

Individual Priority Projects		
Individual Priority Projects	Responsible Agency	Supporting Agency
1. Formulation of SWM Master Plan in Provincial Level	Orborjor in collaboration with all LAs	Provincial Committee (PC), Pollution Control Department (PCD), PEO, REO
1-1. Site Selection for Final Disposal Site		
1-2. Formulation of Sustainable SWM Master Plan in Provincial Level		
2. Construction of Final Disposal Site		
2-1. Detailed Design		
2-2. Construction of Final Disposal Site		

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Individual Priority Projects, Responsible Agency and Supporting Agency

Individual Priority Projects	Responsible Agency	Supporting Agency
3. Raising awareness on an appropriate SWM	LA	PEO, REO, PA
3-1. Public education in order to reduce waste generation rate.	LA	Schools PEO, REO, DEQP
3-2. Promotion of separate collection among LAs by organizing a competition between LAs and initiating a campaign program	Schools	PEO, REO, LA
3-3. Dissemination of school composting among schools that do not currently implement such a program	PEO LA	REO, PCD, DEQP
3-4. Training seminars for administration staff on appropriate and environmentally friendly waste management		

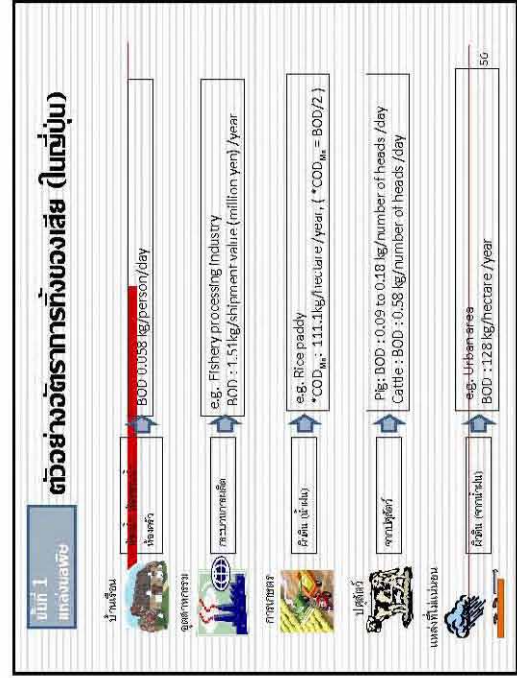
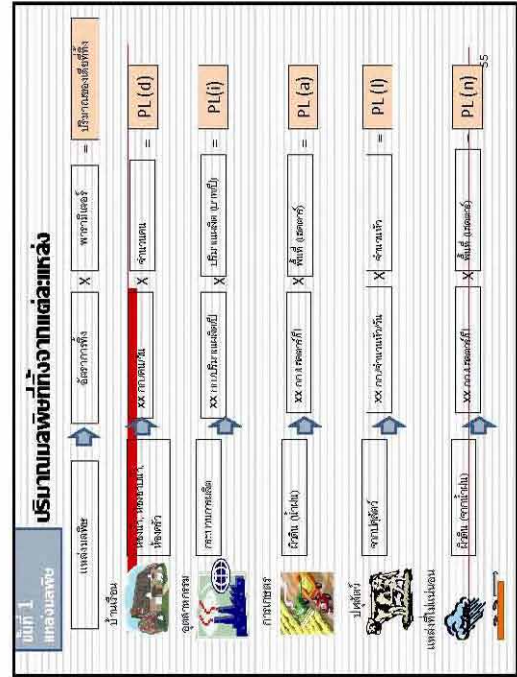
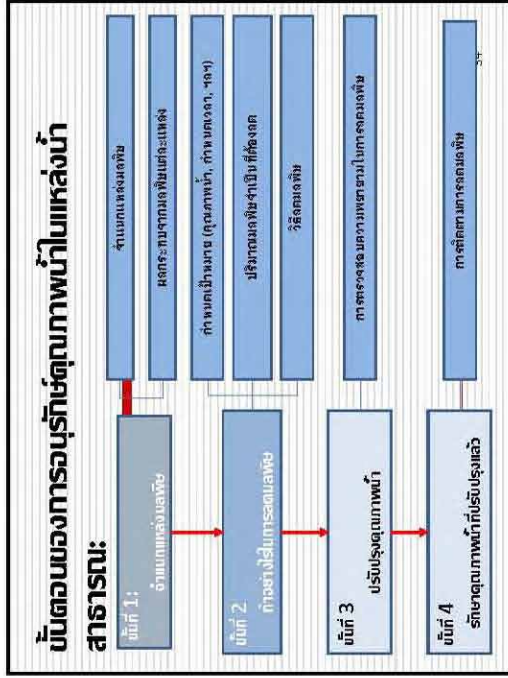
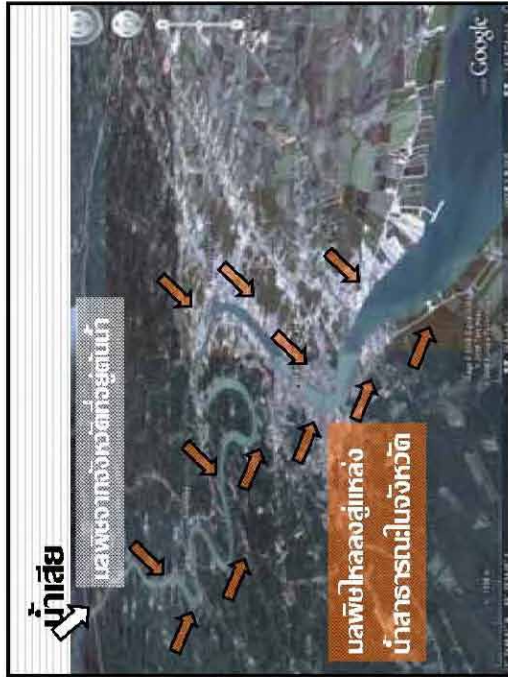
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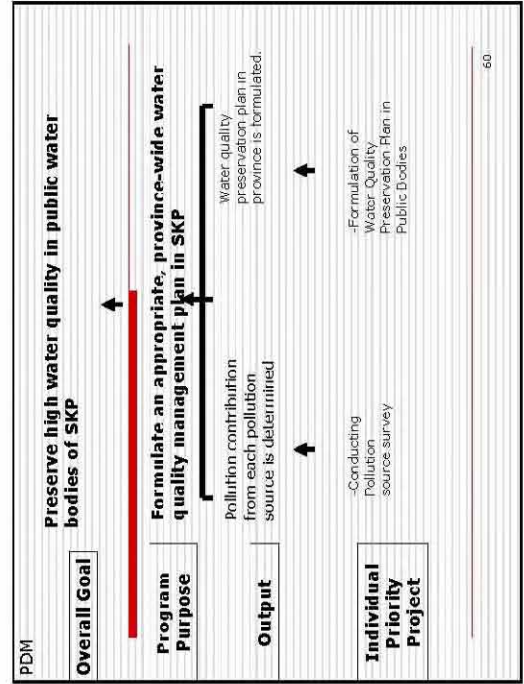
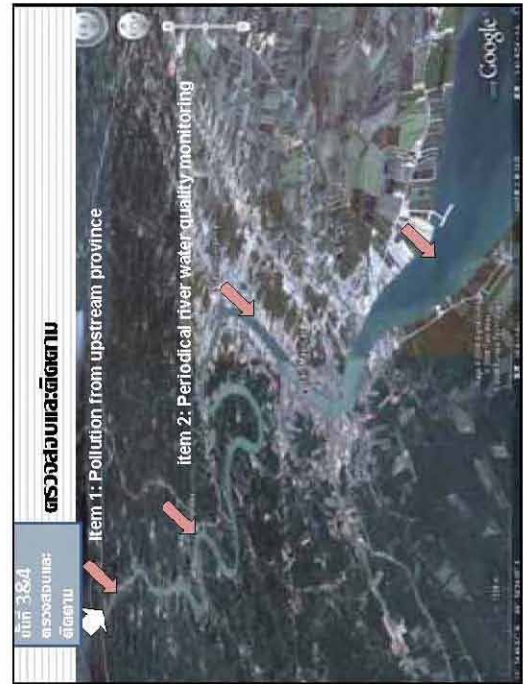
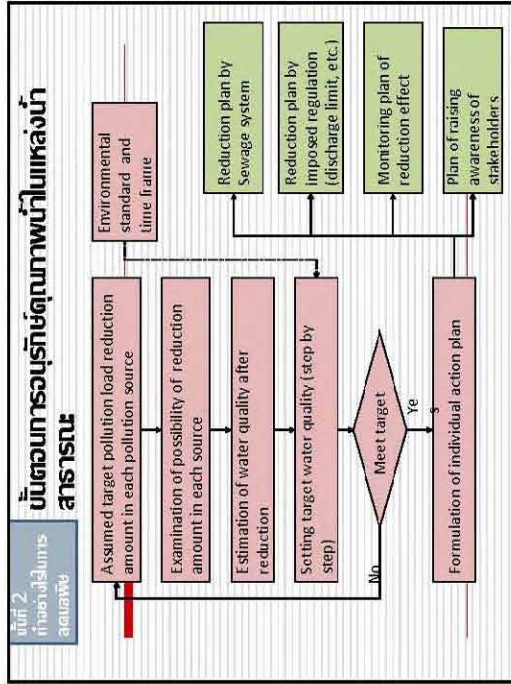
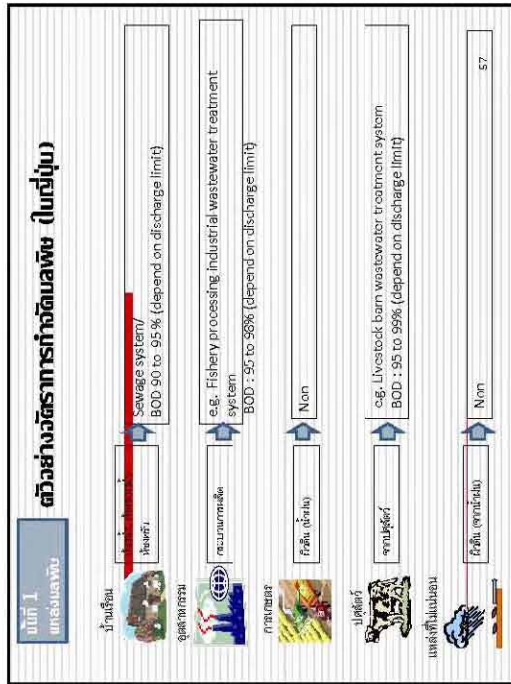
Monitoring Progress of Work	
Outputs	Verification Indicator
1. Having final disposal site decreased	1. Capacity of new final disposal
2. Volume of waste is decreased	2. Waste generation rate per capita
3. More waste is separated and collected in LAs	3. Volume of separate discharge and collection, number of LAs
4. More schools hold composting activities and volume of waste is decreased	4. Number of schools which implemented school composting
5. An awareness on appropriate SWM is raised.	5. Number of seminars for administration staff

Progress of the work will be monitored by verification indicators.

3. Water Quality Preservation in Public Water Bodies: Background

- There are four water quality monitoring stations in SKP: The quality of water falls between class 3 and class 4.
- According to the results of past monitoring data, the water quality is slightly tending towards the worse. On the assumption that the same condition (amount of pollutant, treatment, etc.) would continue in the future, water quality of the Mae Klong River will be worsen compared to the current situation.
- In order to improve above situation, determination of pollution contribution from each pollution source to the public water bodies is required.





