

WAY FORWARD FOR DEALING WITH THE LOSS AND DAMAGE : THE PERSPECTIVE OF THAILAND



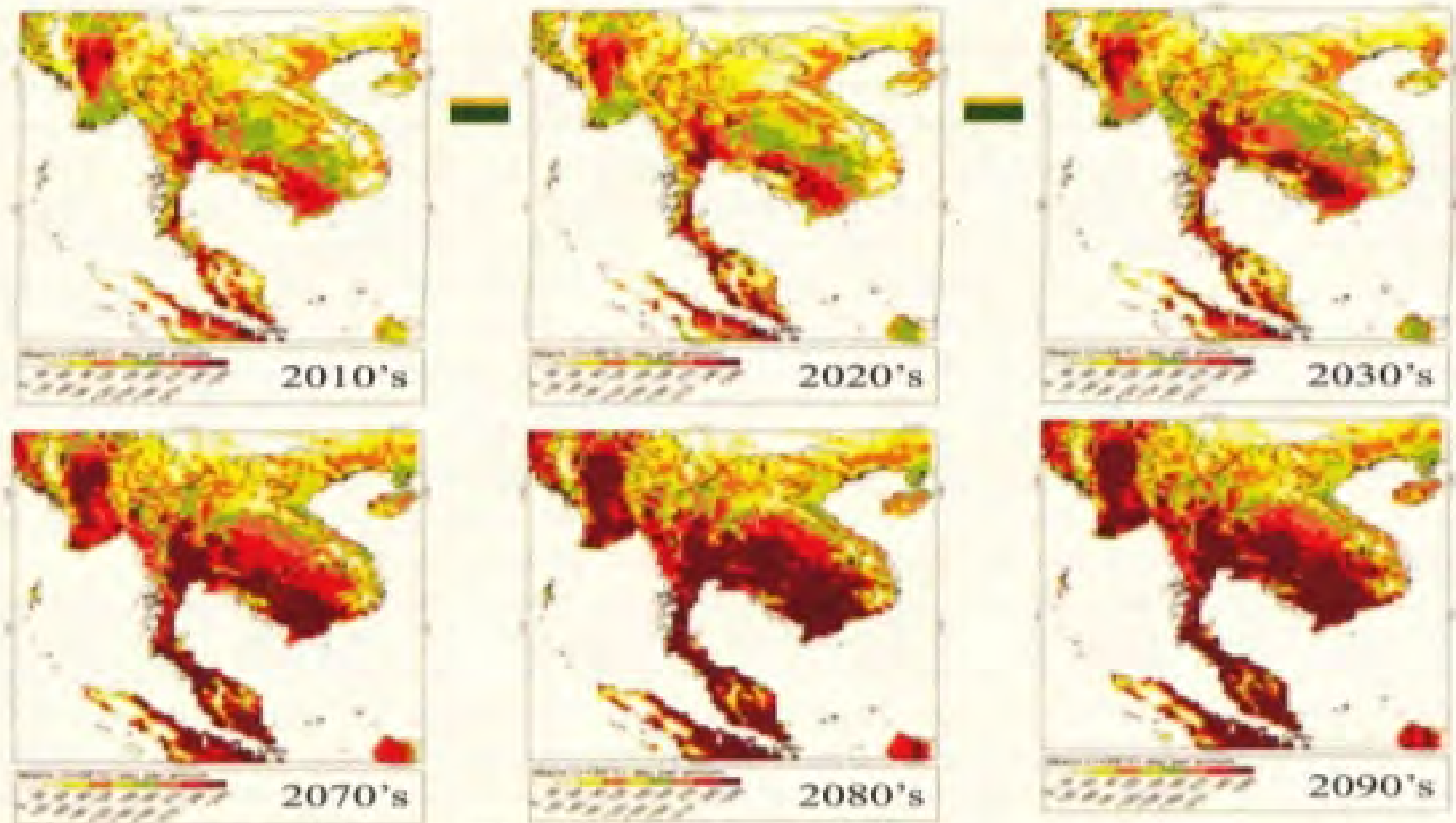
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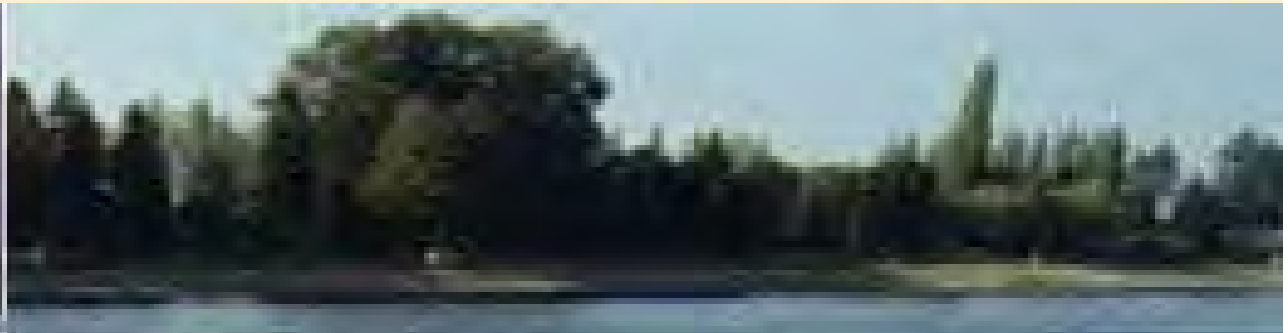
Director

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Figure 1- Area of Hot Days with Maximum Temperatures Over 35°C (2010—90)



Source: Anond Snidvongs (2009).
Note: Hot days ($\geq 35^{\circ}\text{C}$) per annum.

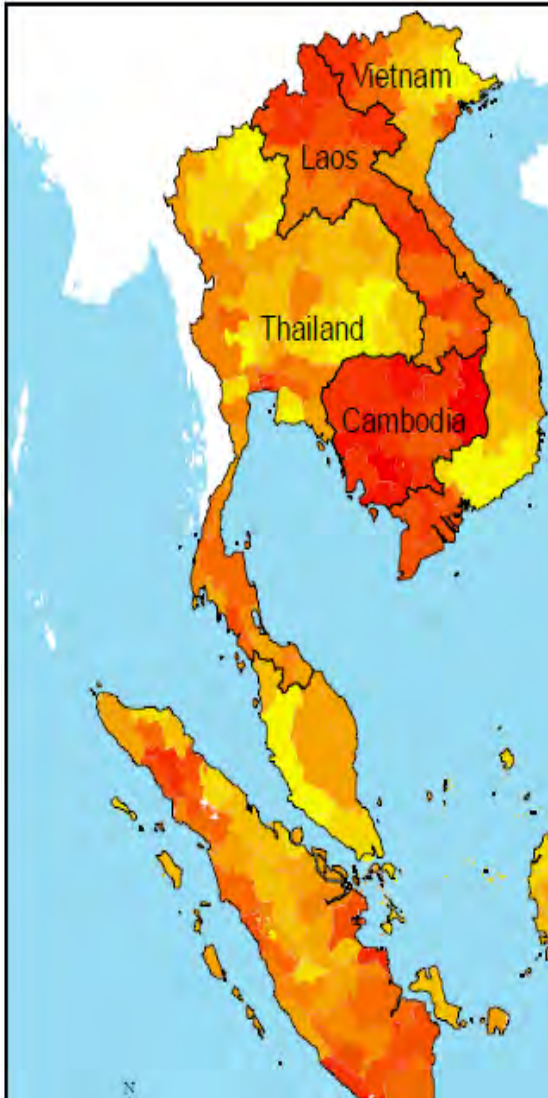


⇒ The average annual temperature will continue to increase.

- approximately 1°C in all regions (2010-30s)
- approximately 2°C by 2050s
- approximately 4°C by 2080s



The number of hot day.



- ⇒ over 35°C in all regions (1970-1989)
- 139 days per year
 - 172 days per year (2010-2030s)
 - 208 days per year (2050s)
 - 251 days (2080s)

- ➡ The annual number of rainy days will decrease in all regions. There will be more heavy rains but fewer rainy days.
- ➡ Increasing sea-surface temperatures may contribute to stronger monsoon winds, causing more violent and frequent storms.



⇒ Climate change in Thailand are significantly adversely affect the country's water resources, marine and coastal ecosystems, forest, agricultural systems and biodiversity.



