

DATA BOOK 2

Raw Data from the Public Opinion Survey conducted by the Study Team

This Data Book contains the raw data of the Public Opinion Survey (Opinion Survey of Stakeholders) conducted by the Study Team. An overall summary of the Public Opinion Survey can be found in Chapter 3 of the Main Report.

1 Background and Methodology

1.1 General background

In accordance with the request of the Thai Government to the Government of Japan, “the Study on Supporting System for Local Administrations on Natural Resources and Environmental Management in the Kingdom of Thailand“ (the Study) has been underway since June 2007. The Study aims to strengthen capacities of central, provincial, and local administrations through the formulation of the Provincial Environmental Quality Management Plan (PEQMP) for two model provinces, Phra Nakhon Si Ayutthaya Province (AYP) and Samut Songkhram Province (SKP).

In order to formulate PEQMP, opinions should be gathered from Local Administrations (LAs), NGOs, residents and business establishments, to identify environmental quality to be preserved and improved and to decide the priority of mitigation measures to be introduced.

1.2 Scope of Work

The work included mobilization, interviewing the stakeholders, data input and processing, analysis, and reporting.

1.3 Methodology

1.3.1 Target Stakeholders

Target stakeholders were divided into the following three groups. Questionnaires for each group and each province were prepared by the Study Team and their counterparts (C/P).

Table 1-1: Number and Grouping of Target Stakeholders in Opinion Survey

Target Stakeholders	SKP	AYP	Total
1. Local Administration			
- Orborjor (PAO)	1	1	2
- Tessaban (Municipality)	5	29	34
- Orbortor (TAO)	33	21	54
Total	39	51	90
2. NGO	5	5	10
Total	5	5	10
3. Residence			
- Residents	75	225	300
- Business Enterprises	25	75	100
Total	100	300	400

1.3.2 Survey and Sampling Method

In this Public Opinion Survey, some target stakeholders (LAs and NGO) were identified by the Study Team and counterparts. For Residence (residents and business enterprises), all districts in both provinces were selected to conduct the interview survey. The proportion of questionnaire distribution was calculated based on the number of population in each district

to ensure that the variety and number of samples were appropriate and represented the actual situation in the field.

Random Sampling Method was used for the interview survey of residents and business enterprises. Therefore, each member of the population has an equal chance of being selected. However, the cooperation of the samplers was also an important factor for this survey; samplers within the randomly sampled group were further selected based on voluntary basis.

The interviewers would directly ask questions to all three groups of stakeholders with the questionnaire.

1.3.3 Pilot Survey

Several pilot interviews were conducted to tune up the questionnaire before executing the survey. The result of pilot survey was used to finalize the questionnaire in consultation with the Study Team and counterparts.

1.3.4 Work Schedule

The work schedule was as shown below:

Activity	August		September				October			
	wk	wk	wk	wk	wk	wk	wk	wk	wk	wk
Kick off meeting with counterpart	◆									
Pilot survey		□								
Preparation of questionnaire and interview schedule			▣▣▣▣							
Interview survey in Samut Songkhram Province				■	■					
Interview survey in Ayutthaya Province					■	■	■	■		
Data input and analysis								▣▣▣		
Submission of Draft Report									○	
Submission of Final Report										◎

Figure 1-1: Work Schedule for Opinion Survey

1.3.5 Analysis and Reporting

The answers from interviews were processed with a computer and analyzed with Microsoft Excel. The results will be illustrated in 4 categories for each province:

- Local government
- NGO
- Residents
- Business Enterprises

2 Results for Phra Nakhon Si Ayutthaya Province (AYP)

2.1 Target Groups and Interview Schedule in AYP

2.1.1 Target Local Administrations (LA)

The target LAs identified by the Study Team and counterparts (C/P) are shown in the following tables. The discrepancy between the planned and actual values of Tessaban was due to 5 Orbortor being upgraded to Tessaban. 3 new Orbortor were identified as targets, increasing the total sample size to 54.

Table 2-1: Summary of Target LA in AYP

Result	Orborjor	Tessaban	Orbortor	Total
Planned	1	29	21	51
Actual	1	34	19	54

Table 2-2: Target LA in AYP and Interview Schedule

District	Orborjor/Tessaban	Date	Orborfor	
			Interviewed Orborfor (Date)	Other Orborfor
1. Phra Nakhon Sri Ayutthaya	1.1.1 Nakhon Nakhon Si Ayutthaya 1.1.2 Mueang Ayothaya	22 Oct 07	1.2.1 Pak Kran (21 Sep 07)	1. Poo Kao Thong
		28 Aug 07	1.2.2 Ban Pom (26 Sep 07)	6. Sampao Lom
			1.2.3 Lum Plee (21 Sep 07)	7. Wat Toom 8. Suan Prik 9. Khlong Takien 10. Khlong Sabua
2. Tha Ruoa	2.1.1 Tambon Tha Ruoa 2.1.2 Tambon Tha Luang	26 Oct 07	2.2.1 Salaloy (26 Oct 07)	5. Nong Kha Nak
		19 Sep 07		6. Tha Chao Sanuk 7. Champa 8. Tha Luang
3. Nakhon Luang	3.1.1 Tambon Nakhon Luang 3.1.2 Tambon Aran Yik	2 Oct 07	3.2.1 Khlong Sakae (19 Sep 07)	1. Ban Chung
		2 Oct 07	3.2.2 Pak Jan (19 Sep 07)	2. Nong Pling
			3.2.3 Bo Pong (19 Sep 07)	
			3.2.4 Mae La (19 Sep 07)	
4. Bang Sai	4.1.1 Tambon Bang Sai 4.1.2 Tambon Ratchakram	27 Sep 07	4.2.1 Bang Yee To (21 Sep 07)	1. Kra Seng
		21 Sep 07	4.2.2 Po Taeng (21 Sep 07)	5. Mai Tra 6. Pai Phra 7. Ban Klueng
5. Bang Ban	5.1.1 Tambon Bang Ban 5.1.2 Tambon Maha Pram	26 Sep 07	5.2.1 Phra Kao (28 Sep 07)	1. Kob Chao
		28 Sep 07	5.2.2 Nam Tao (28 Sep 07)	2. Ban Klang
6. Bang Pa-in	6.1.1 Tambon Khlong Jik 6.1.2 Tambon Ban Laen 6.1.3 Tambon Phra-intracha 6.1.4 Tambon Ban Sang 6.1.5 Tambon Prasart Thong 6.1.6 Tambon Bang Kra San 6.1.7 Tambon Chieng Rak Noi	20 Sep 07		1. Ban Wa
		20 Sep 07		7. Bang Pra Daeng
		20 Sep 07		8. Koa Kerd
		27 Sep 07		9. Sam Ruean
		27 Sep 07		10. Ban Krod
		20 Sep 07		11. Talad Krieb
		20 Sep 07		
7. Bang Pahan	7.1.1 Tambon Bang Pahan	18 Sep 07		1. Ban Lee
				6. Tab Nam
				7. Han Sang
				8. Ban Klua
				9. Ta Nim 10. Sao Thong

District	Orborjor/Tessaban	Date	Orborbor	
			Interviewed Orborbor (Date)	Other Orborbor
8. Phak Hai	8.1.1 Tambon Lat Cha Do	2 Oct 07	8.2.1 Lat Nam Kem (2 Oct 07)	1. Tha Din Daeng
	8.1.2 Tambon Phak Hai	2 Oct 07		5. Na Koo 6. Don Lan 7. Lad Chid
9. Phachi	9.1.1 Tambon Phachi	2 Oct 07	9.2.1 Don Ya Nang (19 Sep 07)	4. Nong Nam Sai 5. Phra Kaew 6. Kra Jew
10. Lat Bua Luang	10.1.1 Tambon Lat Bua Luang	27 Sep 07	10.2.1 Lat Bua Luang (27 Sep 07)	4. Khlong Phraya
	10.1.2 Tambon Sam Mueang	27 Sep 07		Banlue 5. Lak Chai
11. Wang Noi	11.1.1 Tambon Lam Ta Sao	20 Sep 07	11.2.1 Lam Sai (21 Sep 07) 11.2.2 Cha Map (28 Sep 07)	1. Payom
				5. Wang Noi
				2. Sanub Tueb
				6. Han Tapao
12. Sena	12.1.1 Mueang Sana	25 Sep 07		7. Kao Ngam
				4. Wang Chula
				1. Ban Po
				6. Marn Wichai
13. Bang Shai	13.1.1 Tambon Bang Shai Nai	25 Sep 07		7. Don Thong
				2. Sam Tum
				8. Rang Jarakae
				4. Chai Na
				9. Lad Nga
14. Uthai	14.1.1 Tambon Uthai	26 Sep 07		3. Teb Mongkon
				4. Wang Pattana
15. Maharat	15.1.1 Tambon Maharaj 15.1.2 Tambon Rong Chang	18 Sep 07 18 Sep 07	15.2.1 Ban Na (18 Sep 07)	7. Kao Moa
				8. Sam Bandit
				9. Nong Namsom
				10. Ban Chang
				11. Uthai
				6. Po Sao Harn
16. Ban Phraek	16.1.1 Tambon Ban Prek	18 Sep 07	16.2.1 Sam Pa Nieng (18 Sep 07)	1. Tha To
				3. Bang Na
Total	1+34		19	4. Ban Kwang
				1. Khlong Noi
				105

2.1.2 Target NGOs

The target NGOs identified by the Study Team and counterparts (C/P) are shown in the following table.

Table 2-3: Target NGO in AYP and Interview Schedule

Name	Date of Interview
1.3.1 The corporation office of public organization	26 Sep 07
1.3.2 Natural Resources and Environmental Conservation Club	25 Sep 07
1.3.3 Lower Chao Phraya River Basin Committee (Phra Nakhon Sri Ayutthaya)	27 Sep 07
1.3.4 Phra Nakhon Sri Ayutthaya Community Organization	26 Sep 07
1.3.5 Eco Town Club	26 Sep 07
Total (Actual)	5
Total (TOR)	5

2.1.3 Target Residents

The target residents had the following characteristics:

Table 2-4: Sample Size and Distribution of Target Residents in AYP

Ayutthaya District	Number of Population*	% of Population	% of QN Distribution	Minimum of Questionnaire	Number of QN survey		
					Resident	Business	Total
1. Phra Nakhon Si Ayutthaya	135,850	18	20	60	48	13	61
2. Tha Ruoa	47,565	6	5	15	13	3	16
3. Nakhon Luang	33,638	5	5	15	10	7	17
4. Bang Sai	45,384	6	5	15	10	5	15
5. Bang Ban	33,980	5	5	15	10	6	16
6. Bang Pa-in	76,646	10	10	30	23	7	30
7. Bang Pahan	42,239	6	5	15	10	6	16
8. Phak Hai	42,956	6	5	15	12	5	17
9. Phachi	30,189	4	5	15	12	9	21
10. Lat Bua Luang	35,800	5	5	15	11	5	16
11. Wang Noi	58,976	8	10	30	22	8	30
12. Sena	65,056	9	10	30	22	13	35
13. Bang Sai	19,529	3	2	6	4	3	7
14. Uthai	41,783	6	5	15	11	4	15
15. Maharat	23,528	3	2	6	5	2	7
16. Ban Phraek	9,278	1	1	3	3	1	4
Total	742,397	100	100	300	226	97	323
TOR					225	75	300

Remark: * Data from "Administrator Record 2006", Department of Provincial Administration.

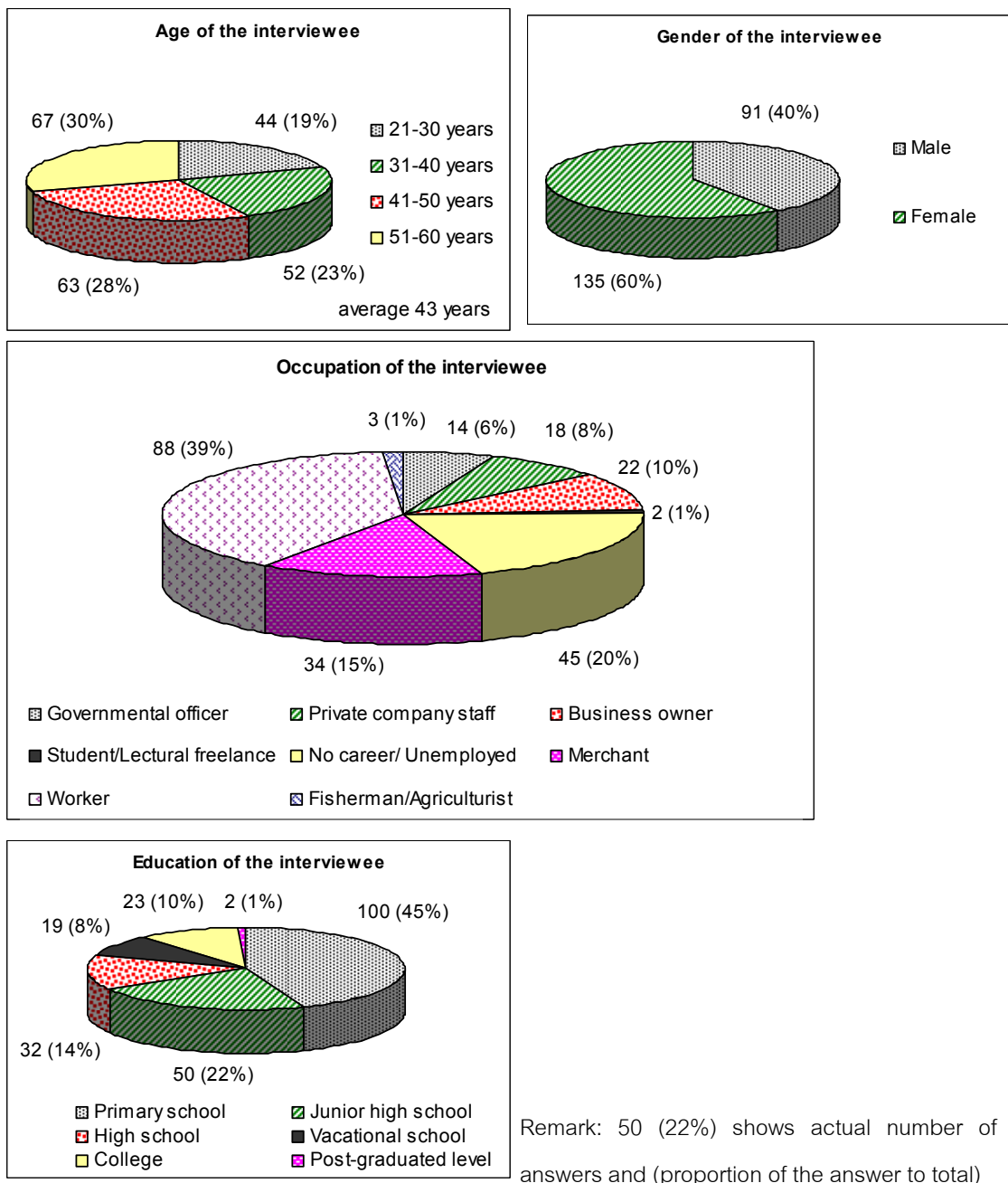


Figure 2-1: Age, Gender, Occupation, and Education Level of Target Residents in AYP

2.1.4 Target Business Enterprises

Business Enterprises are defined as small businesses, and are often residential households which are also used for business purposes. The target business enterprises had the following characteristics:

Table 2-5: Sample Size and Distribution of Target Business Enterprises in AYP

Ayutthaya District	Number of Population*	% of Population	% of QN Distribution	Minimum of Questionnaire	Number of QN survey		
					Resident	Business	Total
1. Phra Nakhon Si Ayutthaya	135,850	18	20	60	48	13	61
2. Tha Ruoa	47,565	6	5	15	13	3	16
3. Nakhon Luang	33,638	5	5	15	10	7	17
4. Bang Sai	45,384	6	5	15	10	5	15
5. Bang Ban	33,980	5	5	15	10	6	16
6. Bang Pa-in	76,646	10	10	30	23	7	30
7. Bang Pahan	42,239	6	5	15	10	6	16
8. Phak Hai	42,956	6	5	15	12	5	17
9. Phachi	30,189	4	5	15	12	9	21
10. Lat Bua Luang	35,800	5	5	15	11	5	16
11. Wang Noi	58,976	8	10	30	22	8	30
12. Sena	65,056	9	10	30	22	13	35
13. Bang Sai	19,529	3	2	6	4	3	7
14. Uthai	41,783	6	5	15	11	4	15
15. Maharat	23,528	3	2	6	5	2	7
16. Ban Phraek	9,278	1	1	3	3	1	4
Total	742,397	100	100	300	226	97	323
TOR					225	75	300

Remark: * Data from "Administrator Record 2006", Department of Provincial Administration.