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

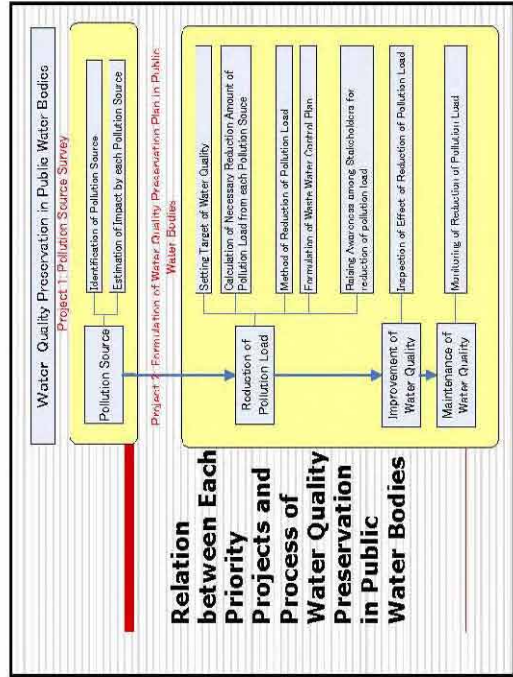
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Monitoring Progress of Work

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.

Relation between Each Priority Projects and Process of Water Quality Preservation in Public Water Bodies

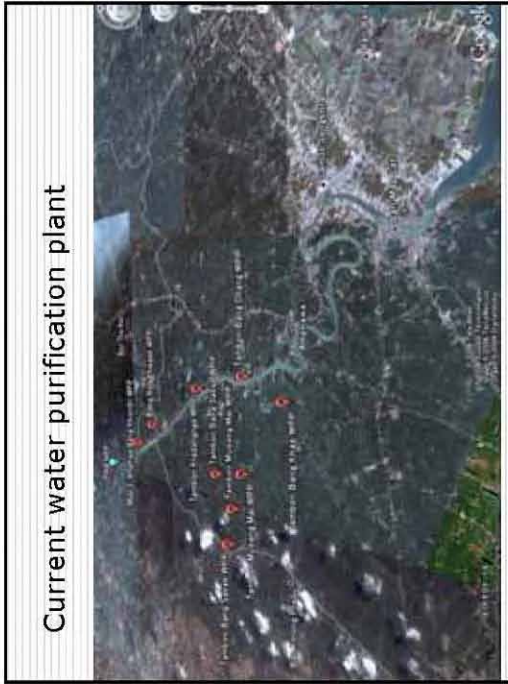


Safe and Quality Water Supply: Background

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.

- In SKP, main water source of domestic water supply is located at Ratchaburi Province, where there is a water purification plan of PWA,
- Also there are many small water supply organizations owned and operated by Las



Current water purification plant

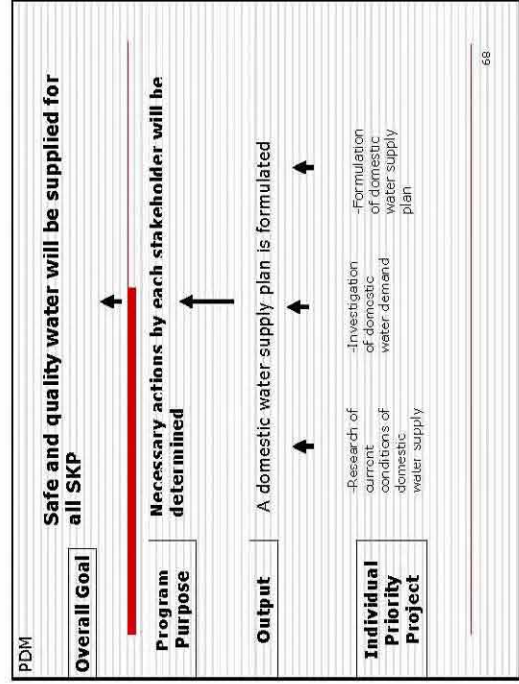
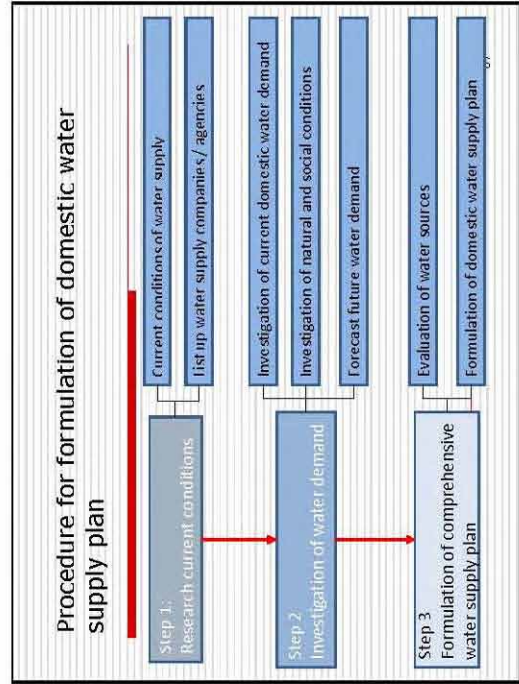
Comprehensive domestic water supply plan



Comprehensive domestic water supply plan shall be formulated considering whether

- PWA will supply water to all the area or
- to remain and utilize those small water supply organizations.

Under the project, most appropriate domestic water supply plan will be formulated in order to **achieve safe and quality water supply conditions** upon the investigation, analysis of existing water supply organizations and estimation of future water demand.



Individual Priority Projects		Supporting Agency
1. Formulation of master plan on domestic water supply <ul style="list-style-type: none"> • Research of current conditions of domestic water supply • Investigation of domestic water demand • Formulation of domestic water supply plan 	PWA and other water supply organizations	PHO PEO PO

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Agenda	
1. Improvement of PEQMP <ol style="list-style-type: none"> 1. Background 2. Procedure of Improvement 3. Priority Setting of Issues 	
2. Details of PEQMP <ol style="list-style-type: none"> 1. Improvement in individual NREM sectors 2. Strengthening NREM administration capabilities in SKP 	

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Strengthen Linkage between Central Government Agencies, Provincial Administration (PA) and Local Administrations (LAs) in SKP	
<ul style="list-style-type: none"> □ 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. 	

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PDM 1 (PA/LA Central Support center)	
Overall Goal NREM administrative capabilities of LAs in SKP are strengthened	
Program Purpose Strengthen linkage for NREM between central government Organizations, Provincial Administration and LAs in SKP	
Output <ol style="list-style-type: none"> 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	

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PDM 2 (Strengthen NREM GIS Database center in REO8)

Overall Goal
NREM administrative capabilities of LAs in SKP are strengthened

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

Output
1. The existing NREM_GIS_Database of REO B is periodically updated and well maintained.
2. The updated information on NREM is provided to PEOs and other administrative organizations under REO B.

Individual Priority Project
Strengthening of the NREM_GIS_Database Center in REO B

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Office entrance, REO8, in Ratchaburi Province. REO8 oversees SKP.

REO8 has an information section equipped with GIS software and X-Y plotters. But they are required to be update and appropriate budget allocation for O&M is necessary.

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

Overall Goal
NREM administrative capabilities of LAs in SKP are strengthened

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

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

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

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Don Hoi Lot and Ecological Study



Don Hoi Lot is a suitable place for ecological study. Many schools visit the area for field trips, taxonomy data collection, ecology and evolution studies.

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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 8	REO 8	OPS and ONEP of MNRE
3. Promotion of resident environmental awareness and publication of environmental information	DEQP/MNRE, PO PEO/SKP	ONEP/MNRE, Cable TV, local radio stations

Individual Priority Projects, Responsible Agency and Supporting Agency

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 Samut Songkhram Province (SKP)

- 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.
- 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.
- But the LAs often do not possess enough administrative capacity, including NREM capacities, due to the rapid pace in which decentralization occurred.
- Thus the following program is proposed as a priority program:

Overall Goal NRE in SKP are properly managed

Program Purpose NREM capacities of LAs in SKP are strengthened

Output NREM projects at the provincial level such as solid waste management and wastewater treatment are moved forward

Individual Priority Project Strengthening of NREM capacity of Orborjor in SKP

Opinions of local residents are reflected in PEQMP formulation and implementation, and NREM status is monitored by local residents

NREM information is used effectively by PA (Changwat), LAs, and local residents

Construction of resident participatory system for NREM in SKP

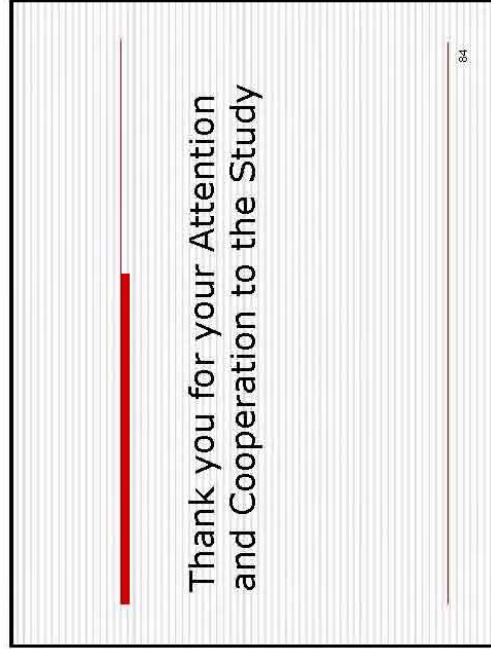
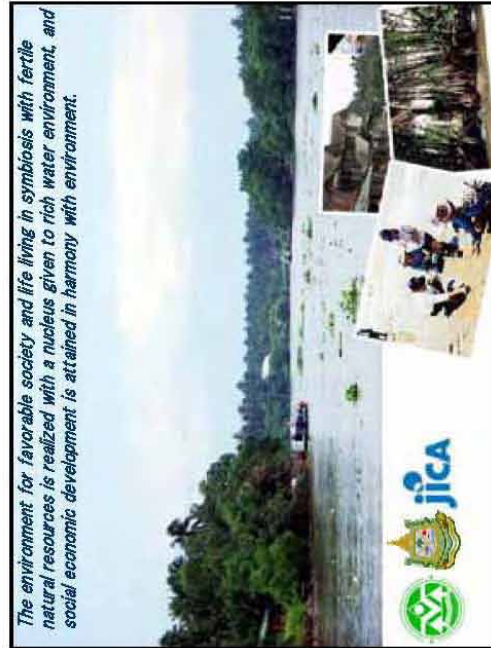
Establishment of an NREM Information Center in PEO/ SKP

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

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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 NREM 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.



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3 Questions, Recommendations, and their Replies

3.1 PEQMP Seminars in AYP

3.1.1 1st Seminar

a. Questions and Answers at 1st Seminar in AYP

Followings are the questions and answers at the 1st seminar in AYP

1. Formulation of Natural Resources and Environmental Plan of Phra Nakhon Si Ayutthaya Province under the Study on Supporting System for Local Administration on Natural Resources and Environmental Management

Ayutthaya is selected as 1 of 2 pilot provinces. Results from this project are (1) Ayutthaya Provincial Natural Resources and Environmental Management Plan, in overall image of the Province, during 2007-2011. Natural resources and environmental situation of the Province, measures for prevention and solution will be identified in the Plan, including priority problems, environmental hot spots, work plan/project that response the problem solution i.e. the project operated by the Province, LA and people. (2) GIS database system, which contains useful information of the natural resources and environment for planning.

1.1 How much community/people is participated in the formulation of the Plan? How to urge people to give interest in it?

Public participation and information disclosure to the public are very important. So, the Study Team made survey field trips to ask opinions from target groups (4 groups: people, LA, NGO and entrepreneur) on the province natural resources and environmental management on the step of information gathering, in order to assemble the result in the Plan. There are 3 seminars to receive comments and opinion towards the Plan by inviting public sector to join, and reflect the opinions in the Plan.

1.2 How serious the Plan will be implemented?

The objective of the Plan is to inform the Province on the current problems, and give directions on natural resources and environmental management in the Province. Public participation is acceptable in the past. Every sector must cooperation on following the Plan in order to reserve the natural resources and environment. Phra Nakhon Si Ayutthaya gives much importance to the natural resources and environment, though.

1.3 From the study results, what are Ayutthaya priority problems? What are the solutions? How the formulation of the Plan will be able to help the natural resources and environment getting better?