- ➡ The changes in these resource bases will affect socio-economic development.
- ➡ Additionally, lack of proper resource management in the face of change may cause the underlying natural systems to be less capable of coping with the challenges of climate change, rendering them more vulnerable and sensitive to climate change, creating a detrimental positive feedback loop.
- ➡ Risk and impacts will certainly vary by region, depending on both the environment and capacity to adapt to change, with some areas affected for more than others.

⇒ The first three groups are identified as those most likely to be affected by climate change.

Group 1 : Physical Systems, Infrastructure, Settlements and Tourisms

Group 2 : Agriculture

Group 3 : Health and Public Health



➡ A rising sea level is one of the most often cited physical risks of climate change in Thailand, across 27 provinces.



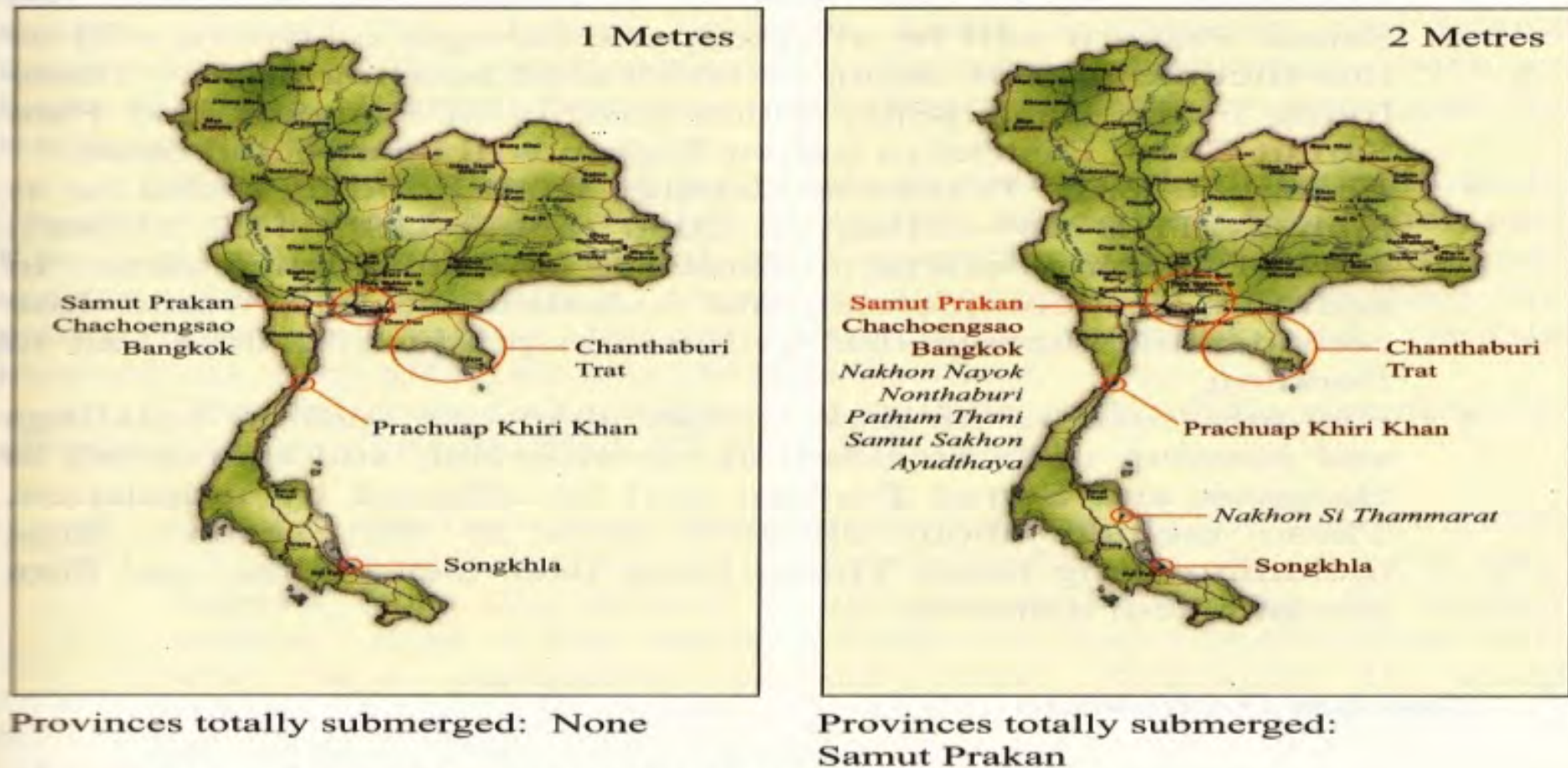
➡ Since economic growth in Thailand is concentrated in river plains and coastal areas, rising sea levels, flooding and coastal erosion will exacerbate the development effects of climate change.



⇒ The areas most at risk are the Bangkok Metropolitan Area (BMA), the source of 42% of the country's GDP and the delta plains.



Figure 2-Thailand's Exposure to a Mean Sea Level Rise of 1-2 metres



Source: Adapted from Dasgupta, et al. (2007).

Note: Estimation of submerged areas by the Public Policy Studies Institute, Chiang Mai University. Provinces in italics are those additionally flooded by a mean sea level rise of >1 metre and ≤2 metres.

URBAN AREAS

⇒ By 2050, the impacts of flooding and seawater incursion in the BMA will include

- Residents – 1 millions inhabitants in BMA and Sumutprakarn province.
- Economic loss- THB 148 billion (4.22 billion US\$).
- Building and residence-more than 1 million building and housing.



TOURISM DESTINATIONS

- ➡ Marine tourism along the Andaman coast
 - potentially critical water shortage



⇒ Agro-tourism in the eastern provinces

- slight increase in rainfall and little change in the cooling winter temperatures important for triggering flowering of many fruit tree species.
- higher risks from flashfloods along the steep slopes will work against tourism.



➡ Ecotourism

- high temperatures in the summer months will make tourism destinations in the regions more uncomfortable and subject to increase forest fire risk and a loss of biodiversity.



➡ Agriculture and Food Security

- Crop production in Thailand is highly climate dependent, with only one-fifth of the cultivated area irrigated.
- Rice production is sensitive to higher temperatures during all of its development stages.



➡ Forest Ecosystems and Biological Diversity

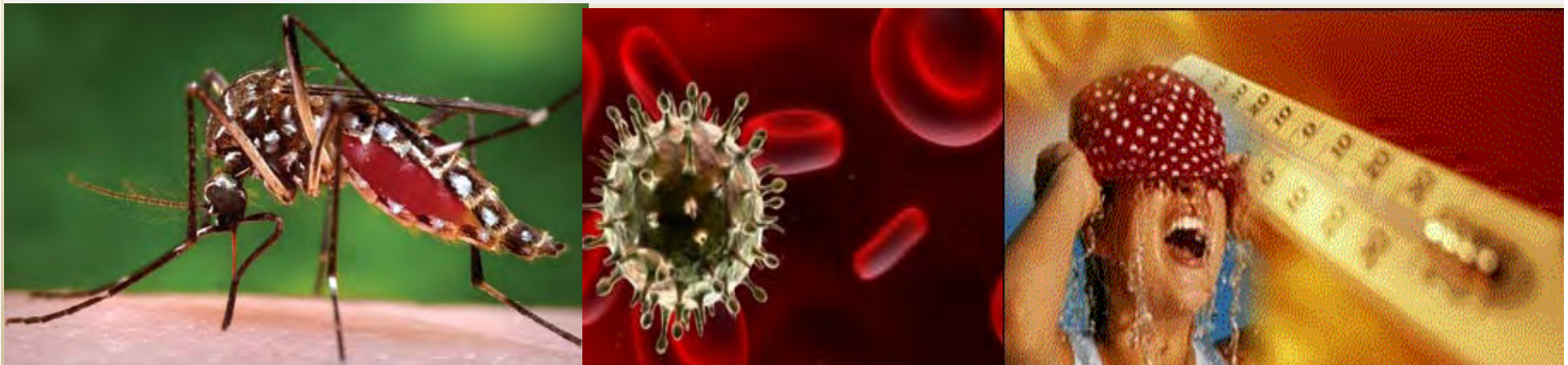


➡ Increasing temperatures and fewer rainy days affect the forest ecosystems both directly and indirectly, including higher risks of wildfires, migration of wild fauna, and explosion in the ranges of insect pests, which all affect biodiversity and forests.



