



Thailand's Country Report on Water Resources Management



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Disclaimer:

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1. Overview and Introduction to Thailand





Thailand



Thailand's 514,000 square kilometers lie in the middle of mainland Southeast Asia.





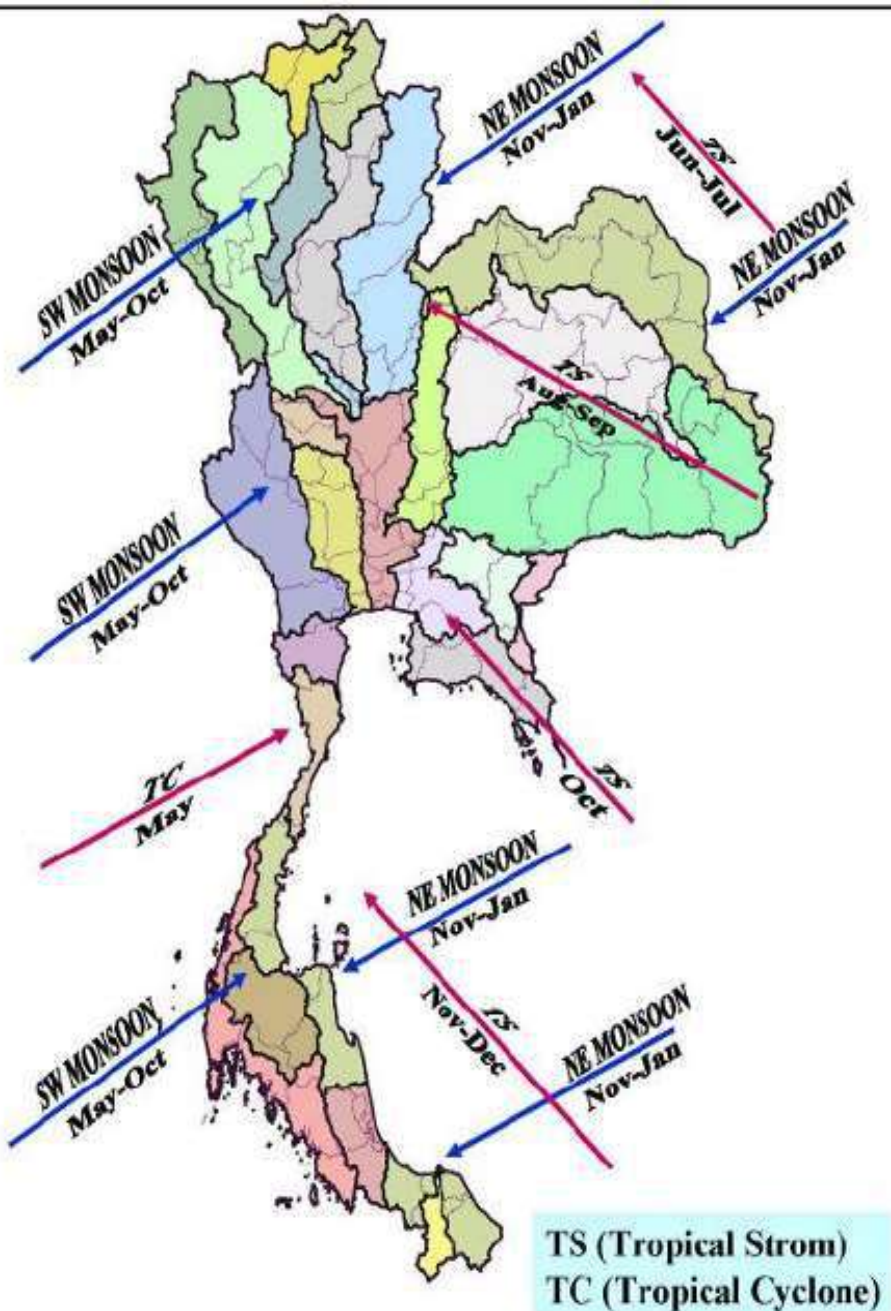
Geography of Thailand



Region of Thailand

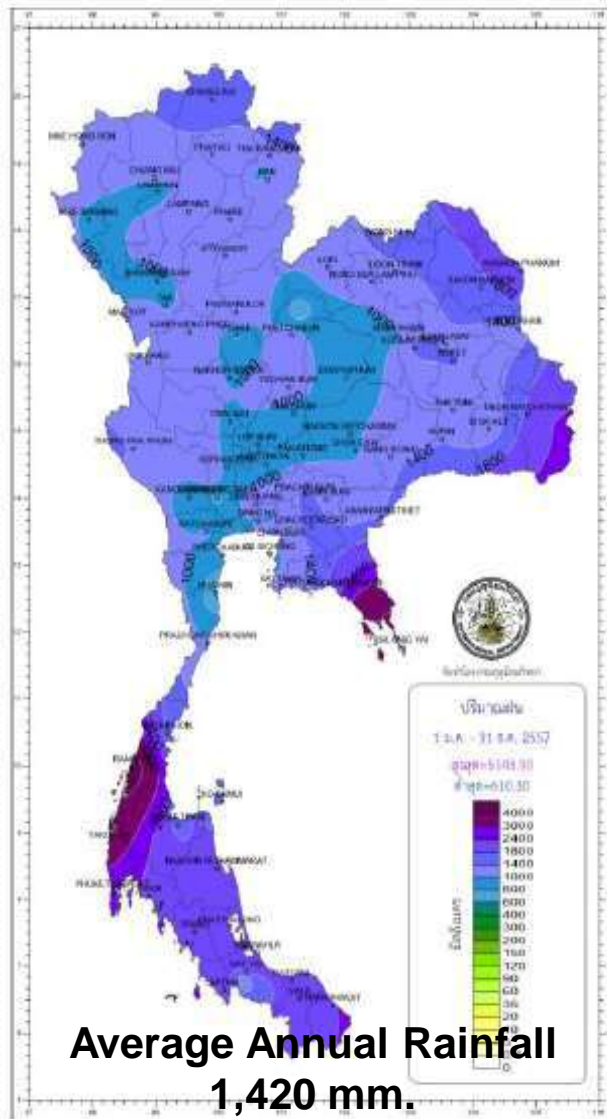
Basins & Climate

- 25 Main river basins
- 254 sub basin
- 2 types of monsoons
[**southwest** / **northeast**]
which cause changes in
the climatic seasons in
Thailand