It is difficult to arrange priority for all problems because there are a lot of problems on natural resources and environment. The Study Team suggested to make a master plan for each side of problem first. Then arrange priorities. Strategy and measures on prevention and solution will be identified in the Plan. The priority problems will be described in detail on work plan/project.

1.4 Is the Plan of overall image of Ayutthaya Province related to LA or not? Where LA can ask for support budget? Is it necessary to make PEQMP or not if LA doesn't have any problems on natural resources and environment?

This plan is very important, because it is a direction of natural resources and environmental management of overall image which covered all LAs in the Province. Moreover, the Plan is

also support future problems. Hence, all related sector should cooperate to achieve the target of the Plan.

About the budget, as the Decentralization Act 1999 assigned LA responsibility and authority for public service arrangement on natural resources and environment. Also, allocate budget for LA. Thus, LA is able to do affordable activity or small budget project i.e. creating and awareness campaign. LA can ask for a support from Central Government for large budget activity. Moreover, from fiscal year 2009, the Province is able to set up a budget. So, if the Province gives importance to the natural resources and environment, then the Governor can give an agreement on budget allocation for implementation of the Plan.

1.5 Should Orbortor combine the natural resources and environmental management plan in their local development plan? Or let Amphoe do it for Amphoe level Plan?

According to the Decentralization Act 1999, Orbortor should make a proper plan on the natural resources and environmental management and combine in the local development plan.

2. Control, conduct and evaluation of success of PEQMP

There are indicators for success of the Plan. Also, there is Provincial committee, which including community representative, to conduct, monitoring and evaluation of the Plan implementation.

3. GIS on natural resources and environmental database

3.1 Are there ways of conservation, monitoring the natural resources and environment for community in GIS database? How can people access to the database?

Information in GIS database is about the natural resources and environmental information of the Province, which is useful for planning on natural resources conservation, environmental protection and solution. It is in the step of application program improvement and development. After finishing, then it will be handed out to Regional Environmental Office 6 (Nonthaburi) and Ayutthaya Provincial Natural Resources and Environment. Any agency or people who interested can ask for the information from these 2 sectors.

3.2 Name and size of all rivers should be indicated in the layer

River information from Royal Thai Survey Department doesn't indicated details of all rivers, only main rivers. However, it is able to insert additional information into the layer.

4. Water Resources

4.1 What is the solution to flood problems in Ayutthaya?

Solution method for flood problems will be indicated in the Plan.

4.2 Should the examination for tap water quality be done? and, How often for the examination?

Tap water quality examination is one of the measures that should be done. The water producer must examine the processing system and tap water quality regularly. However, if one found tap water delivered to household is unusual, then should inform the water production agency.

5. Solid Waste Management

5.1 There are many solid waste disposal sites in Ayutthaya, and each place contains a lot of garbage. What is a solution for solid waste problems?

Phra Nakhon Si Ayutthaya Orbortor finished a study on solid waste management in overall image of the Province and will implement according to the master plan. Anyway, solid waste management is combined in the Plan.

5.2 Old solid waste disposal site has a problem with leakage, especially during flood. Any solutions?

Generally, solid waste disposal system must have wastewater collection and treatment system whether LA or private, which the operator and maintenance personnel are responsible for it. In case of flood: building ridge and efficiency storm water drainage system can decrease problems from leakage.

5.3 What are measures on monitoring infectious waste management from hospital, health station or private clinic? Anyhow, LA is not capable to manage infectious waste. Is it okay to deliver waste to industrial factory with high temperature incinerator?

Practically, infectious waste from each source must be disposed at an infectious waste treatment system at a hospital which is rarely found at the present. However, Ministry of Public Health and Pollution Control Department have cooperated to find a way to manage infectious waste, but the problem is it hard to find a place to build the system.

6. Air Pollution

6.1 How related agency have any solutions for dust problem at port area in Amphoe Nakhon Luang?

Amphoe Nakhon Luang and Amphoe Bang Phra face a lot of problems of dust at the port. The Study Team will gather information at the shipping area then make solutions for the problems.

6.2 Industrial section in Amphoe Tha Reur is expanding very fast, which affecting air quality problems. The monitoring by LA is not worked out well. What is the solution?

It is able to ask for cooperation from Provincial Industry Office and Provincial Natural Resources and Environmental of Ayutthaya to examine the operation.

6.3 Agricultural waste burning creates air pollution. Any solutions?

It is difficult to manage agricultural waste with easily, appropriate and low cost. One measure in the Plan is grouping between related sectors to find a proper way to dispose such as collection for alternative energy.

7. Measures to cope with global warming and operating budget source.

Thailand's strategy on climate change proposed ways to cope with global warming which Ayutthaya Province can use such as increase forest area by planting trees in vacant area, having sanitary solid waste disposal and bring gas from dumpsite to use, supporting 3Rs (reduce, reuse and recycle) including, specify in comprehensive plan to use vacant area for being a flood supporting area.

Operating budget source depends on each activity related to which agency and if they have a support budget policy. It is able to do small budget activity, though.

8. Problems of soil/sand pit digging and misuse of the pit

There must be a specialized engineer to control the soil/sand pit operation, according to the law. LA has an authority to control and monitor on the operation, including the use of the pit after digging soil/sand for use.

9. Dust, bad odor, wastewater from industrial factory problems management

According to the law, entrepreneur must manage the pollution from industrial factory, by having Department of Industrial Works, the Ministry of Industry to control over. Although, LA of the area, Pollution Control Department, officer from Ayutthaya Provincial Natural Resources and Environment can examine the factory's operation.

The aim of this plan is for the natural resources and environmental management, so there is no master plan for provincial industrial and agriculture development. Though there is a plan on water pollution prevention and solution, which gives importance to hot spot, sensitive area and natural and cultural heritage area. Also pollutant release monitoring, law enforcement, by support social network to inspect and inform the police.

10. How to do the city planning?

To city planning regulation will control expanding of development zone and will reserve the natural resources and environment, including historic site and cultural heritage of the Province. The Plan and GIS database system in the natural resources and environmental of Ayutthaya Province under this project will be one of important information on the city planning.

11. How many environmental laws that gives enforcing authority to LA? Is there a manual or not?

Ministry of Natural Resources and Environment by PCD gathered rule, notification and regulation related to pollution control which assigned LA responsibility and authority on Staff Appointment according to the National Environmental Quality Act 1992

12. Law penalty is too light i.e. fine, imprison. So, there is still illegal waste disposal. Then, the penalty should be increase.

The Study Team suggested to strictly enforcing the law. However, penalty adjustment is difficult to do.

b. Opinions and Suggestions

1. Should adjust the vision for easy to understand.
2. Should have a campaign on reduce solid waste production, and make a master plan for solid waste management in overall image of the Province. However, planning is not only to emphasize in the theory, but field trip survey.
3. Should manage to have the infectious waste disposal site in every region (Northern, Northeastern, Central and Southern Region) by the industrial factory. Also, should consider on soft loan to create motivation for industrial factory to construct infectious waste incineration.
4. Should create cooperation network to manage the water hyacinth. This problem cannot be solved by one agency as it costs a lot to manage the water hyacinth because it is floatable.

c. Response to the recommendations

Followings are the response made by the ONEP together with Study team to the recommendation made by the participants of the seminar.

Provincial Environmental Quality Management Plan (PEQMP) of Phra Nakhon Sri Ayutthaya Province (AYP) is a plan to present a policy and strategy for natural resources and environmental management (NREM) in AYP. Since NREM should cover a wide range of sectors, PEQMP could neither provide a master plan nor a detail plan of each sector unless those plans are already formulated. The PEQMP categories sectors of NREM as follows:

1. Social and Economic

- SE.1.1. Population
- SE.1.2. Economy
- SE.1.3. Local Administration
- SE.1.4. NREM Administration
- SE.1.5. Others

2. Natural Resources Management

- NR.2.1. Land and Soil Resources
 - NR.2.2. Forestry Resources
 - NR.2.3. Wildlife Resources
 - NR.2.4. Water Resources
 - NR.2.5. Mineral Resources
 - NR.2.6. Marine and Coastal Resources
 - NR.2.7. Biodiversity
3. Social and Living Environment Management
- EM.3.1. Water
 - EM.3.2. Solid Waste
 - EM.3.3. Air Quality
 - EM.3.4. Noise/Vibration
 - EM.3.5. Toxic and Hazardous Substances
 - EM.3.6. Urban Environment
 - EM.3.7. Natural and Cultural Assets
 - EM.3.8. Global Warming

We response to and reflect your recommendations according to the above categories. It is minded that some of your comments may not be reflected due to lack of a master plan nor a detail plan of each sector.

No	Recommendations	Category of NREM	Response
1.	Ayutthaya PEO officers should visit the sites and talk to local people in order to receive up-to-date information.	SE.1.5	Site visit and discussion with people can be done through the plan/project of PEO including lecture in many places to disseminate knowledge on MNRE.
2.	Each LA (local administrative organization) from municipality level and up, should provide at least 1 park in order that people in the area can use the park for recreation or exercising purposes.	EM.3.6	Construction of public park for community is the task of municipality with its own budget or budget from other channel such as provincial budget. The municipality should consider need and priority of project in the area.
3.	Waste containers for different types of waste with clear identification on the containers should be provided.	EM.3.2	We completely agreed. The PEQMP has a plan to promote waste separation from household. This is in a measurement to create awareness to people in solid waste management.
4	Solid waste and wastewater management are national problems. LAs should not be responsible for the problems themselves as different LA has different administrative capacity and budget. Besides these, conflicts on benefits and local tycoons are also obstacles to the operation. LAs should only be responsible for making primary decision and leave final decision to central government. Solid waste and wastewater management are now urgent issues in many areas.	EM.3.1 EM.3.2	We agreed to propose solid waste management and wastewater to be a national agenda. In the past, central administration support local administration to construct central waste disposal center for cost-effective. For wastewater problem, central administration and province support each local administration to install septic tank to household in order to reduce pollution from wastewater to public water bodies.
5.	Certain information stated in Provincial Plan is unclear e.g. number of canals in the area (as some canals extended through many TAOs, information received from different TAOs is; therefore, not coincide). Units responsible for making the plan should then, pay more attention to the preciseness and should invite people to participate in plan making processes.	NR.2.4	Collection of right information and reliable to formulate PEQMP can be done by using GIS database and satellite images. This has to consider necessity of data and budget for data collection. Furthermore, coordination among formulation agency and agencies in data collection area is quite necessary.
6.	Employ energy technology and bio-technology for waste management e.g. producing electricity and fertilizer from waste	EM.3.2	For using any technology in waste management should be passed feasibility study. The consideration of all alternatives and selection of the cost-effective system.
7.	Run campaign on household waste separating	EM.3.2	We completely agreed and will reflect this recommendation into PEQMP.
8.	Representatives from communities/villages which have	SE.1.4	Representatives from community and villages faced to environmental

	faced environmental problems should be invited to the 2nd seminar.		problem will be invited to join 2 nd seminar.
9.	Lay down preventive measures for infectious waste from clinics.	EM.3.5	We agreed. The Ministry of Public Health and PCD has coordinated to set up infectious waste management from clinic.
10.	After the plan is completed, LAs should be invited to join monthly meeting to discuss on the issues and resolutions of different situations/ areas.	SE.1.4	PEQMP has proposed to establish monitoring and evaluation committee with representatives from local administration to join the committee.
11.	Develop database to be environmental information exchange channel between related organizations.	SE.1.5	We agreed with this recommendation and has improved GIS environmental database. All agencies and people can access to the data which propose in Strategy 1 of the plan.
12.	Issue regulations and guideline for related persons to follow & keep continuity of following up and result evaluation.	SE.1.5	This proposal is in Strategy 1 of PEQMP on promote public participation. It is proposed to establish a monitoring and evaluation committee comprising of representative from public sector and private sector to evaluation progress and result of implementation.
13.	<p>Solid waste management</p> <ol style="list-style-type: none"> 1. Existing waste should be disposed properly and completely within 2-3 years 2. New coming waste should be disposed by standard central waste disposal center e.g. recycle plastic bag or use it as material for making bio-diesel or biogas. 3. Machine processing waste into energy, which costs about 60 million Baht, can turn plastic PP, HDPE, and PE types by 20,000-30,000 tons per year into diesel at approx. 3 million liters. Diesel from the process can then be use for paddy tractors or pumping machines. Now Rayong municipality together with private company has been invested in this equipment. The province and related organizations, including LA and private sector should; therefore, consider to apply this equipment as well. 	EM.3.2	<p>Phra Nakhon Si Ayutthaya PAO has formulate a solid waste management master plan under the name of "Waste Disposal and Night Soil Center in September 2007. The detail of solid waste management plan are as follows</p> <ol style="list-style-type: none"> 1. Phra Nakhon Si Ayutthaya City Municipality has a plan to develop disposal site with sanitary landfill. 2. The master plan proposed to construct central waste disposal center and promote activities of 3Rs (reduce, reuse and recycle) 3. Disposal system and recycle system is necessary to pass feasibility study first due to these systems need huge investment including main responsible agency in term of budget and operation.
14.	Establishment of Green Foundation in order to support/	EM.3.2	This proposal is listed in long term plan for increasing green area.