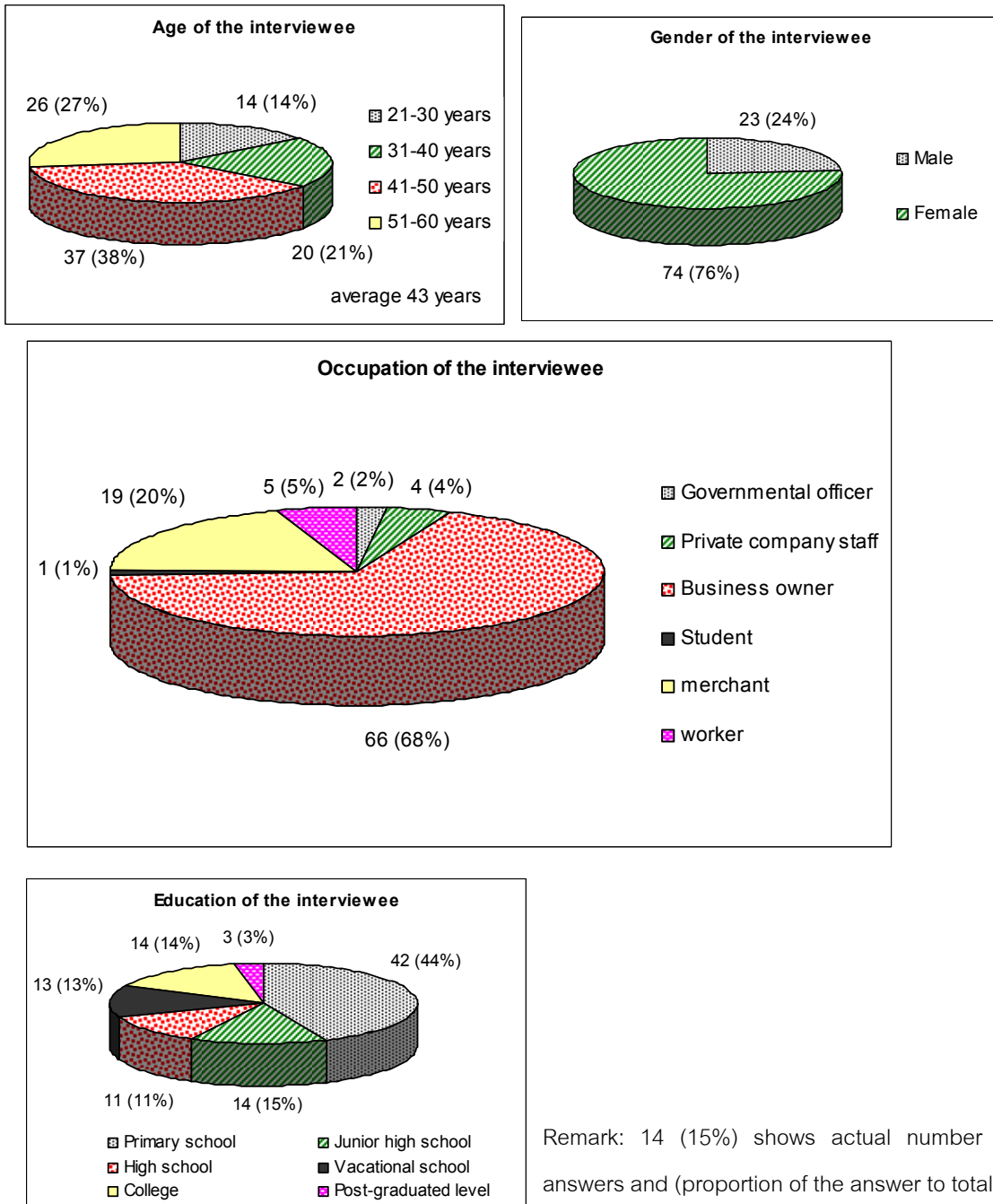


Figure 2-2: Age, Gender, Occupation, and Education Level of Interviewees at Target Business Enterprises in AYP

2.2 Responses to the Opinion Survey in AYP

Note: In this section, Orbortor will be referred to as PAO, Tessaban as Municipality, and Orbortor as TAO.

Reponses from Local Administration (LA)

1. Current Natural Resources and Environmental Management in Your Local Administration (LA)

Q.1. Area, population, household and employee of your local administration?

1. Average of Administration Area:

- PAO	2,556.6	km ²
- Municipality	16.3	km ²
- TAO	18.9	km ²

2. Average of Population:

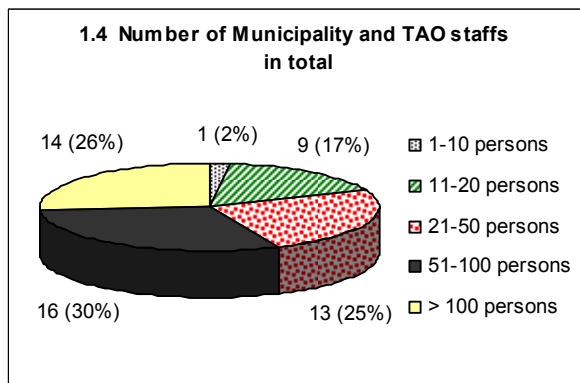
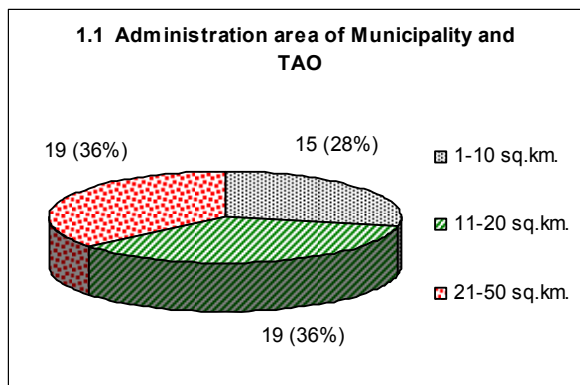
- PAO	760,645	persons
- Municipality	8,799	persons
- TAO	4,480	persons

3. Average of Household:

- PAO	242,123	households
- Municipality	2,967	households
- TAO	1,125	households

4. Average of Number of LA Staffs in Total:

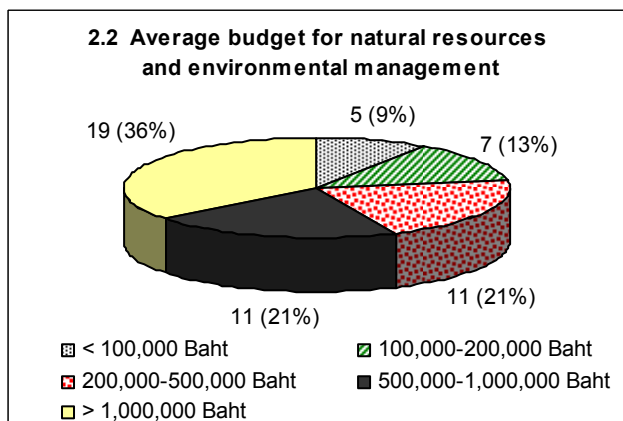
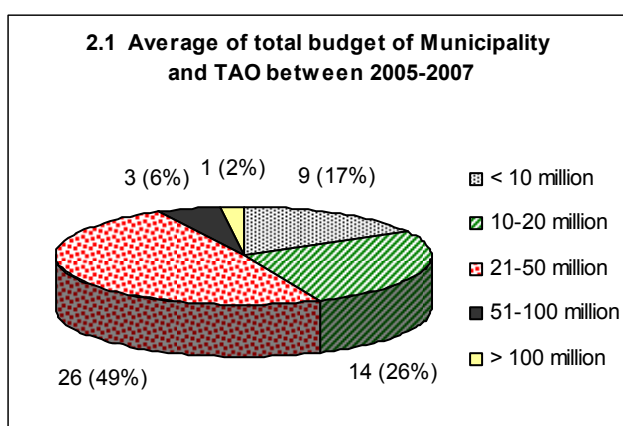
	Total Staff	Government Officer	Permanent Staff	Temporary & Daily Staff
PAO	322	106	40	176
Municipality	105	31	11	63
TAO	23	8	2	12



Remark: 19 (36%) shows actual number of answers and (proportion of the answer to total)

Q.2. Budget of your local administration (LA) in past three years?

	2005	2006	2007
2.1 Average of total budget (Baht)	1,017,795,479	626,289,000	840,024,000
- PAO	39,339,518	47,519,637	51,872,438
- Municipality	10,532,995	14,225,137	15,124,505
- TAO			
2.2 Average budget for natural resources and environmental management (Baht) (excluding Salary)	7,668,000	668,000	1,668,000
- PAO	1,483,538	2,698,426	2,242,074
- Municipality	331,567	886,703	724,262
- TAO			



Q.3. Do you have an organization responsible for the natural resources and environmental management in your LA?

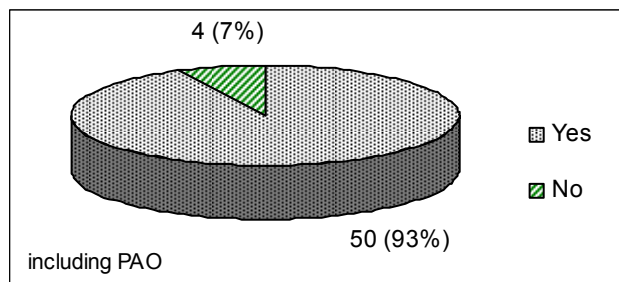
Most of LAs (53 out of 54) have 1 or 2 organizations responsible for the natural resources and environmental management. There is 1 TAO which does not have particular organization responsible for this work.

Q.4. Name of the organization responsible for the natural resources and environmental management.

	No. of LA	Organization	Average Total Staff	Average Government Officer	Average Permanent Staff	Average Temporary & Daily Staff
PAO	1	1. Civil Works Dep.	159	20	28	111
Municipality	17	1. Public Health and Environment Dep.	20	2	3	15
	13	1. Public Health and Environment Dep.	43	4	4	35
		2. Civil Works Dep.	28	6	3	19
	1	1. Public Health and Environment Dep.	32	1	1	30
		2. Education Dep.	4	2	0	2
	2	1. Clerk Office	23	8	2	13
		2. Civil Works Dep.	10	4	1	5
1	1. Clerk Office	10	1	0	9	
TAO	7	1. Clerk Office	10	4	1	5
		2. Public Works Sec.	6	2	1	3
	11	1. Clerk Office	11	4	1	6

Remark: Dep. – Department Sec. – Section

Q.5. Do you have an organization responsible for development control (building and construction permits and enforcement) in your LA?

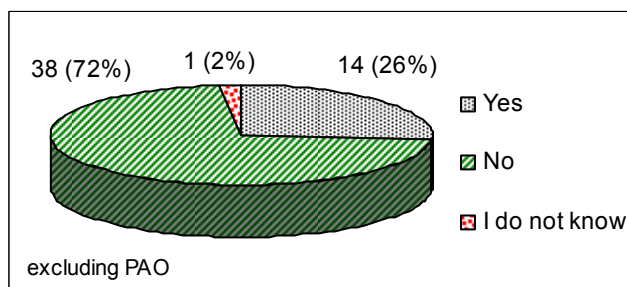


Q.6. Name of the organization responsible for development control.

	No. of LA	Organization	Average Total Staff	Average Government Officer	Average Permanent Staff	Average Temporary & Daily Staff
PAO	1	Civil Works Department	159	20	28	111
Municipality	31	Civil Works Department	17	4	2	11
	3	Public Works Section	8	3	0	5
TAO	15	Public Works Section	4	2	0	2

Q.7. Do you have a zoning map (area development plan, land use plan, etc.) to control development of your administrative area?

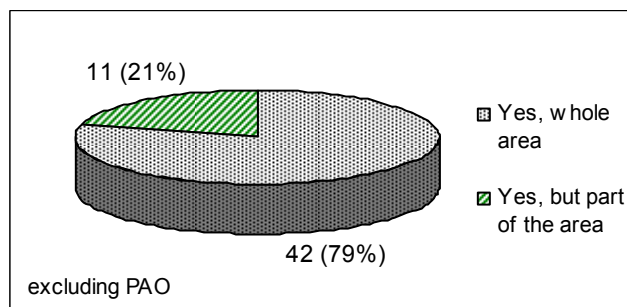
* This information excludes PAO



Q.8. Do you have a potable water supply system in your administrative area?

* This information excludes PAO

8.1



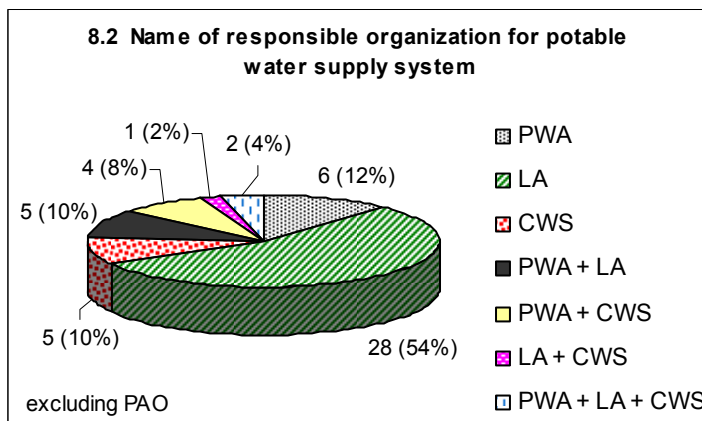
8.2 Name of responsible organization:

- Provincial Waterworks Authority (PWA)
There are 4 PWA offices responsible for potable water supply in Ayutthaya.
- Local Administration (LA)
Many LAs have managed potable water supply by themselves and have no intension to transfer the service to PWA. The reason is that their people may complain because the tariff of PWA service is much higher.
- Communal Water Supply (CWS)
Many parts of area still use communal water supply that manage by committee of the village. However, LAs also support annual maintenance budget to the village since this cost is too high compare to the tariff that the committee collected from people.

	PWA (Ayutthaya)	PWA (Tha Ruoa)	PWA (Sena)	PWA (Phak Hai)
8.3 Design supply capacity (m ³ /day)	72,000	6,600	3,600	2,640
8.4 Average actual supply (m ³ /day)	61,000	5,660	3,000	2,200
8.5 Coverage rate in area (%)	20	2	2	2
8.6 Coverage rate in population (%)	20	2	3	2
8.7 Tariff (Baht/m ³)	7.75 - 21.00	7.75 - 21.00	7.75 - 21.00	7.75 - 21.00
8.8 Production cost (Baht/year)	101,065,779	11,000,000	12,482,225	No data
8.9 Location of water purification plant	1. Moo 3, Tambon Khlong Suan Plu, Amphur Mueang 2. Tambon Chang Yai, Amphur Bang Sai	Talan Municipality, Amphur Ban Mo, Saraburi Province	Moo 2, Tambon Sam Ko, Amphur Sena	Moo 11, Tambon Phak Hai, Amphur Phak Hai
8.10 Main sources of potable water	Chao Phraya River, Pasak River	Irrigation Canal	Groundwater	Noi River

	Nakhon Sri Ayutthaya Municipality	Other LAs*	CWS*
8.3 Design supply capacity (m ³ /day)	39,360	1,605	3,893
8.4 Average actual supply (m ³ /day)	39,360	951	3,893
8.5 Coverage rate in area (%)	100	85	96
8.6 Coverage rate in population (%)	100	85	96
8.7 Tariff (Baht/m ³)	3.50 - 8.00	4.00 - 6.00	4.00 - 5.00
8.8 Production cost (Baht/year)	43,000,000	762,424	120,800
8.9 Location (and number) of water purification plant	Waterworks Department, Au Thong Road, Tambon Ho Rattana Chai, Amphur Mueang	Municipality - Tha Ruoa (1) - Bang Sai (1) - Hua Wieng (4) - Rong Chang (3) TAO - Khlong Sakae (2) - Ban Pom (1)	
8.10 Main sources of potable water	Chao Phraya River	Chao Phraya River, Lob Buri River, Pasak River, Noi River Groundwater	Groundwater

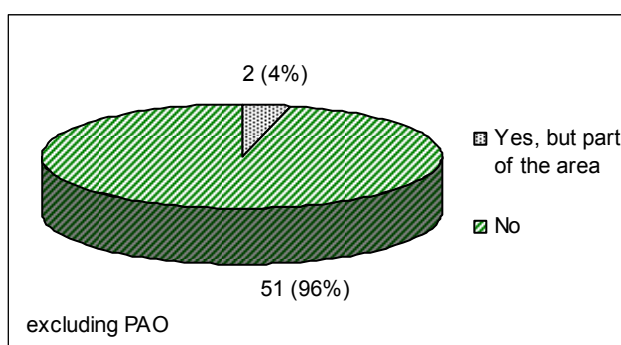
Remark: * Average figure of all data from LAs (excluding Nakhon Sri Ayutthaya Municipality) and CWSs



Q.9. Do you have connection to sewerage system in your administrative area?

