

## 2.3 3rd seminar in AYP

### 3rd Seminar for Provincial Natural Resources and Environmental Quality Management Plan in AYP

July 8, 2008  
Provincial Environmental Office in SKP  
Office of Natural Resources and Environment  
Policy and Planning (ONEP/MNRE)  
JICA Study Team  
for the Study on Supporting System for Administrations on  
Natural Resources and Environmental Management in the  
Kingdom of Thailand

1

### Agenda

1. Improvement of PEQMP
  1. Background
  2. Procedure of Improvement
  3. Priority Setting of Issues
2. Details of PEQMP
  1. Improvement in individual NREM sectors
  2. Strengthening NREM administration capabilities in AYP

2

### Background

- ONEP/MNRE in collaboration with JICA are conducting "the Study on Supporting System for Local Administrations on Natural Resources and Environmental Management in the Kingdom of Thailand"
- Period of the Study** : June 2007 – July 2008
- Objective** : To strengthen capacities of central government, provincial administration and local administrations through the formulation of the Provincial Environmental Quality Management Plan (PEQMP)
- Pilot Area** : 2 provinces - Phra Nakhon Sri Ayutthaya (AYP) and Samut Songkhram (SKP)

3

### Background (cont'd)

- In 2007, Office of the Public Sector Development Commission (OPDC) in collaboration with MNRE revised key performance indicator for evaluation of administrative performance. In this regard, each province has been formulated their PEQMP B.E. 2008-2011 (hereinafter called as PEQMP-KPI) and submitted them to the MNRE
- ONEP/MNRE has been published PEQMP-KPI Manual in order to facilitate the formulation of the PEQMP-KPI for 75 provinces

4

## Background (cont'd)

- MNRE by "the PEQMP-KPI Evaluation Committee" evaluated those PEQMP-KPIs and pointed out the following general inadequacies:
  1. Lack of Spatial Data or Area-Based Information hinders the clear information of critical areas
  2. Provide insufficient opportunities nor procedures for stakeholder participation
  3. PEQMP-KPI dealt only with problems solvable within a single local administration (LA) instead of addressing provincial-level issues that lead to unclear picture of NREM in the province

5

## Background (cont'd)

- In 2008, MNRE requested all provinces to review and resubmitted their PEQMP-KPIs.
- The JICA Study Team collaborated with the C/P on the revision of submitted PEQMP-KPI by the 2 model provinces. As the result combined with comments from the PEQMP-KPI Evaluation Committee, the Team completed the revised PEQMP-KPI (Third Draft) for dissemination and receive comments from various stakeholders.

6

## Agenda

1. Improvement of PEQMP
  1. Background
  2. Procedure of Improvement
  3. Priority Setting of Issues
2. Details of PEQMP
  1. Improvement in individual NREM sectors
  2. Strengthening NREM administration capabilities in AYP

7

## Contents of PEQMP

- Part 1: Introduction
- Part 2: Situation and Issues of NREM
  1. Basic Data of Province
  2. Situation and Issue of NRE of Province
  3. Summary of situation and issues of NRE of Province
  4. Priority Setting of Issues
  5. SWOT Analysis
  6. Selection of Priority Programs
- Part 3: Details of PEQMP
- Part 4: Annex

8

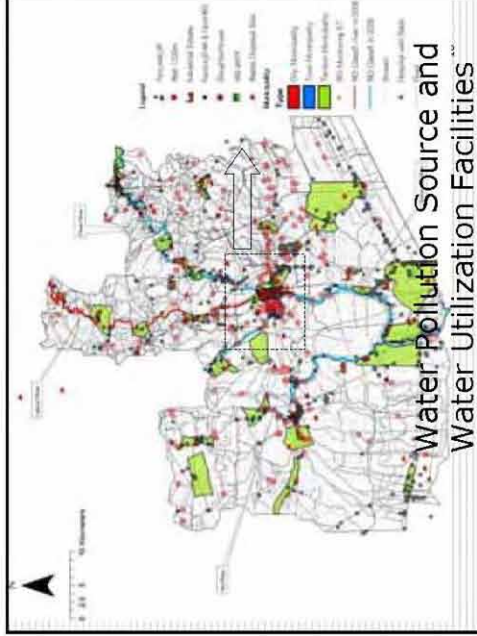
### Procedure of Improvement -1

1. Lack of Area based information



Utilization of GIS Database

9



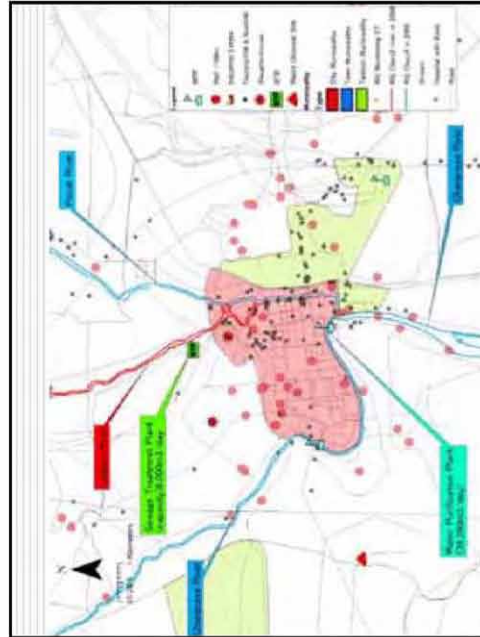
### Procedure of Improvement -2

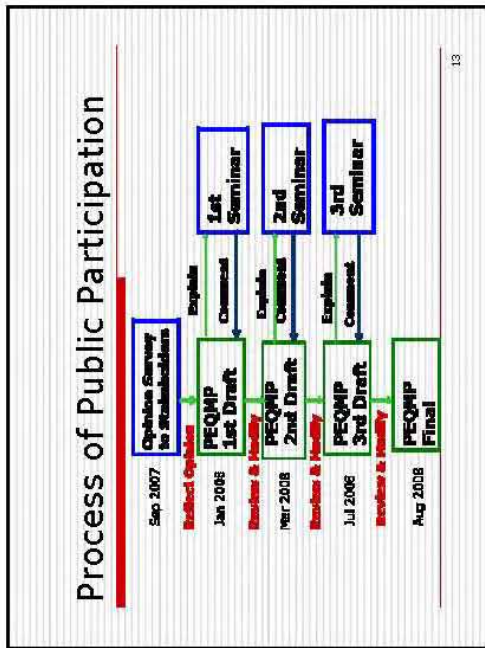
2. Provide insufficient opportunities nor procedures for stakeholder participation



- Opinion Survey to Stakeholders
- Collect Comments from stakeholders through Seminars
- Introduce posting system

12





### Opinion Survey

Interview with Chief Executive of Orbtor of AYP.

Interview with the person in charge of environmental administration in one of the Orbtor of AYP.

14

### Seminar

Participants of the 1st seminar at AYP held on 27 Dec.2007

Opening speech at the 1st seminar by the Vice Governor of AYP

15

### Posting System to collect public opinion

PEQMP will be open to the public for certain period in order to collect public opinion and reflect them to the planning.

16

### Procedure of Improvement –3

3. PEQMP-KPI dealt only with problems solvable within a single local administration (LA) instead of addressing provincial-level issues that lead to unclear picture of NREM in the province



#### □ Introduction of PDM

- Make it clear for the relations between Overall Goals and Objective, Objective and Output, Output and Input
- Priority is given to formulation of provincial master plan in priority issues which identified through opinion survey and SWOT analysis.