	<p>promote the enforcement of forestation policy by</p> <ol style="list-style-type: none"> 1. Establish private forestation companies by provide subsidy from the foundation 2. Run campaign inviting people to participate in forestation 		
15.	Promote environmental management processes to the public	SE.1.5	This proposal is listed in Strategy 1 of the plan.
16.	Transform plan into action	SE.1.5	Plan/Project in PEQMP will be proposed to Provincial Development Plan within 2011.
17.	Increase punishing measures for those who violate environmental laws	SE.1.5	Increase punishing measurement can be done by revised national law. The support to local administration to enforce existing law is the primarily action.
18.	To make plan, visiting sites and conducting field survey are important. Using questionnaire or interviewing of LAs might not yield precise information	SE.1.5	Due to time constraint and limited budget, the Study Team tried to collect information, data and public opinion survey as must as possible to formulate PEQMP.
19.	Building Control laws should be enforced in Phra Nakhon Sri Ayutthaya Province thoroughly. Amend existing laws (Public Health Act) in order to control household wastewater treatment system before discharging water back to water sources.	EM.3.1	This proposal is in Strategy 3 of the Plan on forwarding local administration for MNRE in aggressive action.
20.	Issue law prohibiting waste or straw burning to reduce global warming effects	EM.3.3	This proposal is in Strategy 3 of the Plan on forwarding local administration for MNRE in aggressive action.
21.	Build awareness of current environmental issue to people starting from early childhood	SE.1.5	Knowledge education to children and youth is the main topic. This proposal is in Strategy 1 on Data Dissemination and Knowledge Education on MNRE to public.
22.	Draft environmental regulations to be used in the province	SE.1.4	We agreed that province should issue law, regulation for MNRE according to suitable with area and public participation. Furthermore, enforcement of existing regulations, laws should be done effectively.
23.	Change Vision to “Environment for the sustainability of social well being” as ‘social’ includes industries, and social and natural heritages	SE.1.5	Vision is the main topic to formulate PEQMP. Therefore, the Study Team is necessary to listen opinion of stakeholders in Phra Nakhon Si Ayutthaya province as much as possible. This proposal will be considered later.
24.	Build awareness on environmental monitoring and	SE.1.5	This proposal is in Strategy 1 of the plan.

	<p>conserving to target groups which are children, young adult, students, and general people by:</p> <ol style="list-style-type: none"> 1. Support and encourage activities on maintaining quality environment by public participation e.g. students' environmental project contest such as environmental innovation, volunteer camping, rehabilitating deteriorated areas, and environmental ambassador program 2. Support the establishment of the network collaborating between units related to environmental management and communities. The network should cover all areas from village, subdistrict, and district in order to cooperate in monitoring, preventing, and protecting activities. 		
25.	Organize plan to establish, extend, and support green area.	NR.2.2	In long term plan has proposed increasing of green area.
26.	Plan on factories zoning with Ministry of Industry	SE.1.5	PAO and many municipalities in Phra Nakhon Si Ayutthaya province have provided land use plan and industrial zone already. The PEQMP proposed local administration to provide its own land use with follow comprehensive city plan.
27.	Control, monitor factories by legal measures	SE.1.4	We agreed with this proposal. The PEQMP has proposed the Strategy 2 Increasing capacity of MNRE and development of capacities of related staffs.
28.	Support the publicizing/promoting of environmental conservation by developing a 'hotline' to receive information on polluters, environmental problems makers in order to act as an information center and react to problems promptly	SE.1.5	From Strategy 1 of PEQMP, it proposed to establish monitoring and evaluation committee comprising of representatives from people and private in the area. The committee can consider project and receive opinion on the plan.
29.	Run campaigns to create awareness among people starting from individuals to national organizations and to international organizations	SE.1.5	From Strategy 1 of PEQMP, it proposed to open information on MNRE to people in order to create awareness to people and invite them to participate in MNRE.
30.	Conduct activities on following up and examining wastewater treatment system within	EM.3.1	All industrial estates have prepared EIA report including wastewater analysis report and submitted to ONEP

	industrial estates whether wastewater is treated before discharged back to water sources, as LAs do not have capacity to operate on their own without the support from related units		and DIW. If there is any serious case, local administration staff can inform responsible agencies in province for inspection.
31.	Vision is unclear. Vision should be changed to “natural resources and environment, including Worlds Heritages are sustainably conserved and rehabilitated”	SE.1.5	Vision is the main topic for formulation of PEQMP. It is necessary to listen opinions of stakeholders in Phra Nakhon Si Ayutthaya province as much as possible. This proposal will be considered later.
32.	Strategies are confusing. They should be divided into 3 main points which are: 1. Support natural resources and environmental management with efficiency and sustainability 2. Promote natural resources and environment, and World Heritages conservation and rehabilitation with participation of all sectors 3. Provide accessible and useful provincial natural resources and environmental information system	SE.1.5	Set the Strategies for PEQMP is the main topic. It is necessary to listen opinions of stakeholders in Phra Nakhon Si Ayutthaya province as much as possible. This proposal will be considered later.
33.	1. With extensive uses of groundwater in some TAOs, certain areas are facing subsidence, low quality groundwater situation, contaminants such as rust, odor, and sediment. Considering should be done carefully before giving permission to construct new wells from now. 2. Examining quality of groundwater should also be conducted consistently. If groundwater is found low quality, solving measures should be laid down to maintain quality of living in the areas. 3. And for TAOs which are located near municipality areas, groundwater usage should be ceased and turned to waterworks	NR.2.4	We will take this proposal to coordinate with PEO, a direct responsible agency.

	provided by municipality.		
34.	To make provincial natural resources and environmental management plan, issues and strategies should be clearly identified and cover all items of NRE in order that operation can be done effectively	SE.1.4	We agreed and will take this proposal to consider in formulation of PEQMP later.
35.	To make provincial natural resources and environmental management plan, related units and LAs should be informed in order that they could learn and understand the issues. Information should be collected entirely and cover all items of NRE management	SE.1.5	All 3 seminars will assist agencies and local administration to understand about current situation of natural resources and environment of the province including PEQMP. Furthermore, it's an opportunity to participants to propose recommendations and opinions to develop the plan.
36.	Solid waste should be managed with the emphasis on public participation. Guideline for LAs to establish sanitary waste disposal center should also be provided	EM.3.2	We completely agreed. Solid waste management should stress on public participation and cooperation among local administration to construct central waste disposal center. This is the direction of PCD for clustering solid waste management.
37.	Due to time limitation and tight schedule, some participants failed to understand at certain points. Therefore, related documents on environmental quality management should be sent to related organizations so they can further study and bring about more benefits	SE.1.5	Please contact Phra Nakhon Si Ayutthaya PEO to get other documents than handout in 1 st seminar.
38.	As speakers provided no clear explanation in the seminar, some participants did not understand the plan or the framework	SE.1.5	Sorry with unclear content. If you have any question please contact Phra Nakhon Si Ayutthaya PEO in order to get explanation or additional data other than handout in 1 st seminar.
39.	Book on "Provincial Environmental Quality Management Plan 2007-2011" should be published by low quality paper not high quality/expensive paper in order that environment is conserved	SE.1.5	Thank you for this recommendation. We will take consideration to properly print PEQMP 2008-2011.
40.	From existing vision below: 1. Improve and sustain natural resources and environment, includes world heritages 2. Preserve World Heritages, deal with pollutions, and improve and sustain environment.	SE.1.5	Vision is the main topic to formulate PEQMP. It is necessary to receive opinions of stakeholders in the province as much as possible. All recommendations will be considered later.
41.	Recommendations on situation and problems on natural	NR.2.4 NR.2.	1. Collect correct and reliable data to formulate PEQMP can be done by

	resources management 1. Collect all information on canals before start organizing the plan 2. Set priority for managing different items of natural resources such as water, groundwater, and forest 3. Set priority for solving environmental problems such as wastewater, air pollution, and solid waste 4. Provide clear cooperation framework for governmental, local, and public organizations		using GIS database and satellite imageries. However, it needs to consider necessity of the data and budget for data collection. 2. The Study Team will take current situation and opinion from stakeholders to consider for setting priority. 3. The Study Team will take current situation and opinion from stakeholders to consider for setting priority. 4. The Study Team will propose a plan to support capacity building in central, provincial and local administrations including linkage among these agencies in MNRE.
42.	Recommendations on Provincial Natural Resources and Environmental Management Plan 1. Provide knowledge, build awareness of environmental issue on communities, general people, and students 2. Each district or province should have canal conservation projects (3-4 canals) in accordance with geographic area i.e. North/South/East/West 3. The plan should contain 3-year operation plan 4. Attract communities to conserve canals themselves e.g. run a contest on systematic canal management	SE.1.5	1. This recommendation is in Strategy 1 of the plan. 2. PEQMP has proposed to formulate Canal conservation plan too. 3. PEQMP is a 4 year plan from 2008 to 2011. The plan is a continuous plan which can be revised in accordance with necessary situation. 4. PEQMP has proposed to formulate Canal conservation plan too.

