

**Standing Committee on Finance, UNFCCC  
Montego Bay Convention Center,  
on 21 and 22 June 2014**

# **Adaptation Finance by private fund for private investment**

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# Business and Climate Change Risk

Private investment is affected by extreme weather.

Generally speaking,  
Mining is exposed to natural disaster...  
Industry with long supply chain is vulnerable...

Flood in Australia  
In 2010 and 2011



Source Rio Tinto

Flood in Thailand  
In 2010



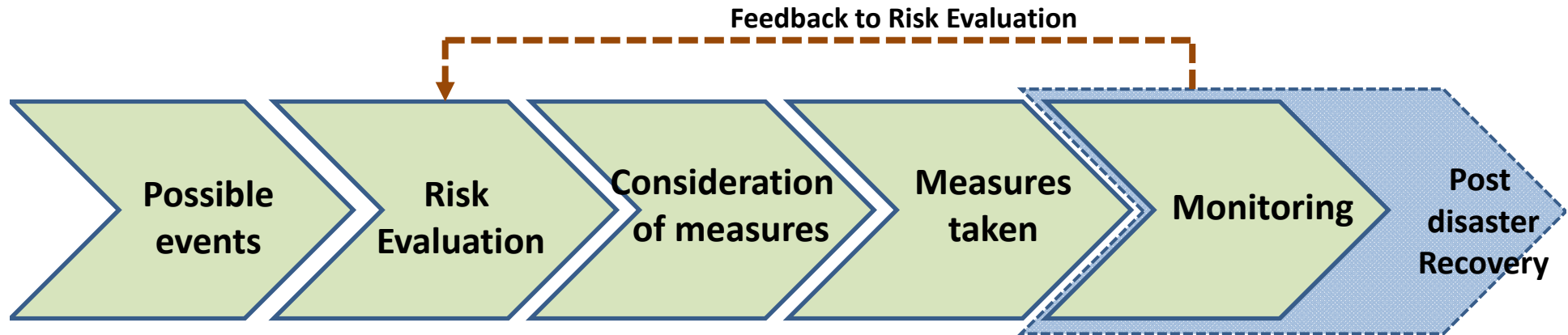
Source Bangkok  
Weekly



## Adaptation for private sector

- **Adaptation should be a part of risk management. Weather events risk are considered at project design and project cash flow analysis. However, climate risk (long term trend) is rarely considered.**
- **Adaptation will not generate cash flow and is a cost, but its cost may be recovered at life cycle basis.**
- **No good practice, no safeguard for climate risk management. “Guideline” is expected.**