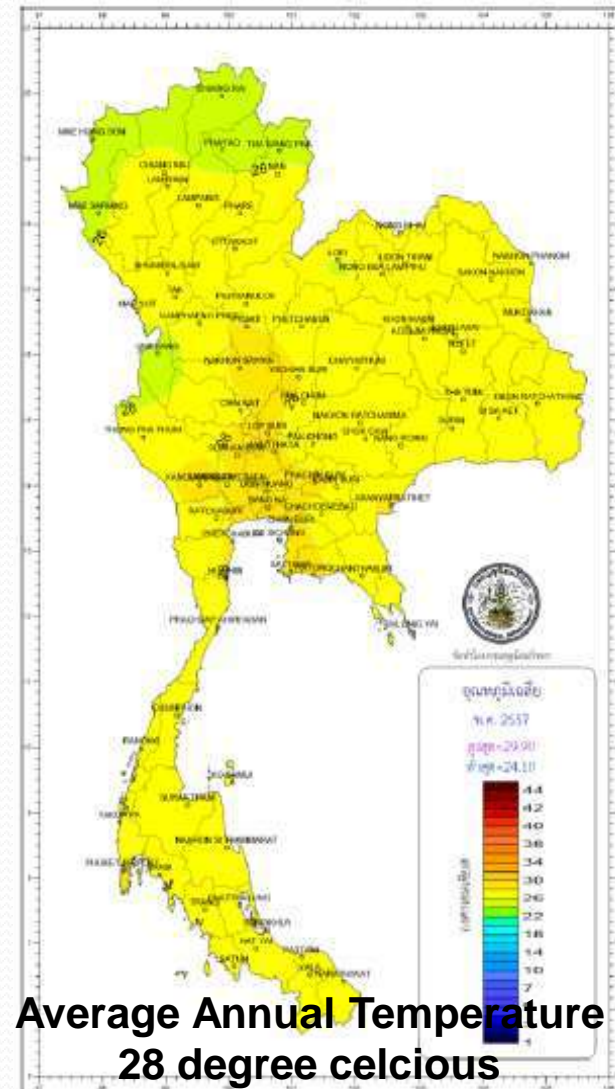




Weather & Climate in Thailand



**Average Annual Rainfall
1,420 mm.**



**Average Annual Temperature
28 degree celcius**

Source: <http://www.tmd.go.th/en/climate.php?FileID=5>

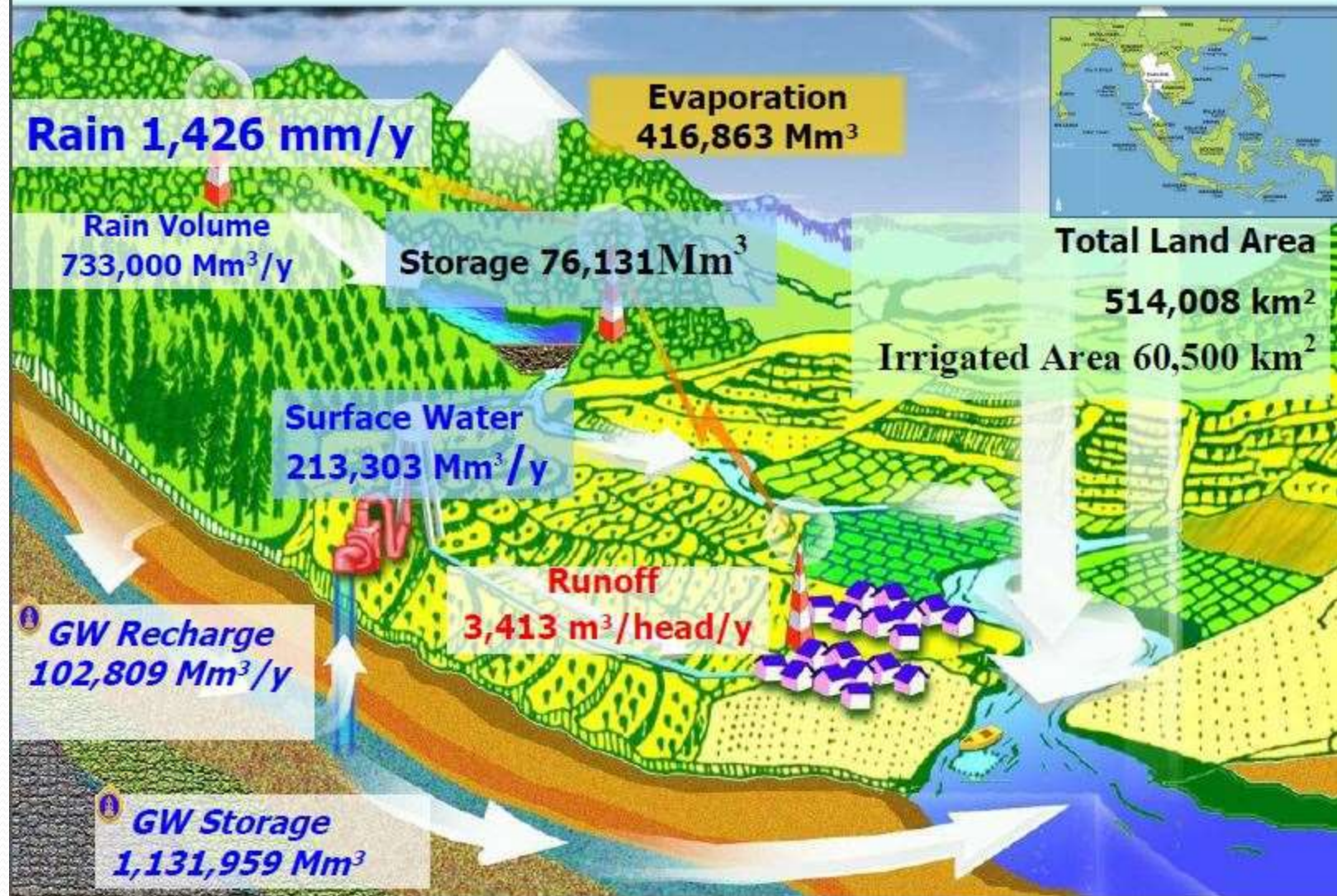


2. Water Situation and Problems



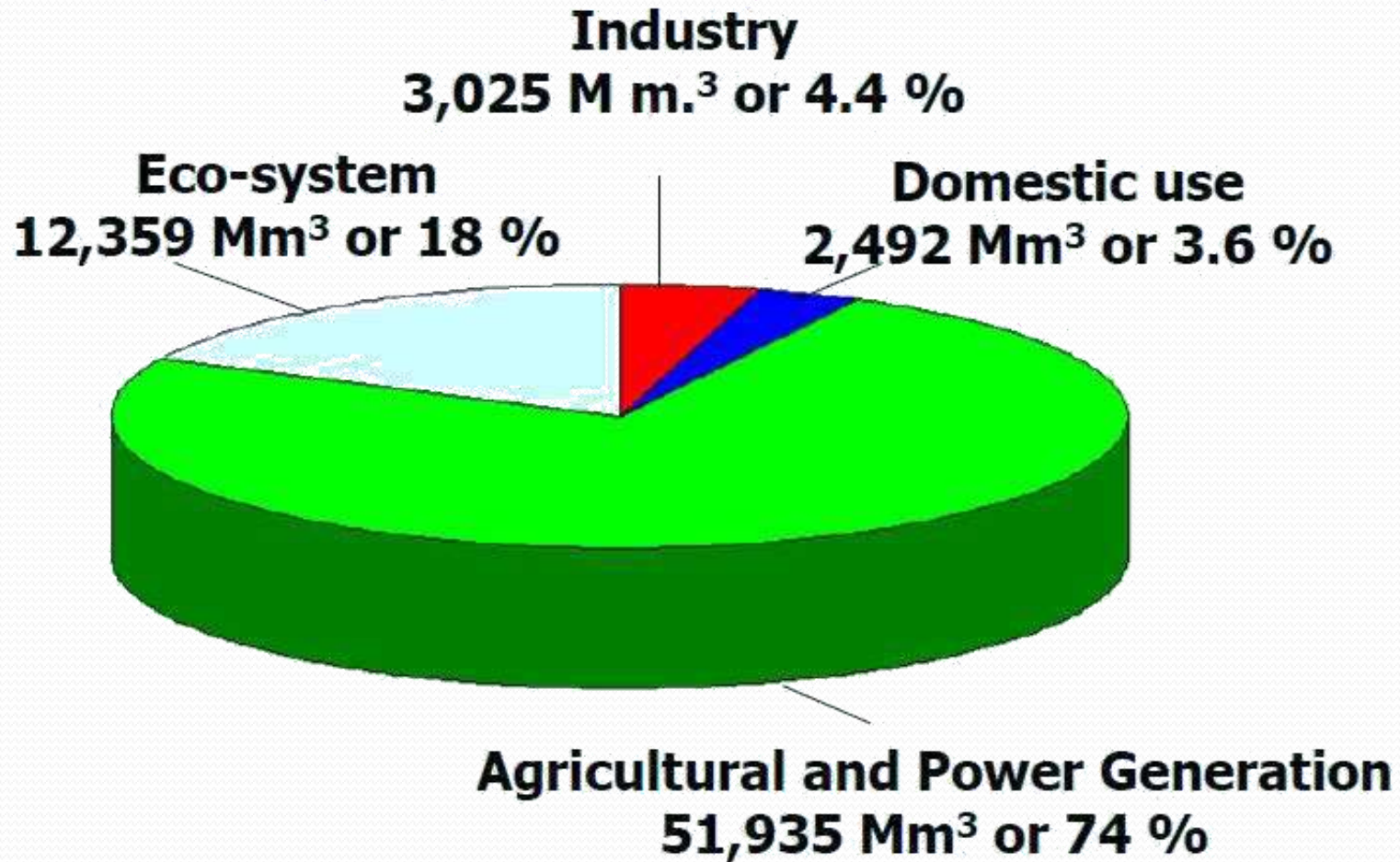


