Post – Flood Investment Environment



Mr. Porametee Vimolsiri Deputy Secretary General The Office of National Economic and Social Development Board

Agenda

- □ The Causes of 2011 Floods
- **Flood Prevention Schemes**
- □ Action Plans: Immediate, Medium, and Long-term Plans
- **Government Commitments**
- □ Infrastructure Deployment for the new Era



The Causes of 2011 Flood



The Causes of 2011 Flood



The Causes of 2011 Flood



Flood Prevention Scheme, King's initiative

Flood Prevention Scheme

Local Defence Industrial Park Protection Inner Logistic Roads

River Dredging, Dike Road, & Watergate

Flood Collection Area, Infrastructure Strengthening Forestation & Dam Management

Flood Prevention Scheme : 1.Forestation

- Objective :Restoration and Conservation of Forest
and Ecosystem in the Chao Phraya river basin
area to be a buffer zone and slow water speed.
- Actions : 1. restore degenerated forest in up stream.
 - 2. promote economic and local forest plantation in mid stream area.
 - 3. increase efficiency of small reservoirs in mid stream area.
 - 4. improve water and land use management.
 - 5. impose new local forest act.

Flood Prevention Scheme : 1.Dam Management

Increasing Flood Retention Capacity in all Major Dams

Rule Curve (r	nax	= 64% & mi	n = 45%)	
Dom Capac	ity	Y2011 (64%)		(2012 (45%)
Dam (M. Cu.	M.)	Capacity left (M. Cu. M.)	Capacity left (M. Cu. M.)	More Capacity left (M. Cu. M.)
Bhumipol 13,46	52	4,846	7,404	2,558
Sirikit 9,51	0	3,423	5,230	1,807
Kiew Lom 112	2	40	61	21
Kiew Kormha 170)	60	93	33
Pasak 785)	282	431	149
Total 24,0	39	8,651	13,219	4,568

Flood Prevention Scheme : 2. Flood Collection

Increasing Regulated Flood Retention Areas by at least 3.6 Billion m²

Flood Prevention Scheme: 3. River Dredging

Dredging of all Major Rivers and Canals to Increase Speed and Volume of Water Flow haya River

Before Dredging

After Dredging

Flood Prevention Scheme : 4. Inner Road & Logistic Route

Flood Prevention Scheme : 4. Inner Road & Logistic Route

Flood Prevention Scheme : 4. Inner Road & Logistic Route

Flood Prevention Scheme : 5. Industrial Park

Flood Prevention Scheme : 6. Local Defense

Flood Prevention Scheme

ocal Defence Industrial Park

The Road Logistic

Single Command Authority

- Chairperson : H.E. Prime Minister
- Members : Ministers and Water Management Experts
- Missions : Single Command Authority
 - Coordinate and Command all Related

Parties

River Dreu

- Situation Analysis

 Manage man power, resources and budget for urgent situations.

Flood Collection Area

Forestation & Dam Management

Action Plan: Overview

Immediate (6 Months) Medium (1-3 Yrs) Long (3-5 Yrs)

	Action	Immediate	Medium Plan	Long-term Plan
1	Dike in industrial Parks	Х		
2	King Dike	Х		
3	Dredging River Delta	Х		
4	Road Rehabilitation	Х		
5	Water Detention Area	Х	Х	
6	Raising Level of Highway	Х	Х	
7	River/Canal Dredging	Х	Х	
8	Upgrading Logistic Routes	Х	Х	Х
9	New Dam / Reservoir		Х	Х
10	New Flood Way			Х
11	Single Command Center	Х		
12	Forecasting and Warning Systems	Х	Х	

Action Plan: Protection of Important Areas

Protection on the East Side

Action Plan: Immediate Plan

Dikes in Industrial Parks

TYPICAL SECTION

Industrial Park	Action Plan	Conceptual Design	Detailed design	Civil work
Sahudrat nakorn (1,441 rai 43 factories)	 Earth Dike (13 km) Elevated entrance road from 6.5 m to 8 m MSL (3 km) 	Finish by Feb 12	Start March 12	Start April, 2012 (6 months)
Bangwa (Hitec) (2,379 rai 143 factories)	 Earth Dike (11 km) Concrete retaining wall 2 km Flood Door @ entrance road 	Finished Jan 12	Finished Feb 12	Start March, 2012 (8 months)
Bangpain (1,962 rai 90 factories)	 Earth Dike to 4.40 m MSL (13 km) Concrete retaining wall 1.6 m 	Finished Jan 12	Finished Feb 12	Started Feb, 2012 (6 months)
Rodjana (10,700 rai 198 factories)	- Dike 6.05 m MSL (77.6 km)	Finished	Finished	Started Feb ,2012 (7 months)
Factory Land (170 rai 84 factories)	 Earth Dike 2 m Concrete retaining wall 400 m 	Finished	Finished	Start Jan, 2012 (6 months)
Nawa Nakorn (6,495 Rai 227 factories)	 Dike with Concrete sheet Pine 5.5m MSL (17.72 km) 	Finished	Finished	Start Feb, 2012 (7 months)
Bangkadee (1,222 rai 44 factories)	 Concrete Dike 4.5 m MSL (9.48 km) 	Finished	Finished	Start Feb, 2012 (7 months)
Ladkabang (2,559 rai 225 factories)	 Earth Dike 1.69 m MSL (4.3 m) Concrete retaining wall 60 m 	Finished	Finished	Start March, 2012 (6 months)