17

### Structure of PDM

Narrative Summary		Verification Indicators	Means of Verification	Monitor Progress by Indicators
Overall Goal	↑			
Program Purpose	↑			
Outputs	↑			
Individual Priority Projects	↑	Responsible Agency	Supporting Agency	Input (Baht)

18

### Project Design Matrix (PDM)

- Advantage of PDM
  - It is logically explained that, in order to achieve Program Objectives, what kind of outputs will be required.
  - It is logically explained what kind of Individual Priority Projects will be required in order to realize outputs.
  - It is easy to monitor progress of each step



19

### Agenda

1. Improvement of PEQMP
  1. Background
  2. Procedure of Improvement
  3. Priority Setting of Issues
2. Details of PEQMP
  1. Improvement in individual NREM sectors
  2. Strengthening NREM administration capabilities in AYP

20

### Priority Setting of Issues: Selection Process of Priority Issues and Programs

- PEQMP formulation committee meeting
- Opinion Survey to residents, business entities, local administrations, NGOs
-   Selection of Priority Issues
-   Priority Programs on Priority Issues which should be implemented by 2011

21

### Opinion Survey to the Stakeholders

Target Group

Target Group	Number
Local Administration	54 LA
Resident	226
Business Establishment	97
NGO	5 NGO

22

### Problems of NREM

Group	Most Serious Problem	Reply Rate (%)	Second Most Serious Problem	Reply Rate (%)
LA	Water Resources Management	53.7	Solid Waste Management	42.6
Resident	Water Resources Management	38.5	Global Warming/Climate Change	19.5*1
Business Establishment	Water Resources Management	35.1	Global Warming/Climate Change	15.5*1
NGO	Solid Waste Management	60.0*2	Water Resources Management	60.0*2

Note: \*1: Although the number of interviews that selected "Global Warming Problems" is slightly less than those who selected "Water Quality Problems", interviewees who selected "Global Warming Problem" as "3. Somewhat serious" is much higher than those who indicated "Water Quality Problem".

23

### Reasons for Selecting Serious Problems

Most Serious Problem	Item	Reason
Water Resources Management	Flood	Loss of Agricultural Land and Property Isolation of Transportation
Solid Waste Management	Non-Sanitary Landfill	Occurrence of Environmental and Sanitary Problem
Second Serious Problem	Item	Reason
Solid Waste Management	Improper Disposal of Huge Amount of Waste	Occurrence of Serious Environmental Problem
Global Warming	Difficulty of Acquisition of Disposal Site	
Water Resources Management	Rise in Temperature	Health Problem Increase of Power Fee
Water Resources Management	Flood	Loss of Agricultural Land and Property Loss of Fertile Land

### Priority Examined in SWOT Analysis

- The PEQMP-KPI Formulation Committee was held at the AYP Conference Room on the 27th of June 2007 chaired by the Vice Governor
- SWOT Analysis was conducted with 20 relevant participants directed by a moderator from AY University

25

### Priority Issues on NREM in AYP discussed in SWOT Analysis Meeting

Priority	NRE Problems
1.	Solid Waste Management (SWM)
2.	Surface Water Resources and Flood Control
3.	Tourism places for art, culture and history
4.	Air Pollution and Noise
5.	Biodiversity
6.	Groundwater Resources
7.	Soil Resources and Land Use
8.	Urban Environment

26

### Priority Setting of Issues: Examination of Priorities

- The priority issues for PEQMP (2008-2011) are issues in NREM on the provincial scale, and issues that should be dealt with by 2011.
- To solve the issues by 2011, several Priority Projects must be implemented. The Priority Projects with a common goal (i.e. solving the same priority issue) will be combined as a Priority Program.
- Priority Programs can be divided into two major categories:
  1. Improvement in individual NREM sectors
  2. Strengthening of NREM administrative capacities in SKP

27

### Selection of Priority Programs (to be implemented by 2011)

- Sector Improvement
  1. Improvement of Solid Waste Management
  2. Flood Prevention and Disaster Mitigation
  3. Secure Water Quality in Public Water Body
  4. Supply of Safe and Quality Water
- Strengthen Provincial NREM
  1. Strengthening Linkage between Central Government Agencies, Provincial Administrations and Local Administration on NREM
  2. Supporting Plan for Improvement of Administration Capacity of Central/Local Government on NREM

28

## Agenda

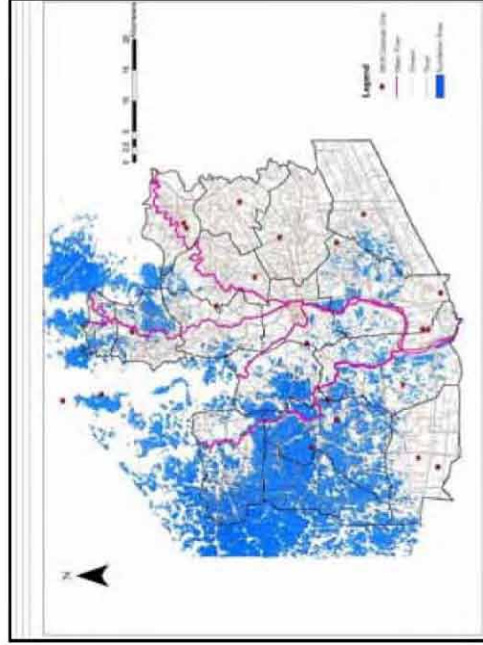
1. Improvement of PEQMP
  1. Background
  2. Procedure of Improvement
  3. Priority Setting of Issues
2. Details of PEQMP
  1. Improvement in individual NREM sectors
  2. Strengthening NREM administration capabilities in AYP

## 1-1. Improvement of Solid Waste Management: Background

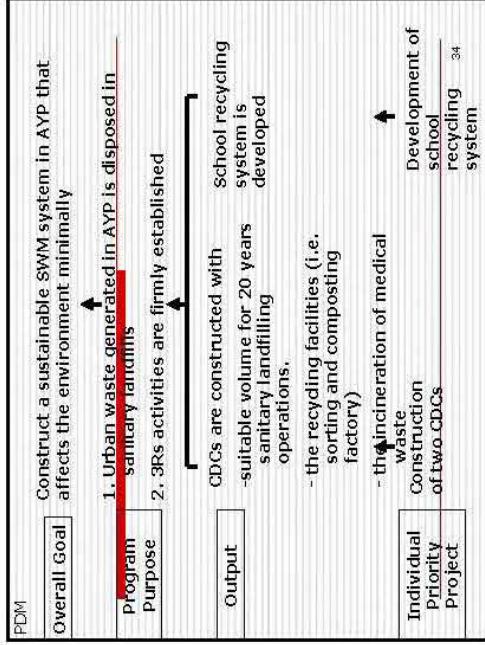
- The current system of municipal solid waste management (SWM) mainly consists of a collection system and final disposal system.
- An important point is that there are over 18 disposal sites for a population of about 750,000 in the province
- Almost all of disposal sites are open dumping operations
- Consequently, the adverse impacts of the disposal site are very serious to the surrounding environment, especially among disposal sites located in the flood-prone area
- In addition, although the national EQMP promotes 3Rs (Reduce, Reuse and Recycle) as important activities for sustainable SWM, LAs do not promote 3Rs activities well.