➡ Health and Public Health

- Increase water-borne infections diseases
- Outbreak of increased spread of parasites like malaria among other increased risks.
- Cardiovascular mortality and respiratory illnesses due to heat waves, infections diseases
- Dengue viruses and mosquito vector.



Developing a common understanding of the National Adaptation Plans and the National Adaptation Plan Process in Thailand



- ⇒ Adaptation to climate change is becoming a routine and necessary component of planning at all levels.
- ⇒ Thailand recognized the need to address adaptation planning in broader content of sustainable development planning.

The agreed objectives of the national adaptation process in Thailand are :



a) To reduce vulnerability to the impacts of climate change, by building adaptive capacity and resilience.



The agreed objectives of the national adaptation process in Thailand are :



b) To facilitate the integration of climate change adaptation into relevant new and existing policies,

programmes and activities, in particular development planning processes and strategies, within all relevant sectors and at different levels, as appropriate.

The principle to enhance action on adaptation in Thailand



- a) Be undertaken in accordance with the Climate Change Convention.
- Follow a country-driven, gender – sensitive, fully transparent approach, taking into account vulnerable groups, communities and ecosystems.

The principle to enhance action on adaptation in Thailand



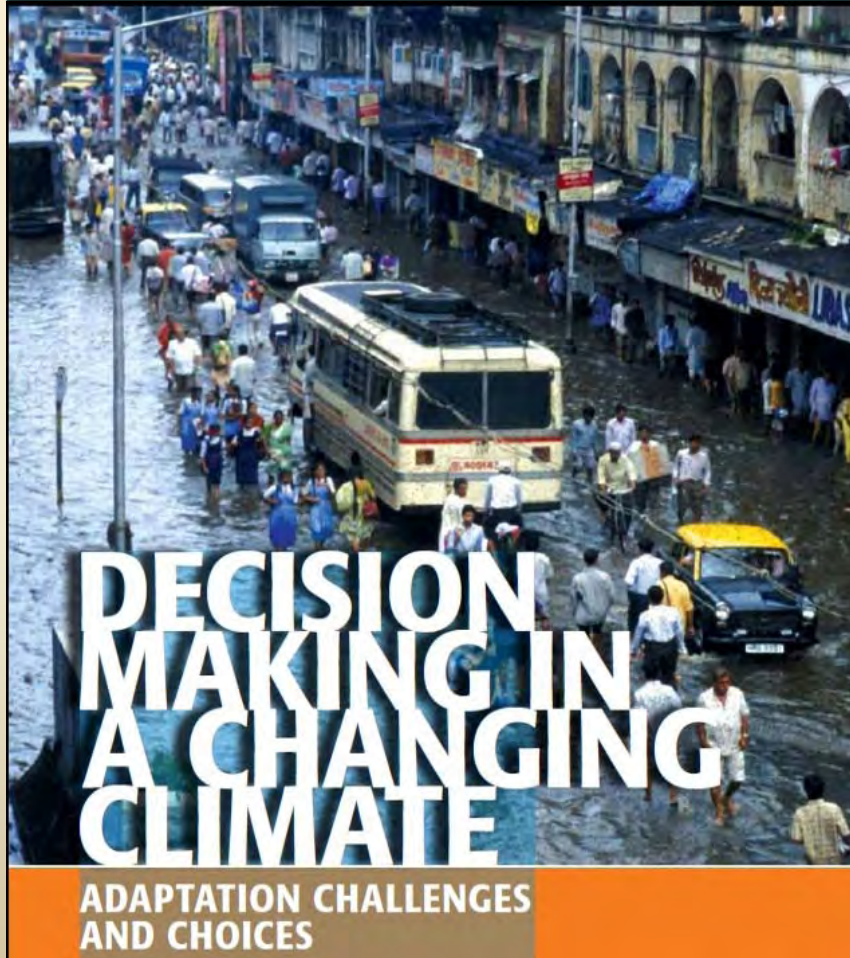
- ▶ Based on the best available science and traditional and indigenous knowledge with a view to integrate adaptation into relevant social, economic and environmental policies and actions
- ▶ Not duplicate of efforts undertaken in country, but facilitate and driven action.

NATIONAL ADAPTATION PLAN (NAP)

- ▶ The process designed to offer the control and local government an opportunity to work towards transformational change in their capacity to address adaptation.



NATIONAL ADAPTATION PLAN (NAP)



- It takes medium and long-term approach to reduce vulnerability to the adverse effects of climate change that is integrated with national development planning processes and strategies.

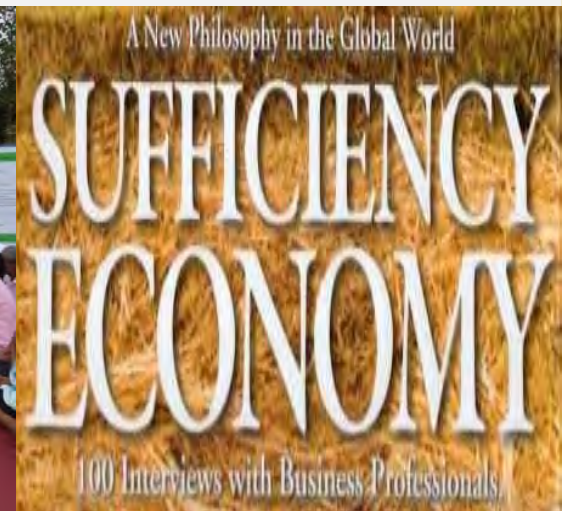
NATIONAL ADAPTATION PLAN (NAP)

- ▶ NAP process will build upon the achievements and lessons learnt from NAPA process
- ▶ This includes the institutional arrangements and capacity that have built, awareness – raising efforts and assessments that have been undertaken.
- ▶ The plan would be monitored, reviewed and updated periodically.



NAP PROCESS IN THAILAND

- ❖ Participatory process involving stakeholders.
- ❖ Multidisciplinary and complementary approach, building upon relevant existing plans and programmes
- ❖ Contribution to sustainable development



NAP PROCESS IN THAILAND

- ❖ Particular consideration to marginalized group such as women
- ❖ Country driven approach
- ❖ Sound environmental management
- ❖ Cost effectiveness
- ❖ Simplicity and flexibility



TABLE 1. STEPS UNDER EACH OF THE ELEMENTS OF THE FORMULATION OF NATIONAL ADAPTATION PLANS.

ELEMENT A. LAY THE GROUNDWORK AND ADDRESS GAPS

1. Initiating and launching of the NAP process
2. Stocktaking: identifying available information on climate change impacts, vulnerability and adaptation and assessing gaps and needs of the enabling environment for the NAP process
3. Addressing capacity gaps and weaknesses in undertaking the NAP process
4. Comprehensively and iteratively assessing development needs and climate vulnerabilities

ELEMENT B. PREPARATORY ELEMENTS

1. Analysing current climate and future climate change scenarios
2. Assessing climate vulnerabilities and identifying adaptation options at the sector, subnational, national and other appropriate levels
3. Reviewing and appraising adaptation options
4. Compiling and communicating national adaptation plans
5. Integrating climate change adaptation into national and subnational development and sectoral planning

TABLE 1. STEPS UNDER EACH OF THE ELEMENTS OF THE FORMULATION OF NATIONAL ADAPTATION PLANS.

ELEMENT C. IMPLEMENTATION STRATEGIES

1. Prioritizing climate change adaptation in national planning
2. Developing a (long-term) national adaptation implementation strategy
3. Enhancing capacity for planning and implementation of adaptation
4. Promoting coordination and synergy at the regional level and with other multilateral environmental agreements

ELEMENT D. REPORTING, MONITORING AND REVIEW

1. Monitoring the NAP process
2. Reviewing the NAP process to assess progress, effectiveness and gaps
3. Iteratively updating the national adaptation plans
4. Outreach on the NAP process and reporting on progress and effectiveness

Table 2. Main elements and steps of the National Adaptation Plan (NAP) process and key questions to be addressed under each step.