# Adaptation Activities (General)



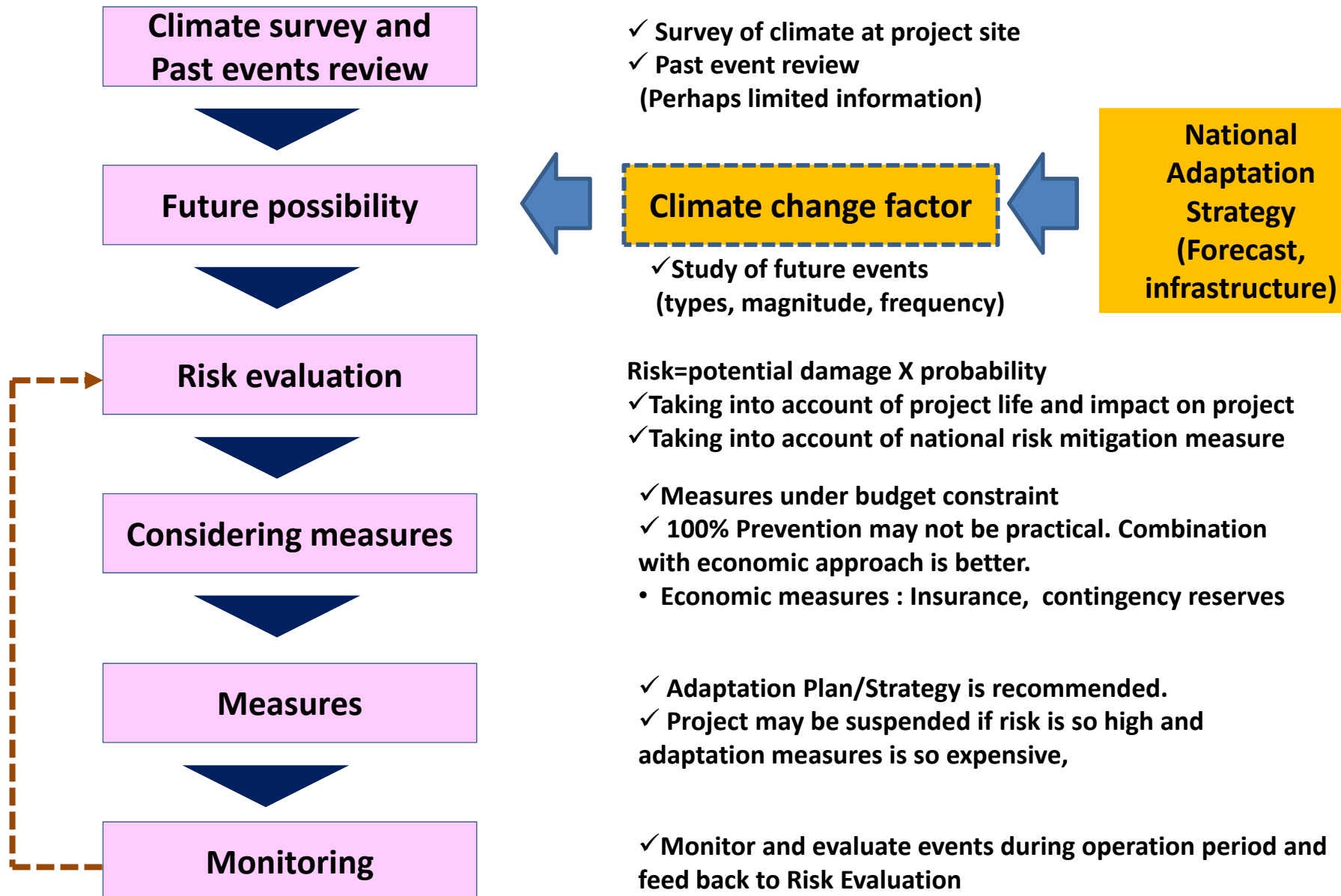
## Identification of possible events

- ✓ Heavy rain, flood
- ✓ High tide
- ✓ Strong wind, Tornado
- ✓ Drought
- ✓ Sea level rise
- ✓ Change of agriculture
- ✓ Infection/disease

Risk =  
Potential damage  
X  
Probability

- ✓ Measures shall be determined by evaluating the risk and cost.
- ✓ Combination of hard infra to reduce the risk and soft infra such as evacuation system insurance.

# Adaptation Consideration at Projects developments



# **Barriers for Adaptation Consideration at Project**

- **Increase initial investment cost**
  - **Physical infrastructure may reduce the climate change risk at projects but initial cost will be increased.**
  
- **National policy (Assumption for project)**
  - **National Adaptation Strategy provides general information of climate risk general to the projects.**
  - **Hazard map provides project specific information about climate change for the consideration of adaptation measures.**
  
- **Lack of economic tools**
  - **Physical structure may not remove all the climate risk and combination of economic measures is practical.**
  - **Weather insurance is available but its cost is high and its coverage is limited**

# Adaptation Consideration Guideline

<Purpose>

- ◆ Encourage the adoption of “review Cycle” for project risk control
- ◆ Paying attention on the risk of supply chain

1 Review and Identification of climate related risk

- Potential risk shall be listed even though its risk seems to be not so big.
- Damage and loss at project itself.
- Community of work force
- Logistic of project including transportation.
- Supply chain of energy, material and parts etc.
- Damage at their market

2 Consideration of Adaptation measures

- Taking into account of risk, damage and cost, measures to be taken will be determined
- Improve physical infrastructure for preventing/mitigating future events.
- Alert and evacuation system (safeties)
- Insurance and other economic instruments (Contingency reserves)
- Diversification of market and alternative resources.

