

*3rd High Level Seminar on
Environmentally Sustainable Cities*

Siem Reap, Cambodia

Adaptation for Cities:

Urban climate resilience of Thai cities

Thailand Environment Institute

7 March 2012



สถาบันสิ่งแวดล้อมไทย
Thailand Environment Institute

Urban Climate Resilience Concepts



Urban = 'City' = Nakorn Municipality

With urban development, population growth

Urban = Nakorn + smaller municipalities
+ sub-district administrations

Climate resilience

- Mitigation and adaptation
- Long-term capacity to deal with change and continue to develop
- Shared learning of multi-stakeholders

Building resilience to climate change in urban context

- Development of long-term strategies addressing uncertainties
- Shared learning / lessons learned

But most cities face urgent / immediate issues (urban challenges + natural disasters)

Thai cities and flood disasters

2011

- Bangkok
- Northern and Central provinces
- Direct and indirect impacts
- High damage costs



WHAT CAN BE EXPECTED

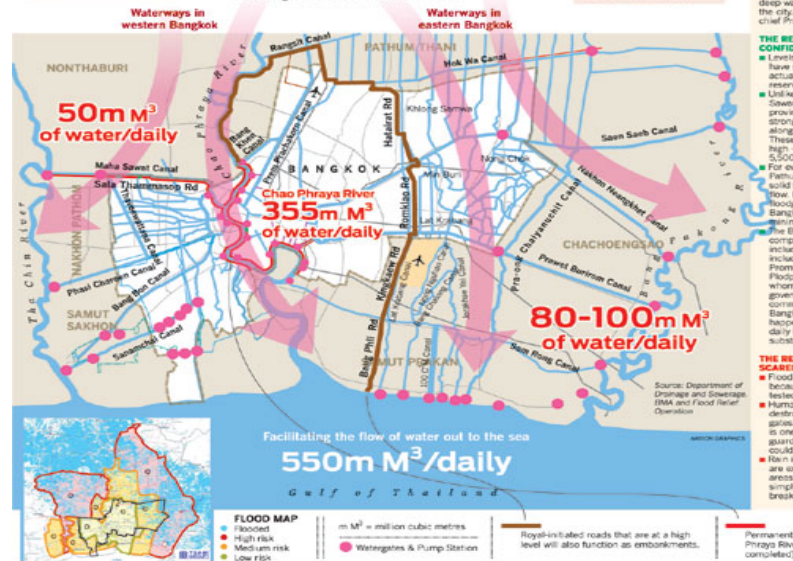
October 15-16:
Run-off from the North at 4,000 M³ per second combined with 1.11-metre-high inflow from the sea is expected to have the Chao Phraya River swell by 2 metres +/- 5 centimetres.

16 billion M³

will flow down from upstream provinces over one month

- Nakhon Sawan now has eight billion cubic metres
- Ayutthaya now has six billion cubic metres
- Pathum Thani, Nonthaburi, Chachoengsao and Samut Prakan together have two billion cubic metres

October 29-31:
Run-off from the North at 4,000 M³ per second combined with 1.31-metre-high inflow from the sea is expected to have water levels in Chao Phraya River rise by 2.22 metres +/- 5 centimetres.



Every crisis produces optimists and pessimists. Amid the countdown to Bangkok uncles-in-schools the sleek million-dollar Bangkok officials, convinced that the inevitable slump will be the city's chief problem.

ALERT:
Flooding threatens to reach or worsen in the following areas very soon, as massive amounts of water head their way.



As of yesterday, 28 provinces remain flooded, with the death toll at 244. Flooding affects 7,528,805 rai (1.2 million hectares) of agricultural areas.

1,215 factories in 33 provinces are inundated, affecting 42,000 workers, according to the Labour Ministry.

Flood-hit Ayutthaya, which is just upriver from Bangkok, is likely to see a worsening deluge, with an even larger mass of water expected from Lop Buri, Pasak and Chao Phraya rivers over the next 3-7 days. Local residents have been told to prepare for evacuation.

A warning has been issued for flash floods and landslides in the next day or two in Chanthaburi, Trat, Ranong, Phang Nga, and Phuket.