Steps	Key Questions	Steps	Key Questions
A. Lay the Groundwork and Address Gaps			
1. Initiating and launching of the national adaptation plan (NAP) process	• What is the overall national approach and strategy for the NAP process and what kind of mandate is needed to drive it? • What institutional arrangements are required at the national level to coordinate, lead and monitor the NAP process? • What outputs are expected from the NAP process, and when? • What will the reporting arrangements to various stakeholders in the country be? • What technical and financial arrangements are needed and can be mobilized to sustain the process in the short- to long-term?		
2. Stocktaking: identifying available information on climate change impacts, vulnerability and adaptation and assessing gaps and needs of the enabling environment for the NAP process	• Where do we stand regarding effective short- and long-term adaptation activities? • What data and knowledge are available to assess current and future climate risks, vulnerability and adaptation? • How can the storage and management of this data and knowledge best be coordinated? • What gaps can be identified regarding the capacity, adequacy of data and information, and required resources to engage in the NAP process? • What barriers exist to effectively plan for, design and implement adaptation?		

Table 2. Main elements and steps of the National Adaptation Plan (NAP) process and key questions to be addressed under each step

Steps	Key Questions	Steps	Key Questions
A. Lay the Groundwork and Address Gaps			
3. Addressing capacity gaps and weaknesses in undertaking the NAP process	• How can enabling institutional and technical capacity gaps best be addressed, and which resources are required? • How can long-term capacity development be institutionalized? • How can each of the barriers to adaptation planning be lifted? • Where are there opportunities for integrating climate change adaptation into development planning?		
4. Comprehensively and iteratively assessing development needs and climate vulnerabilities	• What key development goals are sensitive to climate change? • How can climate risks to development and potential co-benefits of adaptation and development be identified?		

Table 2. Main elements and steps of the National Adaptation Plan (NAP) process and key questions to be addressed under each step

Steps Key Questions	Steps Key Questions
B. Preparatory Elements	
1. Analysing current climate and future climate change scenarios	• Which climatic patterns in the country, according to observed data, are most important in terms of adjustment, adaptation or acclimatization of social systems? • What risks does climate change hold for the country? • What are major current climate hazards? • What is the estimated range of uncertainty for possible future climate scenarios? • What are appropriate indices of climate trends which could support planning and decision making?
2. Assessing climate vulnerabilities and identifying adaptation options at sector, subnational, national and other appropriate levels	• Which systems, regions, or groups work towards key development goals such as food security, poverty alleviation, economic development, etc? • What are the main climate vulnerabilities of those systems/regions that are key to achieve the main development goals? • What are the expected impacts of climate change? • What are viable cost-effective adaptation options to reduce the impacts of climate change or to exploit opportunities?

Table 2. Main elements and steps of the National Adaptation Plan (NAP) process and key questions to be addressed under each step

Steps Key Questions	Steps Key Questions
B. Preparatory Elements	
3. Reviewing and appraising adaptation options	• What are the costs and benefits of each adaptation option? • How best can the adaptation options be implemented, and what are the conditions for success? • Is it possible to identify co-benefits between the adaptation options and development?
4. Compiling and communicating national adaptation plans	• How will priority sectoral and subnational adaptation options be aggregated into national adaptation plans? • How will inputs of all relevant stakeholders be incorporated into producing the national plans? • How can the national adaptation plans and related outputs best be communicated and disseminated at the national level?
5. Integrating climate change adaptation into national and subnational development and sectoral planning	• How can adaptation best be integrated into ongoing development planning processes? • What kind of opportunities can be generated through the integration? • How can the process of integration be facilitated?

Table 2. Main elements and steps of the National Adaptation Plan (NAP) process and key questions to be addressed under each step

Steps Key Questions	Steps Key Questions
C. Implementation Strategies	
1. Prioritizing climate change adaptation in national planning	• How can adaptation work best be prioritized for implementation at the national level considering development needs, climate vulnerabilities and risks as well as existing plans? • What criteria can be used to define priority actions?
2. Developing a (long-term) national adaptation implementation strategy	• What is the most appropriate strategy for the implementation of adaptation activities including timing, target areas/beneficiaries, responsible authorities and sequencing of activities? • How can the implementation build on and complement existing adaptation activities? • What are the potential costs of implementing the NAPs and how can these costs be met?
3. Enhancing capacity for planning and implementing adaptation	• How can technical and institutional capacities and regulations for long-term planning and implementation of adaptation be maintained and enhanced at different levels? • What can be learned from other international experiences and international cooperation on adaptation planning?

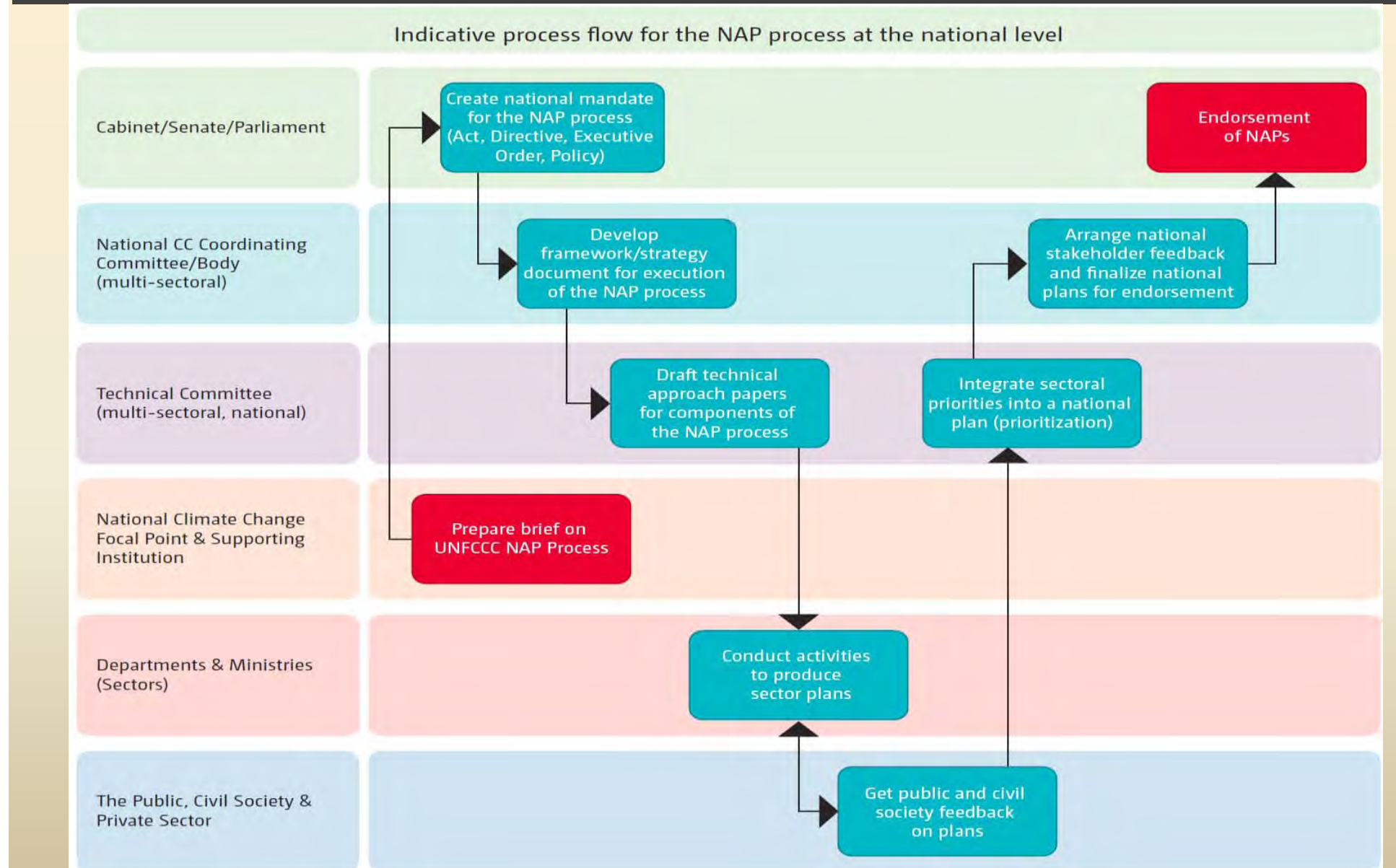
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Steps Key Questions	Steps Key Questions
C. Implementation Strategies	
4. Promoting coordination and synergy at the regional level and with other multilateral environmental agreements	• How can the cross-sectoral and regional coordination of adaptation planning be promoted and enhanced? • How can synergy with other multilateral environmental agreements in the planning and implementation process be identified and promoted?
D. Reporting, Monitoring and Review	
1. Monitoring the NAP process	• Which areas of the NAP process are key for its effectiveness and should thus be the focus of the monitoring process? • What information and metrics are needed to monitor progress, effectiveness, gaps and lessons of the NAP process?
2. Reviewing the NAP process to assess progress, effectiveness and gaps	• What will be the time interval for reviewing the NAP process? • How would progress, effectiveness and gaps best be quantified and assessed and which information from outside of the NAP process is required?