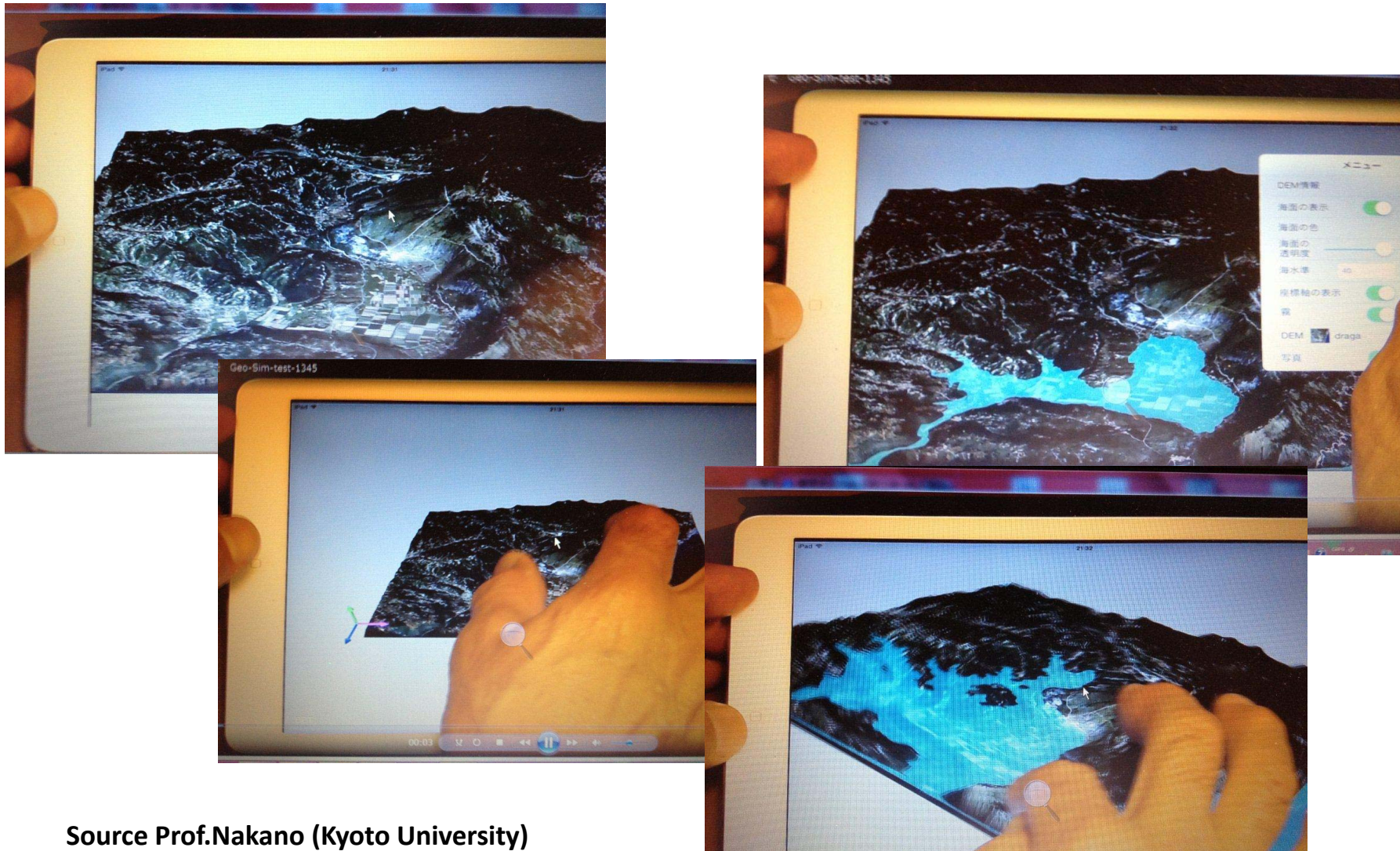
3 Implementation of Measures

4 Review and feedback



# Handy Type Hazard Map

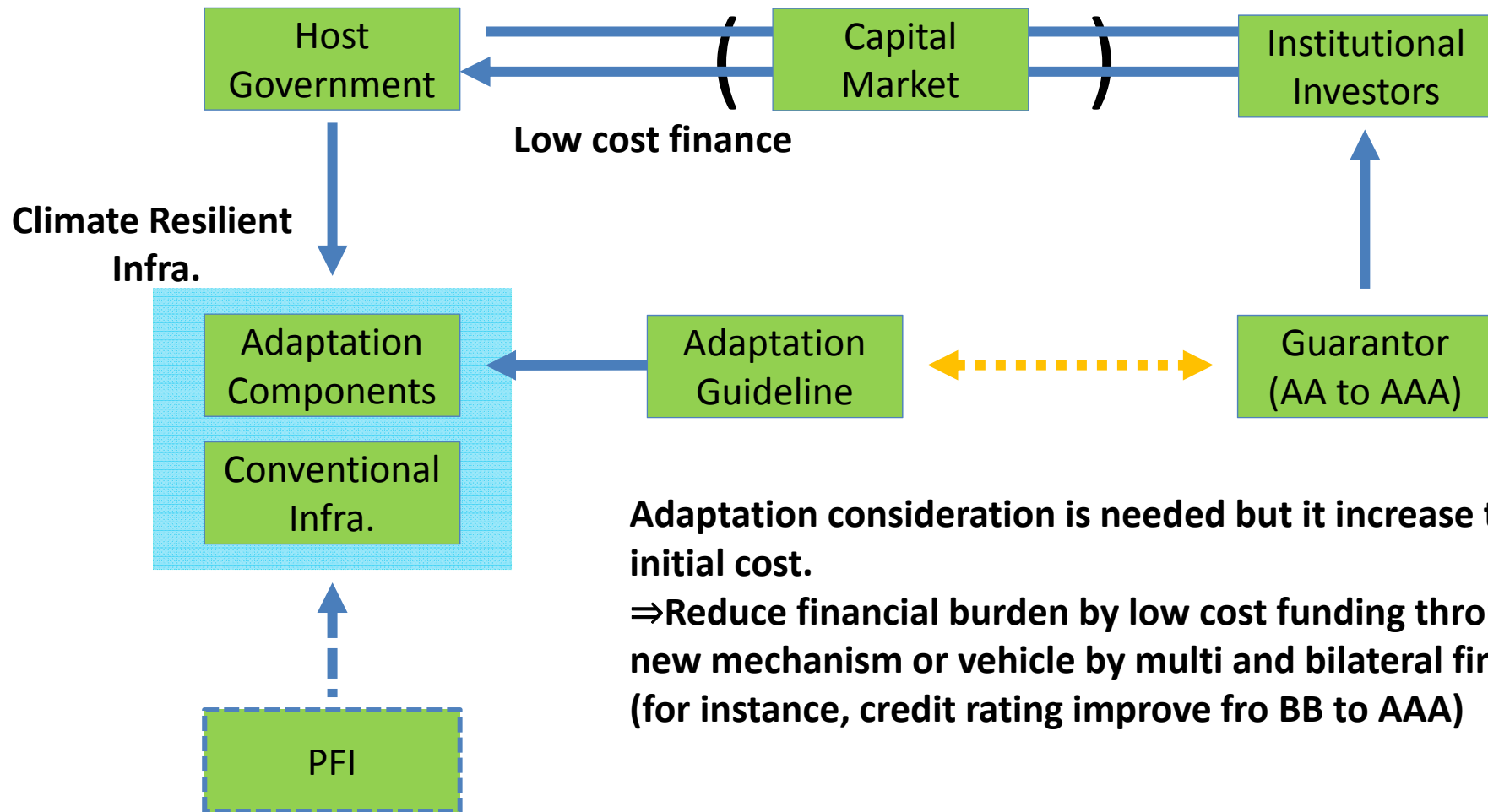
3D (3 dimension) map visualizes climate change risk  
(3D map is made by using remote sensing technology)



Source Prof.Nakano (Kyoto University)