## Disposal Site in AYP

Name of LA	Operating in operation	Tipping fee (Baht/ton)	Final disposal amount (ton/year)	Location of final disposal site	Disposal Method
1. TAO BANG KHU	TEST 1 THAI ROAD	0	10	Moc 12, Tambon Bang Khru, Amphur Bang Khru, Lamphun	Open Dump
2. TAO NAKHON LUANG	TEST 1 NAKHON LUANG	0	20	Moc 2, Tambon Bang Sa-am, Amphur Bang Sa-am, Lamphun	Semi sanitary Landfill
3. TAO NAKHON LUANG	TEST 1 NAKHON LUANG	0	4	Moc 6, Tambon Bang Sa-am, Amphur Bang Sa-am, Lamphun	Semi sanitary Landfill
4. TAO NAKHON LUANG	TEST 1 NAKHON LUANG	0	4	Moc 6, Tambon Bang Sa-am, Amphur Bang Sa-am, Lamphun	Semi sanitary Landfill
5. TAO NAKHON LUANG	TEST 1 NAKHON LUANG	0	4	Moc 6, Tambon Bang Sa-am, Amphur Bang Sa-am, Lamphun	Semi sanitary Landfill
6. TAO NAKHON LUANG	TEST 1 NAKHON LUANG	0	4	Moc 6, Tambon Bang Sa-am, Amphur Bang Sa-am, Lamphun	Semi sanitary Landfill
7. TAO NAKHON LUANG	TEST 1 NAKHON LUANG	0	15	Moc 11, Tambon Chong Rak, Amphur Bang Sa-am, Lamphun	Open Dump
8. TAO NAKHON LUANG	TEST 1 NAKHON LUANG	0	20	Moc 11, Tambon Chong Rak, Amphur Bang Sa-am, Lamphun	Open Dump
9. TAO NAKHON LUANG	TEST 1 NAKHON LUANG	0	20	Moc 11, Tambon Chong Rak, Amphur Bang Sa-am, Lamphun	Open Dump
10. TAO NAKHON LUANG	TEST 1 NAKHON LUANG	0	20	Moc 11, Tambon Chong Rak, Amphur Bang Sa-am, Lamphun	Open Dump
11. TAO NAKHON LUANG	TEST 1 NAKHON LUANG	0	20	Moc 11, Tambon Chong Rak, Amphur Bang Sa-am, Lamphun	Open Dump
12. TAO NAKHON LUANG	TEST 1 NAKHON LUANG	0	20	Moc 11, Tambon Chong Rak, Amphur Bang Sa-am, Lamphun	Open Dump
13. TAO NAKHON LUANG	TEST 1 NAKHON LUANG	0	20	Moc 11, Tambon Chong Rak, Amphur Bang Sa-am, Lamphun	Open Dump
14. TAO NAKHON LUANG	TEST 1 NAKHON LUANG	0	20	Moc 11, Tambon Chong Rak, Amphur Bang Sa-am, Lamphun	Open Dump
15. TAO NAKHON LUANG	TEST 1 NAKHON LUANG	0	20	Moc 11, Tambon Chong Rak, Amphur Bang Sa-am, Lamphun	Open Dump
16. TAO NAKHON LUANG	TEST 1 NAKHON LUANG	0	20	Moc 11, Tambon Chong Rak, Amphur Bang Sa-am, Lamphun	Open Dump
17. TAO NAKHON LUANG	TEST 1 NAKHON LUANG	0	20	Moc 11, Tambon Chong Rak, Amphur Bang Sa-am, Lamphun	Open Dump
18. TAO NAKHON LUANG	TEST 1 NAKHON LUANG	0	20	Moc 11, Tambon Chong Rak, Amphur Bang Sa-am, Lamphun	Open Dump
Total					3002







### Individual Priority Projects, Responsible Agency, Supporting Agency, and Input

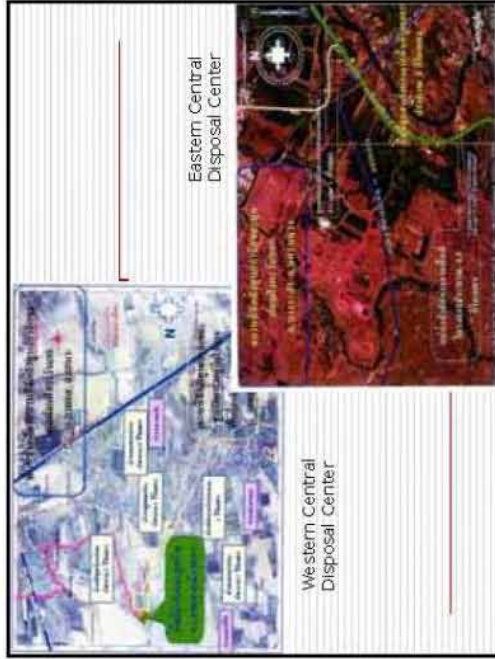
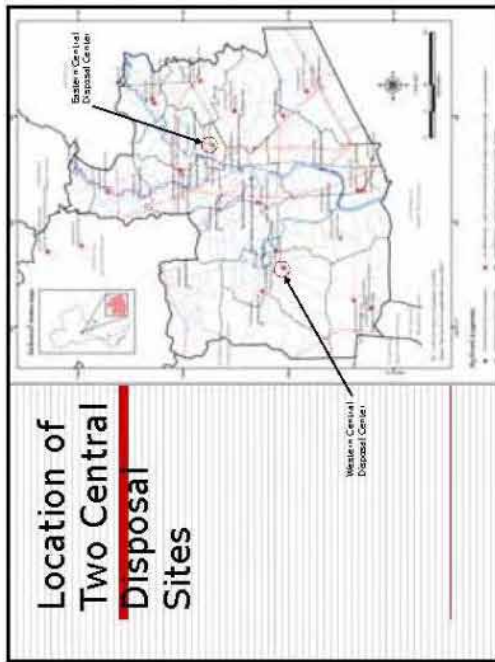
Individual Priority Projects	Responsible Agency	Supporting Agency
1. 1. Construction of two CDCs 1-1. Land purchase for CDC 1-2. Site preparation for construction 1-3. Detail design of CDCs 1-4. Construction of CDCs 2. Development of school recycling system	Onhorjor in collaboration with all LAs	PC, PCD, DOLA      PEO, PCD, DEOP, MOE

35

### Monitoring Progress of Work

Outputs	Verification Indicator
1. 1. CDCs are constructed with suitable volume for 20 years sanitary landfilling operations. - the recycling facilities (i.e. sorting and composting factory) - the incineration of medical waste	- The disposal capacities of two new CDCs - Recycling facility capacities - Medical waste incineration facilities.
2. School recycling system is developed	2. Number of schools implementing waste bank and their recycling record

Progress of the work will be monitored by verification indicators.