* This information excludes PAO

9.1



9.2 What kind of sewerage system?

- Nakhon Sri Ayutthaya Municipality

Sewerage pipe with treatment facility

- Phra Intraracha Municipality

Sewerage pipe with treatment facility

9.3 Name of operating organization:

- Nakhon Sri Ayutthaya Municipality Civil Works Department of the Municipality

- Phra Intraracha Municipality Civil Works Department of the Municipality

9.4 Coverage rate in area:

- Nakhon Sri Ayutthaya Municipality 50 % in area

- Phra Intraracha Municipality 50 % in area

9.5 Coverage rate in population:

- Nakhon Sri Ayutthaya Municipality 70 % in population

- Phra Intraracha Municipality 50 % in population

9.6 Tariff:

Free of charge

9.7 Operation cost:

- Nakhon Sri Ayutthaya Municipality 8,000,000 Baht/year

- Phra Intraracha Municipality 2,000,000 Baht/year

9.8 Location and name of sewerage treatment plant:

- Nakhon Sri Ayutthaya Municipality Moo 2, Tambon Suan Prik

- Phra Intraracha Municipality

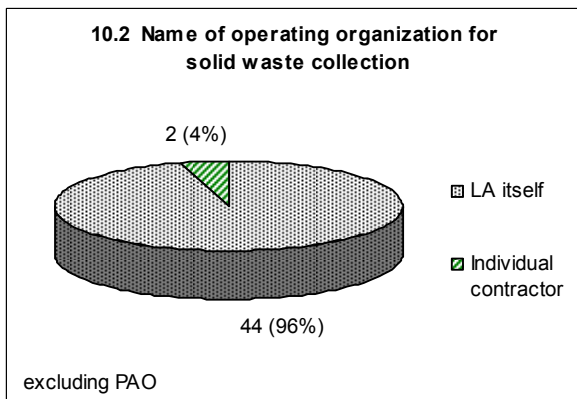
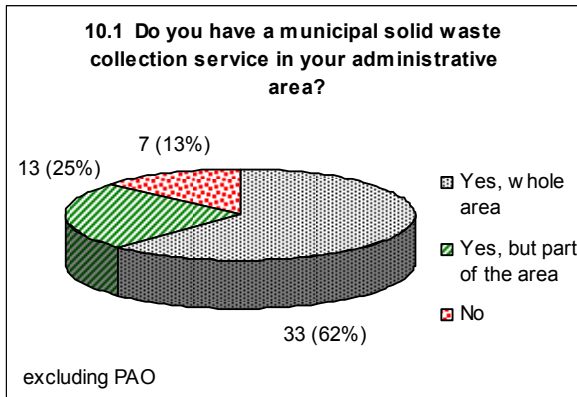
Moo 5, Tambon Phra
 Intraracha

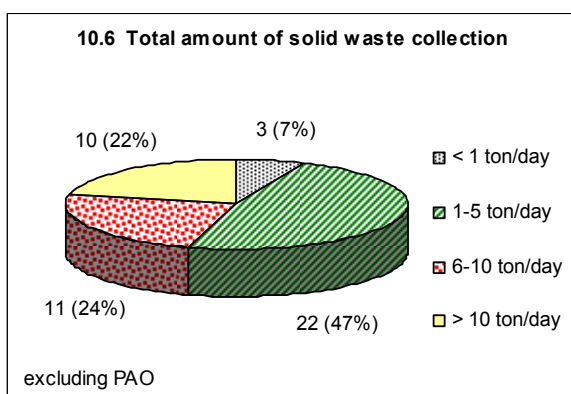
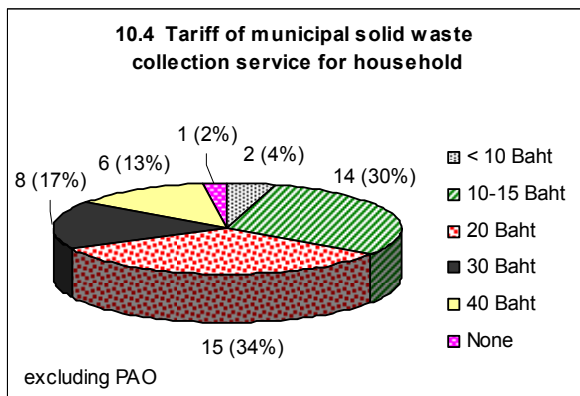
9.9 Main treatment method of domestic wastewater:

- Nakhon Sri Ayutthaya Municipality Oxidation Ditch
- Phra Intraracha Municipality Activated Sludge

Q.10. Do you have a municipal solid waste (MSW) collection service in your administrative area?

* This information excludes PAO





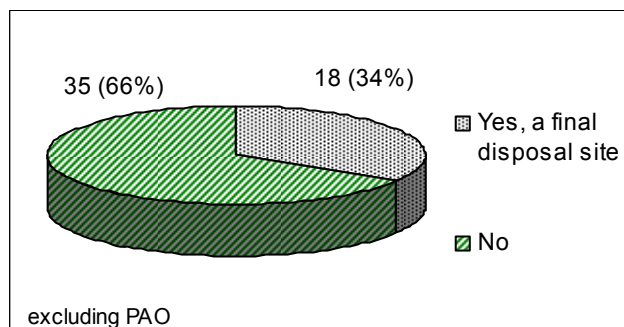
10.3	Average coverage rate in area:	96	% in area
10.4	Tariff:	0-5,000	Baht/month
10.5	Average operation cost:		
	- LAs that collect solid waste by themselves	617,117	Baht/year
	- LAs that subcontracted solid waste collection to individual contractor, this cost including disposal fee	468,000	Baht/year
10.6	Total amount of solid waste collection:	424	ton/day

Q.11. Do you have some treatment facilities for MSW in your administrative area?

Three TAOs have small and simple incinerators - TAO Lat Nam Kem, TAO Lat Bua Luang, and TAO Cha Map - to be used in the villages.

Q.12. Do you have some final disposal sites for MSW in your administrative area?

* This information excludes PAO



Q.13. Please give us information on the MSW final disposal site(s) by filling the following table.

* This information excludes PAO

Name of LA	Operating organization	Tipping Fee (Baht/ton)	Final disposal amount (ton/day)	Location of final disposal site	Disposal Method
1. TES.N Nakhon Sri Ayutthaya	TES.N Nakhon Sri Ayutthaya		140	Moo 8, Tambon Ban Pom, Amphur Mueang	Open Dump
2. TAO Salaloy	TES.T Tha Ruoa	0	12	Moo 13, Tambon Salaloy, Amphur Tha Ruoa	Open Dump
3. TES.T Nakhon Luang	TES.T Nakhon Luang	0	20	Moo 3, Tambon Bang Rakam, Amphur Nakhon Luang	Semi-sanitary Landfill
4. TAO Mae La	TAO Mae La	0	4	Moo 3, Tambon Bang Rakam, Amphur Nakhon Luang	Semi-sanitary Landfill
5. TES.T Bang Sai	Individual Contractor	180	11	Moo 5, Tambon Bang Plee, Amphur Bang Sai	Semi-sanitary Landfill
6. TES.T Ratchakram	TES.T Ratchakram	0	8	Moo 2, Tambon Chang Yai, Amphur Bang Sai	Semi-sanitary Landfill
7. TES.T Ban Sang	TES.T Ban Sang	0	15	Moo 5, Tambon Ban Sang, Amphur Bang Pa-in	Open Dump
8. TES.T Bang Kra San	TES.T Bang Kra San	0	20	Moo 10, Tambon Bang Krasan, Amphur Bang Pa-in	Semi-sanitary Landfill
9. TES.T Chieng Rak Noi	Individual Contractor	180-200	74	Moo 11, Tambon Chieng Rak Noi, Amphur Bang Pa-in	Semi-sanitary Landfill
10. TES.T Phachi	TES.T Phachi	0	5	Moo 1, Tambon Phachi, Amphur Phachi	Open Dump
11. TES.T Lat Bua Luang	TES.T Lat Bua Luang	0	0.5	Moo 1, Tambon Lat Bua Luang, Amphur Lat Bua Luang	Semi-sanitary Landfill
12. TES.T Sam Mueang	TES.T Sam Mueang	0	20	Moo 4, Tambon Sam Mueang, Amphur Lat Bua Luang	Open Dump
13. TES.T Lam Ta Sao	TES.T Lam Ta Sao	0	15	Moo 5, Tambon Lam Ta Sao, Amphur Wang Noi	Open Dump
14. TES.T Sam Ko	TES.M Sena	0	14.7	Moo 5, Tambon Sam Ko, Amphur Sena	Semi-sanitary Landfill
15. TES.T Chao Jet	TES.T Chao Jet	0	5	Tambon Chao Sadej, Amphur Sena	Semi-sanitary Landfill
16. TES.T Bang Nom Ko	TES.T Bang Nom Ko	0	5	Moo 1, Tambon Bang Nom Ko, Amphur Sena	Semi-sanitary Landfill
17. TES.T Uthai	TES.T Uthai	0	8	Moo 12, Tambon Uthai, Amphur Uthai	Open Dump
18. TES.T Rong Chang	TES.T Rong Chang	0	3	Moo 6, Tambon Pitta Pien, Amphur Maharat	Open Dump
Total			380.2		

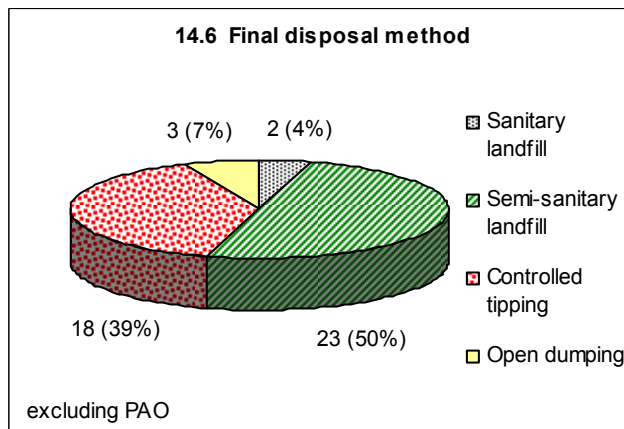
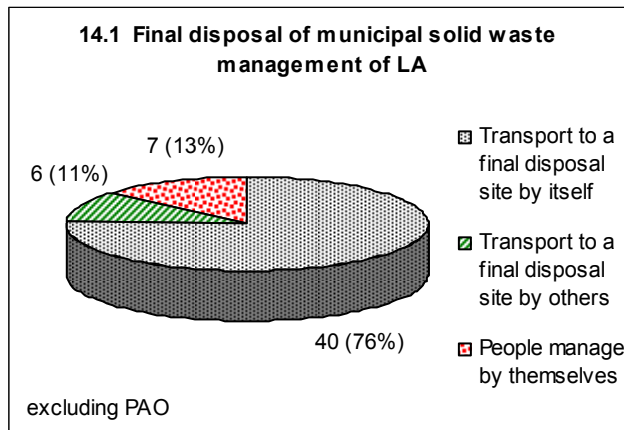
Remark: TES.N – Tessaban Nakhon, TES.M – Tessaban Mueang, TES.T – Tessaban Tambon
TAO – Tambon Administrative Organization

Q.14. How does your LA manage final disposal of MSW?

* This information excludes PAO

No.	Name of LA	Operating organization	Tipping fee (Baht/year)	Final disposal amount (ton/day)	Disposal amount generated by LA itself (ton/day)	Final disposal method
1	TES.N Nakhon Sri Ayutthaya	TES.N Nakhon Sri Ayutthaya	1,140,393	140	90.0	Controlled tipping
2	TAO Pak Kran		36,000		2.0	
3	TAO. Ban Pom		54,000		5.0	
4	TES.T Bang Ban		144,000		4.0	
5	TES.T Maha Pram		60,000		2.0	
6	TAO Phra Kao		24,000		6.0	
7	TAO Nam Tao		24,000		2.0	
	*add 8 TAOs out of the survey					
8	TES.M Sena	TES.M Sena	200,000	14.7	8.0	Controlled tipping
9	TAO Lum Plee		216,000		1.0	
10	TES.T Hua Wieng		72,000		1.5	
11	TES.T Sam Ko		0		3.0	
12	TES.T Bang Shai Nai		72,000		1.2	
13	TES.M Ayothaya	Nakhon Luang Recycle Co.,Ltd.	720,000	40	21.0	Semi-sanitary landfill
14	TAO Khlong Sakae		48,000		3.0	
15	TAO Bo Pong		0		6.0	
16	TES.T Prasart Thong		192,000		10.0	
17	TES.T Tha Ruoa	TES.T Tha Ruoa	120,000	12	10.0	Open dumping
18	TAO Salaloy		36,000		0.9	
	*add 8 TAOs out of the survey					
19	TES.T Bang Sai	Individual contractor	388,800	11	6.0	Semi-sanitary landfill
20	TAO Bang Yee To		720,000		5.0	
21	TES.T Khlong Jik	Individual contractor	480,000	74	6.0	Semi-sanitary landfill
22	TES.T Ban Laen		300,000		8.0	
23	TES.T Phra Intraracha		576,000		50.0	
24	TES.T Chieng Rak Noi		360,000		8.0	
25	TAO Lam Sai		360,000		2.0	
26	TES.T Bang Pahan	TES.T Bang Pahan	300,000	16.75	12.0	Semi-sanitary landfill
27	TES.T Aran Yik		48,000		1.8	
28	TES.T Maharaj		36,000		2.0	
29	TES.T Ban Prek		24,000		1.0	
30	TES.T Lat Cha Do	TES.M Ang Thong	120,000	6.5	1.5	Sanitary landfill
31	TES.T Phak Hai		264,000		5.0	
32	TES.T Ratchakram	TES.T Ratchakram	200,000	8.0	8.0	Semi-sanitary landfill
33	TES.T Ban Sang	TES.T Ban Sang	140,000	15.0	15.0	Controlled tipping
34	TES.T Bang Kra San	TES.T Bang Kra San	400,000	20.0	20.0	Semi-sanitary landfill
35	TES.T Tha Luang	TES.T Tha Luang	200,000	11.0	11.0	Controlled tipping
36	TES.T Nakhon Luang	TES.T Nakhon Luang	72,000	20.0	20.0	Semi-sanitary landfill
37	TAO Pak Jan	Individual contractor	18,000	0.5	0.5	Semi-sanitary landfill
38	TAO Mae La	TAO Mae La	200,000	4.0	4.0	Semi-sanitary landfill
39	TES.T Phachi	TES.T Phachi	90,000	5.0	5.0	Controlled tipping
40	TAO Lat Bua Luang	TAO Lat Bua Luang	50,000	0.5	0.5	Semi-sanitary landfill
41	TES.T Bang Nom Ko	TES.T Bang Nom Ko	250,000	5.0	5.0	Semi-sanitary landfill
42	TES.T Uthai	TES.T Uthai	80,000	8.0	8.0	Controlled tipping
43	TES.T Sam Mueang	TES.T Sam Mueang	0	20.0	20.0	Controlled tipping
44	TES.T Lam Ta Sao	TES.T Lam Ta Sao	0	15.0	15.0	Open dumping
45	TES.T Chao Jet	TES.T Chao Jet	0	5.0	5.0	Semi-sanitary landfill
46	TES.T Rong Chang	TES.T Rong Chang	0	3.0	3.0	Controlled tipping
Total			8,835,193	455.0	424.9	
Average (including TES.N Nakhon Sri Ayutthaya)			192,069			
Average (excluding TES.N Nakhon Sri Ayutthaya)			170,996			

Remark: TES.N – Tessaban Nakhon, TES.M – Tessaban Mueang, TES.T – Tessaban Tambon
TAO – Tambon Administrative Organization

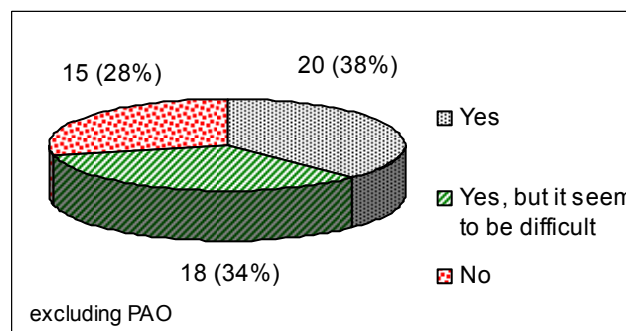


Q.15. Do you have any illegal dump sites in your administrative area?

Based on the information from all LAs, there are no illegal dump sites in the province.

Q.16. Do you intend to have a final disposal site in your administrative area?

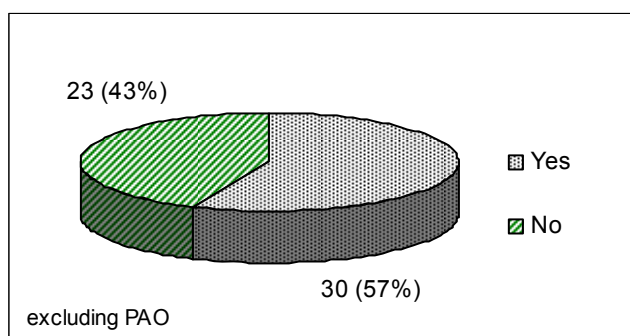
* This information excludes PAO



Q.17. Do you have any special natural assets in your administrative area?