Table 2. Main elements and steps of the National Adaptation Plan (NAP) process and key questions to be addressed under each step

Steps Key Questions	Steps Key Questions
D. Reporting, Monitoring and Review	
3. Iteratively updating the national adaptation plans	• What are the frequency and/or triggers for an update of the NAPs and related outputs? • Which of the previous steps of the NAP process would be repeated in order to produce an update of the NAPs? • How can the updating of the NAPs be aligned with other development planning processes to ensure harmonization and the identification of co-benefits?
4. Outreach on the NAP process and reporting on progress and effectiveness	• How can NAP documents best be disseminated to the UNFCCC secretariat and other stakeholders? • What kind of information needs to be included in reporting on progress and effectiveness of the NAP process in national communications? • What other channels can be used to report on progress to the COP and other stakeholders?

Figure 2 - Possible flow of responsibilities for a national adaptation plan process until the endorsement stage



Loss and damage



Adverse effects of climate variability and change that communities and societies have not yet been able to cope with or adapt to.

It includes impact of extreme water events, such as cyclones, floods, droughts and slow-onset climate changes such as sea level rise, higher temperatures, changing rainfall patterns and desertification



These climate threats can cause loss and damage in the areas of people's food, livelihood and security, but also in the social, health and cultural domains.



Thailand Disaster Prevention and Mitigation Act (2007)

Under this Act :

National Disaster Prevention and Mitigation Committee (NDPMC) appointed by the cabinet consist of

- Prime Minister or designated Deputy Prime Minister as a Chairperson.
- Permanent Secretary for
 - Defense
 - Social Development and Human Security



- Agriculture and Cooperatives
- **Transportation and Communications**
- Natural Resources and Environment
- **Information and Communication Technology**
- Public Health
- **Bureau of Budget**
- Royal Thai Police
- **Royal Thai Army**
- Royal Thai Navy
- **Royal Thai Air Force**
- National Security Council

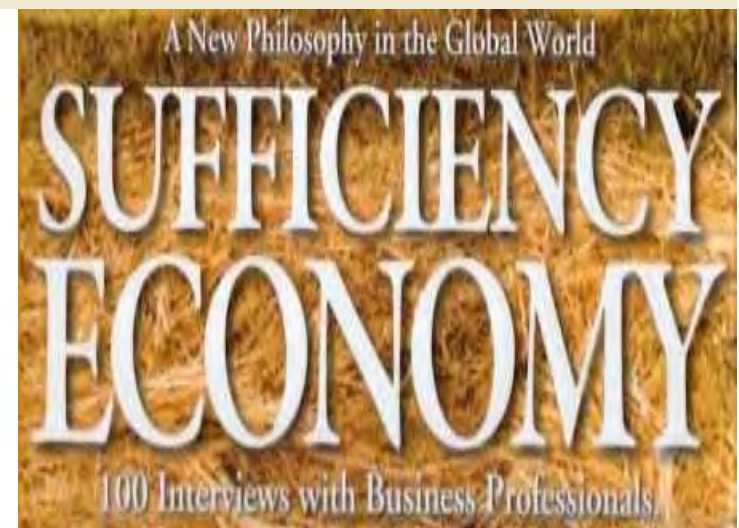


Duties of the National Committee

- ❖ **Propose the policy to formulate the National Disaster Prevention and Mitigation Plan.**
- ❖ **To integrate the development on disaster prevention and mitigation mechanism among Government Agencies, local administrations and other private sectors effectively.**



- ❖ **To recommend support and promote on any disaster prevention and mitigation activities.**
- ❖ **To propose regulations or remuneration, recompenses and other expenses related to disaster prevention and mitigation operations, and their regulations shall be in accordance to rules and regulations of Ministry of Finance.**



Department of Disaster Prevention and Mitigation

- ❖ **Formulate the National Disaster Prevention and Mitigation Plan.**
- ❖ **Organize and conduct researches on procedures and measures to prevent and mitigate all impacts of disaster effectively.**



- ❖ **Operate and cooperate, support and assist other government services, local administrators and provide aids to disaster effected people.**
- ❖ **Follow up and assess and evaluate all activities related to disaster prevention and mitigation at all levels.**



Disaster Prevention and Mitigation Plan

- ❖ **Measures and adequate budget to support disaster prevention and mitigation operations systemically and continuously**
- ❖ **Guidelines and methods for providing aids and mitigate the impacts of disasters in both short and long term together with evacuation procedures of effected people, government services and other local administrations, support effected people on public health, utilities and communication system.**



- ❖ **Preparedness perspectives on support personnel, equipments and other materials.**
- ❖ **Guideline on fixing, recovery and restoration to community right after disaster.**



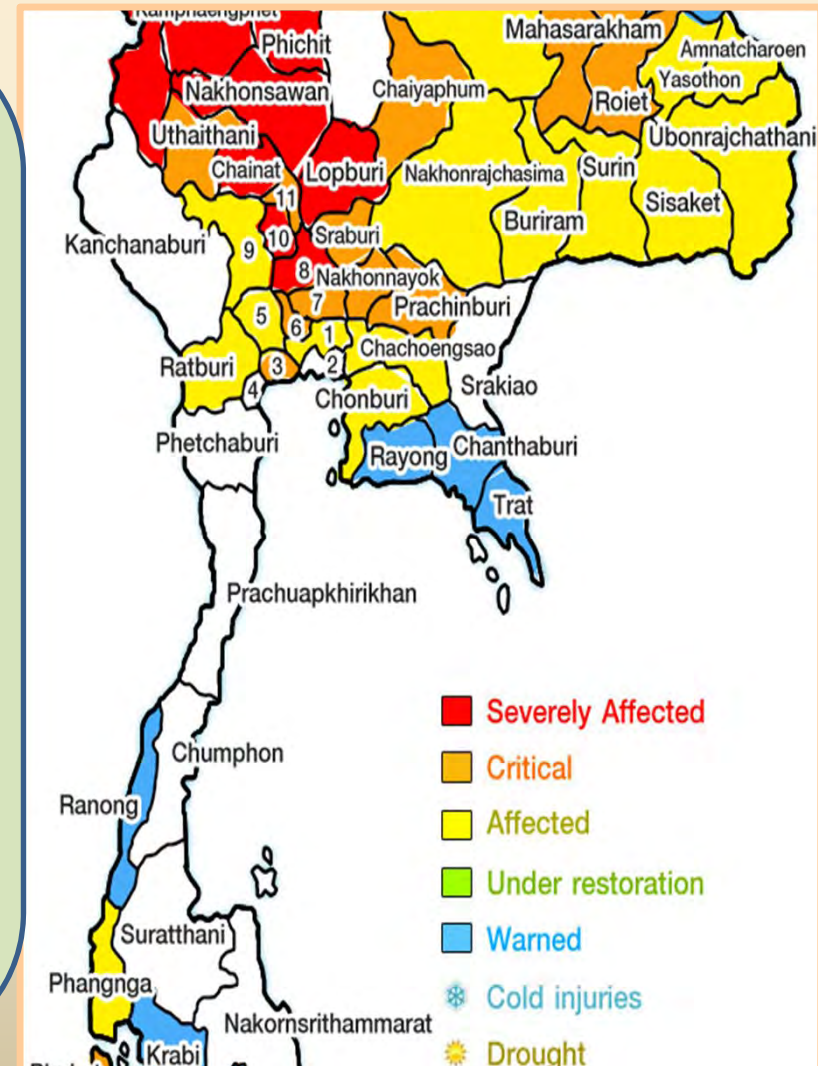
Disaster Risk Reduction (DRR) Approach

- ❖ **Thailand recognize the disaster risk reduction approach (DRR) as one of the strategy for dealing with loss and damage.**
- ❖ **Humanitarian aspects of relief such as providing medical care, food, water search and rescue, only small amount humanitarian funding is spent on disaster risk reduction approach.**