Current Situation of Water Resources in Thailand





Water Demand/Use (69,811 Mm³ per annum)





Water Resources Problems in Thailand

Drought



Flood



Water Quality



Drought / Water shortage

Damage (2005) : 217 Million USD.

Victim 11 Million people

Lacking Water supply system 7,490 Villages

Rain fed area 192,000 sq.km.

Risk area 42,480 sq.km.



Cause of Drought

Rainfall less than 1,000 mm.

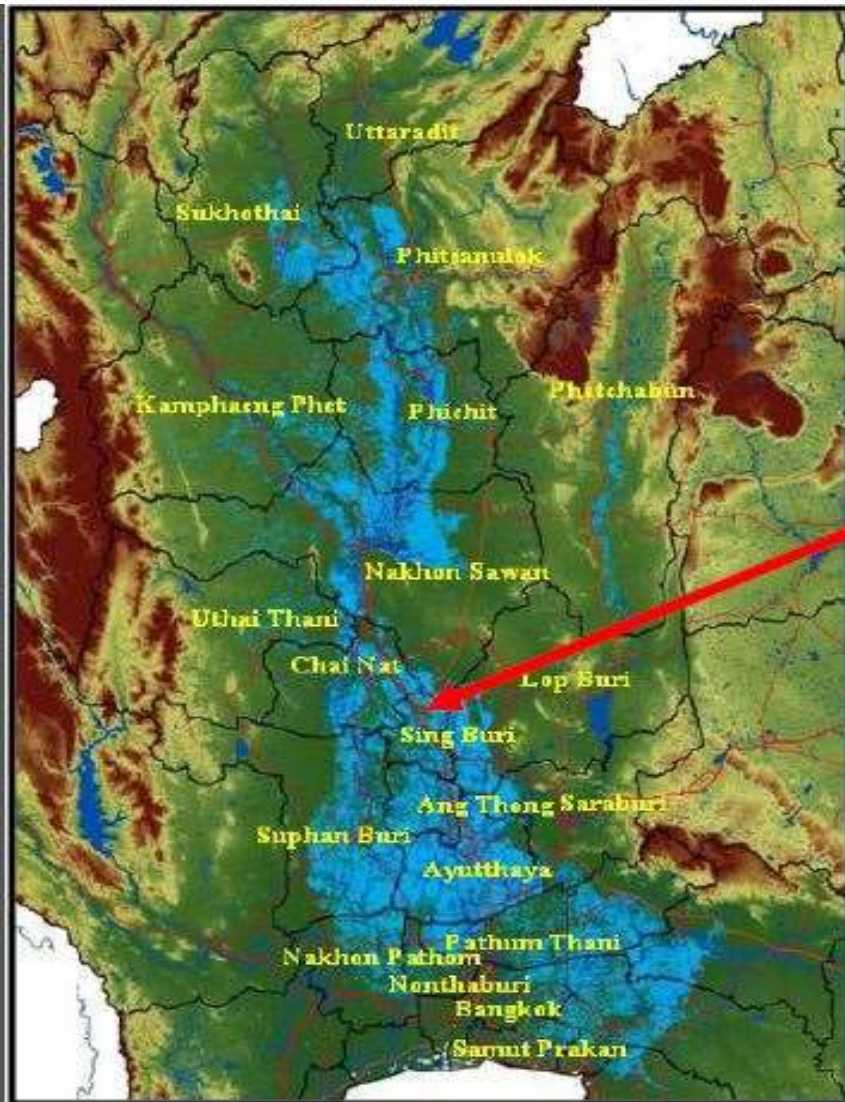
Water seepage and losses

A few reservoirs





Extreme Flooded in 2011



Floodplain 35,000 km²



Irrigated agricultural land and wetland - 80% - 5 million people



Urban/commercial/industrial areas - 20 % - 13 million people



Flood can cause a lot of damages. (Approx. 1.4 Billion USD.)