* This information excludes PAO

17.1



17.2 Please specify:

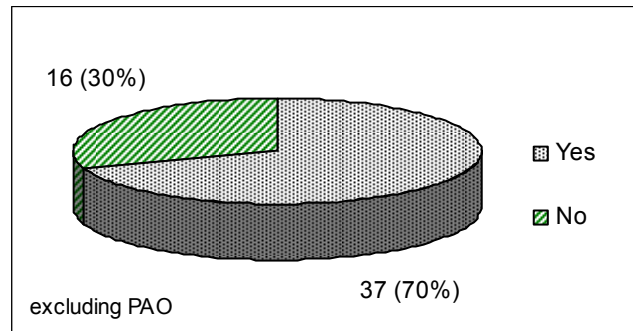
No.	LA	Natural Resource 1	Natural Resource 2	Natural Resource 3
1	TAO Pak Kran	Takien Canal		
2	TES.T Tha Ruoa	Pasak River		
3	TES.T Tha Luang	Pasak River		
4	TAO Salaloy	Pasak River		
5	TES.T Nakhon Luang	Pasak River	Lopburi River	Lotus Swamp
6	TES.T Aran Yik	Pasak River		
7	TAO Pak Jan	Pasak River		
8	TAO Mae La	Irrigation Canals	Rahan Canal	
9	TES.T Bang Sai	Noi River		
10	TAO Bang Yee To	Noi River		
11	TES.T Bang Ban	Fish Pond		
12	TES.T Maha Pram	River Sand		
13	TAO Phra Kao	Noi River		
14	TAO Nam Tao	Noi River		
15	TES.T Khlong Jik	Canals		
16	TES.T Ban Sang	Ban Sang Canal		
17	TES.T Prasart Thong	Bang Hong Canal	Ban Laen Canal	
18	TES.T Bang Kra San	Prem Prachakom Canal	Wua Canal	Wat Bang Kien Canal
19	TES.T Phak Hai	Noi River		
20	TAO Lat Nam Kem	Lotus Swamp	Bang Thong Swamp	
21	TES.T Phachi	Sam Kao Canal		
22	TES.T Lat Bua Luang	Phraya Banlue Canal		
23	TAO Lat Bua Luang	Phraya Banlue Canal	River Sand	
24	TES.T Lam Ta Sao	Irrigation Canals		
25	TES.T Chao Jet	Canals		
26	TES.T Hua Wieng	Canals		
27	TES.T Bang Nom Ko	Noi River		
28	TES.T Uthai	Canals		
29	TES.T Maharaj	Lopburi River	Bang Kaew Canal	Bang Phrakru Canal
30	TES.T Rong Chang	Lopburi River		

Remark: TES.N – Tessaban Nakhon, TES.M – Tessaban Mueang, TES.T – Tessaban Tambon
TAO – Tambon Administrative Organization

Q.18. Do you have any special cultural assets in your administrative area?

* This information excludes PAO

18.1



18.2 Please specify:

No.	LA	Cultural Site 1	Cultural Site 2	Cultural Site 3
1	TES.N Nakhon Sri Ayutthaya	World Heritage		
2	TES.M Ayothaya	Yai Chai Mongkol Temple	Samana Kotatharam Temple	Ayotthaya Temple
3	TAO Pak Kran	Wat Chao Chai Stupa		
4	TAO. Ban Pom	Chaiya Wattanaram Temple	Kasattrathirat Woraw ihan Temple	Tha Ka Rong Temple
5	TAO Lum Plee	Phraya Man Temple	King Naraesuan Monument	
6	TES.T Tha Ruoa	Mai Ruak Temple		
7	TES.T Tha Luang	Satue Temple	Bueng Latthiwan Temple	
8	TAO Salalay	Salalay Temple	Chang Temple	
9	TES.T Nakhon Luang	Nakhon Luang Palace		
10	TES.T Aran Yik	Yai Teb Nimitr Temple	Phra Non Temple	
11	TAO Pak Jan	Lamud Temple		
12	TAO Mae La	Holy Pond		
13	TES.T Ratchakram	Bang Sai Royal Folk Arts and Crafts		
14	TAO Po Taeng	Po Taeng Tai Temple		
15	TES.T Bang Ban	Chula Manee Temple	Sri Suriyothat Boat	Luang Po Yai Temple
16	TES.T Maha Pram	Pai Lom Temple	Sao Thong Temple	
17	TAO Phra Kao	Pikul Sophon Temple		
18	TAO Nam Tao	Myanmar Camp	Sri Kuk Stupa	
19	TES.T Khlong Jik	Phrabarom Rachutid Stupa		
20	TES.T Ban Laen	Bang Pa-in Palace	Niwet Thamma Prawat	
21	TES.T Ban Sang	Ban Sang Temple	Tham Mai Temple	
22	TES.T Bang Kra San	Bang Kien Wichien Chai Temple		
23	TES.T Lat Cha Do	Dusit Ratchamatcha Temple		
24	TES.T Phak Hai	Yan Ang Thong Temple		
25	TES.T Phachi	Local Museum		
26	TAO Don Ya Nang	Tako Temple		
27	TAO Lat Bua Luang	Mai Ya Sai Temple		
28	TES.T Lam Ta Sao	Local Museum		
29	TAO Lam Sai	Chulaporn University		
30	TES.T Chao Jet	Chao Jet Nai Temple	Chao Jet Nok Temple	Klang Khlong Wattanaram Temple
31	TES.T Hua Wieng	Funeral pyre		
32	TES.T Bang Nom Ko	Bang Nom Ko Temple		
33	TES.T Bang Shai Nai	Bang Shai Nai Temple		
34	TES.T Rong Chang	Chao Pluk Palace		
35	TAO Ban Na	Po Prasit Temple	Klang Tung Temple	
36	TES.T Ban Prek	Luang Po Kiew Temple		
37	TAO Sam Pa Nieng	Local Museum		

Remark: TES.N – Tessaban Nakhon, TES.M – Tessaban Mueang, TES.T – Tessaban Tambon
TAO – Tambon Administrative Organization

2. Prioritized Issues in Your LA

Q.19. What do you think the most serious problem is in your administrative area now?

What is the second most serious problem?

Q.20. In order to solve the most serious problem what do you think the most prioritized measure in your administrative area at present? What is the second most prioritized measure? Please specify the 1st and 2nd most prioritized measures respectively.

* This information includes PAO

The most serious problem

Topic	Detail	Answer	Measure
Natural resources and environment degradation	degradation of water quality	5	- strengthen law enforcement to industries - campaign people not to dump garbage into the canals
	solid waste management	5	- construct solid waste disposal facilities managing by the province - construct standard incinerator
	pollution from industries	7	- raise awareness to industries and law enforcement
	air pollution from small brick industries	2	- recommend suitable technology for its production
	flood	2	- improve the efficiency of drainage canals
	erosion along river banks	2	- construct hard structure to protect the banks
Economics stagnation	less income and more expenses	7	- build up more career in the province
	low prize of agriculture products	1	- reduce production cost by using bio-fertilizer
Insufficient capability of the LA	lack of budget and human resouces	10	- revise organization structure - educate our staff on environmental issues and cooperate with related organizations - speed up decentralization
	infrastructure is not cover	4	- increase more budget from central government
	weak of law enforcement	1	- all related organizations should support LAs seriously
	weak of public participation	1	- raise awareness to people
Politics	conflict interests among local politics	2	- work in harmony
Social	drugs	1	- campaign and educate people by related organizations
No particular problem		4	
Total		54	

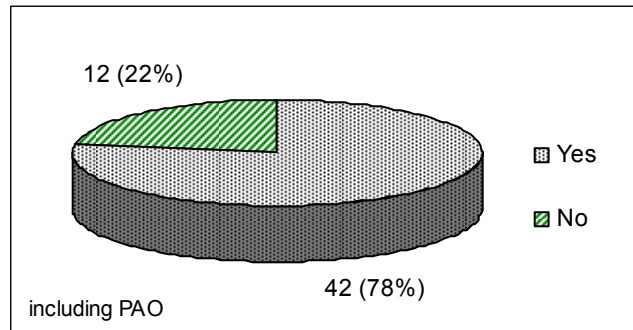
The second most serious problem

Topic	Detail	Answer	Measure
Natural resources and	degradation of natural resources	3	- campaign people about environmental conscience - related organizations should support technical knowledge
	solid waste management during flood	1	- provide suitable equipment for solid waste collection
	pollution from industries	1	- raise awareness to industries and law enforcement
	degradation of water quality	1	- monitor water quality regularly
Economics stagnation	low price of agriculture products	2	- promote tourism in the province - government should support market
	unemployment	1	- build up more career in the province
	less income and more expenses	7	- build up more career in the province
Insufficient capability of the LA	lack of budget and human resouces	8	- revise organization structure - educate our staff on environmental issues and cooperate with related organizations - speed up decentralization
Politics	slow implementation since the leaders concern much on their votes and interference from third party	2	- educate and raise awareness
	less cooperation among LAs	2	- compromise and build up more cooperation
Poor public health condition	service area is not cover	2	- increase more human resources and budget
	people lack of knowledge	1	- educate people about public health
Social	drugs	1	- campaign and educate people by related organizations
No particular problem		22	
Total		54	

Q.21. Does your LA receive requests for improvement of your administrative area from your residents?

* This information includes PAO

21.1



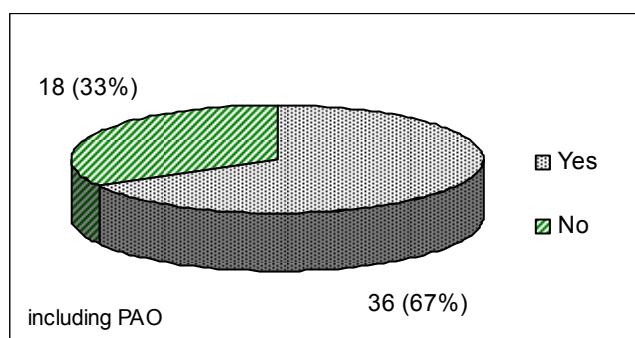
21.2 Please specify:

Topic	Answer
The 1st largest number of request	
Infrastructure	10
Road and Bridge	10
Electricity in public area	4
Potable water supply	5
Socio-economics development	6
Solid waste management	2
Flood prevention	4
Irrigation system	1
Total	42
The 2nd largest number of request	
Road and Bridge	6
Electricity in public area	9
Potable water supply	5
Socio-economics development	4
Solid waste management	2
Flood prevention	3
No request	13
Total	42
The 3rd largest number of request	
Road and Bridge	3
Electricity in public area	3
Potable water supply	2
Socio-economics development	3
Solid waste management	1
Public health	2
No request	28
Total	42

Q.22. Does your LA receive complains from your residents?

* This information includes PAO

22.1



22.2 Please specify:

Topic	Answer
The 1st largest number of complain	
Smoke/Dust from industries	8
Clog of sewage pipe	3
Smell from industries	3
Smell for animal farms	2
Smell/Smoke from disposal sites	3
Flood and Erosion	6
Solid waste collection	1
Wastewater from industries	6
Annoying from small entrepreneurs	2
Corruption in local politics	2
Total	36
The 2nd largest number of complain	
Smoke/Dust from industries	5
Smell from industries	3
Smell for animal farms	2
Smell/Smoke from disposal sites	2
Flood and Erosion	2
Solid waste collection	2
Annoying from small entrepreneurs	4
Corruption in local politics	1
No complain	15
Total	36
The 3rd largest number of complain	
Smoke/Dust from industries	2
Annoying from small entrepreneurs	1
Street dogs and Mosquitoes	2
No complain	31
Total	36

3. Prioritized Issues on Natural Resources and Environmental Management in Your LA

Q.23. How serious do you feel the following natural resources and environment problems? Please select one in each of the following environment problems.

* This information includes PAO

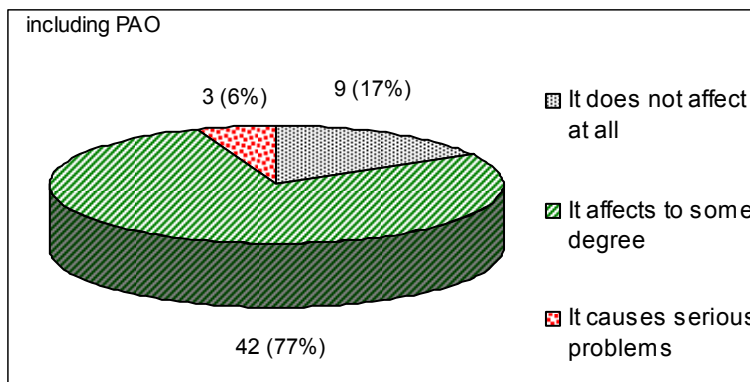
	1. Not serious at all	2. Not very serious	3. Some what serious	4. Very serious	5. Can't choose	6. No response	Total
1. Soil and land resources	19	15	13	7	0	0	54
2. Water resources	4	8	13	29	0	0	54
3. Biodiversity	42	3	4	3	2	0	54
4. Water quality	22	16	9	7	0	0	54
5. Solid waste	9	9	13	23	0	0	54
6. Air quality	18	20	9	6	0	0	54
7. Noise quality	28	18	6	2	0	0	54
8. Hazardous wastes and toxic substances	34	15	1	2	2	0	54
9. Urban environment such as parks, amenity, landscape, etc.	36	13	5	0	0	0	54
10. Natural and cultural assets	41	8	1	4	0	0	54
11. Global warming / climate change	16	22	12	3	1	0	54

If you select [4. Very serious], please give us reasons why you select and what aspects specifically.

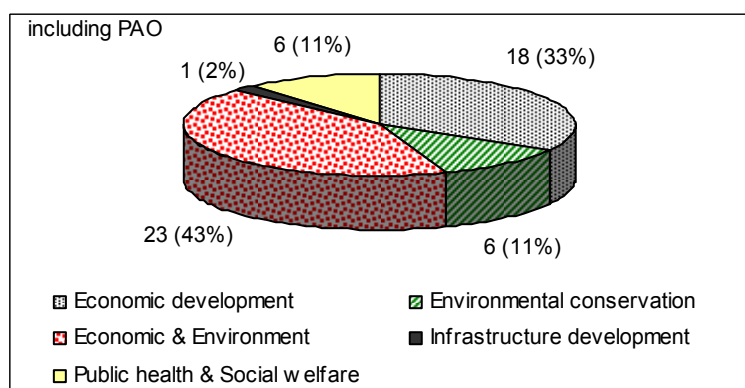
Question	Answer	Reasons why you select "4. Very serious"
1. Soil and land resources	- cargo ships in the river - sand mining and top-soil digging - quality of soil (sour)	- erosion along the bank - lost of fertile soil - low production of agriculture
2. Water resources	- flood	- lost of agriculture area and property
3. Biodiversity	- extinction of fish species	degradation of biodiversity and lost of income
4. Water quality	- wastewater from agriculture and industries	water pollution
5. Solid waste	- tons of garbage is not managed properly - no area to be used for disposal site	caused serious environmental problems
6. Air quality	- dust/smoke from industries	caused inspiratory problems
7. Noise quality	- noise from pier's activities	noise pollution for community
8. Hazardous wastes	- no separate collection system	caused hazard condition to municipality staff
10. Cultural assets	- government do not allocate budget to LAs for taking care of the surrounding around cultural assets - some constructions damage the scenery of cultural assets - inappropriate renovation	- LAs do not have enough budget - caused vision pollution - caused damage to cultural assets
11. Global warming	- rising of temperature	- climate change caused serious of

		flood
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Q.24. How much do you feel environmental degradation affect your LA?



Q.25. Which is more important for your LA, Economic Development or Environment Conservation?



Q.26. Do you have an environmental quality management projects as a part of your annual budget plan?

* This information includes PAO

All LAs have an environmental quality management projects as a part of their annual budget plan. Basically, the type of projects is similar in every year.