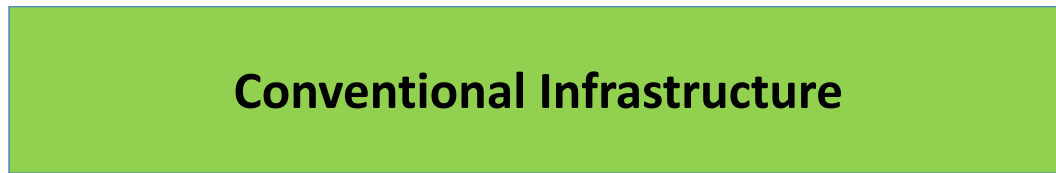
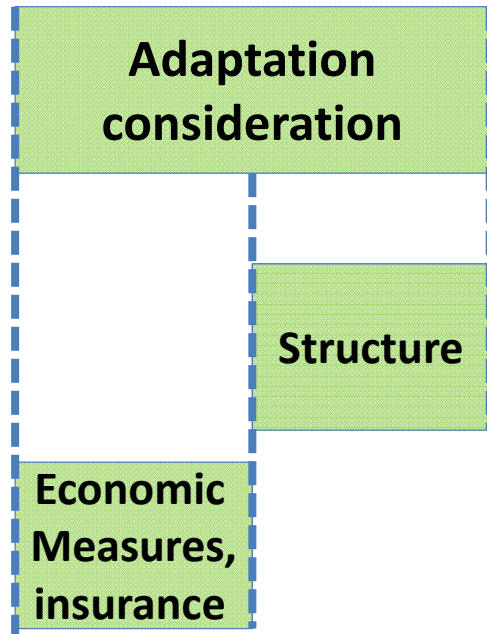
# Climate Resilient Infra Bond (Conceptual)



**Adaptation consideration is needed but it increase the initial cost.**

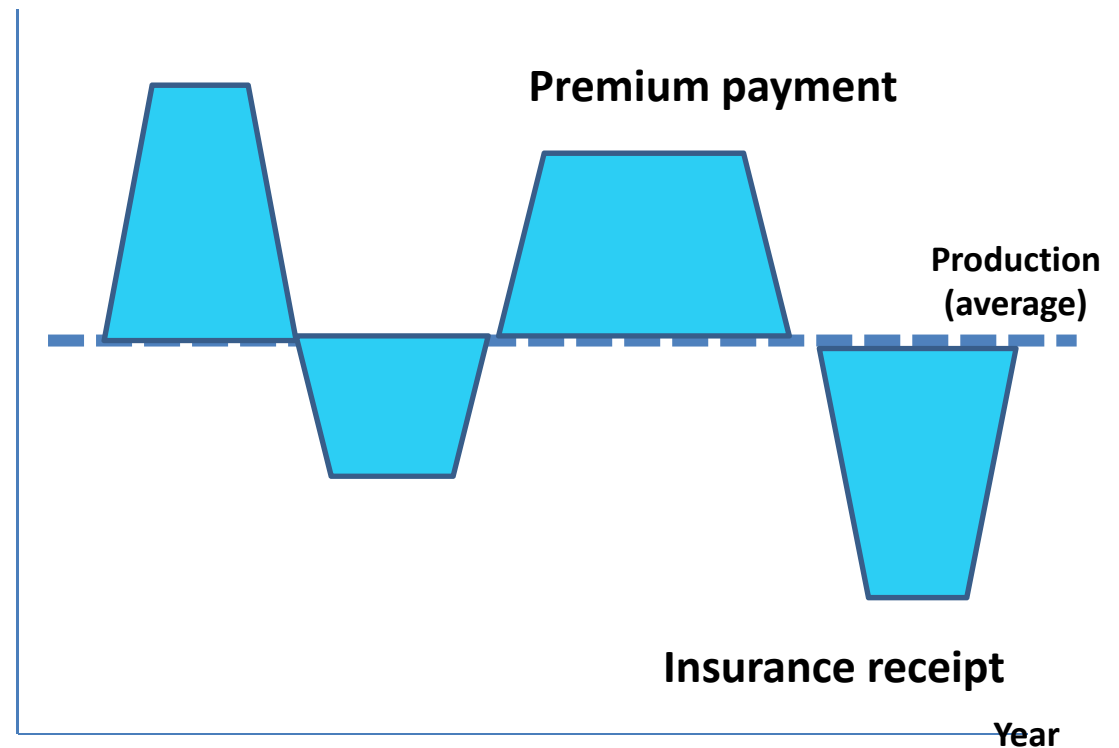
**⇒Reduce financial burden by low cost funding through a new mechanism or vehicle by multi and bilateral finance. (for instance, credit rating improve fro BB to AAA)**