Extreme Flooded in 2011





Extreme Flooded in 2011





Extreme Flooded in 2011





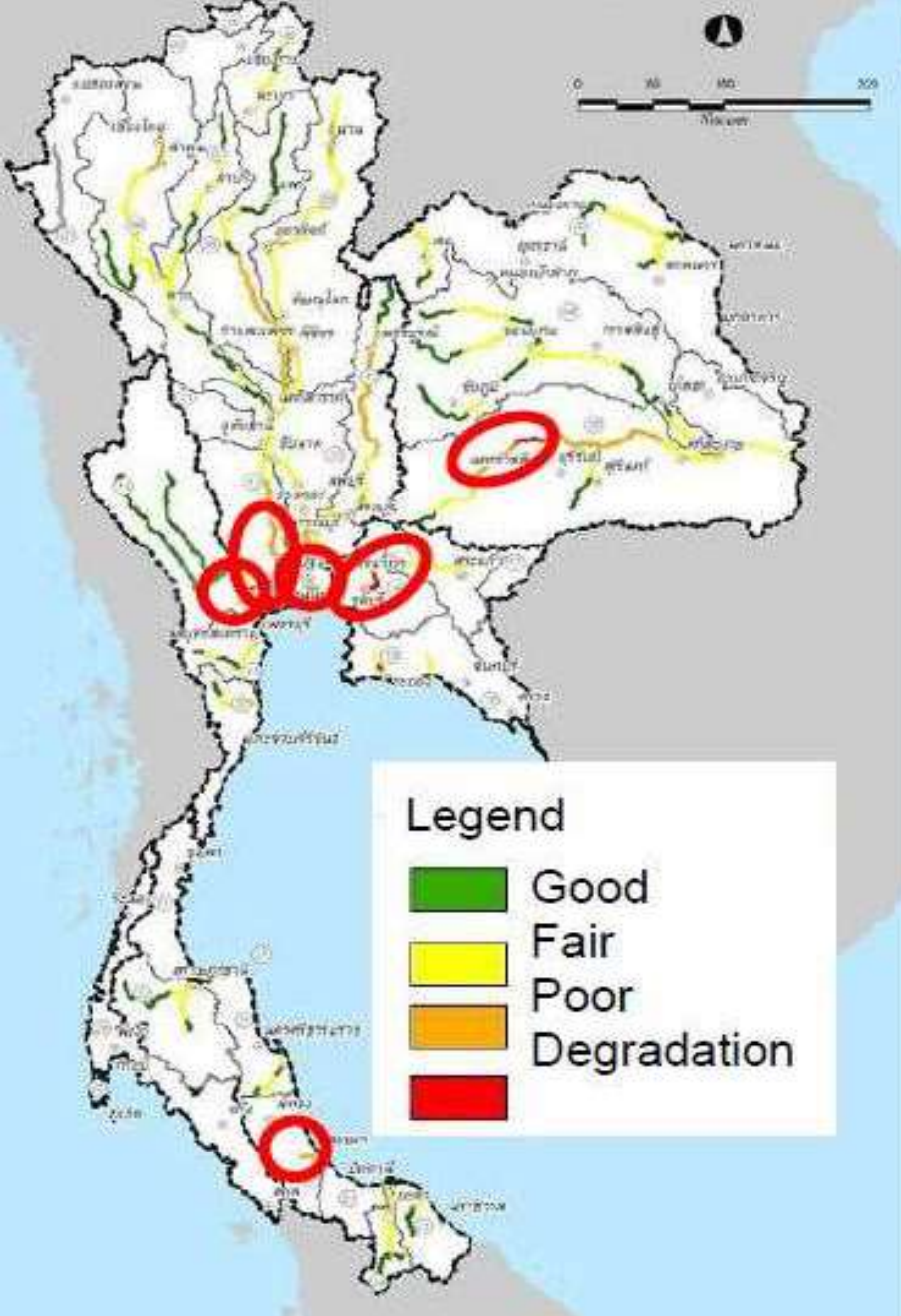
Extreme Flooded in 2011



Water Quality

River Basins with critical water degradation

- Thachin
- Bang Pakong
- River mouth of Chao Phraya
- Lower Lam Takong
- Songkhla Lake
- Mae Kong





Wastewater Situation



2,006 Municipalities

Bangkok & Pattaya

5,776 local
administrations

Wastewater
2.5 Mm3/day

Wastewater
2.5 Mm3/day

Wastewater
9 Mm3/day

Ability to treat total of
3.2 Mm3/day or 22.9% of total
wastewater generated

Total wastewater
14 Mm3/day

Total
2,600 Tons BOD/day



3. Introduction to Department of Water Resources (DWR)





Ministry of Natural Resources and Environment

กระทรวงทรัพยากรธรรมชาติและสิ่งแวดล้อม



State Enterprises under MONRE include:

1. Zoological Park Organization;
2. Wastewater Management Authority;
3. Botanical Garden Organization;
4. Forest Industry Organization; and
5. Thai Plywood Company Limited.

1. Office of Minister;
2. Office of Permanent Secretary;
3. Pollution Control Department;
4. Department of Marine and Coastal Resources;
5. Department of Mineral Resources;
6. Department of Water Resources;
7. Department of Groundwater Resources;
8. Department of Environmental Quality Promotion;
9. National Park, Wildlife and Plant Conservation Department;
10. Office of Natural Resources and Environmental Policy and Planning; and
11. Royal Forest Department.

<http://www.mnre.go.th/>





Department of Water Resources

The Ministry of Natural Resources and Environment

Vision

“To implement the basin-based integrated water resources management with all sectors participation to achieve efficiency, equitability and sustainability.”

Mandate

1. Formulates policy and plan for basin-based integrated water resources management.
2. Promote, support and increase capacity of river basin organizations and networks.
3. Conserve, rehabilitate, maintain, improve and develop water resources to increase their efficiency in a sustainable manner.
4. Develop knowledge base, information system, and standard of integrated water resources management as well as warning system so as to be applied in all sectors.





4. Water Resources Management Strategy of Thailand (2016-2026)

Objectives



To solve water resource problems that cause severe socio – economic impacts and must be urgently undertaken (2016-2026)



To integrate water management, so as to create happiness to people and provide opportunity of water accessibility to every single user in an appropriate way



To balance the development and the utilization of water resources in accordance with the basin potential, in response to economic development and sustainably environment conservations

The water resources management will use the strategy as a framework for implementation of river basin





Goals of Water Resources Management Strategy

- 1) Provide clean water for all village and urban communities**
- 2) Provide water for agriculture, industry and ecosystem conservation**
- 3) Develop water resource in basin including allocation to support basic uses of river basins and ecosystem**
- 4) Reduce damage from flooding, land slide and inundated flood as well as prevent urban communities and major economic zones**