Disaster Risk Reduction (DRR) Approach

- ◆ **Systematic integration of DRR into development planning and activities remains a challenge for Thailand.**
- ◆ **Strengthening policies and institutions.**
- ◆ **Identifying, assessing and monitoring risk and enhancing early warning.**



Disaster Risk Reduction (DRR) Approach

- ◆ **Using knowledge, innovation and education to bring culture of safety.**
- ◆ **Reducing underlying risk factors such as environmental degradation.**
- ◆ **Strengthening preparedness for effective response.**



POLICY AND INSTITUTIONS

- ❖ **Commitment to disaster risk reduction by decision makers.**
- ❖ **Participation and understanding of individuals at the local level where the disasters are felt.**



POLICY AND INSTITUTIONS

- ❖ **Build up country's overall policies, legislative process and the institutional framework for implementing measures.**
- ❖ **Tools for developing policy and institutions aimed at mainstreaming disaster risk reduction into development planning from national to community level.**
- ❖ **Culture of safety and resilience.**



Synergy between the line Ministries on Disaster Management

- Ministry of Interior
- Ministry of Defense
- Ministry of Health

Focal point of climate change

- Ministry of Natural Resources and Environment

เปิดโลกไอทียุคใหม่ ก้าวข้ามภัยธรรมชาติ
BEYOND Natural DISASTER with Power of IT

26 กันยายน 2555
เวลา 12.00 - 16.30 น.
พบกันที่ ห้องออกถือเหรียญ
ณ ศูนย์ประชุมวายุภักษ์
โรงแรมเซ็นทารา ศูนย์ราชการ
ถนนแจ้งวัฒนะ

การสนับสนุนโดย วิทยากรชั้นนำทั้งประเทศ
ศาสตราจารย์ ดร. อารอง ชูสา รณ อยุธา
ผู้ช่วยอธิการบดีมหาวิทยาลัยเทคโนโลยีพระจอมเกล้าธนบุรี

ดร.สมิทธ ธรรมสโรช
อธิบดีกรมการป้องกันและบรรเทาสาธารณภัย

นางสาวภาณุมาศ สอนพิทักษ์ ยาวสุวรรณ
ผู้อำนวยการศูนย์วิจัยและพัฒนาเทคโนโลยีภัยพิบัติ

พันเอก ดร.เกรียงพงศ์ มะลิสุวรรณ
รองผู้อำนวยการศูนย์วิจัยและพัฒนาเทคโนโลยีภัยพิบัติ

ฟรี!
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Microsoft

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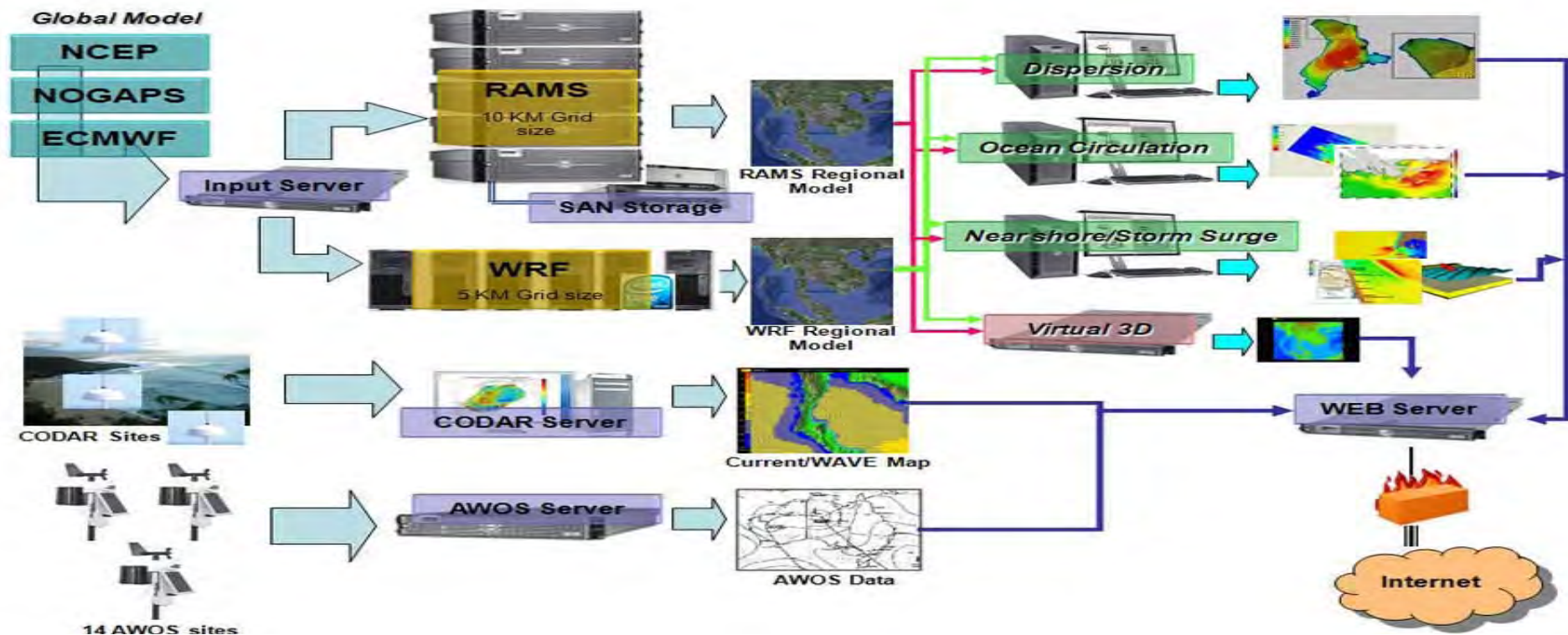
❖ RISK IDENTIFICATION AND EARLY WARNING

⇒ Science and Technology

- To understand the physical processes behind hazards
- Interaction with community infrastructure and activities

⇒ Information to communities

⇒ Handbook on “Community – Based Disaster Risk Management” and Framework on DRR



◆ KNOWLEDGE MANAGEMENT AND EDUCATION

- ⇒ Support the local community's involvement for implementing strategies that will lead to culture of safety.
- ⇒ Building capacity on the implementation of risk reduction measures.
- ⇒ Conveying the concepts and risks associated with climate change to local levels.