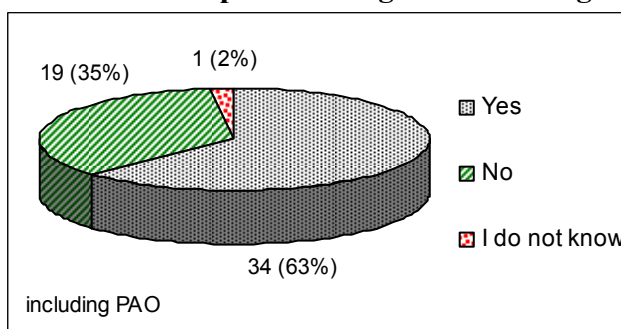
Year 2006

Type of Project	Number of Projects	Total Budget (Baht)	Average Budget (Baht)
Improve the surrounding of tourist attractions and public places	20	39,065,000	1,953,250
Dredge canals	9	2,189,580	243,287
Campaign people to build up environmental conscience	19	1,379,000	72,579
Promote the separation of solid waste	19	1,085,000	57,105
Forestation	11	790,000	71,818
Educate environmental volunteer groups	14	617,000	44,071
Canals conservation	16	520,000	32,500
Water quality monitoring	1	300,000	300,000
Promote residence to clean their surrounding area	6	215,000	35,833
Reduce air and noise pollution from vehicles	1	50,000	50,000
Promote the installation of grease tap	1	23,500	23,500
Total	117	46,234,080	

Year 2007

Type of Project	Number of Projects	Total Budget (Baht)	Average Budget (Baht)
Improve the surrounding of tourist attractions and public places	20	18,404,533	920,227
Dredge canals	21	4,308,700	205,176
Forestation	15	1,780,000	118,667
Campaign people to build up environmental conscience	23	1,667,485	72,499
Promote the separation of solid waste	25	1,280,000	51,200
Canals conservation	12	690,000	57,500
Educate environmental volunteer groups	13	547,000	42,077
Promote the installation of grease tap	3	164,000	54,667
Water quality monitoring	1	100,000	100,000
Monitoring pollution from factories	2	100,000	50,000
Produce bio-diesel fuel from used oil	1	100,000	100,000
Reduce air and noise pollution from vehicles	1	50,000	50,000
Produce bio-fertilizer	1	50,000	50,000
Promote residence to clean their surrounding area	1	10,000	10,000
Total	139	29,251,718	

Q.27. Does your LA confront the problem of global warming?

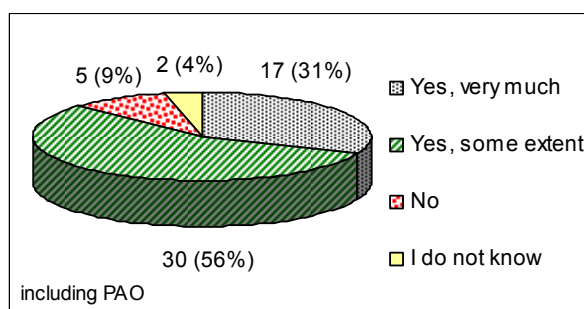


Q.28. What kind of activities your LA do for confronting the problem of global warming? Please select all that your LA are doing.

* This information includes PAO

Activity	Answer	Rank
Save water consumption	16	4
Save energy such as raising temperature of air conditioners	28	8
Promote 3Rs (waste reduction, reuse and recycling)	19	3
Separate collection of municipal solid waste	16	4
Forestation	29	1
Education of residents about environmental conservation, water and energy save, 3Rs, etc	28	2

Q.29. Do you think your residents cooperate to preserve environment of your administrative area?



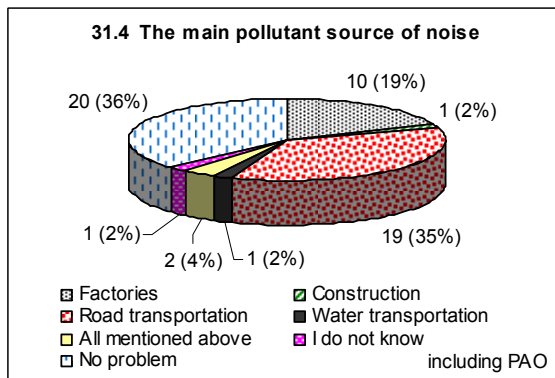
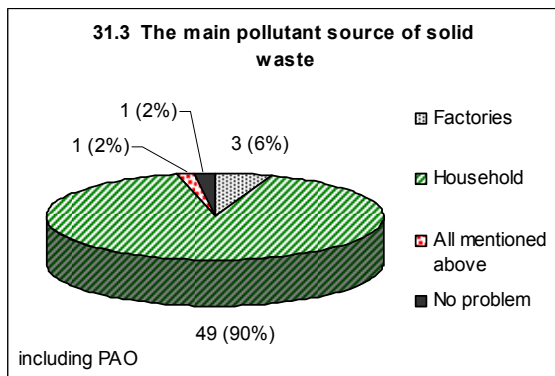
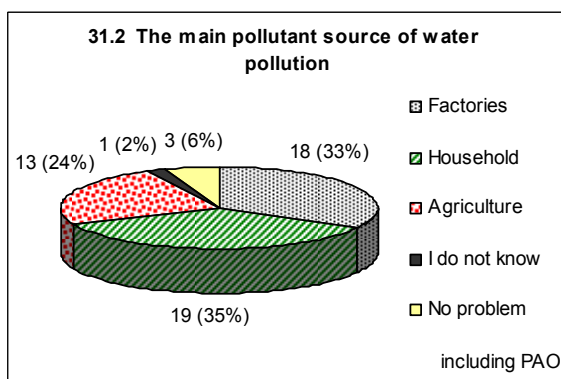
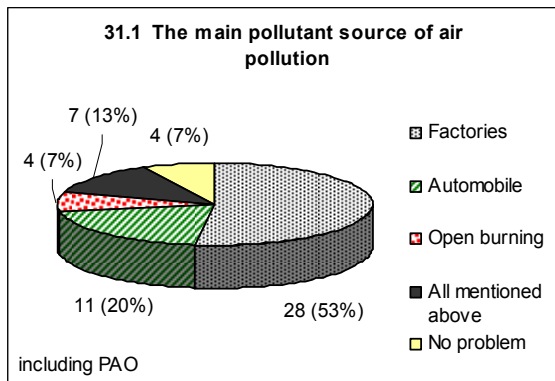
Q.30. What kind of activities do your residents do for preserving environment of your administrative area? Please select all that your residents are doing at present.

* This information includes PAO

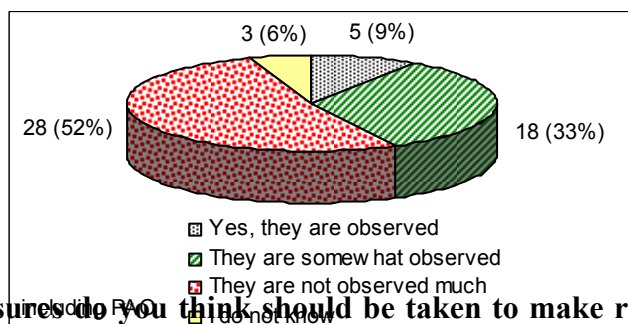
Activity	Answer	Rank
1. Separate discharge of municipal solid waste	14	4
2. Cleaning their surrounding area	26	3
3. Cleaning public area such as road, park, drain, etc.	41	1
4. Forestation	39	2
5. Environment monitoring and campaign	6	5
6. Canal conservation	4	6

Q.31. What do you think the main pollutant source is for the following pollution problems? Please answer in each pollution problem.

* This information includes PAO



Q.32. Do you think that environmental regulations are observed in Ayutthaya Province?



Q.33. What kind of measures do you think should be taken to make regulations observed? (Plural answers are accepted)

* This information includes PAO

Measure	Answer	Rank
1. The central government tightens control and increases penalty	15	2
2. The provincial administration tightens control and increases penalty	14	3
3. The local administration (Orborjor, Tessaban and Orbortor) tightens control and increases penalty	13	4
4. Industries should be raised awareness to take pollution control measures more seriously	18	1
5. People should be raised awareness to pay more attention to environmental issues	14	3
6. Improve the overlap of laws and responsibilities of related organization	3	5

Q.34. What do you think the central government should do to improve environment? Please select 3 among the following choices.

* This information includes PAO

Measure	Answer	Rank
01. To establish new laws and regulations	15	6
02. To tighten its control and increase penalty	22	2
03. To construct more waste water treatment facilities and solid waste treatment & disposal facilities	21	3
04. To construct reuse/recycle center	4	10
05. To help industries improve pollution control capabilities	9	7
06. To have more programs to develop new technology	5	9
07. To promote environment education	19	5
08. To strengthen provincial administrations	6	8
09. To strengthen local administrations	29	1
10. To speed up decentralization	4	10
11. To promote participation of local people	20	4
12. To open more information and data	5	9
13. I do not know	1	11

Q.35. What do you think Provincial Administrations should do to improve environment? Please select 3 among the following choices.

* This information includes PAO

Measure	Answer	Rank
01. To establish new regulations	7	7
02. To tighten its control and increase penalty	23	2
03. To construct a proper waste water treatment facilities and solid waste treatment & disposal facilities	29	1
04. To construct a reuse/recycle center	7	7
05. To help industries improve pollution control capabilities	16	5
06. To ask central government to introduce proper environmental management technology	6	8
07. To promote environment education	19	4
08. To strengthen capability of Local Administration	21	3
09. To promote participation of local people	21	3
10. To open more information and data	11	6
11. I do not know	1	9

4. Suggestions for Formulation of Provincial Environmental Quality Management Plan

The Ayutthaya Province is now formulating a Provincial Environmental Quality Management Plan (PEQMP) in order to establish a sustainable natural resources and environmental management in the Province. We are very welcome to receive your valuable suggestions for the plan.

* This information includes PAO

No.	Suggestion	Answer
1	The province should construct solid waste treatment and disposal facilities.	4
2	The PEQMP should be implemented seriously by related organizations.	3
3	The criteria for setting priority of environmental problems should be cleared because any LAs want to be the first priority.	2
4	Public participation process is important for any developing projects	2
5	The authorities and responsibilities transferring by decentralization act are not cleared.	2
6	Evaluation plan of the Project is important	1
7	The PEQMP should be set from bottom up.	1
8	All related organizations should get involved in the process of making PEQMP.	1
9	Industrial zone should be located far away from community area.	1
10	Government should disclose necessary information that may caused environmental problems in the community to people.	1
11	All data from the survey should be used as much as possible.	1
12	The responsibilities of related organizations should be cleared.	1
13	To avoid people against the operation of disposal site, LAs should allow people to use the site as their source of income.	1
14	All measures given by the Project should possible for LAs to implement. Especially, the possibility to solve environmental problems by privatization should be considered.	1
15	The corporation among central government, LAs and private sector should be set as an environmental network in the province.	1
16	Waste reduction technology should be considered.	1
17	Many LAs still lack of budget for wastewater management.	1

Reponses from NGOs

1. Activities of Your NGO

Q.1. How many members does your NGO have?

- a. The Corporation Office of Public Organization
100 persons
- b. Natural Resources and Environmental Conservation Club
35 persons
- c. Lower Chao Phraya River Basin Committee (Phra Nakhon Sri Ayutthaya)
16 persons
- d. Phra Nakhon Sri Ayutthaya Community Organization
240 persons
- e. Eco Town Club
28 persons

Q.2. How many staffs does your NGO have?

- a. The Corporation Office of Public Organization
25 persons
- b. Natural Resources and Environmental Conservation Club
1 person
- c. Lower Chao Phraya River Basin Committee (Phra Nakhon Sri Ayutthaya)
1 person
- d. Phra Nakhon Sri Ayutthaya Community Organization
1 person
- e. Eco Town Club
1 person

Q.3. When was your NGO established?

- a. The Corporation Office of Public Organization
2002
- b. Natural Resources and Environmental Conservation Club
August 2003
- c. Lower Chao Phraya River Basin Committee (Phra Nakhon Sri Ayutthaya)
July 2004
- d. Phra Nakhon Sri Ayutthaya Community Organization
March 2001
- e. Eco Town Club
February 2007

Q.4. What are the main activities of your NGO?

- a. The Corporation Office of Public Organization
 - 1) Organize meetings among members and provide recommendation to the province
 - 2) Corporation and work with other organizations
- b. Natural Resources and Environmental Conservation Club
 - 1) Corporation with others to organize environmental activities
 - 2) Educate children about environment
 - 3) Raise awareness of natural resources conservation to children
- c. Lower Chao Phraya River Basin Committee (Phra Nakhon Sri Ayutthaya)
 - 1) Create many activities related to water quality and environmental conservation
- d. Phra Nakhon Sri Ayutthaya Community Organization
 - 1) Present the needs of people through the provincial meetings
 - 2) Corporate with related organizations
- e. Eco Town Club
 - 1) Educate students about environment

Q.5. What are the main activities of your NGO in Ayutthaya Province?

- a. The Corporation Office of Public Organization
 - 1) Organize meetings among members and provide recommendation to the province
 - 2) Corporation and work with other organizations
- b. Natural Resources and Environmental Conservation Club
 - 1) Educate students about environment, for example global warming and making bio-fertilizer
 - 2) Conduct the projects related to water quality monitoring - Water Detective Project
 - 3) Conduct the projects related to water conservation - Clean and Beautiful Canals Project
 - 4) Conduct the projects related to Chao Phraya River conservation collaborating with other 10 provinces
 - 5) Conduct the project to keep clean of the surrounding area of residence
- c. Lower Chao Phraya River Basin Committee (Phra Nakhon Sri Ayutthaya)
 - 1) Campaign and raise awareness of people to conserve water resources
 - 2) Release of fish species to the river 3 times a year
 - 3) Build up environmental conscience to the community
 - 4) Forestation in public areas
 - 5) Campaign people to stop agricultural open burning
- d. Phra Nakhon Sri Ayutthaya Community Organization

- 1) Organize meetings among members and provide recommendation to the province

e. Eco Town Club

- 1) Educate students about environment

Q.6. Budget or expenditure for the activities in Ayutthaya Province in the past three years?

NGO	2005	2006	2007	Remark
a. The Corporation Office of Public Organization	0	0	0	All budget comes from donation
b. Natural Resources and Environmental Conservation Club	0	0	285,000	The budget supported by Bang Shai municipality
c. Lower Chao Phraya River Basin Committee (Phra Nakhon Sri Ayutthaya)	47,000	0	0	All budget comes from donation
d. Phra Nakhon Sri Ayutthaya Community Organization	0	0	400,000	The budget supported by organization in charged with the project
e. Eco Town Club	0	0	60,000	The budget supported by organization in charged with the project

Q.7. What are the issues and problems on your activities? Please select all that your NGO is facing? (Plural answers are accepted)

Problem	Answer	Rank
1. Insufficient financial resources	4	1
2. Insufficient human resources	0	0
3. Insufficient cooperation of central government	1	3
4. Insufficient cooperation of local government	2	2
5. Insufficient cooperation of local people	1	3
6. Insufficient coordination with other NGOs	2	2
7. The organization is not well-known to the public	1	3

2. Prioritized Issues on Natural Resources and Environmental Management

Q.8. What do you think the most serious problem is in your administrative area now? What is the second most serious problem? Please mark 1st and 2nd most serious problem respectively.

Q.9. In order to solve the most serious problem what do you think the most and the second most prioritized measure in your administrative area at present?