Thai cities and flood disasters



2010

- Hat Yai (also 2000)
- Southern provinces
- Northern provinces





Key issues

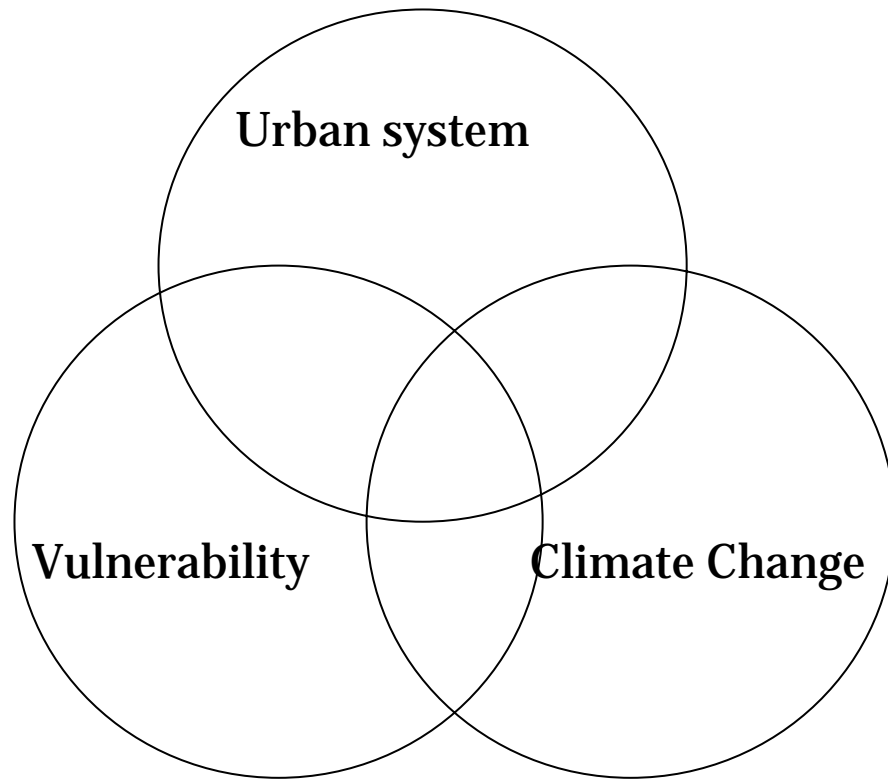
- Access to information
- Awareness
- Participation
- Coordination
- Early warning system
- Preparedness
- Technical / scientific data
- Local knowledge



Challenges

- Rapid urbanisation
- Urban land use change
- Economic growth and development
- Natural resource demands
- Climate risks
- Vulnerable / marginalised community groups

Building resilience practices



Thai cities

- Unplanned urbanisation, urban development, land use change contribute to climate risks
- Governance issues