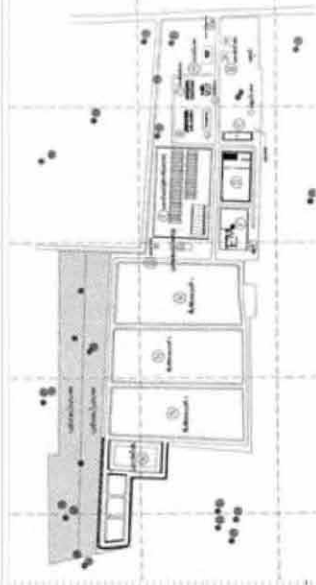


### Facilities of Central Disposal Center

Facilities	Symbol
Security Building	A
Weight Indicator Control Building	B
Material Storage and Maintenance Building	C
Waste Receiving and Sorting Building	D
Composting Building	E
Compost Screening Building	F
Odor Elimination Pond	G
Transformer Field	H
Housing Building	I
Office Building	J
Toilet	K
Parking Building	L
Wastewater Treatment Pond	M
Sanitary Landfill Incinerator	N
	O



## Eastern Central Disposal Center



## 1-2. Flood Prevention and Disaster Mitigation Plan: Background

- According to the opinion survey, LAs, residents and business establishments replied that the most serious problem of NREM in AYP is water resources management.
- Specifically the management of floods.
- The reasons given were that floods cause "Loss of agricultural land and property" and "Isolation of transportation".
- In fact AYP had experienced considerable flood damage as shown in the table below, according to the Office of Disaster Prevention and Mitigation of MOI in AYP.

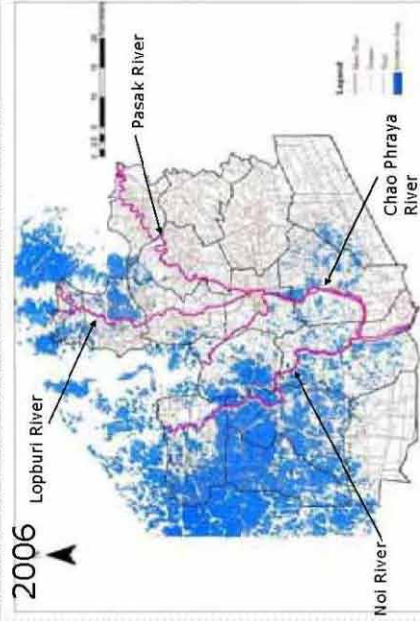
42

## Recent Damage by Flood in AYP

Year	Number of Affected People	Number of Deaths	Number of Damaged Houses	Affected Agriculture Area (rai)
2006	378,891	70	10,252	303,507
2007	50,140	7	1,879	42,432

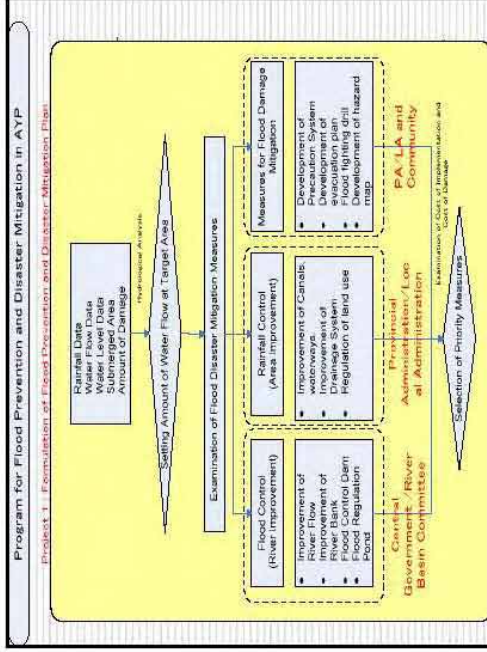
43

## Main Rivers and Flooded Area in 2006





45



PDM

Overall Goal	<b>Strengthen AYP against flood.</b>
Program Purpose	An effective Flood Prevention/Disaster Mitigation (FP/DM) Plan that considers cost-benefit is formulated
Output	<ul style="list-style-type: none"> <li>A FP/DM plan that considers cost-benefit is chosen</li> <li>River and canal function be improved and maintained to reduce the effect of floods.</li> <li>Measures for flood damage mitigation will be outlined and risk of disaster will decrease</li> <li>Formulation of action plan on Flood Damage Mitigation</li> </ul>
Individual Priority Project	<ul style="list-style-type: none"> <li>Formulation of FP/DM plan by the area</li> <li>Renovation and maintenance of river and canal.</li> <li>Study of hydrology in the area</li> <li>Research and analysis the past damages and its costs.</li> <li>Examination of flood disaster mitigation measures</li> <li>Selection of priority measures</li> </ul>

47

Individual Priority Projects	Responsible Agency	Supporting Agency
1. Formulation of FP/DM plan by	Office of Disaster Prevention and Mitigation, Orborjor,	Meteorological Station, Irrigation Project Public Works and City Planning Office, Provincial Agricultural Office, Provincial Fishery Office, Provincial Livestock Office.
1.1 Study of hydrology in the area		
1.2 Research and analysis the past damages and its costs.		
1.3 Examination of flood disaster mitigation measures		
1.4 Selection of priority measures	Tessaban, Orborjor	DOLA, RID
2. Formulation of action plan on renovation and maintenance of river and canal.	Orborjor, Tessaban, Orborjor	DEQP, DWR
3. Formulation of action plan on flood damage mitigation	Orborjor	

### Monitoring Progress of Work

Outputs	Verification Indicator
1. A FP/DM plan that considers cost-benefit is chosen	1. FP/DM plans and their EIRR/FIRR (Economic./Financial Internal Rate of Return)
2. River and canal function be improved and maintained to reduce the effect of floods.	2. Management and responsibility structure of various river and canal sections
3. Measures for flood damage mitigation will be outlined and risk of disaster will decrease	3. Contents of flood damage mitigation plan

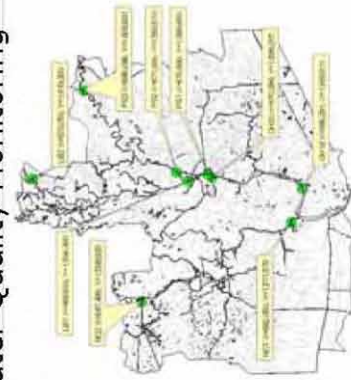
Progress of the work will be monitored by verification indicators.

50

### 1-3. Water Quality Preservation in Public Water Bodies: Background

- According to the results of past monitoring data, the water quality of all four main rivers is tending towards the worse.
- On the assumption that the same condition (amount of pollutant, treatment, etc.) would continue in the future, water quality of all four major rivers will be worse compared with the current situation.
- The water quality of all four major rivers in 2006 was Class 4 or Class 5, which meant that the water required a special water treatment process before using.

### PCD Water Quality Monitoring Points



51

### Definition of Class of Water Quality Standard

Classifications	Objectives / Conditions and Beneficial Usage
Class 1	Very clean fresh surface water resources used for: (1) consumption, but passing through water treatment process (require only ordinary process for fishery production) (2) ecosystem conservation where basic organisms can breed naturally
Class 2	Very clean fresh surface water resources used for: (1) consumption which requires ordinary water treatment process before use (2) aquatic organism of conservation (3) fisheries (4) recreation
Class 3	Medium clean fresh surface water resources used for: (1) consumption, but passing through an ordinary treatment process before using (2) agriculture
Class 4	Fairly clean fresh surface water resources used for: (1) consumption, but requires special water treatment process before using (2) industry
Class 5	The sources which are not classification in class 1-4 and used for navigation