# Role of Insurance for Adaptation



Production

Case of agricultural insurance

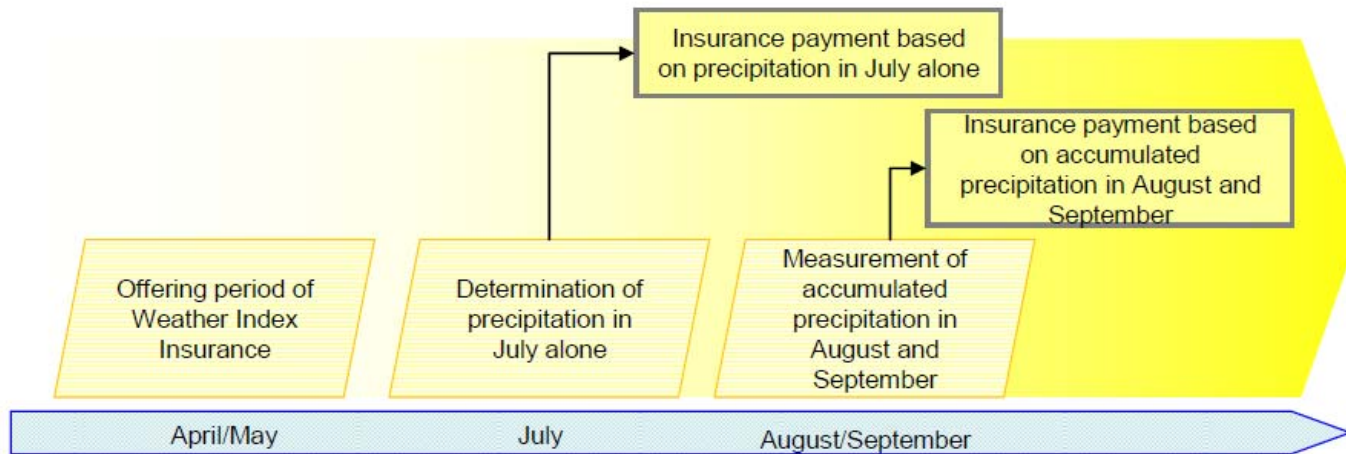
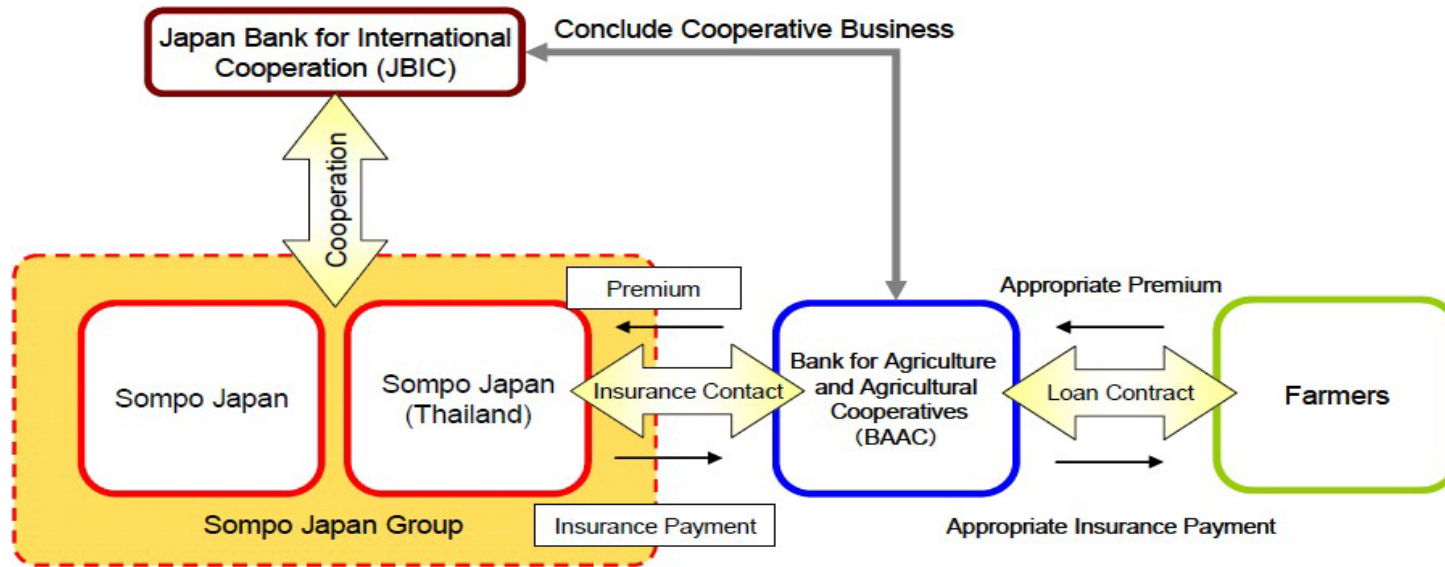