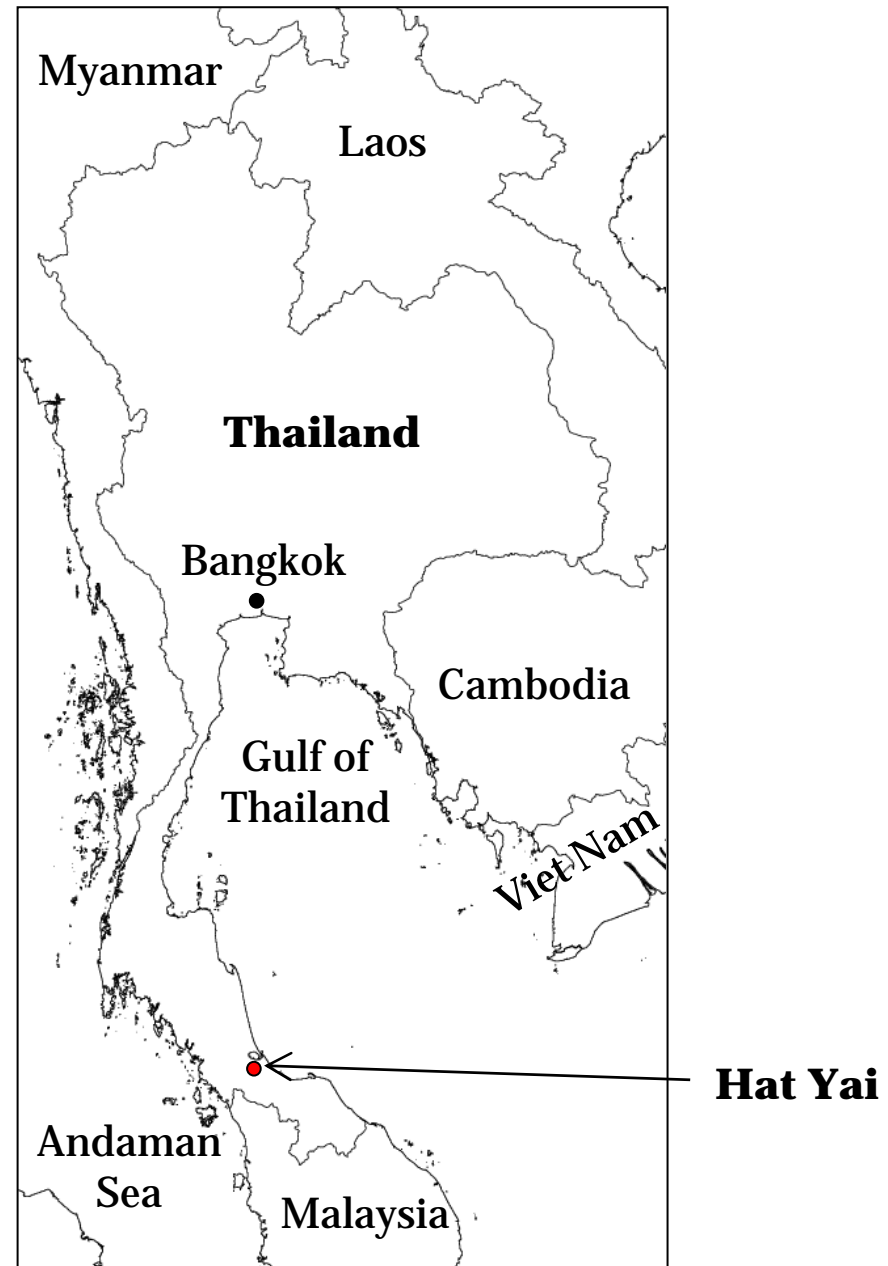
Building resilience practices

- Shared learning dialogues
- Multi-stakeholder process
- Participation process
- Vulnerable / Marginalised community groups
- Vulnerability Assessment
- Identification of priorities and needs
- Linking knowledge and practice



Building resilience practices

- Multi-stakeholder process
- HatYaiwebsite for public flood monitoring
- Coordination centre, independent of municipality
- Participation of communities to plan and design flood emergency responses
- Intervention linking urban land use, flood management and climate change



ภาพจากกล้อง IP Camera สำหรับสอดส่องระดับน้ำในพื้นที่ลุ่มน้ำอุড়েเกา

ม่วงค้อง



21 ก.พ. 2555 11:15:01 น.
ระดับน้ำ

บางศาลา



23 ก.พ. 2555 15:00:12 น.
ระดับน้ำ

คลอง ร.1



1 มี.ค. 2555 12:35:26 น.
ระดับน้ำ

จันทร์วิโรจน์



23 ก.พ. 2555 15:05:08 น.
ระดับน้ำ

ที่ว่าการอำเภอหาดใหญ่



1 มี.ค. 2555 11:40:10 น.
ระดับน้ำ

ต้นคลอง ร.6



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ระดับน้ำ

แก้มลิงคลองเรียน

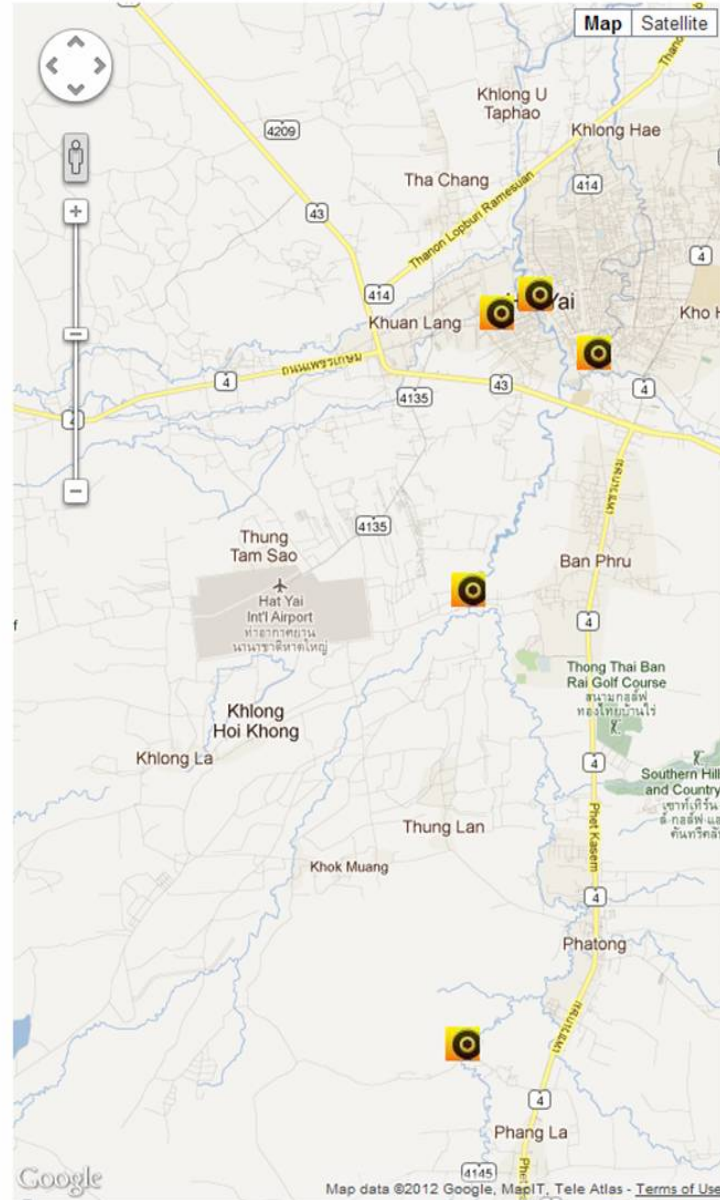


1 มี.ค. 2555 12:35:21 น.
ระดับน้ำ

สถานีเรดาร์สทิงพระ



1 มี.ค. 2555 12:30:02 น.
ที่มา



Urban climate resilience framework (URF)