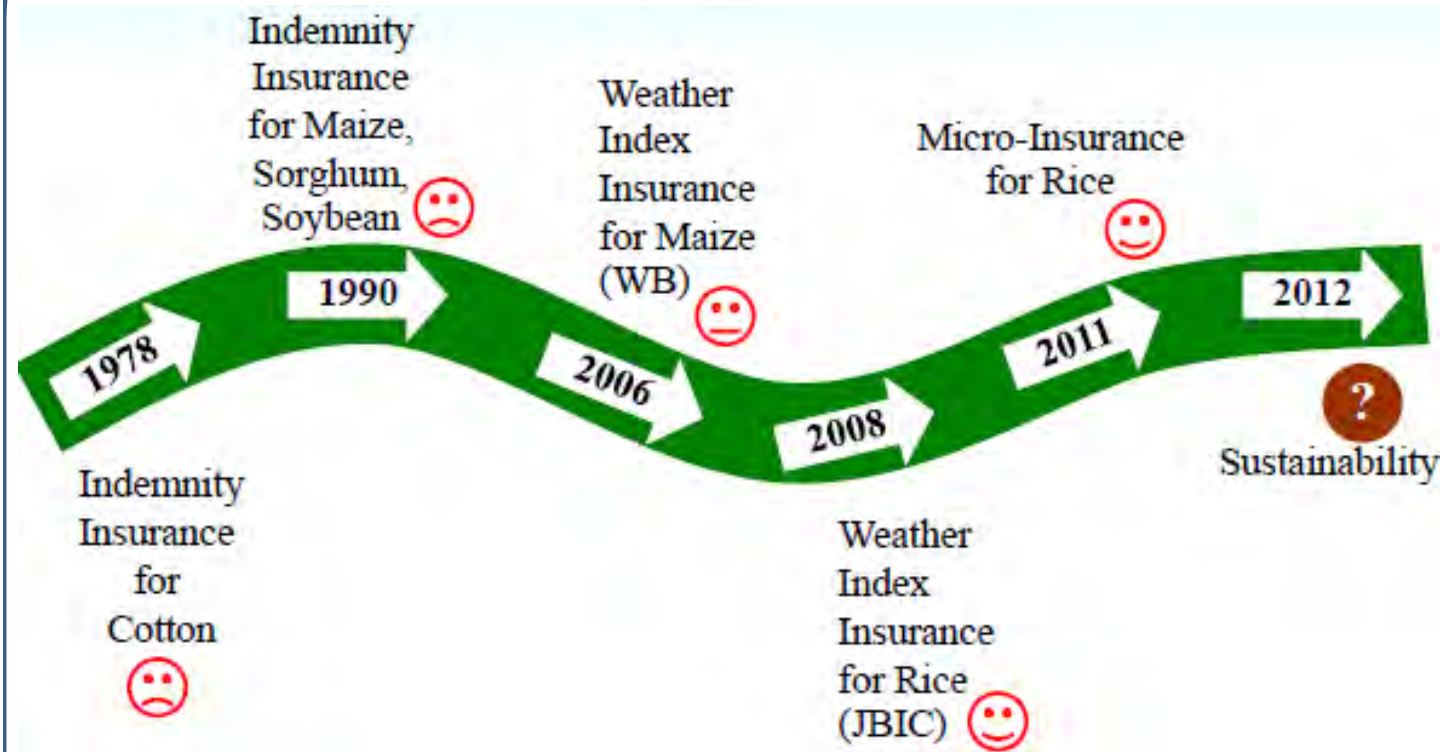
PREPARED AND RESPONSE

⇒ **Guideline for Needs Assessments and recovery planning, standards for humanitarian relief, and checklists for preparedness.**

⇒ **Guideline for Emergency Assessment to feed to reconstruction plan.**



Evolution of Crop Insurance in Thailand



Main Crops Production in Thailand

	Rice	Tapioca	Maize
• Total Areas Planted (Rai)	57-60 m	6.8 m	6.8 m
• Total Tonnes Produced	29 m	20.6 m	4.4 m
• Total Tonnes Exported	6.5-8 m	6.5 m	0.4 m

Source : Ministry of Agriculture and Cooperative



Together, we can



❖ DEALING WITH LOSS AND DAMAGE :RECENT DEVELOPMENT OF RICE INSURANCE IN THAILAND

⇒ The Thai Government is offering crop insurance to rice farmers for their first crop of the year 2012-2013 season due in August.



◇ **All rice farmers are encouraged to join the scheme because of the higher frequency of natural disasters in recent years**

⇒ **Flood**

⇒ **Drought**

⇒ **Monsoon**

⇒ **Cold weather**

⇒ **Hailstone**

⇒ **Pest**



Micro Insurance for Rice



Product Design

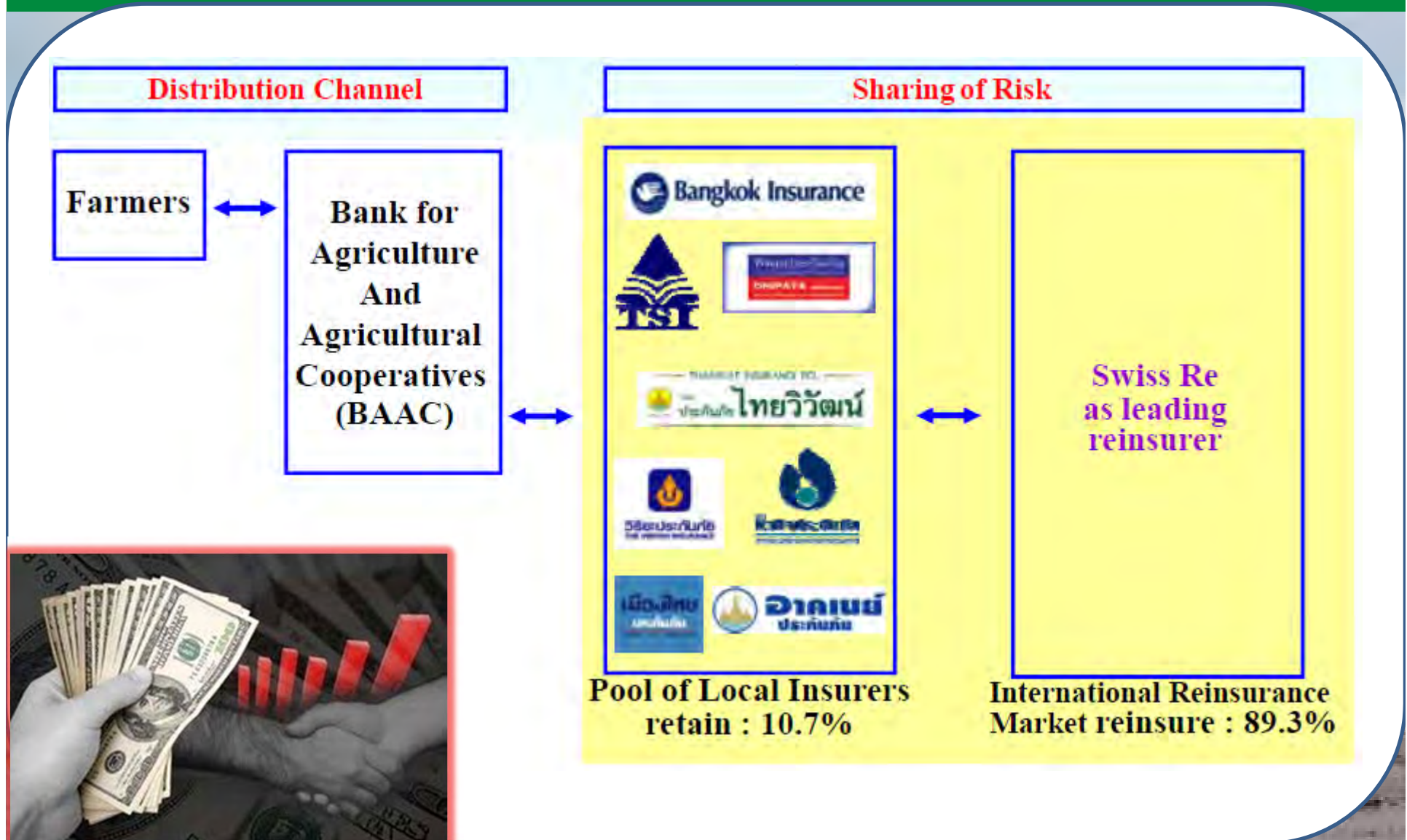
- ✓ Thai Government has a Disaster Relief Program to compensate any farmer whose crop is suffered from calamity and declared a total loss for an amount of Baht 1,113 baht per rai.
- ✓ This insurance scheme has been designed to link and top up to Disaster Relief Program.
- ✓ The main advantage is to keep the claim administrative cost at a minimum level by utilizing the existing loss assessment mechanism of government.

Micro Insurance for Rice

Coverage Features

Insurable Crop	Main season crop rice	
Insured Perils	Flood, Drought, Windstorm, Frost, Hail and Bush Fire	
Trigger for Claims	1. Farm must lie within declared calamity area : and 2. Total loss to growing rice	
Sum Insured(Per Rai)	Days after Planting	
	1-60 days : Baht 606	> 60 days : Baht 1,400
Net Premium(Per Rai)	Baht 120	
	Farmer Pays Baht 60	Government Subsidizes : Baht 60

Underwriting Procedure



Results

Insurance Selling Period

20 August-31 December 2013 (45 days after plantation)

Number of Insured Farmers

2 m persons nationwide

Number of Insured Areas

1.5 m rais (2.3 percent of total area)

Total Net Premium (exclude VAT and stamps)

Baht 494,906,000

Estimated Loss

An estimation of 150,000 rais has been submerged by flood or droug with an amount of loss Baht 167 m.

Loss Ratio

1520%

Condition :

- Insurance Selling Period
 - (All Part) 1st Aug – 31st Oct 2013 (3 months)
 - (Southern Part) 1st Sept – 30th Nov 2013 (3 months)
- Government support the total budget 500 million baht and the Agriculture and Cooperative Bank pay VAT at the cost fixed deposit rate (FDR) +service (1%) in advance.
- Target area 1 – 1.5 million rai out of 65, 047, 720 rai.