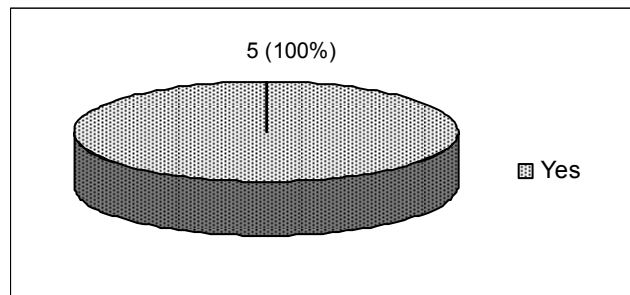
The most serious problem

Topic	Detail	Answer	Measure
Natural resources and environment degradation	Dust and wastewater caused by industries.	1	- Present environmental problems to the province.
	There is no area to construct sanitary landfill site.	1	- Construct provincial solid waste disposal facilities.
Insufficient capability of the LA	There are good policies but the implementation is not consistent with the problems.	1	- Build up more understanding to policy makers.
Others	Governmental organization does not have enough budgets.	1	- Set up responsible organization to work on environmental issues concretely.
	The development of industry is too fast and not consistent with the community.	1	- Form environmental conservation groups.
Total		5	

The second most serious problem

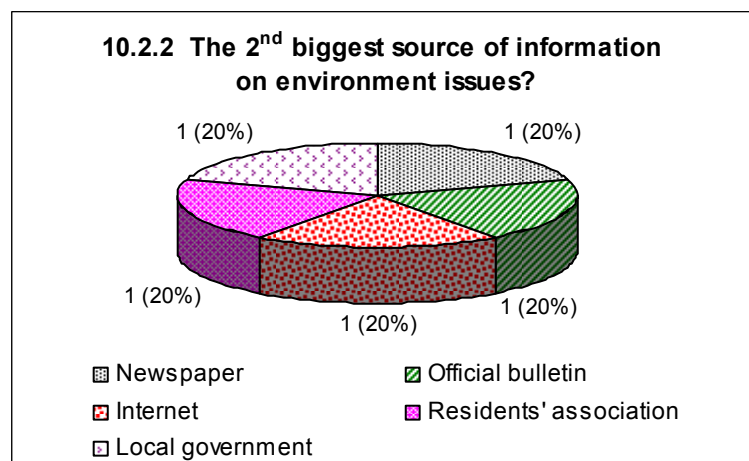
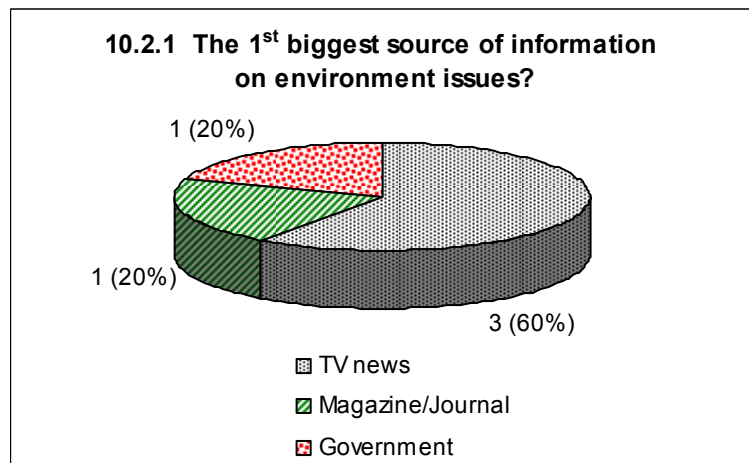
Topic	Detail	Answer	Measure
Natural resources and environment degradation	Natural resources and environment degradation	1	- Monitoring process conducted by NGOs should be done.
Economics stagnation	Decrease of price of agriculture products.	1	- The government should guarantee the price of some agriculture products such as rice.
Insufficient capability of the LAs	Many LAs' staff still lack of knowledge, understanding and action plan for environmental management.	1	- Related organization including NGOs and people should support.
	Ignorance of environmental problems.	1	- Form environmental conservation groups
	Many LAs do not understand the role of other organizations in terms of environmental conservation.	1	- Provide better understanding through the communal meetings.
Total		5	

9.1 Are you interested in environment issues?



Remark: 5 (100%) shows actual number of answers and (proportion of the answer to total)

9.2 If you are interested in environment issues, how do you get information on environment issues? Please select the two biggest sources of information among the following choices



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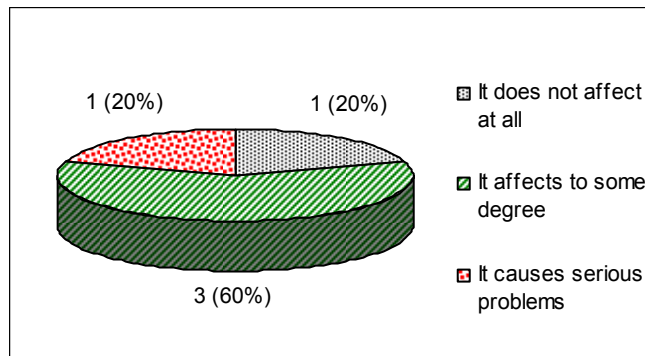
Q.10. How serious do you feel the following natural resources and environment problems? Please select one in each of the following environment problems.

	1. Not serious at all	2. Not very serious	3. Some what serious	4. Very serious	5. Can't choose	6. No response	Total
1. Soil and land resources	0	0	3	2	0	0	0
2. Water resources	0	2	0	3	0	0	0
3. Biodiversity	0	1	1	2	0	1	0
4. Water quality	0	1	2	2	0	0	0
5. Solid waste	0	1	1	3	0	0	0
6. Air quality	2	1	2	0	0	0	0
7. Noise	1	3	1	0	0	0	0
8. Hazardous wastes and toxic substances	0	4	0	1	0	0	0
9. Urban environment such as parks, amenity, landscape, etc.	1	1	1	2	0	0	0
10. Natural and cultural assets	1	0	3	1	0	0	0
11. Global warming / climate change	0	1	3	1	0	0	0

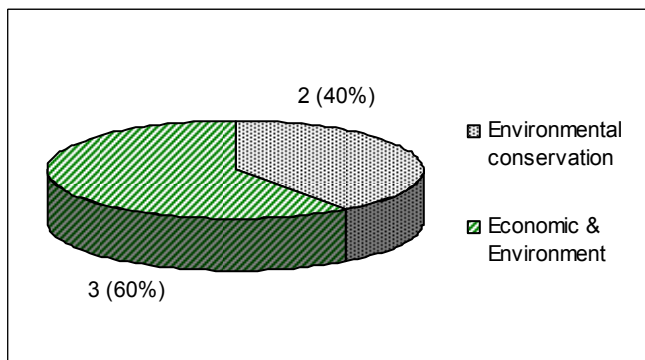
If you select [4. Very serious], please give us reasons why you select and what aspects specifically.

Question	Answer	Reasons why you select "4. Very serious"
1. Soil and land resources	- low fertile of soil	- more fertilizer has been used
2. Water resources	- flood	- lost of agriculture area and property - lost of fertile soil
3. Biodiversity	- extinction of traditional way of agriculture - useful information does not disclose to the public	- the way of people's life has been changed - lack of information for planning
4. Water quality	- no wastewater water treatment	- degradation of water quality
5. Solid waste	- no sanitary landfill	- environmental and healthy problems
8. Hazardous wastes	- no separate collection system	- degradation of environmental quality
9. Urban environment	- no regular maintenance	- vision pollution
10. Natural and cultural assets	- no regular maintenance	- intrusion of the area
14. Global warming	- rising of temperature	- climate change

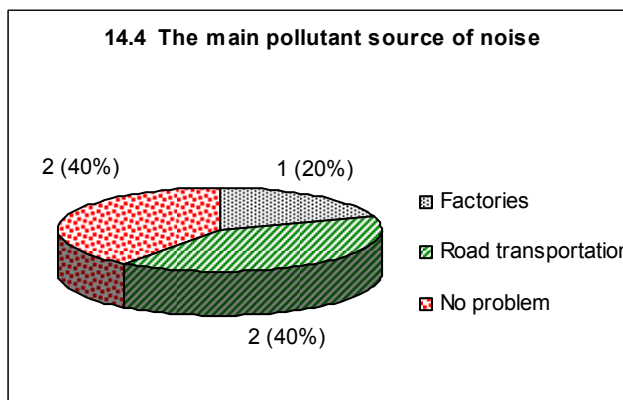
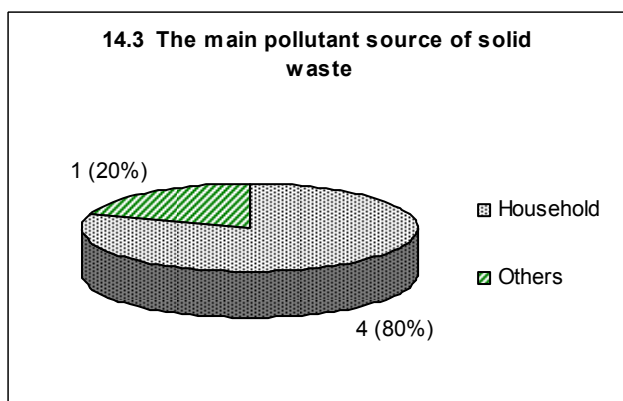
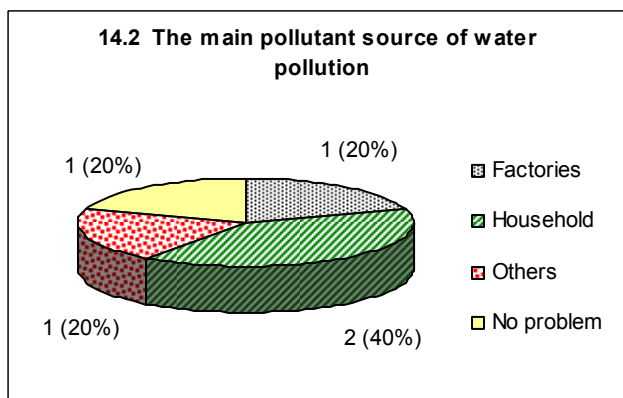
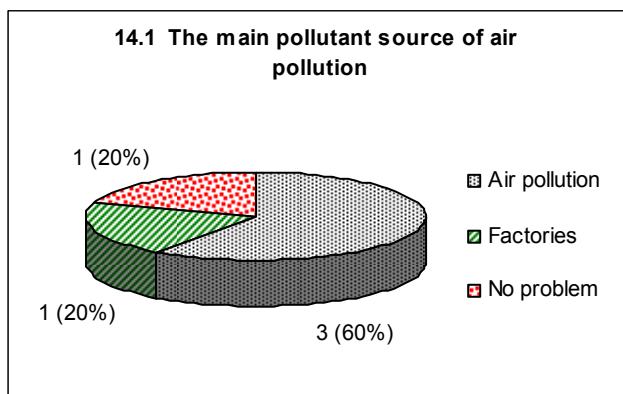
Q.11. How much do you feel environmental degradation affects your life?



Q.12. Which is more important for you, Economic Development or Environment Conservation?



Q.13. What do you think the main pollutant source is for the following pollution problems? Please answer in each pollution problem.



3. Willingness to Cooperate for the Improvement of Natural Resources and Environmental Management

Q.14. Do you think that environmental regulations are observed in Ayutthaya Province?

All interviewee think that environmental regulations are not observed much in the province.

Q.15. What kind of measures do you think should be taken to make regulations observed? (Plural answers are accepted)

Measure	Answer	Rank
1. The central government tightens control and increases penalty	2	2
2. The local administration tightens control and increases penalty	3	1
3. Industries should be raised awareness to take pollution control measures more seriously	2	2
5. People should be raised awareness to pay more attention to environmental issues	2	2
6. provide environmental education	1	3

Q.16. What do you think the central government should do to improve environment? Please select 3 among the following choices.

Measure	Answer	Rank
01. To establish new laws and regulations	2	2
02. To tighten its control and increase penalty	1	3
03. To construct more waste water treatment facilities and solid waste treatment & disposal facilities	0	0
04. To construct reuse/recycle center	1	3
05. To help industries improve pollution control capabilities	0	0
06. To have more programs to develop new technology	0	0
07. To promote environment education	3	1
08. To strengthen provincial administrations	1	3
09. To strengthen local administrations	1	3
10. To speed up decentralization	1	3
11. To promote participation of local people	3	1
12. To open more information and data	2	2

Q.17. What do you think Provincial Administrations should do to improve environment? Please select 3 among the following choices.

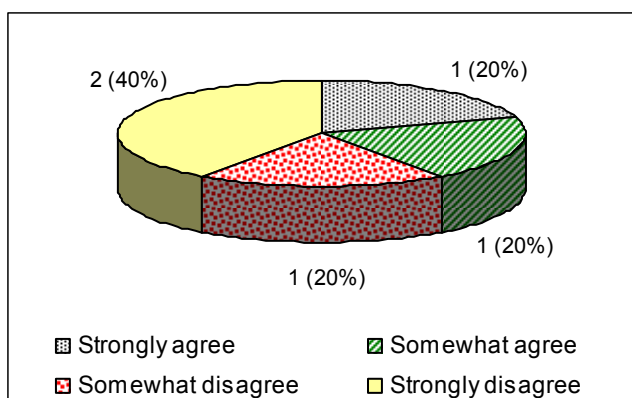
Measure	Answer	Rank
01. To establish new regulations	0	0
02. To tighten its control and increase penalty	1	2
03. To construct a proper waste water treatment facilities and solid waste treatment & disposal facilities	0	0
04. To construct a reuse/recycle center	1	2
05. To help industries improve pollution control capabilities	0	0
06. To ask central government to introduce proper environmental management technology	0	0
07. To promote environment education	3	1

08. To strengthen capability of Local Administration	1	2
09. To promote participation of local people	3	1
10. To open more information and data	1	2

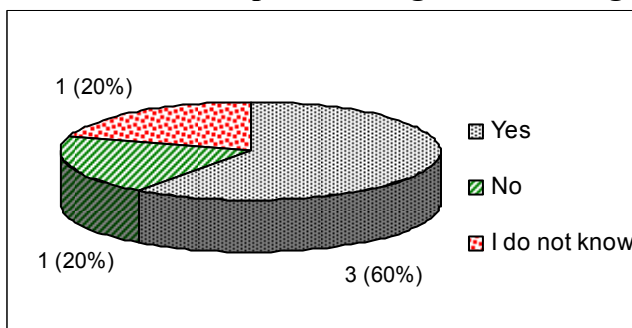
Q.18. What do you think Local Administrations (Orborjor, Tessaban and Orbortor) should do to improve environment? Please select 3 among the following choices.

Measure	Answer	Rank
01. To establish new regulations	2	2
02. To tighten its control and increase penalty	2	2
03. To construct a proper waste water treatment facilities and solid waste treatment & disposal facilities	1	3
04. To construct a reuse/recycle center	1	0
05. To help industries improve pollution control capabilities	0	0
06. To ask central government to introduce proper environmental management technology	0	0
07. To promote environment education	3	1
08. To promote participation of local people	3	1
09. To open more information and data	2	2

Q.19. Proper management of environment requires an additional cost such as installation of sewerage for domestic wastewater, sanitary landfill for municipal solid waste, maintenance of national parks, etc. Do you agree to pay more tax and/or more fee for the environmental conservation?



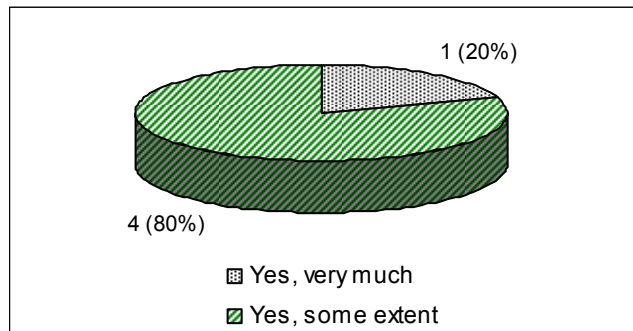
Q.20. Does your NGO confront the problem of global warming?



Q.21. What kind of activities do you do for confronting the problem of global warming? Please select all that you are doing.

Activity	Answer	Rank
1. Save water consumption	1	3
2. Save energy such as raising temperature of air conditioners	2	2
3. Promote 3Rs (waste reduction, reuse and recycling)	1	3
4. Separate collection of municipal solid waste	1	3
5. Forestation	1	3
6. Education of residents about environmental conservation, water and energy save, 3Rs, etc.	3	1

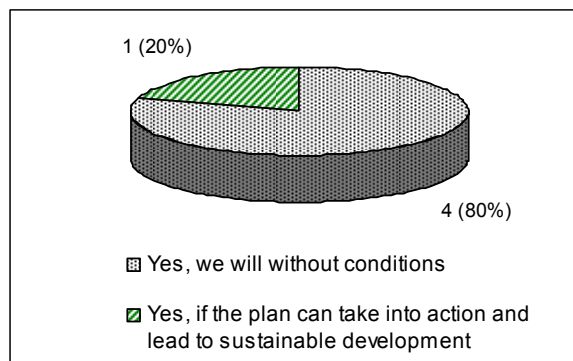
Q.22. Do you think residents in Ayutthaya Province cooperate to preserve environment of the province?



Q.23. What kind of activities do the residents do for preserving environment of the province? Please select all that the residents are doing at present.

Activity	Answer	Rank
1. Separate discharge of municipal solid waste	2	4
2. Cleaning their surrounding area	4	2
3. Cleaning public area such as road, park, drain, etc.	5	1
4. Forestation	3	3
5. Organize local meetings to share experiences and information	2	4
6. Reduce the use of vehicles	2	4

Q.24. The Ayutthaya Province is now formulating a Provincial Environmental Quality Management Plan (PEQMP) in order to establish a sustainable natural resources and environmental management in the Province. When the plan will be finalized, the provincial government will organize a committee to monitor the implementation of the plan and recruit members of the committee from various stakeholders including NGOs. Will your NGO be able to be a member of the committee?



4. Suggestions for Formulation of Provincial Environmental Quality Management Plan

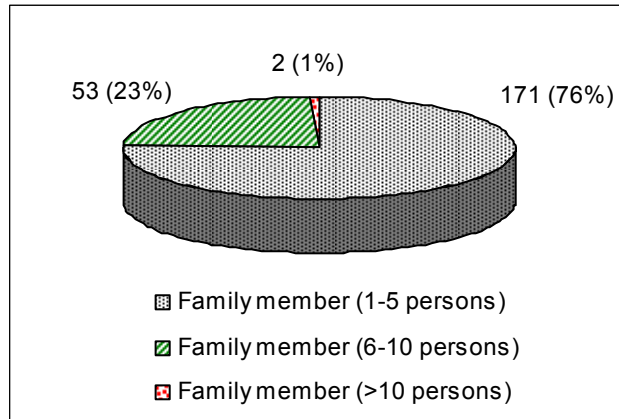
The Ayutthaya Province is now formulating a Provincial Environmental Quality Management Plan (PEQMP) in order to establish a sustainable natural resources and environmental management in the Province. We are very welcome to receive your valuable suggestions for the plan.