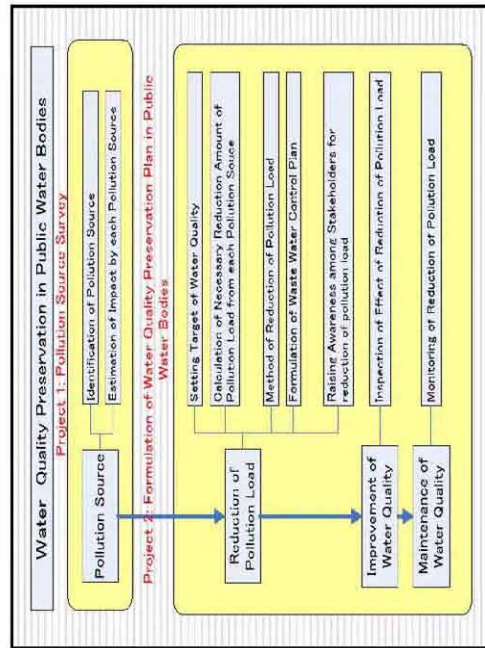
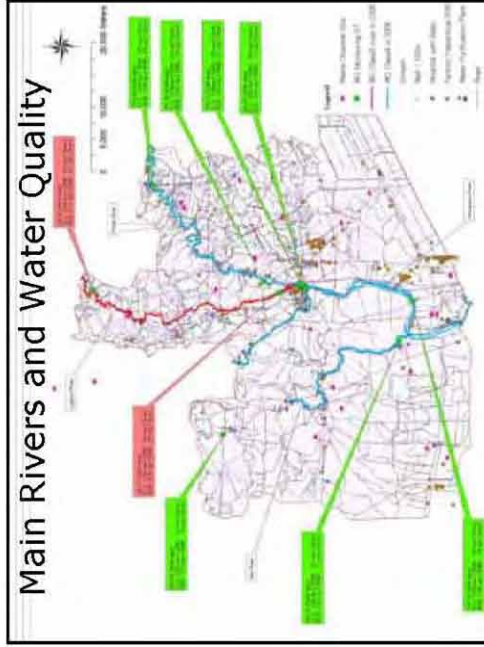
\*Source: PCD Web page: [http://www.pcd.go.th/info\\_servien\\_reg\\_std\\_water05.htm#s.3](http://www.pcd.go.th/info_servien_reg_std_water05.htm#s.3)

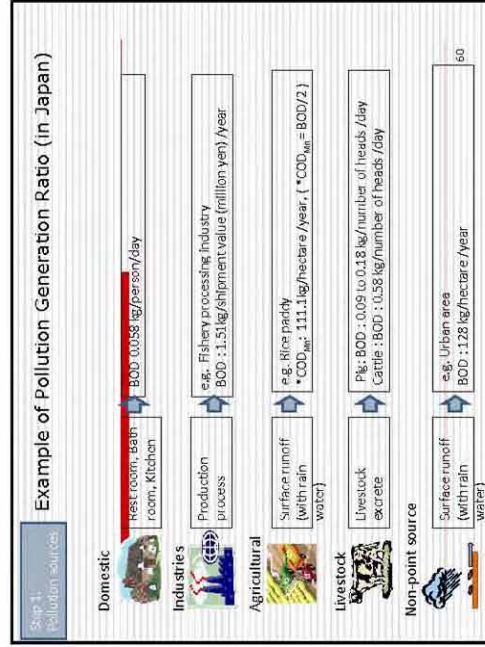
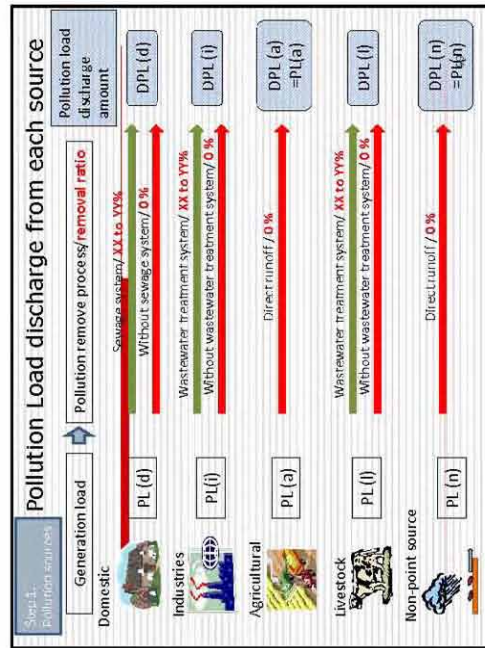
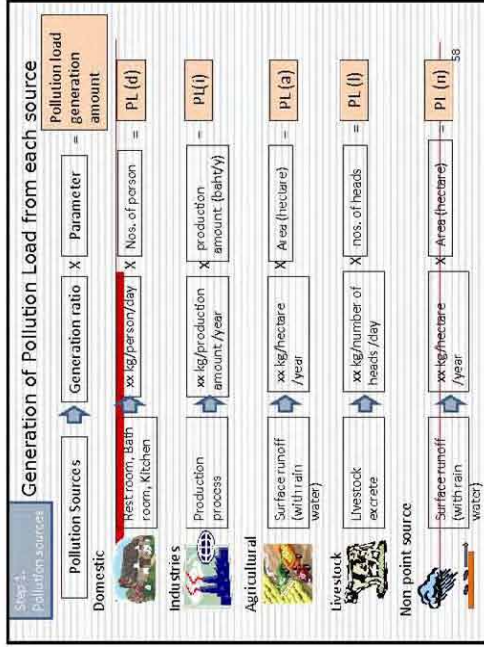
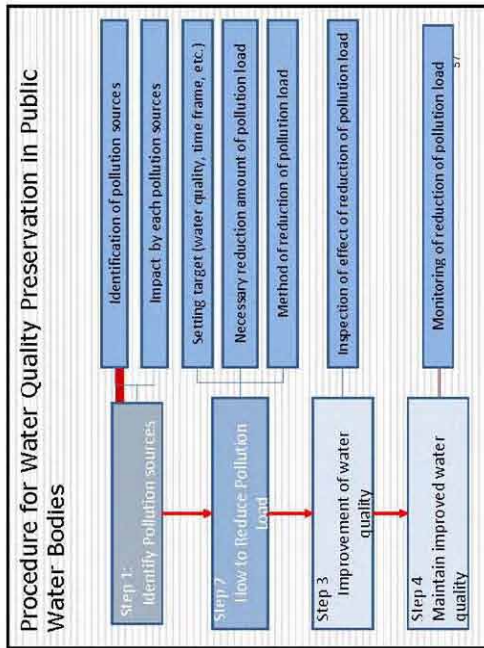
52