**Goals of
Overall
strategy**





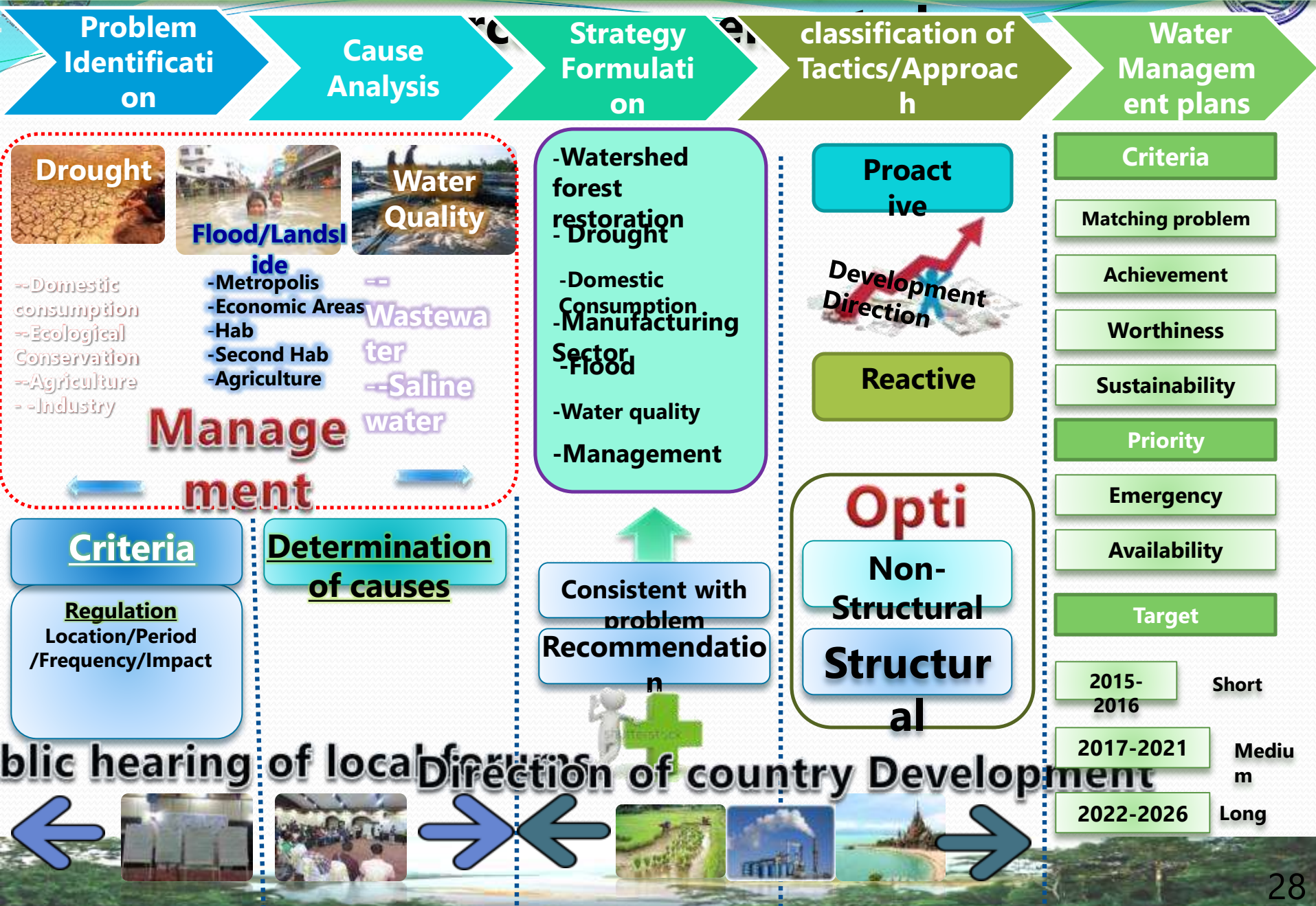
Goals of water resources management

- 5) All water have an acceptable quality standard**
- 6) Restore upstream deteriorating forest to achieve 40 percent and land use management**
- 7) Establish institutions and law supporting water resource management to create integration**

**Goals of
Overall
strategy**



conceptual frame work for preparation on water





1

**Domestic use
management**

2

**Secured for
production sector
(Agriculture and
Industry)**

3

**Flood
management**

Water Resources Management strategy of Thailand



4

**Water quality
management**

5

**Restore upstream
deterioration forest
and prevent
landslide**

6

Management





Key Strategic Issues

1. Develop mechanism for integrated water resources management with participation from all sectors.

2. Conserve, develop and rehabilitate both man-made and natural water resources in order to reserve available and increase water distribution efficiency as well as maintain ecosystem.

3. Develop and install surveillance and warning system of natural disaster.





Thank you and...

