sustainability is sustainable development, which includes the four interconnected domains:

- Ecology,
- Economics,
- Politics, and
- Culture.

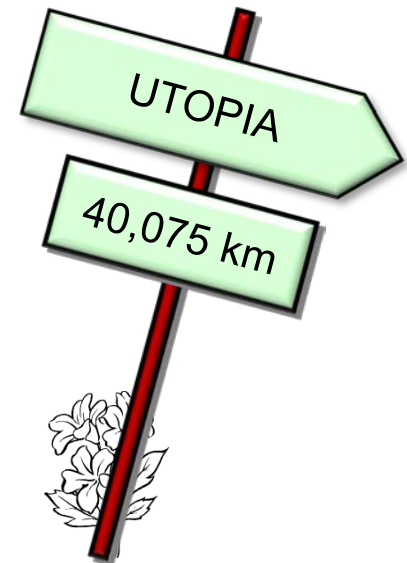




In conclusion.....is it “insurance” ....



- Be aware of all the stakeholders
- Insurance is “after” management and resilience
- Can’t compete with free handouts
- Rates  $\approx$  relative risk, don’t distort the truth
- Get quality data, protect against the unexpected
- Basis risk can (& often does) bite both ways
- Insurance = a promise to pay, make it a good one
- **Failure prejudices consumers for future purchases**



# Disclaimer

These assessments are, as always, subject to the disclaimer provided below.

## Cautionary Note Regarding Forward-Looking Statements

The statements contained herein may include statements of future expectations and other forward-looking statements that are based on management's current views and assumptions and involve known and unknown risks and uncertainties that could cause actual results, performance or events to differ materially from those expressed or implied in such statements. In addition to statements which are forward-looking by reason of context, the words "may", "will", "should", "expects", "plans", "intends", "anticipates", "believes", "estimates", "predicts", "potential", or "continue" and similar expressions identify forward-looking statements. Actual results, performance or events may differ materially from those in such statements due to, without limitation, (i) general economic conditions, including in particular economic conditions in the Allianz Group's core business and core markets, (ii) performance of financial markets, including emerging markets, and including market volatility, liquidity and credit events (iii) the frequency and severity of insured loss events, including from natural catastrophes and including the development of loss expenses, (iv) mortality and morbidity levels and trends, (v) persistency

levels, (vi) the extent of credit defaults, (vii) interest rate levels, (viii) currency exchange rates including the Euro/U.S. Dollar exchange rate, (ix) changing levels of competition, (x) changes in laws and regulations, including monetary convergence and the European Monetary Union, (xi) changes in the policies of central banks and/or foreign governments, (xii) the impact of acquisitions, including related integration issues, (xiii) reorganization measures, and (xiv) general competitive factors, in each case on a local, regional, national and/or global basis. Many of these factors may be more likely to occur, or more pronounced, as a result of terrorist activities and their consequences.

### **No duty to update.**

The company assumes no obligation to update any information contained herein.