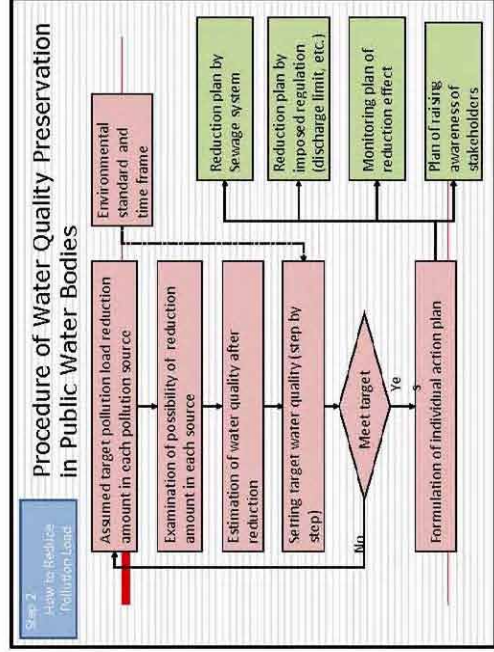
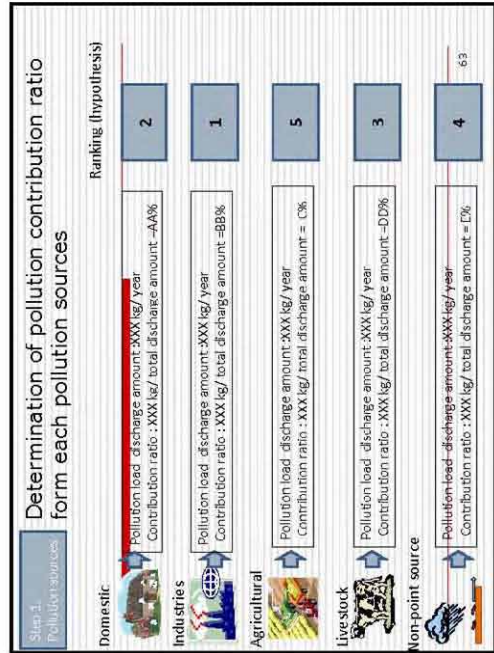
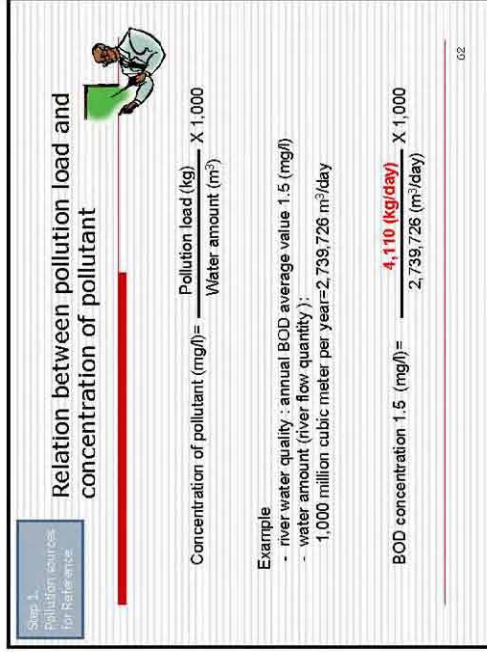
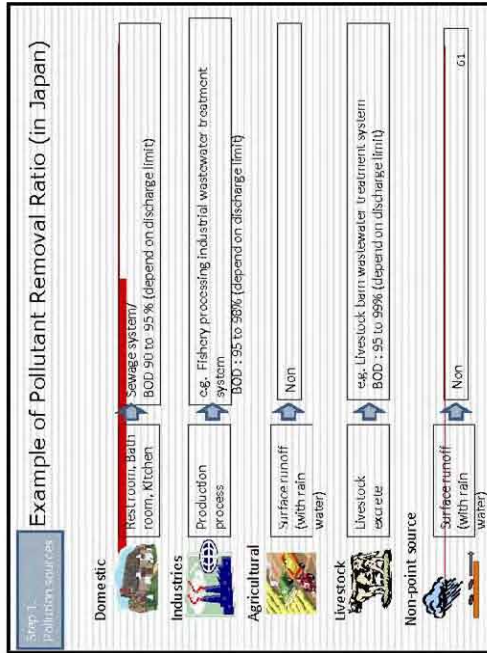
### Summary of water quality class results (2006)

River name	Point	DO P20	BOD P80	TCB P80	FCB P80
Noi	NO 01	Class4	Class2	Class3	Class3
	NO 02	Class4	Class4	Class4	Class4
Lopburi	LB 01	Class5	Class4	Class4	Class4
	LB 02	Class4	Class5	Class4	Class4
Pasak	PS 01	Class4	Class4	Class4	Class4
	PS 02	Class4	Class4	Class3	Class4
	PS 03	Class4	Class4	Class3	Class3
Chao phraya	CH 18	Class4	Class3	Class3	Class3
	CH 20	Class4	Class4	Class3	Class3

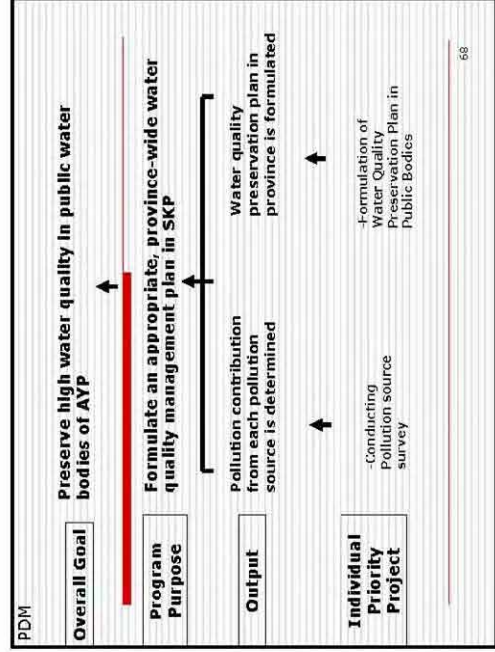
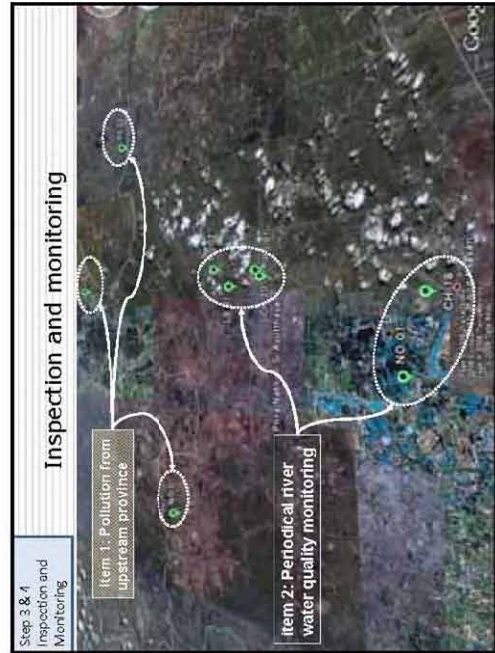
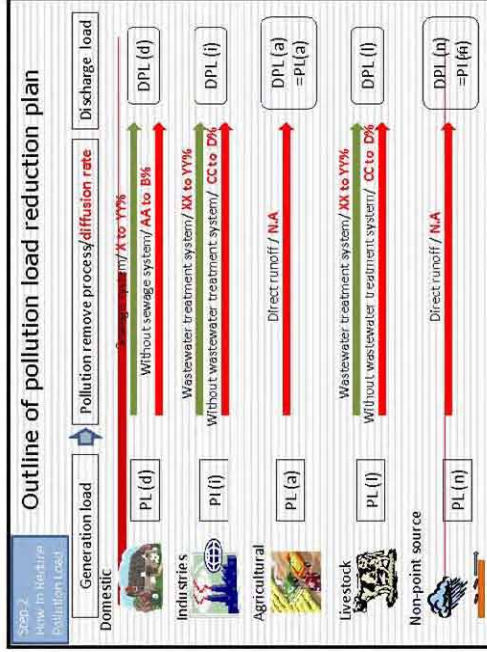
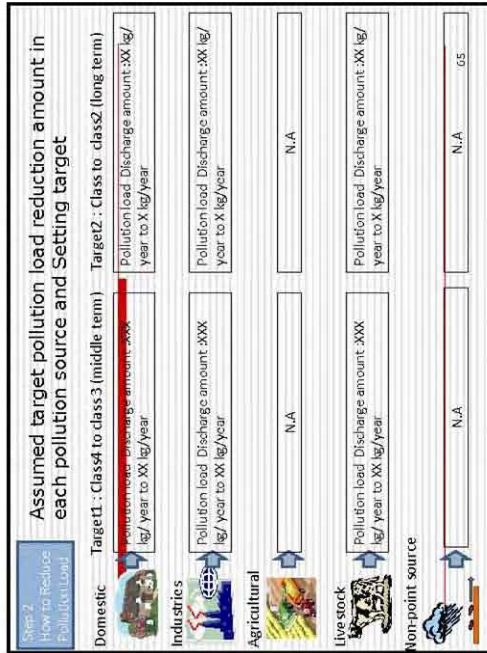
S3