Economic loss will be compensated by insurance. Premium payment and insurance payment would be offset. (Loss would be leveled in the long run)

## Modality of Weather Insurance

	<b>Public type insurance</b>	<b>Individual type insurance</b>
<b>Outline</b>	Public such as government , local government or community will receive insurance payment when trigger is hit.	Individuals will receive insurance payment when trigger is ht.
<b>Payout condition</b>	Investigation/Trigger	Investigation/Trigger
<b>Support the recovery from loss and damage</b>	Indirect. Affected people will receive financial support from government which receive payout	Direct Directly pay out to affected people with contract.
<b>Quickness</b>	Depending on the payout allocation system. It may take time.	Quicker
<b>Gap between damage and payment</b>	Depending on allocation system (depending on host country side)	Depending on insurance policy
<b>Fairness of allocation</b>	Depending on the implementation process by government. (Risk )	No allocation risk. (Following the contract)
<b>Transaction cost</b>	Low for insurance system. Payment allocation and delivery system by local government is needed.	High. Combination with local partner is better option.

# Case Study : WIIA in Thailand by Sompo Japan Insurance



\* When the accumulated precipitation in July alone meets the criteria for the payment of insurance payments, this insurance contract will be terminated.

## Case Study : Public Acceptance



Communications with farmers (from web of Sompo Japan)

## Lessons learnt

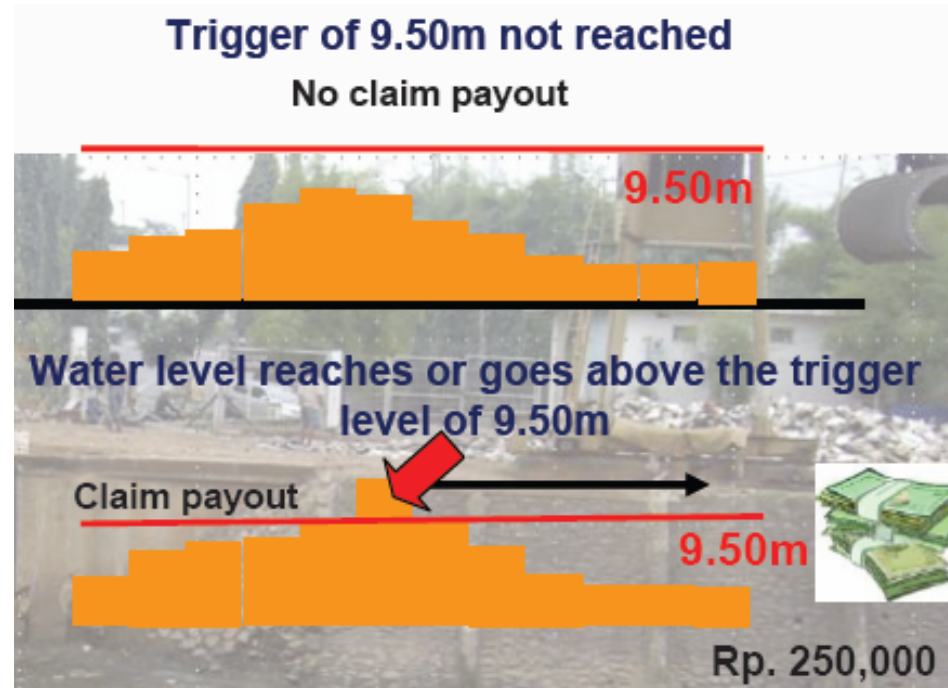
- ◆ **Index base payment is a practical option, because this is fair and objective payment system and also can save the investigation.**
- ◆ **Public acceptance is crucial ⇒ Reliable local partner is needed.**
- ◆ **Availability of data**
- ◆ **Demand for flood insurance : further consideration is needed**
- ◆ **Incentives to contractors for reducing economic burden**
- ◆ **Combination with physical infrastructure is needed**