Action Plan: Immediate Plan

Raising Road Elevation

Extending Elevated Roads

Action Plan of Integrated and Sustainable Flood Mitigation (915 billion YEN or 350 billion Bath)

- □ Chao Phraya River Basin majority of the year 2011 flood in which the upper, mid and downstream of the river basin is taken into account. The plan will be implement in 2012 and onwards with total amount of the budget at **784 billion YEN** or 300 billion bath
- ❑ Other River Basins including 17 other river basins across the country. The Plan will be implement in 2012 and onwards with total amount at 131 billion YEN or 50 billion bath.

Government Commitments: Water Management for the Urgency Period

Action Plan of Integrated and Sustainable Flood Mitigation in Chao Phraya River Basin in which the upper, mid and downstream of the river basin is taken into account. The plan will be implement in 2012 and onwards with total amount of the budget at 784 billion JYEN (from Royal Decree on Investment Loan for Water Resource Management and Future Development) detail as follows;

	Work Plan 2012 - 2013	Amount (billion Baht)	Amount (million YEN)
1.	Restoration and Conservation of Forest and Ecosystem	10	26
2.	Management of Major Water Reservoirs and Formulation of Water Management	50	131
3.	Restoration and Efficiency Improvement of Current and Planned Physical Structures	7	18
4.	Information Warehouse, Forecasting and Disaster Warning System	3	8
5.	Response to Specific Area	60	157
6.	Assigning Water Retention Areas and Recovery Measures	120	313
7.	Improving Water Management Institutions	Normal budget procedure	_
8.	Creating Understanding, Acceptance, and Participation in Large Scale Flood Management from all Stakeholders.	50	131
	Total	300	784

Action Plan of Integrated and Sustainable Flood Mitigation in Chao Phraya River

Basin, investment work plan according to specific purpose

	Focus	Amount (billion Baht)	Amount (billion YEN)	Share
Up stream	slowing down the velocity of the current	60	157	20%
Mid stream	Retention, restoration, and drainage	230	601	77%
Down stream	Protection, restoration and drainage	7	18	2%
Related work	Provide accurate info in timely manner and create consensus among all stakeholders	3	8	1%
Total		300	784	100

High Speed Train

Route	From	То	Distance (KM)	Amount (Mill. USD)
North	Bang Sue	Chiang MAi	745	7,300
North-East	Bang Sue	Nong Kai	615	3,100
East	Makkasan	Rayong	330	2,300
South	Bang Sue	Huahin	225	2,600

ทางรถไปความเร็วสูงที่จะดำเนินการศึกษา

Metropolitan rail system

Expressway between major cities

- 13 silumno
- ธะยะกาย 4,150 กโลเมคร
- ก่าก่อสล้าง 472,360 ล่านบาท (บูลก่าปี 2540)
- ก่างคุณธอมสิทธิ์ที่คืน 65,600 สำนุมาก
- 8=8=108141100mm8
 20
 10
 (2540
 2560)

โกรงข่ายทางทลวงพิเศษที่แล้วเสร็จ และเปิดให้บริการแล้ว

วงแหวนธอบนอก กกม. ด้านตะวันออก success 64 nu., deMuteres 0 2542

แมนมัคมนาทางคลวงมีเศษระคว่างเมือง ช่วงปี 2550 - 2554

птоивродины:истокбео истокае 6

กางคลวงมีเสนระหว่างเมือง คมายเลย 81

การคลวงมีเกษระหว่างเมือง คมายเลง 7

and should - ditart - should have

troff 1 ungl - alters erna deserves name - rank s hori

กางหลวงมีเกษระหว่างเมือง พบายเลย 8

ana unadgu - aqnaaanana - oidh

การหลวงมีเกษระหว่างเมือง หมายเลง 5

orna Solarita

Dual Track Train

From - To	Distance (KM)	Amount (Mill. USD)
Chachoengsao – Kaeng Khoi	1	360
Lop Buri - Nakhonsawan	118	420
Map Kabao – Thanon Chira Junction	132	370
Thanon Chira Junction - Khonkaen	185	410
Nakhonpathom - Hauhin	165	530
Prachuap Khiri Khan - Chumphon	167	500
Total		2,590

Sector	Amount (Billion Baht)	Amount (Billion YEN)	Share (%)
1. Land Transport	1,470	3,837	65
2. Air and Marine Transport	148.5	388	6
3. Energy	499.5	1,303	22
4. Telecommunication	35.2	92	2
5. Utility	117	305	5
Total	2,270	5,925	100

Financing source	Amount (Billion Baht)	Amount (Billion YEN)	Share (%)
1. SOEs, and Loan	721.5	1,884	32
2. PPP	413.4	1,079	18
3. Government	1,135.1	2,962	50
Total	2,270	5,925	100

Thank you