No.	Suggestion	Answer
1	Many organizations do not pay attention to solve environmental problems seriously.	2
2	The government should build up understanding and knowledge of agriculture to people.	1
3	The government should continue and make useful of previous projects.	1
4	Set up measures against people that out of provincial census registration in order to increase the amount of budget allocation from the government.	1
5	Raise awareness of people and take action to reach sustainable achievement.	1
6	Give priority to the problems pointed out by people without bias or inducement.	1

Reponses from Residents

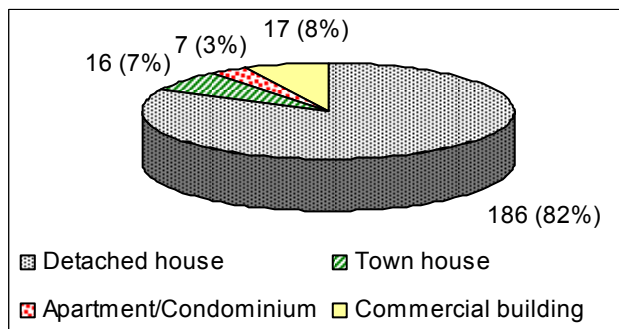
1. General Question

Q.1. How many persons are there in your premises?



Average of family member 4 persons

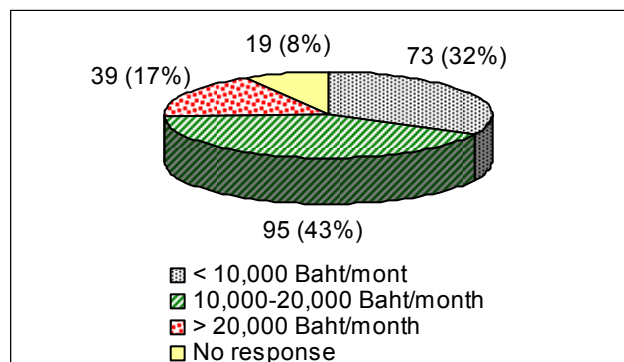
Q.2. What type of housing are you living in now?



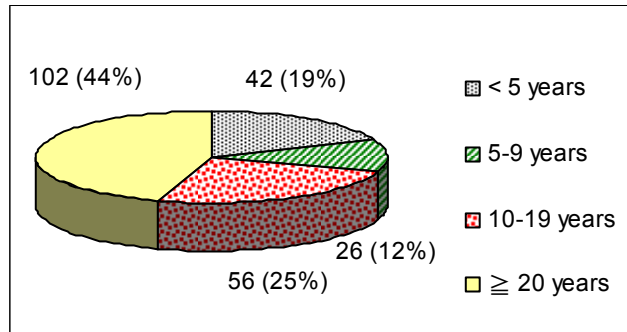
Q.3. What is the business Category of the House?

All interviewee's houses are used for residence only.

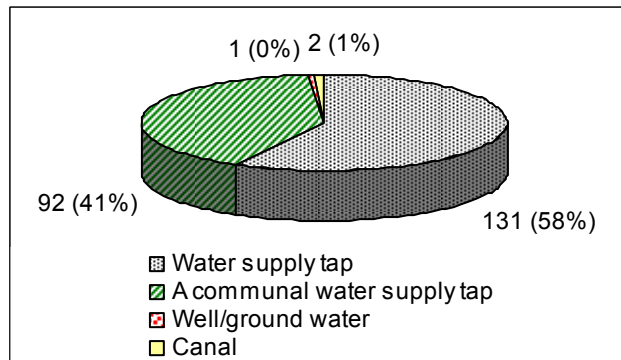
Q.4. How much is total income of your family per month?



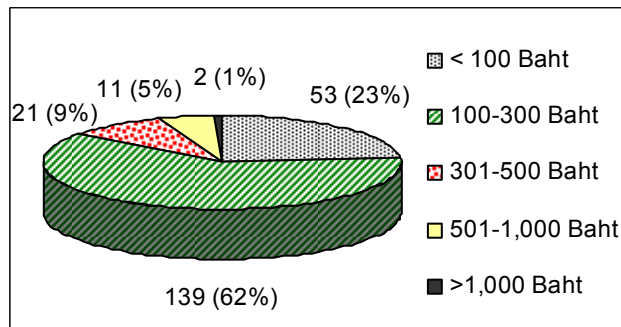
Q.5. How many years do you dwell in present premises?



Q.6. How do you get water for your daily life?

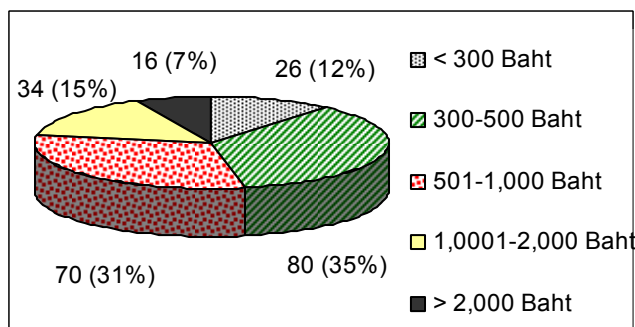


Q.7. How much do you pay for water per month?



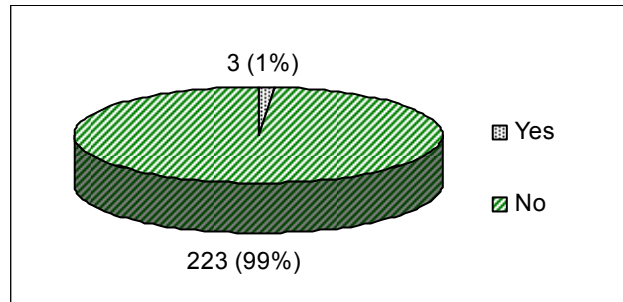
Average 207 Baht/month

Q.8. How much do you pay per month for electricity?



Average 881 Baht/month

Q.9. Do you have sewage service in your premise?

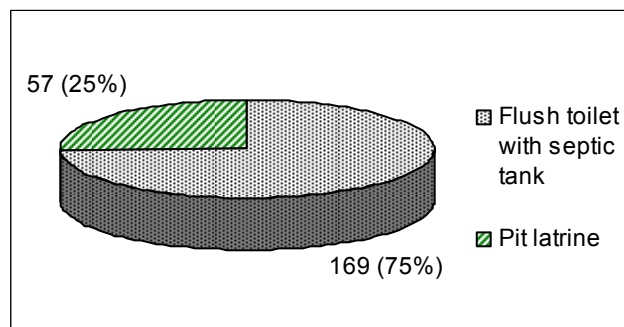


Q.10. Do you pay sewage service charge?

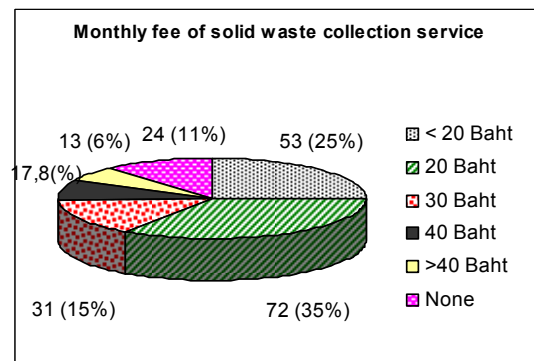
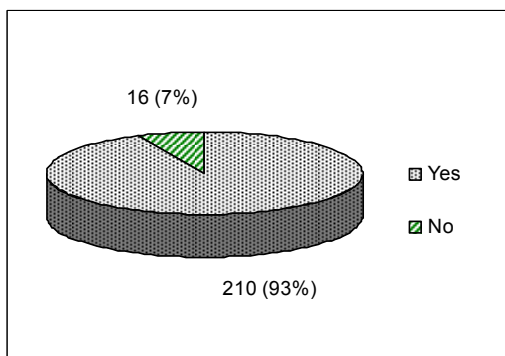
Q.11. If yes, how much do you pay for sewage service per month?

2 out of 3 interviewees pay sewage service charge to their village administrative office. This fee include with other central facilities service charge.

Q.12. What type of toilet facility do you use in your premises?

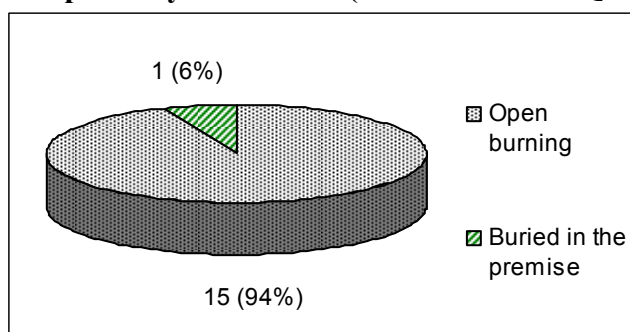


Q.13. Do you have solid waste collection services?



Average 25 Baht/month

Q.14. How do you dispose of your refuse? (If the answer in Q.13 is “No”)



Q.15. Suppose the provincial and local administrations make a plan to construct solid waste treatment/disposal facilities in and around your region, what conditions do you set to agree with the plan? Please select all that you agree among the following choices)

Condition	Answer	Rank
01. We can participate in the planning process.	60	8
02. The location of facilities is decided, regarding human health and conservation of nature.	127	2
03. The environment impact assessment survey is thoroughly carried out.	140	1
04. The provincial and local administrations reveal all necessary information and data to public.	121	3
05. The provincial and local administrations conduct monitoring and inspections of facilities properly and gives guidance to the facilities when it is needed.	106	5
06. Waste treatment/disposal facilities take all necessary measures to prevent leakage and emission of toxic substances from facilities.	117	4
07. The provincial and local administrations promote reuse/recycle of waste and cleaner production technology to reduce the volume of waste.	90	6
08. The provincial and local administrations provide special programs to promote local economy.	84	7
09. I won't agree with any plans to construct treatment/disposal facilities in my neighbor.	21	9
10. I do not know.	8	11
11. Agree but there is no proper areas to construct that such facilities	6	12
12. No response	12	10

2. Prioritized Issues on Natural Resources and Environmental Management

Q.16. What do you think the most serious problem is in your administrative area now? What is the second most serious problem? Please mark 1st and 2nd most serious problem respectively.

Q.17. In order to solve the most serious problem what do you think the most and the second most prioritized measure in your administrative area at present?

The most serious problem

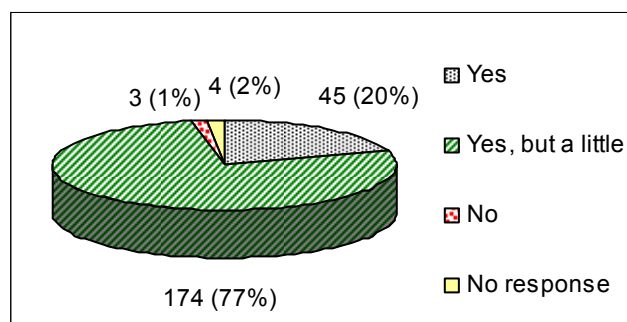
Topic	Detail	Answer	Measure
Natural resources and environment degradation	lost of natural resources and good environment	66	- government should tightens control of laws and regulations - control the extension of industrial zoning - related organizations should pay more attention to environmental problems and work together - increase more budget for environmental management - control pollution emission of the factories - educate and build up environmental conscience to people
	flood	10	- province should focus on flood prevention, - improve water drainage system
	solid waste management	10	- sanitary landfill should be considered - collect solid waste more often - educate and build up environmental conscience to people
	degradation of water quality	12	- control the discharge of wastewater from factories, dormitories and animal farms
	smoke and dust	3	- control pollution emission of the factories - control open burning by agriculture
Economics stagnation	gain less income than the past	50	- related organization should support - build up more additional careers in the community - government should motivate the economics
	increase price of consumer's products	17	- government should control the price of consumer's products and related organization should support
	unemployment	4	- related organization should support
Insufficient capability of the LA	its services are not cover all areas	12	- construct more infrastructure
	broken of infrastructure	3	- maintenance of infrastructure
Politics	corruption in local politics	2	- apply good governance system
	severe competition	6	- work in harmony
Poor public health conditions	low quality and quantity of potable water	17	- improve potable water supply service
Social problems	drugs and thieves	7	- related organizations should pay more attention
No particular problem		7	
Total		226	

The second most serious problem

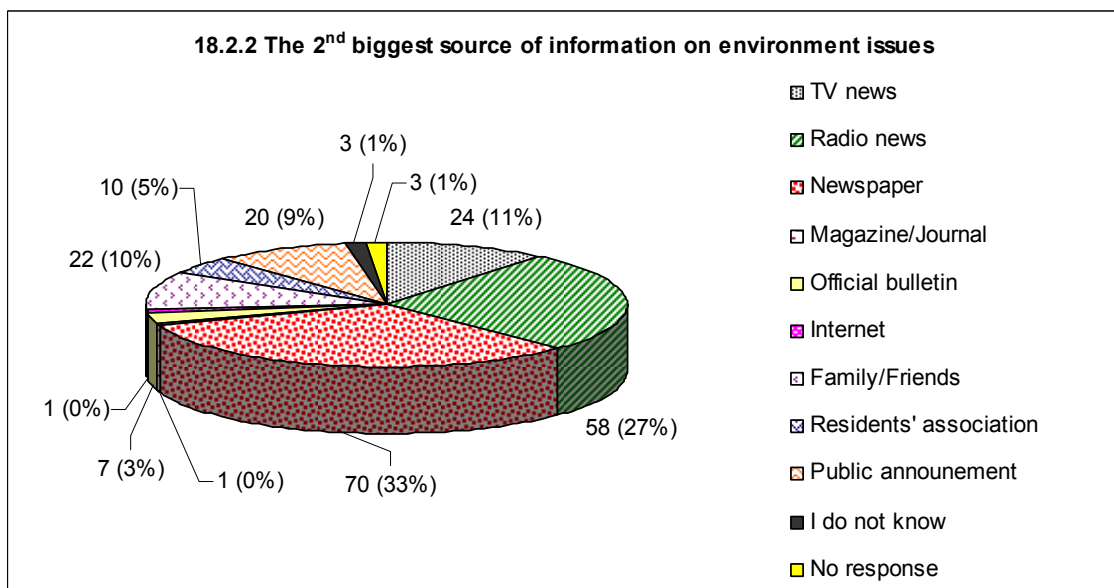
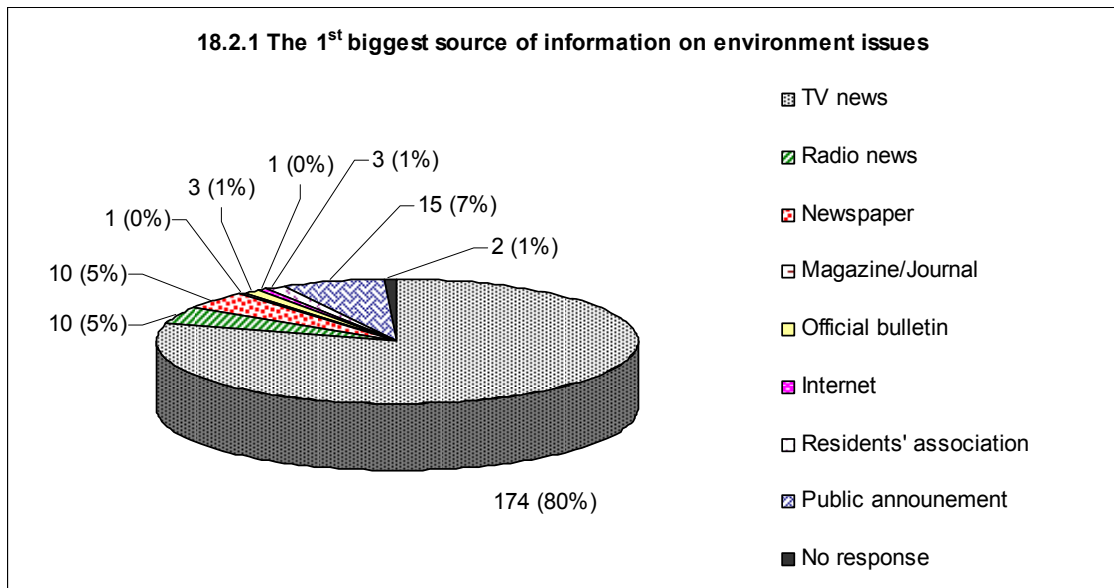
Topic	Detail	Answer	Measure
Natural resources and environment	lost of natural resources and good environment	38	- government should tightens control of laws and regulations - educate and build up environmental conscience to people
	solid waste management	5	- collect solid waste more often
	degradation of water quality	3	- control the discharge of wastewater from factories - treated wastewater from the communities and municipal slaughterhouse
	pollution from factories	1	- control smell from the factories
Economics stagnation	less income, more expenses	26	- government should support
		46	- build up more careers in the community
	increase price of consumer's products	29	- government should control the price of consumer's products and related organization should support
	low price of agriculture products	2	- government should support
Insufficient capability of the LA	unemployment	2	- build up more careers in the community
	its services are not cover all areas	7	- construct more infrastructure
Politics	broken of infrastructure	4	- maintenance of infrastructure
	corruption in local politics	4	- apply good governance system
Poor public health conditions	severe competition	4	- work in harmony
	low quality and quantity of potable water	19	- improve potable water supply service
	poor services of hospitals	4	- improve the services of hospitals
No particular problem		32	
Total		226	

Q.18.

