Content.

- Current Situation of Water Resources in Thailand
- Water and Flood Management Strategy
- Action Plan for Flood Prevention and Mitigation: Urgent and Long Term Plan
- Laws and Institutions

Current Situation of Water Resources in Thailand

Source: Strategic Formulation Committee for Water Resources Management (SCWRM)
Great Chao Phraya River Basin consists of 8 River Basins

Ping, Wang, Yom, Nan, Sakae Krang, Pasak, Chao Phraya, Tachin

1. Time line events in 2011

- Hurricane HAI Tang 2 Oct
- Typhoon Hainan 8 Oct
- Tropical Storm alima 16 Oct
- Tropical Storm alima 17 Oct
- Tropical Storm alima 22 Oct
- Tropical Rainstorm in southern Thailand 27 Sep
- Tropical Storm alima 1 Oct
- Typhoon Hainan 6-8 Oct
- Bhumibol 99%
- Sirikit 100%
- Bangchon 50% (7 Oct)
- Hitech (12 Oct)
- Factory Land (16 Oct)
- Flooded in BKK (22 Oct)
- Bhumibol 99%
- Sirikit 99%
- Bhumibol 300 MCM/day (5 Oct)
- Factory Land 99%
- Saharatnak (7 Oct)
- Flooded in normal situation (23 Nov)

2. Rainfall in Thailand

<table>
<thead>
<tr>
<th>Year</th>
<th>Avg.</th>
<th>2004</th>
<th>2006</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rainfall (m.m.)</td>
<td>1,581</td>
<td>1,342</td>
<td>1,623</td>
<td>1,534</td>
<td>1,639</td>
<td>1,927</td>
</tr>
<tr>
<td></td>
<td>-257</td>
<td>+42</td>
<td>-47</td>
<td>+58</td>
<td>+346 (22%)</td>
<td></td>
</tr>
</tbody>
</table>
3. Runoff in Upstream of Chao-Phraya River Basin

Nakhon Sawan Province

Runoff (cms.)

River capacity 3,500 cms.

Accumulation Runoff (MCM)

More than capacity of Sirikit Dam (9,510 MCM)

Flood in 2011: Rural/Agricultural Areas

Flood in 2011: Urban Areas
Water and Flood Management Strategy

1. Water should be held (Dam/Retention Basin)
2. Water should be diverted (canal system/ flood way)
3. Community and economic zone should be protected
4. People should be taking care
5. Water retention areas should be appropriately handled and fairly distributed

Damage and Loss due to Floods

- Damage and loss during 1989-2010, total 4,900 million USD

Damage and loss in 2011, total 47,500 million USD
Action Plan for Flood Prevention and Mitigation: Urgent and Long Term Plan

To prevent and mitigate urgent flood problems, and to formulate a solution to address their short-term and long-term effects.

Objectives

1. To improve the efficiency of flood diversion structure, canal, floodway, dike, as well as the drainage system and flood management during critical periods.
2. To increase forecasting and warning capability and database efficiency.
3. To improve the efficiency of existing and planning constructed structure.
4. To develop and improve the database, forecasting and warning system.
5. To handle specific areas affected by floods.

Action Plan for the Prevention and Mitigation of Floods: Urgent Period

National Work Plan on Management of Upstream and Major Dams

Work Plan on Rehabilitation and Improvement of Existing and Planning Constructed Structure

Work Plan on Development of Database, Forecasting and Warning System

Work Plan on Specific Area Handling

Work Plan on Identification of Water Retaining Areas and Measures to Support Flood Victims due to Use of such Retaining Areas

Work Plan on Institution Improvement for Water Management

Protection of Economic Zones

1. Improve dike and embankment along Chao Phraya and Pasak river and along Raper-Phat Klong 13 and Pra-ong Chaiyamuek canal.
2. Improve gate and constructed new pumping station.
3. Improve drainage canal in the polder.
4. Improve and shift King’s dike to Rungsit canal and Nimtorn-Mai Rd. and constructed more gate and pumping station.
5. Improve floodway outside embankment from Pasak river to gulf of Thailand (along Raper-Phat Klong 13 and Pra-ong Chaiyamuek canal).
161 urgent projects to be implemented on the eastern bank of the Chao Phraya River

Total budget of 15,592,821,500 Baht. (500 million USD)

Protection of economic zones

1. Improve dike and embankment along Chao Phraya river Praya Burue canal and Thachin river
2. Improve gate and constructed new pumping station.
3. Improve drainage canal in the polder.
4. Develop street canal along Bhudha-Monthon no.5 and Western ring road and improve surround canal
5. Improve floodway outside embankment from Jao jed-Bang Yi Hon IRR. Project to gulf of Thailand
88 projects to be implemented on the western bank of the Chao Phraya River.