3.1.2 2nd Seminar

a. Questions and Answers at 2nd Seminar in AYP

Followings are the questions and answers at the 2nd seminar in AYP

No	Category of NREM	Questions	Answers
1.	<u>Questions on Current Situations and Issues of NREM in AYP</u>		
1.1	EM.3.1	How long does it take to do the water quality examination for contaminated water source?	Time for water quality examination is depended on parameter. Generally it will take about 1 week.
1.2	EM.3.6	Has environmental issue been brought to the consideration of Ayutthaya City Planning? Because there is misuse of land, and some	For formulation of Comprehensive City Planning, there is representative from PEO joining as committee and take consideration on impact to

		constructions blocked scenery of heritage buildings. Also there are entertainment complexes near the Old City.	mineral resources and environment on city planning.
1.3	EM.3.2	What is the progress of 2 solid waste disposal sites construction that operated by Orborjor?	Now, construction of central waste disposal center 2 places, first at Samkor Sub-district, Sena District and second at Bangrakam Sub-district, Nakhon Luang District are in process of site preparation. After than the detailed design will be carried out.
1.4	EM.3.5	How is the situation of hazardous waste from industrial factories in Phra Nakhon Si Ayutthaya Province?	In the past, data was not clear. Therefore, PEQMP proposes to conduct survey on hazardous waste in order to set proper management in future.
2	Questions on the Second Draft of PEQMP:		
2.1	SE.1.5	Will this plan be included in the Provincial Development Plan?	The plan will be proposed to Provincial Development Plan for natural resources and environmental management will be on the same direction and continue.
2.2	SE.1.4	Phra Nakhon Si Ayutthaya is an education center for the world heritage, so it is important to have a management plan covering the natural resources, environment and heritage site. However, the solution in the past such as water pollution, land use management wasn't very effective, even though LA had taken care of it. What kind of plan should be made in this case?	It's a good opportunity that Phra Nakhon Si Ayutthaya has a world heritage. Therefore, formulation of PEQMP that considered world heritage conservation are interested and received cooperation from all sectors in province. In vision and long term plan have placed important to information dissemination, knowledge activities and public participation in conservation and rehabilitation of world heritage.
2.3	SE.1.4	What is the way of industrial factory and community wastewater management?	The important thing for wastewater management is generation source management such as communities and factories. In factories, it must control wastewater quality to be in standard. For community, it should be installed wastewater treatment tank for small community and wastewater treatment system for large community. However the first thing to do is formulation of provincial wastewater management plan.
2.4	SE.1.5	What is the direction of Ayutthaya PEQMP formulation? Is it able to solve every current problem?	Formulation of plan will be proposed both in short term and long term due to it's quite difficult to solve all current problems. Priority project will be listed in plan/project in order to

			implement within year 2011. Other problem on natural resources and environment will be placed in long term plan of province.
2.5	SE.1.5	If every sector cooperated on environmental management: How to monitor the operation result? How long does it take to see the obvious result?	PEQMP of Phra Nakhon Si Ayutthaya province has proposed to establish a monitoring and evaluation committee. Monitoring method and time will be differ according to plan/project.
2.6	SE.1.5	Is it able to ask for support budget from JICA in order to construct solid waste disposal site, wastewater treatment system and public park of Tambon/Amphoe?	It is not available due to Thailand is out of the list of JICA for financial assistance.
2.7	SE.1.5	How do people participate in the plan? Not only presenting the information.	Not only giving opinions, recommendation during 3 seminars but also people can get in plan by joining monitoring and evaluation committee.
2.8	NR.2.5	Industrial factory is expanding very fast in the province, so there is construction of ports in addition to transfer minerals without any control. Is there any plan to support the problem that might occur?	Problem might be occurred such as dust and noise. Port is controlled in an agency in provincial level for port operation and receiving complaints. Furthermore, there is river port club in Nakhon Luang District to monitor operation in the area.

b. Response to the recommendations

Followings are the response made by the ONEP together with Study team to the recommendation made by the participants of the seminar.

No	Recommendations	Category of NREM	Response
1	The law should be strictly enforced such as charge or fine anyone for dumping waste into the natural water source.	SE.1.5	We agreed with this proposal. Enforcement of law by local administration must be strengthened capability of local administration firstly.
2	Require related agency to provide tap water system to Mooban, because the quality of water from groundwater system is bad and unable to consume.	EM.3.1	The PEQMP has a plan/project to set priority on providing safe and clean water supply. The plan/project includes improvement of current water supply system.
3	The law penalty should be increased such as increase fine for dumping waste into the river.	SE.1.4	Increasing of law punishment can be done through revision of law in national level. Promotion to local administration to seriously enforcement of existing laws is the primarily action.
4	Related agency should acknowledge people's awareness of the environmental problems in	SE.1.4	This proposal is in Strategy 1 of PEQMP.

	addition to find a solution.		
5	The operation strategy should be adjusted, by not emphasize mainly on awareness campaign, but take action at the same time i.e. insert an activity during each seminar such as growing trees on public place.	SE.1.4	All activities can be adjusted according to seminar/place and budget.
6	A persuasion measure should be made, in order to create motivation of every sector to take a serious action, and have a continuous monitoring and evaluation.	SE.1.4	This proposal is a part of strengthening capacity building of local administration in MNRE by appointing people's representatives to join in the monitoring and evaluation committee.
7	LAs should work together like a network, because the areas are connected, for example: construction of solid waste disposal system, wastewater treatment system, public park of Tambon, dredging the canal etc. LAs would responsible the project together, including budget allocation and purchasing machine/tools.	SE.1.4	We agreed with this proposal. PEQMP has considered participation of all local administration in MNRE of the province. In PEQMP has proposed some project that needs cooperation from local administrations.
8	The government office should be a role model for promoting environmental image such as growing garden trees.	SE.1.4	This proposal is a part of create awareness to people which is in Strategy 1 of the plan.
9	Promote solid waste disposal method that does not create other pollution problems.	EM.3.2	We agreed with this proposal. The PEQMP has proposed plan to develop proper and sustainable solid waste management system which is prioritized of the plan.
10	PEO should cooperate with related agency, in order to find prevention and solution of flooding problems. This subject should be in the plan as a priority problem.	NR.2.4	The PEQMP has a plan of flood prevention and disaster mitigation in Phra Nakhon Si Ayutthaya province which is prioritized of the plan.
11	The power plan construction in Rojana industrial estate should be monitored, including wastewater quality from the industrial estate too.	SE.1.5	The PEQMP has a plan of preservation water quality in public water bodies in Phra Nakhon Si Ayutthaya province. The plan proposed to formulate a master plan of water quality in the province.
12	The indication of each plan should be adjusted to be more practical such as the indicator of efficiency measurement of solid waste management of LA should be "knowledge level of LA", or "format or behavior on solid waste management of	EM.3.2	This proposal will be considered to formulate the plan later.

	LA". The indicator of cooperation of clinic on infectious waste management should be "amount infectious waste that has been treated properly" etc.		
13	The public relations media should be used to create knowledge to reach the target group.	SE.1.4	We agreed with this proposal. Therefore, the PEQMP has a plan to strengthen linkage of central, provincial and local administration in MNRE of Phra Nakhon Si Ayutthaya province.
14	LA that has solid waste collection system should manage the basic waste separation.	EM.3.2	We agreed with this proposal. The PEQMP has a plan to improve performance of solid waste management in Phra Nakhon Si Ayutthaya which including separation.
15	Close non-standard disposal site, and reduce dumping method or dumping solid waste soil pit that has no wastewater treatment system, in order to prevent leakage.	EM.3.2	We agreed with this proposal. The PEQMP has a plan to improve performance of solid waste management in Phra Nakhon Si Ayutthaya province with including this topic.
16	Public sector doesn't realize the benefit of the plan. Thus, publicizing is important in order to create awareness among people on the natural resources and environment, and participating with the government agency on problem solving. Moreover, other sectors (LA/state enterprise/private) should be promoted to have more duty, and must take it seriously for the benefit of people.	SE.1.4	This proposal is in a plan to strengthen linkage among central, provincial and local administration in MNRE and Strategy 1 of PEQMP.
17	A study/research on quantity and quality should me made in order to analyze the cause of environmental problems. Moreover, there should be a campaign on public relations to people and entrepreneur government agency would acknowledge on theory part and practical part.	SE.1.5	We agreed. The Study Team prepared some plan related to study to analysis causes of environmental problem. For knowledge education to people is in Strategy 1 of the PEQMP.
18	The wastewater management especially in the building control area; new house that ask for construction permit must install grease trap, then extend results to other areas. LA might arrange grease trap for free during the first stage, after that LA might allocate budget support for 50%.	EM.3.1	At present, there are implementation in some areas by local administrations.

19	Priority setting of the project that operated by LA is not conform to the current problems, and it is not emphasize mainly on environmental problems.	SE.1.5	This proposal can be improved by a plan to strengthen linkage among central, provincial and local administration in MNRE.
20	Riverbank erosion problem should be considered, because it is pretty severe in some areas.	NR.2.4	This proposal will be considered later.
21	The plan should cover problems of air and noise pollution.	EM.3.3 EM.3.4	The PEQMP set the priority project to be implemented within 2011. However the problems of air and noise have not been listed in the priority project yet. It will be listed in long term plan.
22	The government's project emphasized on investment for economic stimulation, such as housing project (Baan Aeo-Orthorn) and industrial investment, without considering on pollution problems i.e. solid waste, wastewater. Moreover, city planning and transportation system is unsystematically. So, the government should have an integration planning.	SE.1.4	Economic and industrial development should be accorded with environmental conservation by considering balance and sustainability. Development project of state and investment on industry must prepare EIA report.
23	Environmental problem solution, such as dredging canal, requires a lot of budget which is over the capacity of Orbortor. So, only creating awareness is not enough, there must be a support budget.	SE.1.4	Orbortor can request budget from various channels such as central, province and Orbortor to solve problem on environment which is over capacity of Orbortor.

3.1.3 3rd Seminar

a. Questions and Answers at 3rd Seminar in AYP

Followings are the questions and answers at the 3rd seminar in AYP

No	Questions	Category	Answers
1.	<u>Questions on Current Situations and Issues for Natural Resources and Environmental Management (NREM) in Phra Nakhon Si Ayutthaya</u>		
1.1	We should open information if there are any dangerous points for pollution generation or high density of pollution either dust/noise/smell/wastewater etc. This information should be disseminate to people in Phra	SE.1.4	The JICA Study Team agrees with this. We think all information collected and processed in this Study should be open to public by REO 6 and/ or PEO in AYP. At the moment AYP PEO has information center which provide various information to people.

No	Questions	Category	Answers
	Nakhon Si Ayutthaya to acknowledge and should not live in the surrounding area. The information dissemination should be done often, continuously in monthly based or 3-month based.		
1.2	Phra Nakhon Si Ayutthaya is a pilot province in formulation of PEQMP. Then, ONEP will give special support to allocate budget for implementation of PEQMP of Ayutthaya or not.	SE.1.4	ONEP and REO can provide assistance to PEO in term of improving capacity in NREM. And budgets can be requested through various channels e.g. Provincial development plan, Environmental Fund, and PEQMP-KPI.
1.3	1. How to manage dust from communication, transportation/industry (cement factory)? How to solve a problem? 2. What is a process of air quality monitoring?	EM.3.3	1. For dust management, goods should be covered and speed should be limited when transporting through city/communities. Factories; however, are under control of Provincial Industry Office. 2. PCD provides operation on air quality monitoring. AYP has 1 air quality monitoring station which located at Ayutthaya Withaya School in the center of AYP. In details please refer to the main report page 4-65.
1.4	I would like to ask question about leachate in disposal site. (My TAO doesn't have disposal site but I would like to know solution). The leachate is very bad smell and the well near disposal site also has bad smell. Water color is dark. I expected that the leachate contaminated to groundwater. I would like to know the solution and budget.	EM.3.2	The solution is to apply a sanitary landfill operation which shall have the following facilities: <ul style="list-style-type: none"> • Liner for the prevention of groundwater from contamination by leachate. • Cover soil • Gas removal facilities • Others
1.5	The plan to construct 2 central waste disposal centers is less or not. Where it will be placed? How much of waste will it receive in each zone?	EM.3.2	According to the Master Plan conducted by the private consultant hired by AYP Orborjor, two central disposal site is enough to treat all the wastes generated in AYP. One will be located in Sena and the other will be in Nakhon Luang. According to the PEQMP-KPI, around 550 tons of wastes are generated within AYP.
1.6	Problem of waste management in Nakhon Luang Municipality's disposal site, the municipality doesn't have enough budgets for management. Therefore, it has much impact to people in	EM.3.2	There are over 18 disposal sites in AYP and some disposal sites just received few tons of wastes daily. It is difficult for LAs to conduct sanitary landfill operation in such a small scale. Therefore, master plan encourages constructing two central disposal