Condition :

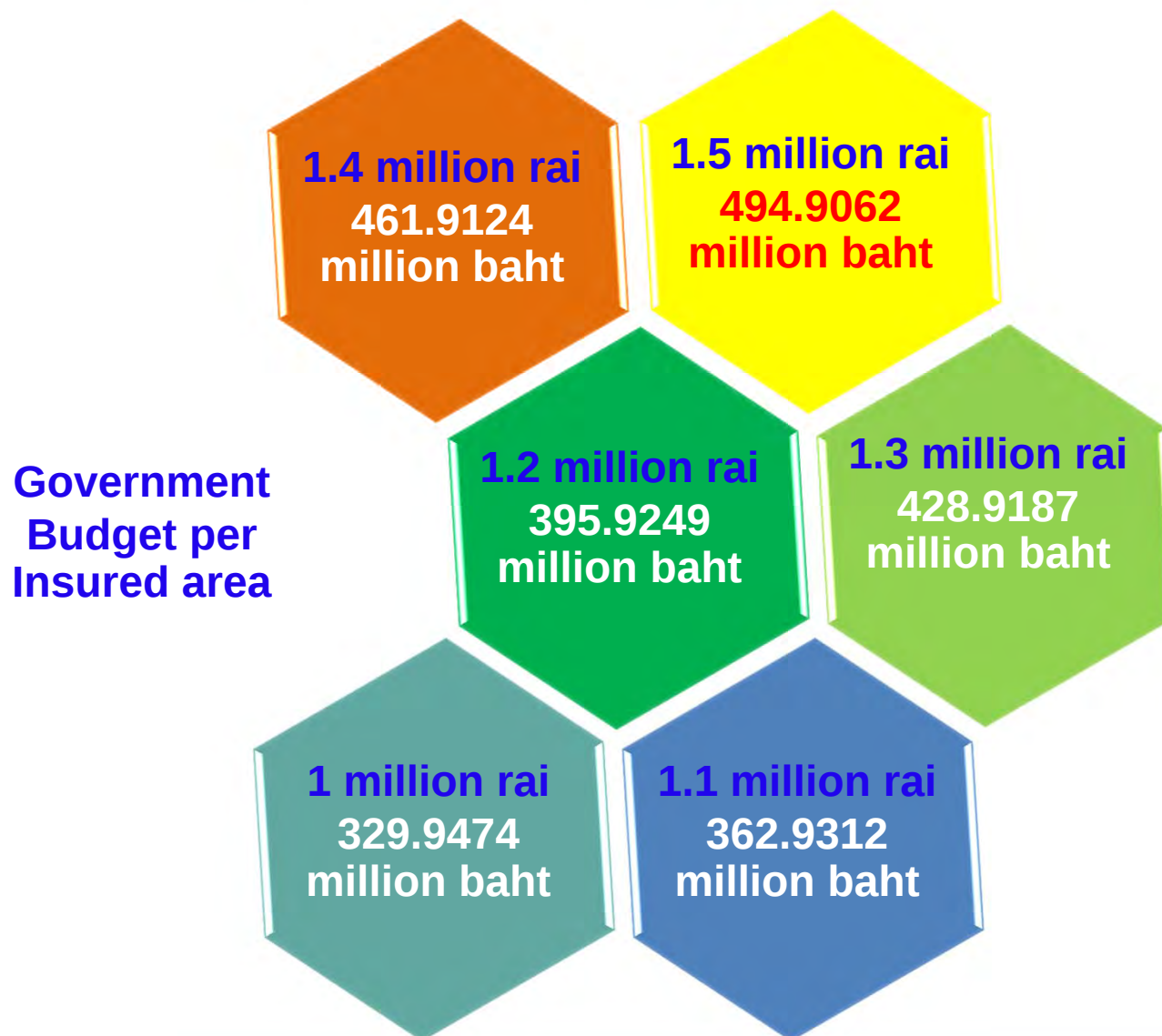
Table 1 : The Micro Insurance for Rice 2013

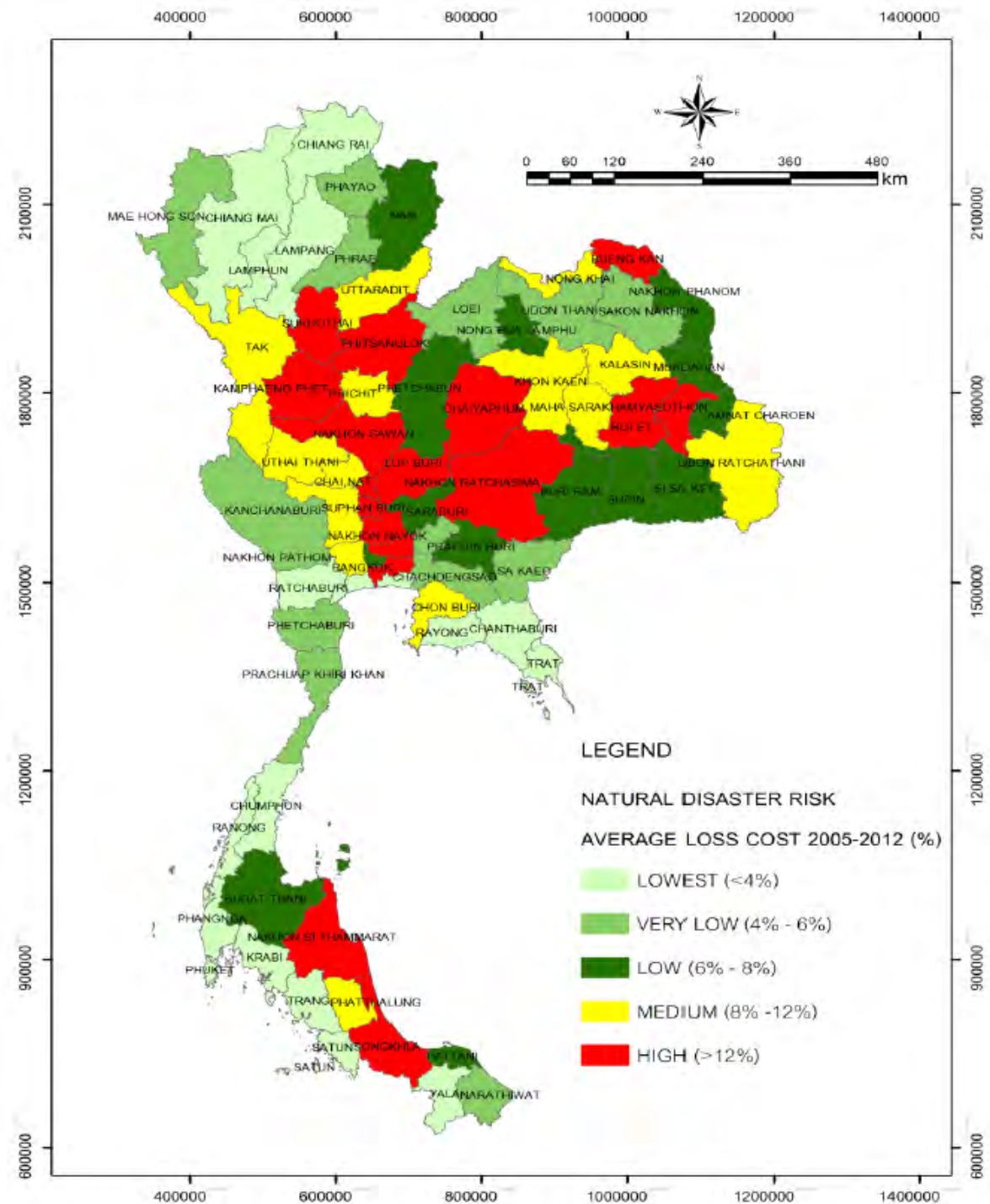
% average cost	Level of Risk	Target area (rai)	Insured (per rai)	Sum insured (per rai)	Farmer Pays (baht)
<4%(17 Province)	Lowest risk	2,987,045	120	129.47	60
4-6%(13 province)	Very low risk	8,346,797	230	247.17	70
6-8%(14 province)	Low risk	15,802,893	350	376.64	80
8-12%(14 province)	Medium risk	17,182,957	440	472.94	90
>12%(17 province)	High risk	20,728,028	475	510.39	100
Total (77 province)		65,047,720			

* Not include Vat and Stamp.

Condition :

Table : The Micro Insurance for Rice 2013





**WAY FORWARD FOR DEALING WITH
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“THANK YOU”