Total budget of 25,735,999,000 Baht. (860 million USD)

85 projects of 9,235,999,000 Baht are in urgent period. (264 million USD)
## Plan of Actions for Chao-Phraya River Basin

<table>
<thead>
<tr>
<th>Programme</th>
<th>Project Description</th>
<th>Budget (M$)</th>
<th>Timeframe (years)</th>
<th>Responsible Agency</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Forest and Ecological Systems Rehabilitation</td>
<td>Rehabilitation and conservation of riparian-ward of Ping, Wang, Yen, Nua, Suanlaeng, Tachin and Pa-Sak Rivers by reforestation and check dam construction, soil conservation</td>
<td>10,000</td>
<td>2012 onward</td>
<td>Ministry of Natural Resources and Environment / Ministry of Agriculture and Cooperate</td>
</tr>
<tr>
<td>2. Construction of Reservoirs in Ping, Yen, Suanlaeng, Nua and Pa-Sak River Basins</td>
<td></td>
<td>20,000</td>
<td>2012 onward</td>
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<td>2. Major Dams' Water Management Plan and Irrigation Plan</td>
<td>Develop water management plan for major dams in important river basins and develop water management plans in different scenarios, including</td>
<td>Normal Budget</td>
<td>2012 onward</td>
<td>Department of Irrigation/EGAT</td>
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<td>3. Restoration and Improvement of existing infrastructure</td>
<td>Construction of floodway/flood diversion channel, with the minimum capacity of 1500 cubic/second, and relevant infrastructure to deter flood from Pa-Sak and Chao-Phraya Rivers to the East, or both East and West</td>
<td>120,000</td>
<td>2012 onward</td>
<td>Ministry of Agriculture and Cooperate/Ministry of Natural Resources and Environment/Ministry of Agriculture/Ministry of Transport/Office of the Prime Minister</td>
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<tr>
<td>4. Land use zoning/ Land development regulation/ Flood protection structure for urban</td>
<td></td>
<td>50,000</td>
<td>2012 onward</td>
<td></td>
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<tr>
<td>5. Restoration of major waterways and flood protection walls</td>
<td></td>
<td>7,000</td>
<td>2012 onward</td>
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<td>4. Database and Forecast and Early Warning System</td>
<td>Develop database and forecast and early warning system, including establishing necessary institutions and rules and promoting public participation</td>
<td>0,000</td>
<td>2012 onward</td>
<td>Office of the Prime Minister</td>
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### Plan of Actions for Chao-Praya River Basin

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<tr>
<td>1. Increase efficiency of water delivery for pumping stations and flood diversion tunnel, including setting up a pump canal, King’s Dikes, and flood protection works along Chao-Praya River</td>
<td>Normal Budget</td>
<td>From 2012 onwards</td>
<td>Ministry of Interior/Ministry of Agriculture and Cooperatives, Ministry of Natural Resources and Environment, Ministry of Transport</td>
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#### Note
- 625 rai = 1 sq.km.
- Total Budget: 390,000 MB
- Note: Projects to commence in January 2012
Organization Structure

Chaired by the Prime Minister
Concerned Ministers, Experts

Committee on National Water and Flood Policy (CNWFP)

Chaired by the Minister of Science and Technology

Committee on Water and Flood Management (CWFM)

Office of the National Water and Flood Management Policy (ONWF)

Mr. Supot Towijakchaikul,
Deputy Permanent Secretary of the Ministry of Natural Resources and Environment (MNRE), Acting Secretary-General of ONWF

Government Agencies

The Committee on Water and Flood Management (CWFM)

Mandates
1. Formulate plan of actions and perform water and flood management tasks following up on Committee on National Water and Flood Policy (CNWFP) and perform other functions observing the authority and duty of the CNWFP.
2. Impose on government agencies the procedures on the basis of mutual respect in practice that the mode of flood protection and solution will be rectified swiftly suit to plan of actions. Perform other functions that benefits water management and for preparedness for flood protection and solution.
3. Give approval of government plan of work or projects and endorse a fiscal budget and mobilization of manpower, materials, equipments and other resources to accommodate flood management.
4. Give instruction to the government agencies to perform either an associative duty or a general duty to take productive action toward achieving water and flood management.
5. Direct, control, inspect, monitor and assess all-roundedness outcomes of government agencies with regard to water and flood management.
6. Appoint sub-committee or assign a person to a task as designated by Committee on Water and Flood Management (CWFM)
7. Oversee the performance of Office of the National Water and Flood Management Policy (ONWF)
8. Perform other functions as to achieve water and flood management
9. Perform other functions as designated by the Cabinet, Prime Minister and CWFM
Entry into force, the Office of Prime Minister's Regulation on Strategies for the Establishment of Water Resource Management System, 2012

Office of Prime Minister's Notification No. 253/2555 on Establishment of Strategic Committee on Water Resources Management

Entry into force, the Office of Prime Minister's Regulation on National Water and Flood Management, 2012

Office of Prime Minister Notification No. 62/2555 on Establishment of Committee on National Water and Flood Policy and Committee on Water and Flood Management

The 1st Meeting of Committee on Water and Flood Management to consider recommendations to solve flood problem during the urgent period proposing for Cabinet's approval

Cabinet's resolutions:
- Approved to appoint additional members of the National Committee on Water and Flood Policy and Committee on Water and Flood Management
- Acknowledged 249 projects to solve flood problem with budget of 41,328,820,500 Baht out of which 246 are urgent projects with budget of 24,828,820,500 Baht

The 2nd Meeting of Strategic Committee on Water Resources Management to consider recommendations on flood controlling projects which were submitted for Cabinet on 6 March 2012 and consider flood retain area and compensation measures.

The 1st Meeting of National Committee on Water and Flood Policy on Monday 12 March 2012 at Santimaitree building, Government House.