No	Questions	Category	Answers
	surrounding area due to many local administrations transport waste to dump there. How to solve this problem?		centers and receiving all the wastes generated in AYP. One more Important issue is the raising awareness among residents, local administrations staff, NGOs and so on. Proper solid waste management relies on cooperation from all the stakeholders.
1.7	<ol style="list-style-type: none"> 1. What is situation of water quality in Lopburi and Pasak rivers? 2. Where to dispose waste from water factory? How much amount? How much impact to community? 3. Is there any situation of flood in year 2008-2009? Flood will be occurred as usual? 4. What is the situation of dust or air quality in Phra Nakhon Si Ayutthaya province? 5. What is the situation of erosion in 3 main rivers of Phra Nakhon Si Ayutthaya? 6. What is the rate of tree in Phra Nakhon Si Ayutthaya? How much is it decreased? 	EM.3.1 EM.3.2 NR.2.4 EM.3.3	<ol style="list-style-type: none"> 1. Have deteriorate tendency 2. Industrial wasted is managed and transported by local company. General office waste is managed by LAs. 3. Flood is expected to happen as usual but measures will be provided to specific/ important areas. 4. Air quality of AYP is at medium quality. 5. Erosion along rivers in AYP has tendency to become worse because of water transportation activities. 6. AYP has no forest area. Planting trees in public areas is thought to increase green areas.
1.8	<ol style="list-style-type: none"> 1. How to reduce amount of waste? 2. How to reduce pollution that disturbs people as much as possible? 	EM.3.2	<ol style="list-style-type: none"> 1. Promotion of 3Rs (Reduce, Reuse and Recycle) activities in LAs is quite important. 2. Pollutions monitoring should be done by public, enterprises should take more responsibility, and legal enforcement should be operated strictly
1.9	It should do something to reduce pollution from Chao Phraya river. All agencies should do seriously in order to keep environment in better condition because now it's getting worse.	EM.3.1	The Study Team and counterparts completely agrees with the opinion. Therefore, the PEQMP propose to conduct a Priority "Program for Water Quality Preservation in Public Water Bodies".
1.10	We must manage waste seriously due to amount of waste is quite a lot. Why don't we have waste management factory like in Phuket. The Orborjor used to make study tour in year 2004.	EM.3.2	In order to solve solid waste problems Orborjor of AYP formulated a plan to construct two Central Disposal Center in AYP. The PQEMP recommend implementing the plan.
2	<u>Questions on the Third Draft of PEQMP:</u>		
2.1	In PEQMP, what is the situation of construction of	EM.3.2	It is now under the process of settling agreement between different areas and

No	Questions	Category	Answers
	eastern central waste disposal center in Nakhon Luang municipality in case of purchasing land, detailed design for fiscal year 2009.		procuring additional land.
2.2	What we can do when waste management in local area are not well performance due to conflict of mafia. The waste collection is not well management.	EM.3.2	Clustering among LAs will increase capacity and efficiency in term of solid waste management.
2.3	Why local administrations do not cooperate together to construct non-aerator incinerator instead of crude dumping which make problem to environment?	EM.3.2	The cost of construction, operation and maintenance of an incineration plant is very expensive, Introduction of an incineration shall increase the waste disposal cost. It is doubtful that LA will be able to bear the increase of disposal cost. Therefore, in order to solve solid waste problems Orborjor of AYP formulated a plan to construct two Central Disposal Center in AYP. The PQEMP recommend implementing the plan.
2.4	How to change crude dumping to sanitary landfill? TAO/municipality doesn't have intention seriously. Most of them use illegal burning.	EM.3.2	Sanitary landfill operation requires considerable amount of money in addition to technical know-how. Technical assistant will be made by PEO, REO and MNRE but money shall be provided by LA. We think a pressure from people in LA is important because head of LA as well as councilors are elected by the resident in LA.

b. Response to the recommendations

No	Recommendations	Category of NREM	Response
1	Any agency is responsible to environment should do its work seriously. At present, the environment around us is worse such as Chao Phraya river. There are many wastes in the river. We should take care of this matter. It should create awareness to all Thai people. It is very worry that we could not use water in Chao Phraya river.	EM.3.1	The Study Team and counterparts completely agrees with the opinion. Therefore, the PEQMP propose to conduct a Priority "Program for Water Quality Preservation in Public Water Bodies". The PEQMP also proposes that DEQP/MNRE in cooperation with PEO/AYP shall conduct campaign to promote resident awareness and environmental information under the "Priority Program to Strengthen Linkage between Central, Provincial and Local Administration".
2	Please do anything to make environment getting better	EM.3.1	Please refer to the above reply.

No	Recommendations	Category of NREM	Response
	condition. Now in Phra Nakhon Si Ayutthaya, we could not use water from Chao Phraya river. There are many wastes. The responsible agency should do seriously and continuously.		
2	The province level should do campaign to people on proper waste management and seriously promote recycle in right method.	EM.3.2	The PEQMP also proposes that DEQP/MNRE in cooperation with PEO/AYP shall conduct campaign to promote resident awareness on proper solid waste management including recycling and environmental information under the "Priority Program to Strengthen Linkage between Central, Provincial and Local Administration".
3	River sources in Nakhon Luang district – Tha Rue district, in Pasak river is getting seriously damaged due to many river ports and river transportation. The river banks are erosion. The responsible agencies should take care.	EM.3.1	To solve the problems raised by you needs a provincial level plan, Therefore, the PEQMP propose to conduct a Priority "Program for Water Quality Preservation in Public Water Bodies".
4	<ol style="list-style-type: none"> 1. It should make understanding with related agencies to implement PEQMP. 2. It must monitor and evaluate the implementation by all agencies concerned seriously and visit the field. 3. It should invite public sector to take part in conservation and rehabilitation of environment it their own area. Because people will have more area-based information than government agencies. It should provide channel for public to inform data and the agency should send an emergency team to check data immediately. 	SE.1.4	<ol style="list-style-type: none"> 1. Thank you for your understandings on the PEQMP. 2. We agree with your opinion. Therefore, the PEQMP monitoring committee was organized. 3. Thank you for your comments. The PEQMP proposes that REO 6 in cooperation with OPS & ONEP of MNRE shall strengthen the NREM GIS Database Center in REO 6 under the "Priority Program to Strengthen Linkage between Central, Provincial and Local Administration". The PEQMP also proposes that PEO/AYP in cooperation with OPS & ONEP of MNRE shall strengthen the NREM Information Center in PEO/AYP under the "Priority Program to Strengthen NREM capacities of LAs in AYP".
5	For improvement of waste management performance of Phra Nakhon Si Ayutthaya province which PAO is the main responsible agency, it should recommend that coordination with all local administrations is	EM.3.2	Thank you very much for your comments. We completely agree with your opinion.

No	Recommendations	Category of NREM	Response
	necessary for construction of central waste disposal center. All public sector, agencies, budget source should understand the project clearly for sustainable in future. It also should collect waste collection fee in related areas at the actual cost for effective waste management in future.		
6	The PEQMP is very good but in practical way, all responsible agencies will apply the plan or not? The priority setting for problems is also good. The promotion of 3Rs is necessary if all agencies are cooperated (household/local administration). It should establish network to conserve environment and push activities on this matter continuously.	SE.1.4	The natural resources and environment (NRE) is a valuable asset of all people in AYP. Therefore, all responsible agencies shall apply the PEQMP and work for conservation and improvement of NRE.
7	According to the PEQMP, if it can do all we will not have problem with solid waste management including flood problem too.	EM.3.2 NR.2.4	The success of the proposed projects is highly depends on what extent responsible agencies as well as resident in AYP will work for conservation and improvement of NRE.
8	1. It should have waste management, wastewater treatment, tree planting in every house and village. 2. It should organize training to people for conservation of environment. 3. Every village should clean canal and make clear water then the global warming will be reduced.	EM	1. We agree with your recommendation. 2. The PEQMP proposes that DEQP/MNRE in cooperation with PEO/AYP shall conduct campaign to promote resident awareness on environment under the "Priority Program to Strengthen Linkage between Central, Provincial and Local Administration". 3. We agree with your comments.
9	The formulation of PEQMP (2008-2011) is lacking of participation from local administration and public relations to local administration. Because it conducted interview survey on 54 local administration which is less than 50%. The number of interview should be more than	SE.1.4	It is desirable to conduct opinion survey to all LAs in AYP but at the same time we have to consider the budget available for the survey.

No	Recommendations	Category of NREM	Response
	and giving information to more local administrations.		
10	It should create public awareness to people to participate in NREM. The awareness for conservation to natural resources among people should be created. This activity should cooperate with government agencies with monitoring and evaluation.	SE.1.4	Thank you for the comments. The PEQMP proposes that DEQP/MNRE in cooperation with PEO/AYP shall conduct campaign to promote resident awareness on natural resources and environment under the "Priority Program to Strengthen Linkage between Central, Provincial and Local Administration".
11	It should formulate environmental rehabilitation plan after getting impact from flood.	NR.2.4	The PEQMP proposes the "Priority Program for Flood Prevention and Disaster Mitigation in AYP".
12	<ol style="list-style-type: none"> 1. PEO of Phra Nakhon Si Ayutthaya should make field trip to discuss with local people in order to get right and update information. 2. In municipal level, it should provide public park at least 1 place for people to take rest and exercise. 3. It should provide waste separation bin with clear explanation on the lid in order to avoid complication of people. 4. Waste management and wastewater treatment should be a national agenda, it should not put these burdens to local administration due to each local administration has difference capacity and conflict of benefit. 		<ol style="list-style-type: none"> 1. Agree, operation can be done by meeting with NEV (Natural Resources and Environmental Protection Volunteer) 2. It highly depends on the intention of each LA and its resident since it requires a certain budget. 3. What kinds of waste separation system to be applied is highly matter of each LA. Because it depends on area conditions, available resources, people's intention, etc. 4. The Law states the management of solid waste and wastewater is responsibility of LA. It is the same as the other countries including Japan. Because these management directly affect the living environment of the people in LA.
13	If we want clear city, it should have enforcement measurement seriously. For waste management, wastewater treatment, it should contract to private sector to manage. The contractor should be foreign company like Korea, Singapore or Japan due to they are more serious operation than Thai people.	EM	Agree
14	It should have public relation to	EM.3.2	Thank you for your recommendation. We

No	Recommendations	Category of NREM	Response
	grass root people that your discharge waste such as plastic bag, milk bottle, water bottle, milk box, glass bottle, etc. are valuable. Chief of district should give public relation to local administration such as TAO, chief of village, chief of sub-district for waste separation in household and recycle.		agree with your recommendation.
15	<ol style="list-style-type: none"> 1. Formulation of the present plan should pay more attention to global warming problem. It should be added in local plan too. 2. What agency is taking responsibility for flood problem in Pasak river basin including many river port there and erosion? 3. Some TAOs (such as Champa TAO in Tha Rue district) buy waste in area. The good impact is the waste amount in its area was reduced clearly. The government agencies should support on this matter. 4. Water transportation makes loudly noise especially in night time. 	EM	<ol style="list-style-type: none"> 1. Agree but nowadays LAs still lack of knowledge on global warming problem. 2. Pasak River has tendency to face worse air pollution situation causing by dust from ports and transportation. Monitoring should be done strictly in the future. 3. Many LAs are now paying more attention to "Reducing waste amount" activity. 4. The problem tends to increase along Pasak River areas.
16	A community has problem of waste collection due to conflict in Orboror council. Waste collection is done by very old car, late collection and bad smell to people.		Provide knowledge/ increase awareness of managerial level of LAs on the importance of proper solid waste management.
17	We must manage waste seriously because the amount of wastes is quite a lot. Why don't we have waste management factory like in Phuket. The Orboror used to make a study in 2004.	EM.3.2	In order to solve waste problems, Orboror of AYP formulated a plan to construct two Central Disposal Center in AYP. The PEQMP recommend to implement the plan.
18	<ol style="list-style-type: none"> 1. How to reduce amount of wastes. 2. How to reduce pollutions that disturbs people as much as possible. 	EM.3.2	<ol style="list-style-type: none"> 1. Promotion of 3Rs (Reduce, Reuse and Recycle) activities in Las is quite important. 2. Pollution monitoring should be done by public, enterprises should take more responsibilities, and legal enforcement

No	Recommendations	Category of NREM	Response
			should be operated more strictly.
19	Community does not understand/interest to conserve canals. TAO/municipality doesn't have a campaign to create awareness on this matter.	NR.2.4	Provide knowledge/ increase awareness of managerial level of LAs on water quality management.
20	I agree with your third draft of PEQMP. Anyhow, your plan lack of area-based information such as in page 35, table 33, it missed the Sena municipality's disposal site which is more standard management than others.	EM.3.2	Please refer to the main report page 4-80 to 4-81.
21	Pollution generation survey is mainly done on wastewater. It does not cover other pollutions from factories such as smell, dust, etc. (which is no one control seriously)	SE.1.4	There are over 1,440 factories in AYP. The PEQMP deals with provincial level aspects and could not cover pollution of an individual factory. The control of the factory is the responsibility of the Provincial Industry Office.
22	<ol style="list-style-type: none"> 1. It should have volunteer for natural resources and environment. 2. Create awareness to student for participation. 3. Organize community stage to listen opinion from people. 4. Make a field trip to risk area. 5. Allocate budget to local administration to take responsibility. 	SE.1.4	<ol style="list-style-type: none"> 1. We agree especially volunteer is important for monitoring of NREM. 2. We agree with your opinion. 3. We agree with your opinion and LA of the community shall take an initiative for it. 4. Monitoring has been provided in risk areas. 5. LAs should pay more attention to NREM in order to receive more budgets.
23	Waste is the most important problem. At present waste are like mountain in the province of Phra Nakhon Si Ayutthaya. Please do as in your plan seriously.	EM.3.2	Thank you for supporting the recommendation of the PEQMP.