# Flood insurance by GIZ : Jakarta



Source : GIZ



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Rp 50.000,-

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Kartu ini tidak dapat digunakan kembali di lingkungan yang berbeda.

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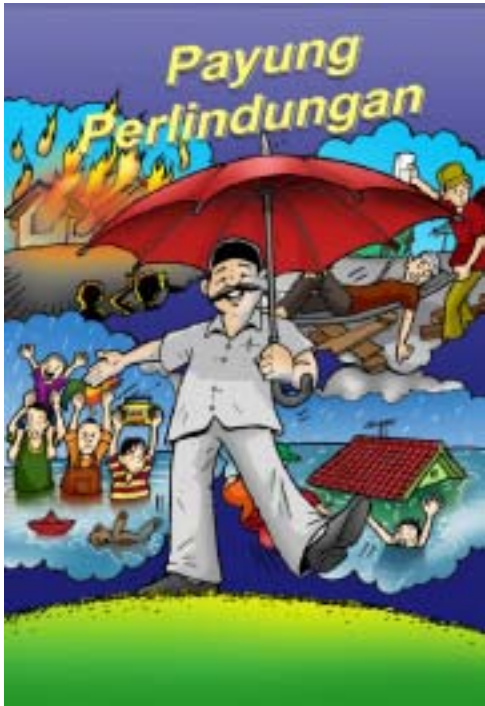
Kartu harus diserahkan kepada lembaga atau instansi pembayaran.

Kartu ini hanya berlaku sementara (tidak bisa diperbaharui) selama periode dan area berlaku kartu tersebut.

Penyediaan dan pengisian dan pasal lain dapat indikasi Adminare akan mengikuti.

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# Case Study : Public Acceptance



# Counting of Adaptation Finance

(An idea of Definition of Adaptation Finance)

Adaptation Activities	Adaptation Finance	From developed countries	Remarks
Capacity building	(Amount of grant or others)	Amount of grant or others	
Construction of structures	Amount of finance to the project	From developed country including through the third country	
Project with Adaptation components	Amount of finance to projects including adaptation components	From developed country including through the third country	Climate Risk at project is mitigated by the adaptation components
Insurance	Amount of asset insured	When it is implemented by developed country institutions. If it is JV, share equivalent is counted.	Climate Risk at project is mitigated by the insurance
Insurance (index base)	Amount of payout on the contract	it is implemented by developed country institutions. If it is JV, share equivalent is counted.	Climate Risk at project is mitigated by insurance
Climate Risk Reserves	Amount of investment including reserve	it is implemented by developed country institutions. If it is JV, share equivalent is counted.	Climate Risk at project is mitigated by Climate reserves

## Conclusion - Recommendation

- **For global framework**
  - **Reduce the cost for post disaster recovery by the combination of economic measures.**
  - **Finance with adaptation consideration shall be Adaptation Finance (definition)**
  
- **For project**
  - **Adaptation guideline for project analysis and decision making. It leads to reduce the cost of national adaptation plan.**
  
- **For projects and community**
  - **Hazard map will visualize climate risk**

For further information

Adaptation Finance- How can Private Sector play for Adaptation Finance? -

[https://unfccc.int/files/cooperation\\_and\\_support/financial\\_mechanism/standing\\_committee/application/pdf/adaptation\\_finance\\_2014\\_01\\_20\\_unfccc\\_scf.pdf](https://unfccc.int/files/cooperation_and_support/financial_mechanism/standing_committee/application/pdf/adaptation_finance_2014_01_20_unfccc_scf.pdf)