### Individual Priority Projects, Responsible Agency and Supporting Agency

Individual Priority Projects	Responsible Agency	Supporting Agency
1. Pollution source survey	PEO REO PCD	PAgo, PFO, PLO, PIO,LA
2. Formulation of Water Quality Preservation Plan in Public Bodies	PEO REO PCD	PAgo, PFO, PLO, PIO,LA

69

### Monitoring Progress of Work

Outputs	Verification Indicator
1. Pollution contribution from each pollution source is determined	1. Contents of pollution source survey report.
2. Water quality preservation plan in province is formulated.	2. Contents of water quality preservation plan

Progress of the work will be monitored by verification indicators.

### 1-4, Safe and Quality Water Supply in AYP: Background

- Water pollution of public water bodies can seriously affect human health through water utilization facilities
- If water pollution becomes serious, it raises the cost of purification or makes the water unsuitable for consumption and use.
- Also, as shown in the photos below, river water volume is greatly reduced in the dry season while pollution sources remain constant, resulting in worse water quality in the dry season.
- The serious effect of water pollution on water supply facilities using rivers as their water source must be kept in mind.

71

### Water Intake in Dry and Rainy Season



Water Purification Plant of Ayutthaya -water Purification Plant of Ayutthaya City on October 22, 2007  
(Rainy Season: Water quality is better)  
Water Purification Plant of Ayutthaya -water Purification Plant of Ayutthaya City on December 20, 2007  
(Dry Season: Water quality is worse)

72

### Program for Safe and Quality Water Supply in Ayutthaya Province (AYP)

The supply of domestic water involves two elements:

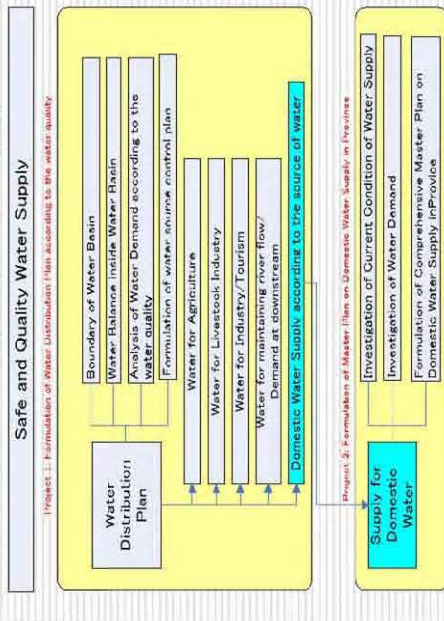
- the appropriation of water sources based on the analysis of water demand for various activities,
- the formulation of a domestic water supply plan suitable for those water sources.



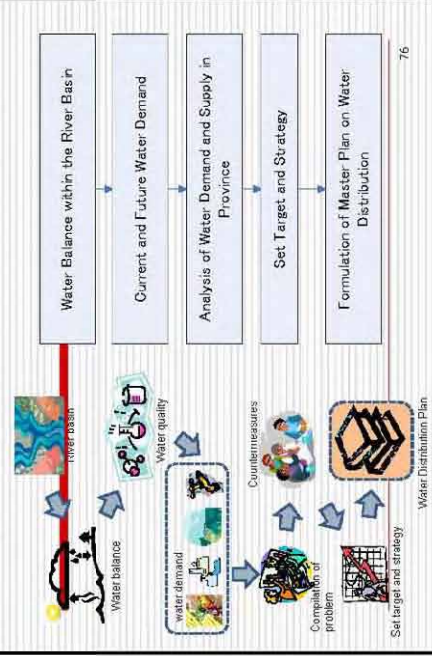
### Current water purification plant and water sources

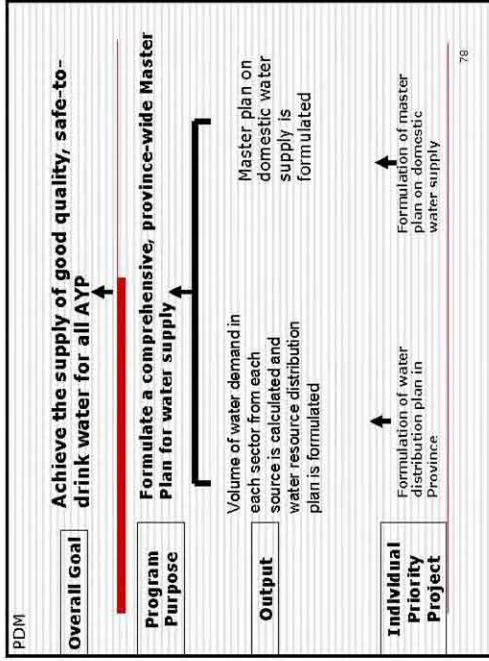
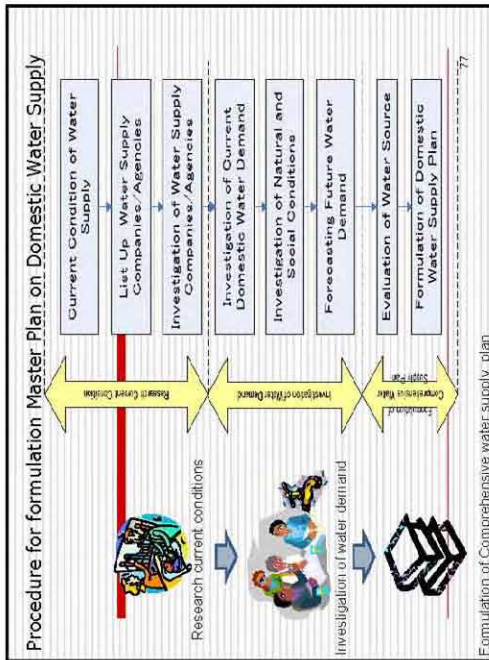


### Procedure for Safe and Quality Water Supply



### Formulation of Water Resources Distribution Plan





**Individual Priority Projects, Responsible Agency and Supporting Agency**

Individual Priority Projects	Responsible Agency	Supporting Agency
1. Formulation of water distribution plan in Province	PWA and other water supply organizations	PEO, PWA
2. Formulation of master plan on domestic water supply		PEO, PO

79

**Agenda**

1. Improvement of PEQMP
  1. Background
  2. Procedure of Improvement
  3. Priority Setting of Issues
2. Details of PEQMP
  1. Improvement in individual NREM sectors
  2. Strengthening NREM administration capabilities in AYP

80

### Strengthen Linkage between Central Government Agencies, Provincial Administration (PA) and Local Administrations (LAs) in AYP

- Tasks related to NREM have been comprehensively decentralized and devolved onto Local Administrations (LAs), but the LAs put in charge of these tasks do not realistically have the capacity to execute these tasks. Therefore, for the time being, problem-solving in NREM will be difficult without the strong support of Central Government agencies and Provincial Administrations (PAs).
- On the other hand PAs do not have sufficient capability to support LAs due to lack of technical knowledge on proper NREM. It is, therefore, necessary to establish a support center in MNRE to support both LAs and PAs for proper NREM.