3.2 PEQMP Seminars in SKP

3.2.1 1st Seminar

a. Questions and Answers at 1st Seminar in SKP

Followings are the questions and answers at the 1st seminar in SKP

1. Duty of JICA on making the Provincial Natural Resources and Environmental Plan.

The study team from Japan has a duty to support and give counsel on planning of natural resources and environmental management, by using previous experiences of Japan, including compile relate information and make GIS database assembles the planning of natural resources and environmental management.

2. The cause of decreasing of population in Samut Songkhram Province

It is not yet able to indicate the cause of population decreasing because the birth rate is increasing but the number of population is decreased. However, it should be a policy of the province to persuade local people to relocate and work in the province.

3. Climate change and measures to cope with global warming

From the forecast that Bangkok, Samut Prakarn, Samut Sakhon, Samut Songkhram will sink into the sea in 7 years. Are there any measures to cope with higher sea level?

There is no obvious plan for prevention the problem at the moment for Thailand. However, many agencies have been studying and forecast the effect of high rise of sea level, including, planning measures to cope with the problem. Also, asking for cooperation from people to reduce cause of global warming such as saving energy, expanding mangrove forest. Moreover, Thailand Greenhouse Gas Management Organization under Ministry of Natural Resources and Environment was set up. In order to responsible for Clean Development Mechanism (CDM) which helps decrease global warming.

4. Main point of the Ramsar Convention

Thailand should consider on appropriate Ramsar site specification by considering on the international importance, according to the obligation of the Ramsar Convention, also, supporting on conservation and using of wetlands. Thailand already have measures on Ramsar site conservation of the national and international importance.(Don Hoi Lot in Samut Songkhram Province is announced as an inventory of wetlands of the international and national importance.)

5. What is the effect from decreasing of mangrove forest? How to prevent decreasing of mangrove forest?

Mangrove forest is a food source, aquatic animal breeding site and nursery¹⁸⁶. Also, it is able to prevent wave from hitting the shore. Ecosystem would change if there is no mangrove forest. Number of aquatic animal will decrease and coastal erosion would happen. Thus, mangrove forest conservation and campaign on planting mangrove forest should be supported.

6. Which agency is responsible for solving the problem of wastewater from Mae Klong fish market as it is an important wastewater generation source?

On Decentralization Act 1990 specified Local Administration to have an authorized to manage public service system on natural resources and environment, including community wastewater. So, in the case of wastewater from Mae Klong fish market, LA in the area is the main responsible agency on manage the wastewater treatment system.

7. Water hyacinth management

Local administration in the area is responsible for water hyacinth management in the water source.

8. Pollution monitoring

REO 8 (Ratchaburi) is doing examination of water quality of Mae Klong River every year. There are 4 water sampling points in Samut Songkhram province, and there is examination of air quality (PM10) by mobile air and noise monitoring section of 2 points on the main street. Though, the result is always in the standard.

9. Evaluation of Success of Provincial Natural Resources and Environmental Plan

There are indicators in the Provincial Natural Resources and Environmental Plan, and the Provincial Committee is monitoring and evaluation of success on the operation according to the plan.

10. Budget Source to Operate the Project of Provincial Natural Resources and Environment Plan

Provincial Natural Resources and Environmental Management Plan is an overall image of the province. So, there will be many related agencies including Provincial agencies, Local Administration to operate the project of the Plan. Each agency would set up a budget for the activities on their duty. However, it is able to ask for support budget from Central Administration for some activities that are over the financial capability of LA. Moreover, Provincial is able to set up a budget from fiscal year 2009. The Governor can give an agreement on budget allocation for the operation of the Plan if the Province gives importance on natural resources and environment.

11. Budget for Public Park Construction of Local Administration

Local administration in the area is the main responsible for the project operation.

b. Response to the recommendations

Followings are the response made by the ONEP together with Study team to the recommendation made by the participants of the seminar.

No	Recommendations	Category of NREM	Response
1.	The Government should act as a role model for people. Governmental officers should be forced to pursue environmental conserving lifestyle e.g. carry on household waste sorting, use cloth bag instead of plastic bag. Activities can be used as indicators when considering bonuses.	EM.3.2	We agreed that governmental officers should be a good sample. For solid waste management by using 3Rs (Reduce, Reuse and Recycle) is needed a master plan and feasibility study in detail. PEQMP has proposed to formulate a master plan for solid waste management.
2.	Operation on reducing waste amount should be looked at seriously, especially in seminar/workshop e.g. the use of paper glasses, plastic cases. Consuming without recycling is a waste of resources. Government should be a role model and provide supportive measures as governmental	EM.3.2	We agree to reduce waste amount from seminar and training. This propose is a part of creating public awareness on environment to all sectors and will be placed in Strategy 1 of the Plan.

	sector generates too much waste now.		
3.	It is necessary that the province cooperates with LAs in term of building high-technology incinerator to dispose both general waste and infectious waste. Subsidies might be granted by JICA and LAs. PEO should act as operators.	EM.3.2	PEQMP will propose to formulate solid waste management master plan in order to consider feasible method for detail study before conducting.
4.	Consider the mission on "Social and economic development with collaboration with environmental conservation", non-polluted agriculture still lack of support. As total area of the province is 415 km ² , the agricultural area occupies 2.3 % (of total provincial area) with mixed plantation that covers up to 51.5% (of agricultural area), more attention should be paid to the issue.	NR.2.1	As mentioned before, PEQMP could not cover all sectors in detail. Setting priority is necessary for consideration. In long term plan, there is policy to promote proper land use with consideration of balance between environmental conservation and social, economic activities.
5.	In term of making plan, data with in depth details should prepared, and time during seminar should be used wisely in order to learn insight information.	SE.1.4	The Study Tem tried to collect right information and update from all agencies as must as possible. However, for project planning should be used all update information or collected necessary information more.
6.	In term of wastewater management, sewers from every household, village, community, and factory should go through treatment pits before discharge to the sea	EM.3.1	In wastewater management, it should has a master plan on wastewater management before doing anything in order to find proper method and suitable with province.
7.	Run campaign on building awareness of people not to throw/ dump waste into canals/ rivers	EM.3.1 EM.3.2	From strategy 1 of PEQMP, it has proposed to create awareness and campaign for public participation in MNRE. This proposal will me main issue to assist Samut Songkhram province to have proper management of natural resources and environment.
8.	Provide boats collecting waste in canals/ rivers	EM.3.2	Waste management in river and canal is responsible by local administrations. The propose can be a measurement in short term plan. For long term plan, create awareness to people living nearby river and canal will be sustainable managed of solid waste.
9.	Build dam preventing coastal/ river banks erosion	NR.2.6	Measurement to protect coastal erosion has many methods. The responsible agency in area should consider the method that proper and suitable with area and budget.
10.	Do not support the	SE.1.4	In solid waste management plan, it

	establishment of plastic factories as they damage environment		stresses to support 3Rs, using cloth bag instead of plastic bag. It will be increased capacity of waste management and more sustainability.
11.	Related organizations should monitor pollutants discharged from factories and control level of pollutions not to exceed standard	SE.1.4	Related agencies such as DIW has followed, monitored and controlled factories to discharge pollution in accordance with standard.
12.	More attention should be paid to Global warming as the issue is considered a national problem/ major global problem.	EM.3.8	We agreed that global warming becomes to national problem and world problem. However, responsible agencies in central administration, provincial administration and local administration may arrange activities to reduce impact from the problem such as mangrove forestation, proper disposal management and promote 3Rs.
13.	In term of transforming plan to action plan, roles and responsibilities of related organizations should be specified clearly.	SE.1.4	PEQMP will mention responsible agency and implementation plan within year 2011.
14.	As resources owners, general people should have chances to participate in provincial natural resources and environmental management. In term of legal issue, polluters should be controlled more seriously and fairly without prejudice towards friends or local tycoons.	SE.1.4	We agreed that people should participate in PEQMP. In plan also proposes to set up monitoring and evaluation committee with people to be as member.
15.	Certain areas within Don Hoi Lot Wetland should be conserved. Security guards should also be provided in order to prevent trespassing and damaging onto the areas.	NR.2.7	Don Hoi Lot Wetland is conservation area under Ramsar. Therefore, responsible agencies in area such as province or local administration should rehabilitate and conserve the area.
16.	Governmental sector should support coconut plantation and coconut related industries in order to prevent local people to migrate out of the areas. As some areas are not suitable for growing pomelo, the areas should be converted to coconut plantation. Those areas include Moblad, Bang Ruehak, Ladpeng, Nang Takien, Lad Yai, Bang Peun, and Ban Khanteak. Supports can be on: -Accelerate related organizations to provide classifications for mixed sugar in order to raise sugar price	SE.1.2 NR.2.1	These recommendations are placed in long term plan of province in order to create job opportunity and promote local industry management.

	-Breed new coconut species that tolerate disease and insect -Support the use of bio diesel and agricultural product processing		
17.	The area of Samut Songkhram Ramsar Site was specified incorrectly. From the area of 540,000 Rai announced as Ramsar Site, Don Hoi Lod Wetland covers only 100,000 Rai (areas in water). Other 440,000 Rai are under property rights of the people living in 4 sub districts. The incident leads to conflicts in term of town planning and operations.	NR.2.7	The area of Ramsar site can be seen from 1 st seminar documents on MNRE in Samut Songkhram.

3.2.2 2nd Seminar

a. Questions and Answers at 2nd Seminar in SKP

Followings are the questions and answers at the 2nd seminar in SKP

No	Questions	Category of NREM	Answers
1.	Questions on Current Situations and Issues for Natural Resources and Environmental Management (NREM) in Samut Songkhram:		
1.1	How to manage billboard on the public place? Because some billboards are abandoned which create unpleasant scenery.	EM.3.6	At present, MNRE has a sub-committee on environmental vision pollution management under NEB. The sub-committee formulated an action plan on billboard management in order to give opportunity to all sectors from state, private and people to understand about billboard management and support awareness, create network to control billboard practically.
2.	Questions on the Second Draft of PEQMP:		
2.1	Considering projects under the Plan such as clean and safe tap water project, Samut Songkhram's public water source reservation project. We'll see that the objective of the project is to get a management plan of that subject. So, I'd like to know if the operation for problem solving will be in the next plan (2012), is that right? If the answer is yes, is it going to be too late?	EM.3.1	The PEQMP year 2008-2011 has proposed to formulate a master plan for water supply within 2011. However, responsible agencies in province can consider the period to fit with time and it is the urgent problem to be solved.
2.2	How to push this PEQMP-KPI 2008-2011 to be part of	SE.1.4	The PEO will coordinate and propose plan/project in PEQMP-KPI into

	provincial development plan?		provincial development plan later.
2.3	How do we know if the environmental quality is getting better after the plan implementation? When will we realize the outcome? Will it be publicize through the media?	SE.1.5	When the PEQMP is implemented, it will have a monitoring and evaluation committee comprising of representatives from all sectors. It also will announce to people in project to know about result of implementation. The successful of PEQMP will come from cooperation of all sectors in province to push the plan for budget allocation with strong support from high ranking in the province.

b. Response to the recommendations

Followings are the response made by the ONEP together with Study team to the recommendation made by the participants of the seminar.

No	Recommendations	Category of NREM	Response
1.	Samut Songkhram is in Mae Klong River downstream, so it is the wastewater receiving area from other provinces such as Ratchaburi and Kanchanaburi. For this reason, all 3 provinces should cooperate on solving the problem, and monitoring illegal wastewater discharge from cargo ship.	EM.3.1	We completely agreed that all 3 provinces should cooperate to solve water quality problem in Mae Klong river basin including inspection of illegal wastewater discharge into the river.
2.	Solid waste management is a big problem of LA, because private contractor asks for very high service charges on collection and disposal. Also, often raise the price. If the price keeps raising the rate every year, then Orbortor would not have enough budgets for other projects.	EM.3.2	We completely agreed. We propose proper and sustainable solid waste management plan of Samut Songkhram province and propose project on construction of central waste disposal center in PEQMP.
3.	The plan of public/private sector (i.e. community plan on environment) should be contained in PEQMP.	SE.1.5	The plan in community level can reflect problem in area clearly. The problem in community plan can be assemble in current situation of PEQMP in order to set the priority.
4.	A meeting for no waste dump into the river campaign should be set up. Rules for community/Mooban about waste dumping should be formulated, also ask for cooperation from Orbortor and government agencies.	EM.3.2	We agreed to promote knowledge and understanding to people which is mentioned in Strategy 1 in PEQMP including capable enforcement of local regulation.

5.	Aquatic animals around the river delta are decreasing, because amount of sediment at the river delta is reducing from water pollution which led to environmental decadence. So, every sector must take a serious action on problem solving.	EM.3.1	In PEQMP has proposed plan to conserve and rehabilitate aquatic animal resources in Samut Songkhram province with target that all aquatic animal resources in Samut Songkhram and Mae Klong river basin will be conserved and rehabilitated.
6.	A plan for sustainable waste management should be made to cover all area of the province. So, there must be cooperation between every related agency.	EM.3.2	We agreed with the proposal. The PEQMP proposed to construct central waste disposal in Samut Songkhram province.
7.	The fireflies conservation plan should be added in the Plan i.e. fireflies conservation and ecosystem rehabilitation, because it is a selling point of Samut Songkhram's tourism.	NR.2.7 EM.3.7	At present, there are implementation in some areas.
8.	The province should consider on using Thung Hin public land at Tambon Yi San, Amphoe Amphawa, Samut Songkhram for construct a solid waste disposal site and wastewater treatment system of the province. The province should not let the capitalist, who is the outsider, to collect benefit from Samut Songkhram.	EM.3.2	Site selection for disposal had been done in accordance with solid waste management master plan of the province with consideration of suitable with area and standard of Pollution Control Department.
9.	JICA should have an evaluation on the operation results from the plan, in order to see the complete picture of the project and to analyze the limitation of the plan from information of the evaluation.	SE.1.5	Scope of this project is formulation of PEQMP of Samut Songkhram province. Therefore, monitoring and evaluation of PEQMP should be responded by Monitoring committee of the project which comprises of all sectors in province.
10.	A meeting at the temple or school should be set up, in order to publicize.	SE.1.4	We agreed that temple and school should take part in information dissemination on MNRE and it also will accord with Strategy 1 of PEQMP.
11.	A campaign on using materials that easy to decompose should be made, such as banana leaves, and create activity to promote waste separation or garbage bank, in order to reduce amount of solid waste.	EM.3.2	This is in plan/project to create awareness, knowledge education and create understanding to people in conservation of mineral resources and environment in Strategy 1 and proper and sustainable solid waste management plan in Samut Songkhram province.
12.	Orborjor should be a main sector on solid waste disposal site construction of the province.	EM.3.2	We completely agreed. We proposed proper and sustainable solid waste management plan in Samut Songkhram

			province including project to construct central waste disposal center under responsibility of PAO in PEQMP.
13.	A study or research on useful of water hyacinth should be made, such as making organic fertilizer.	SE.1.4	The proper and sustainable solid waste management plan in Samut Songkhram province support to do composting with school is the main agency.

3.2.3 3rd Seminar

a. Questions and Answers at 3rd Seminar in SKP

No	Questions	Category of NREM	Answers
1.	<u>Questions on Current Situations and Issues for Natural Resources and Environmental Management (NREM) in Samut Songkhram:</u>		
1.1	People in Moo 15 of Suan Luang Sub-district are facing problem related to high density population due have to receive immigrant people from Phumarin Temple. These bring problems of pollution to environment including public health problem of community people. Furthermore there is no budget and solution to solve the problem. Therefore, your agency can solve this problem in which way or there are agency to help on this matter? How we can suggest to our people?	SE.1.5	Sanitary problems may effect on the health of people in community e.g. transmitted diseases, ugly scenery. Subdistrict health stations and LAs should; therefore, take care, control, and manage the environment to be at good condition/ not causing bad effect on people's health.
1.2	Fish ponds have a problem with water monitor. How to solve a problem and how to make a plan?	NR.2.3	The PEQMP proposes that "Propose a change in regulation, to allow commercial use and population control of water monitors, to relevant organizations".
1.3	Do you have any regulation to control push net? The push net can catch small fish and it will be sold as animal feed. Push not is a destroyer for all fishes. Now the owner of push net complain that they are losing due to amount of catch fishes is small amount compare to fuel charge. This due to fishermen use push net. It must prohibit fishermen to use push net completely.	NR.2.6	The PEQMP proposes that Provincial Fishery Office in cooperation with LA shall "Control illegal fishing practices and disseminate sustainable fishing practices" under the "Priority Program for Conservation and Rehabilitation of Aquatic Resources in SKP"
1.4.	Some Biodiversity Conservation is a confidential of the country. If we let the international organization come and access to resources of Samut Songkhram province, how we are confident	NR.2.7	The Study Team and counterpart collected a lot of information on Natural Resources and Environment including Biodiversity. We disclose all information and technology in our report for your checking. So that you should contact

	that Thailand or Samut Songkhram province will get real benefit on this matter. If we give data for foreign country to have research, Thailand will get any update data or new technology or not.		with PEO about any information.
2. Questions on the Third Draft of PEQMP:			
2.1	Are there evaluations of budgets given to LAs?	EM.3.1	The committee which consisted of both local and central officers will be appointed to monitor plan/ project that received budgets from central government. Plan/ project that received money from local budgets will be monitored by local officers.

b. Response to the recommendations

No	Recommendations	Category of NREM	Response
1.	TAO should have its own waste management. The waste that difficult to eliminate should send to deposit together. The awareness of government officer and community leader should be campaign for waste separation and reduction.	EM.3.2	The PEQMP proposes that DEQP/MNRE in cooperation with PEO/SKP shall conduct campaign to promote resident awareness and environmental information under the "Priority Program to Strengthen Linkage between Central, Provincial and Local Administration".
2.	It should be meeting among Pak Tor Sub-district, Pak Tor Municipality, Phraek Nam Dang, Yang Ngam Temple, Jom Pratad, Pradu Temple in order to campaign the activity at Chang Jaroen Temple. The governor has a local broadcasting but only Moo 5 village listens. Community lacks of public relation to take care community's resources.	EM.3.1	The province and PCD is now running activity "Klong Suay Nam Sai" (beautiful canal, clean water) on Pradu Temple Canal area. + Settling agreement on conserving and monitoring water quality of Pradu Temple Canal among LAs along the canal of 3 provinces (SKP, Ratchaburi, Petchaburi).
3.	Problem of "Amount of aquatic animal is decreasing", it should plant mangrove forest along the coast and canal for aquatic animal. It also should start from schools and government agencies.	NR.2.6	The PEQMP proposes that Mangrove Forest Development Station No7 in cooperation with PEO and LA shall conduct "Conservation of natural habitats for fish, i.e. coastal mangrove forests, and increase of safe habitats through afforestation" under the "Priority Program for Conservation and Rehabilitation of Aquatic Resources in SKP"
4.	Problem of "Wastewater", it should change wastewater to effective microorganism (E.M.) for supporting agriculture. This will reduce cost of production and reduce to use chemical fertilizer. Many areas in Wat Pradu Temple of Ampawa District and other areas discharge wastewater from animal waste. It is	EM.3.1	Wastewater from Pradu Temple Canal mostly comes from pig farm. It can be used as bio-fertilizer for sugar cane, cassava plantations. Such operation has been done in part of Ratchaburi Province. Another suggestion is making biogas for household use +lessen energy consuming+ lessen global warming problem.

No	Recommendations	Category of NREM	Response
	useful for agriculture.		
5.	REO 8 or PEO should organize training to new comers of public health volunteer.	SE.1.4	SKP PEO and REO 8 hold training annually. But as budget is limited, activity cannot cover whole province area.
6.	Dredging plan for water ways, irrigation canal, small canal should be provided.	NR.2.4	This should be responsibilities of Irrigation Office, Water Transport and Communications Office, and LAs. Responsibilities are according to their roles/ authorities/ size/ area.
7.	If we see through in National Economic and Social Development Plan No. 8, 9 and 10. It will be as follows; NESDP No. 8 – Human is a center of development. NESDP No. 9-Sufficiency Economy NESDP No. 10-Knowledge Society Most of people are lack of basic knowledge, lack of awareness. Before we develop any environment, we should develop human resources first especially in medium level and grass root level. The knowledge should be provided from the top to the bottom. When all of human have awareness, the development will be easier.	SE.1.4	The PEQMP proposes that DEQP/MNRE in cooperation with PEO/SKP shall conduct campaign to promote resident awareness and environmental information under the “Priority Program to Strengthen Linkage between Central, Provincial and Local Administration”
8.	For waste management, it should have a TAO to give its land for waste separation in order to reduce amount of disposed waste. The remaining waste can be recycled it will be very good. All sector should cooperation together.	EM.3.2	We agree with your recommendation. The PEQMP proposes that Orborjor in cooperation with all LAs shall conduct “Formulation of SWM Master Plan in Provincial Level” to establish a proper SWM in SKP under the “Priority Program for Appropriate and Sustainable Solid Waste Management in SKP”.
9.	Private irrigation canal between coconut plantations has some constructions or households. It block water way and disturb production of coconut tree. Any responsible agency should take care.	NR.2.4	1. Conflicts on private property are subject to go through civil trial. 2. Wastewater from households is to be controlled by Public Health Act 1992 and subject to be LAs’s responsibilities
10	Implementation of the PEQMP will be done in year 2011 is too late. Some problem should be done as soon as possible due to the problem may too late to solve such as wastewater problem, wetland problem and solid waste problem.	SE.1.4	The PEQMP presents the implementation schedule for the priority projects. Please refer the schedule.
11	It should be constructed incinerator as soon as it can because we could not send our waste to out of the province. The amount of waste is increased day by day. Please	EM.3.2	The cost of construction, operation and maintenance of an incineration plant is very expensive, Introduction of an incineration shall increase the waste disposal cost. It is doubtful that LA will be

No	Recommendations	Category of NREM	Response
	quickly find an area for construction of incinerator. There is no any agency to take responsibility on this matter. PAO or Town municipality should construct an incinerator long time ago.		able to bear the increase of disposal cost. Therefore, the PEQMP proposes that Orborjor in cooperation with all LAs shall conduct "Formulation of SWM Master Plan in Provincial Level" to establish a proper SWM in SKP under the "Priority Program for Appropriate and Sustainable Solid Waste Management in SKP".