81

### PDM 1(PA/LA Central Support center)

**Overall Goal**  
NREM administrative capabilities of LAs in AYP are strengthened

**Program Purpose**  
Strengthen linkage for NREM between central government Organizations, Provincial Administration and LAs in AYP

**Output**

1. Proficiency of PA and LA staff in NREM increases
2. Departments within MNRE grasp the current actual state of NREM in PAs and LAs
3. The Governor receives frequent advises on NREM
4. Sustainable development plans with due consideration of NREM are proposed; they are approved and budgets are allocated by the central government.

**Individual Priority Project**  
Establishment of the PA and LA Central Support Center for NREM in MNRE

82

### PDM 2 (Strengthen NREM GIS Database center in REO6)

**Overall Goal**  
NREM administrative capabilities of LAs in AYP are strengthened

**Program Purpose**  
Strengthen linkage for NREM between central government Organizations, Provincial Administration and LAs in AYP

**Output**

1. The existing NREM GIS Database of REO 6 is periodically updated and well maintained.
2. The updated information on NREM is provided to PEOs and other administrative organizations under REO 6.

**Individual Priority Project**  
Strengthening of the NREM GIS Database Center in REO 6

83

### PDM 3(Promotion of resident environmental awareness and publication of environmental information)

**Overall Goal**  
NREM administrative capabilities of LAs in AYP are strengthened

**Program Purpose**  
Strengthen linkage for NREM between central government Organizations, Provincial Administration and LAs in AYP

**Output**  
NREM awareness, and interest in preserving NRE, increases among residents

**Individual Priority Project**  
Promotion of resident environmental awareness and publication of environmental information

84

Individual Priority Projects		
Individual Priority Projects	Responsible Agency	Supporting Agency
1. Establishment of the PA and LA Support Center for NREM in MNRE	ONEP, OPS/M NRE	DEQP, PCD, RFD, DNP, DMR, DMCR, DWR, DGR in MNRE
2. Strengthening of the NREM_GIS Database Center in REO 6	REO 6	OPS and ONEP of MNRE
3. Promotion of resident environmental awareness and publication of environmental information	DEQP/MNRE, PEO/AYP	ONEP/MNRE, PO Cable TV, local radio stations

### Individual Priority Projects, Responsible Agency and Supporting Agency

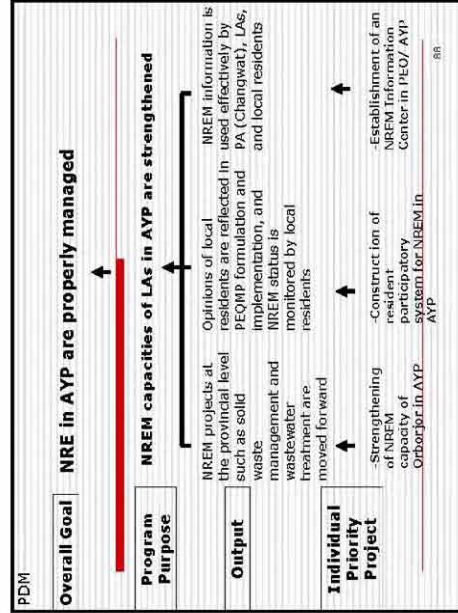
Monitoring Progress of Work	
Outputs	Verification Indicator
1. Proficiency of PA and LA staff in NREM increases	1 Number of inquiries to the PA and LA Support Center for NREM
2. Departments within MNRE grasp the current actual state of NREM in PAs and LAs	2 Number of inquiries dealt with by MNRE divisions
3. The Governor receives frequent advises on NREM	3 Assignment of NREM advisors to the Governor and number of training for them
4. Sustainable development plans with due consideration of NREM are proposed; they are approved and budgets are allocated by the central government	4 Number of proposals and approvals of sustainable development plans with due consideration of NREM

Progress of the work will be monitored by verification indicators.

### Monitoring Progress of Work

Strengthen NREM Capacities of LAs in Ayutthaya Province (AYP)	
<input type="checkbox"/>	There are three kinds of Local Administrations (LAs), the Orborjor, which shares their sphere of governance (i.e. the province) with Provincial Administration (PA: Changwat), the Tassaban, in charge of cities and municipalities; and the Orborjor, in charge of villages.
<input type="checkbox"/>	These are quite new functions and budget allocated to and given power to local administrations under the Constitution of 1997 and the Decentralization Act of 1999. Many types of authority that have previously belonged to the Central Government have already been handed over to LAs.
<input type="checkbox"/>	But the LAs often do not possess enough administrative capacity, including NREM capacities, due to the rapid pace in which decentralization occurred.
<input type="checkbox"/>	Thus the following program is proposed as a priority program:

### Strengthen NREM Capacities of LAs in Ayutthaya Province (AYP)



### Individual Priority Projects, Responsible Agency and Supporting Agency

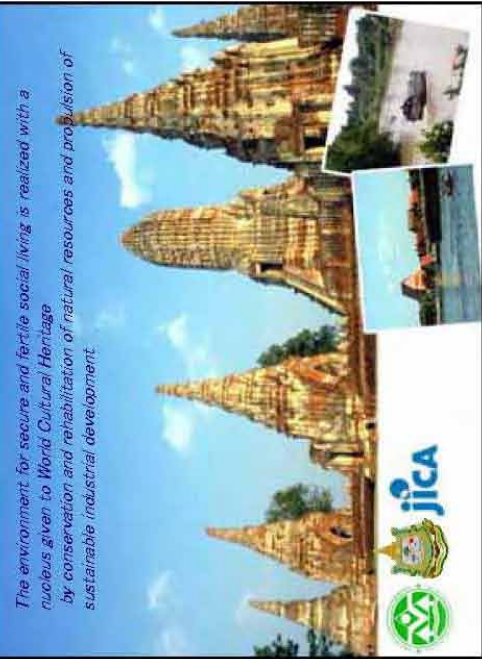
Individual Priority Projects	Responsible Agency	Supporting Agency
1. Strengthening of NREM capacity of Orborjor in AYP	Orborjor Provincial Office of AYP	MOI, PA (Changwat) of AYP and ONEP of MNRE
2. Construction of resident participatory system for NREM in AYP	Provincial Office and PEO of AYP	ONEP and Amphoe of AYP
3. Establishment of an NREM Information Center in PEO/ AYP	PEO/ AYP	OPS and ONEP of MNRE

88

### Monitoring Progress of Work

Outputs	Verification Indicator
1. NREM projects at the provincial level such as solid waste management and wastewater treatment are moved forward	1. Number of NREM projects at the provincial level started by LAs
2. Opinions of local residents are reflected in PEQMP formulation and implementation, and NREM status is monitored by local residents	2-1 Number of public notices 2-2 Number of resident opinions recorded 2-3 Appointment of local resident representatives to monitoring committee
3. NREM information is used effectively by PA (Changwat), LAs, and local residents	3. Number of inquiries to NREM Information Center

Progress of the work will be monitored by verification indicators.



Thank you for your Attention  
and Cooperation to the Study

92