18.1 Are you interested in environment issues?



18.2 If you are interested in environment issues, how do you get information on environment issues? Please select the two biggest sources of information among the following choices



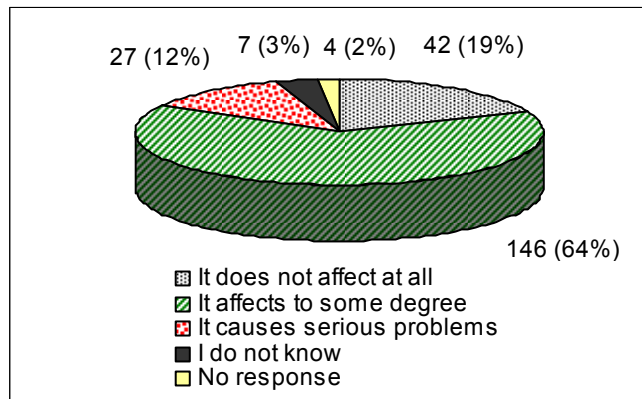
Q.19. How serious do you feel the following natural resources and environment problems? Please select one in each of the following environment problems.

	1. Not serious at all	2. Not very serious	3. Some what serious	4. Very serious	5. Can't choose	6. No response	Total
1. Soil and land resources	140	18	12	9	47	0	226
2. Water resources	71	33	34	87	1	0	226
3. Biodiversity	150	25	21	10	20	0	226
4. Water quality	111	25	38	48	4	0	226
5. Solid waste	155	23	20	24	4	0	226
6. Air quality	154	21	21	28	2	0	226
7. Noise quality	168	25	19	12	2	0	226
8. Hazardous wastes and toxic substances	189	22	7	4	4	0	226
9. Urban environment such as parks, amenity, landscape, etc.	185	17	10	9	5	0	226
10. Natural and cultural assets	203	13	4	0	6	0	226
11. Global warming /climate change	28	49	103	44	2	0	226

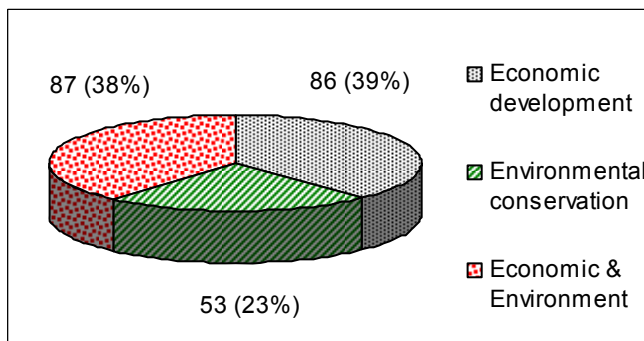
If you select [4. Very serious], please give us reasons why you select and what aspects specifically.

Question	Answer	Reasons why you select "4. Very serious"
1. Soil and land resources	- low quality of soil (dry, sandy, sour) - too much urban development - dig top soil for sale - use of chemical substances	- soil is not proper for agriculture - lost of agriculture areas - lost of fertile soil - lost of fertile soil
2. Water resources	- flood	- obstacle for transportation - lost of agricultural areas and property
3. Biodiversity	- decrease of fish species	- lost of biodiversity
4. Water quality	- wastewater from solid waste and factories	- caused water pollution and health problems
5. Solid waste	- solid waste collection - smell from garbage	- remaining garbage - caused health and mental problems
6. Air quality	- dust/smoke from transportation - smell from factories	- caused respiratory problems
7. Noise quality	- noise from transportation	- noise pollution
8. Hazardous wastes	- no separate collection - use of pesticides in agriculture areas	- caused hazard to people
9. Urban environment	- public parks are not enough	- no recreation ground
11. Global warming	- rising of temperature	- caused health and mental problems - increase of electricity cost

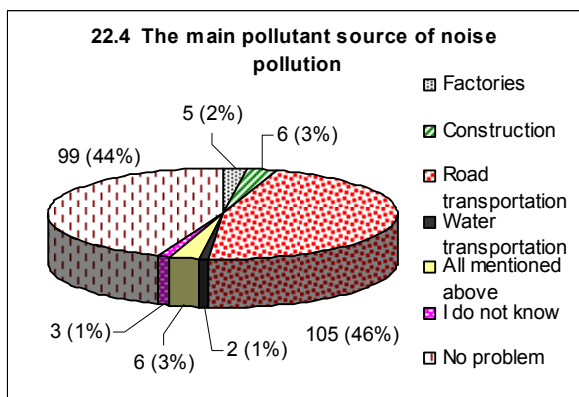
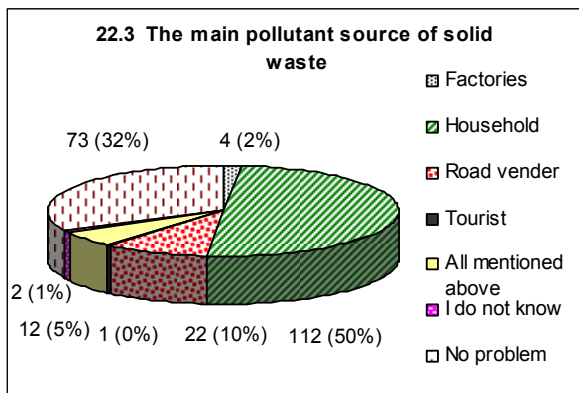
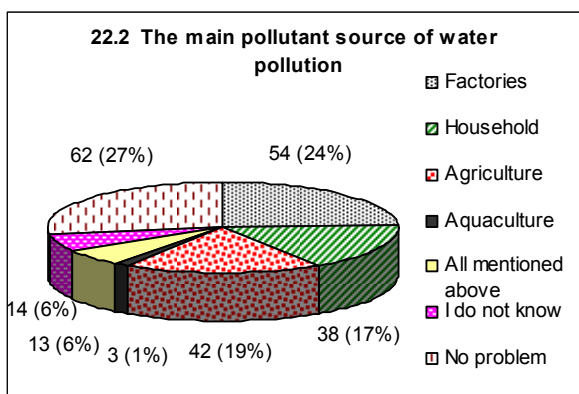
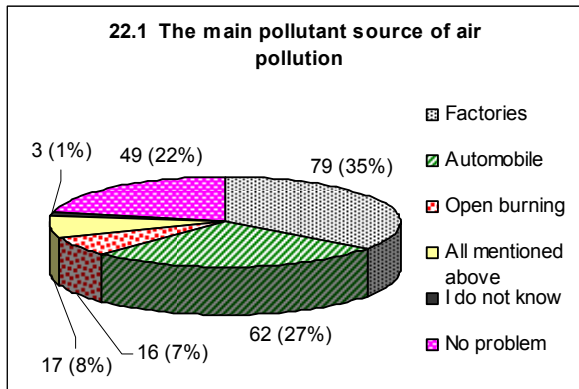
Q.20. How much do you feel environmental degradation affects your life?



Q.21. Which is more important for you, Economic Development or Environment Conservation?

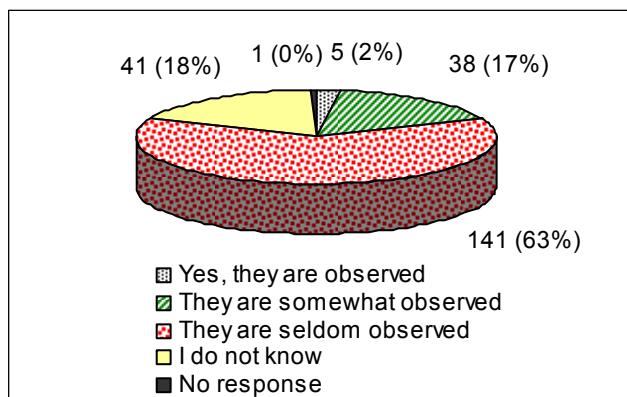


Q.22. What do you think the main pollutant source is for the following pollution problems? Please answer in each pollution problem.

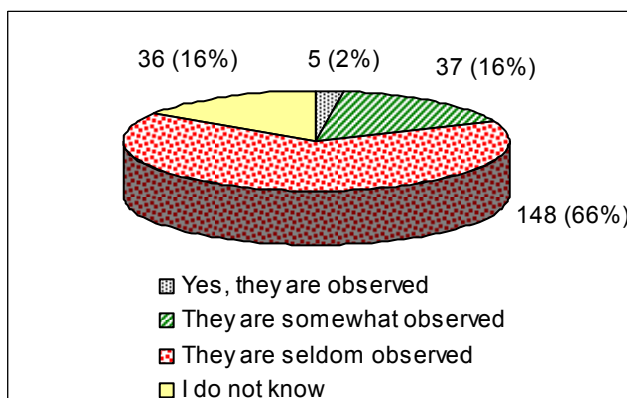


3. Willingness to Cooperate for the Improvement of Natural Resources and Environmental Management

Q.23. Do you think that environmental regulations are observed in Ayutthaya Province?



Q.24. Do you think that environmental regulations are observed in your administrative area?



Q.25. What kind of measures do you think should be taken to make regulations observed?

(Plural answers are accepted)

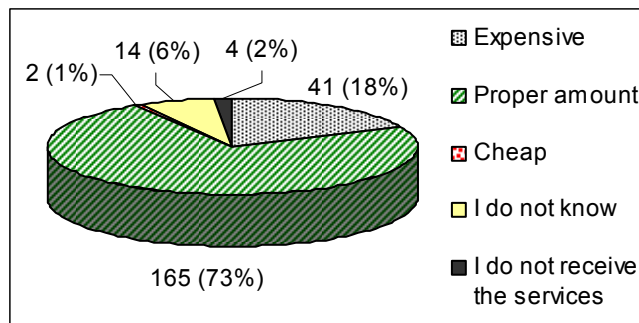
Measure	Answer	Rank
1. The central government tightens control and increases penalty	68	5
2. The provincial administration tightens control and increases penalty	72	3
3. The local administration (Orborjor, Tessaban and Orbortor) tightens control and increases penalty	127	1
4. Industries should be raised awareness to take pollution control measures more seriously	69	4
5. People should be raised awareness to pay more attention to	89	2

environmental issues		
6. To publicize and to promote environmental education	5	6
7. I do not know	6	6
8. No response	3	7

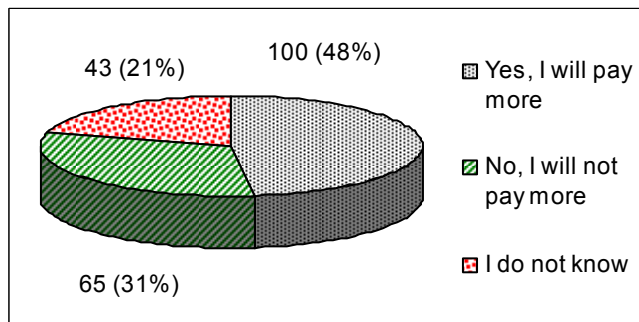
**Q.26. What do you think the government should do to improve environment?
Please select 3 among the following choices.**

Measure	Answer	Rank
01. Law enforcement (for example to establish new laws and regulations, to tighten its control, etc.)	105	2
02. To construct more waste water treatment facilities and solid waste treatment & disposal facilities	49	7
03. To promote the reduce of solid waste - reuse/recycle	75	4
04. To help industries improve pollution control capabilities	47	8
05. To promote environment education	151	1
06. To strengthen provincial administrations	43	9
07. To strengthen local administrations	50	6
08. To promote participation of local people	90	3
09. To open more information and data	58	5
10. I do not know	1	10

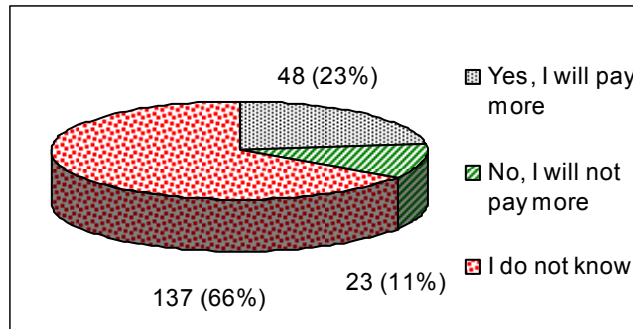
Q.27. Regarding city water supply service, how do you think the service charge?



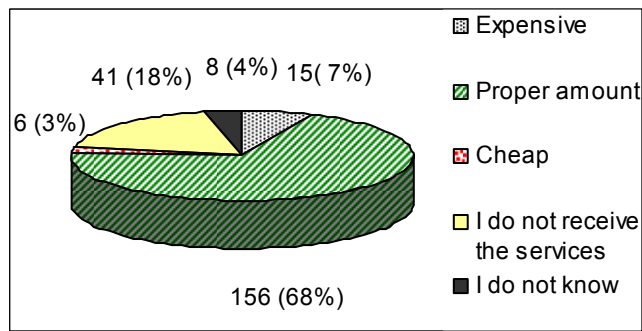
Q.28. Regarding city water supply, if it is improved better than the present situation, will you pay more?



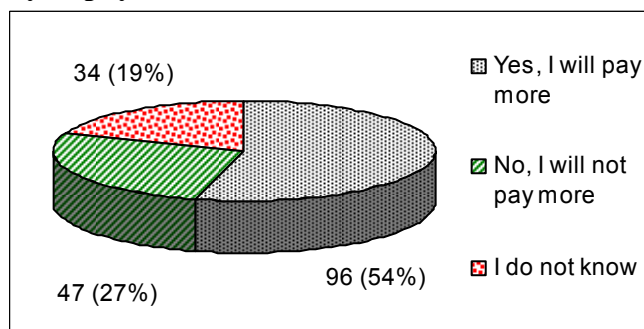
Q.29.Regarding sewerage, if it is improved better than the present situation, will you pay some fee?



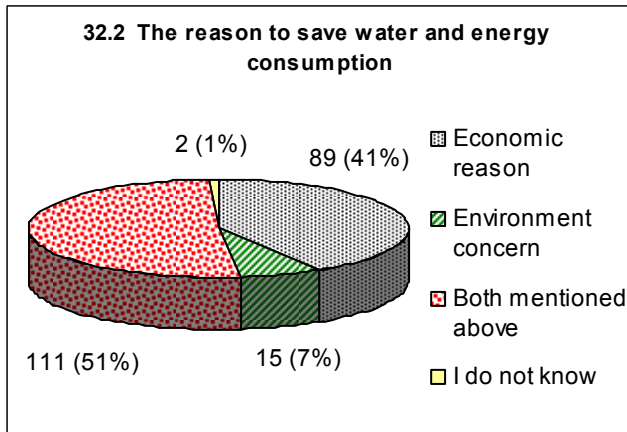
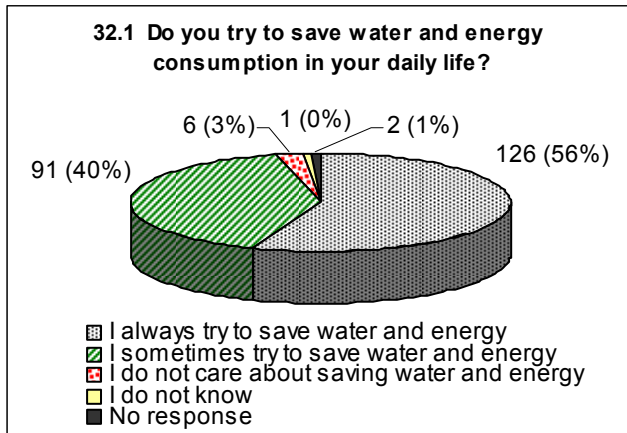
Q.30.Regarding solid waste collection services, how do you think the service charge?



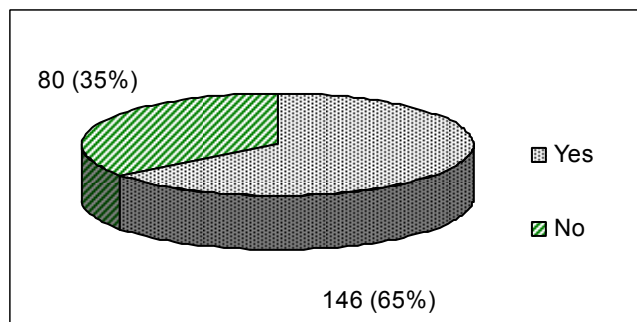
Q.31.Regarding refuse collection service, if it is improved better than the present situation, will you pay more?



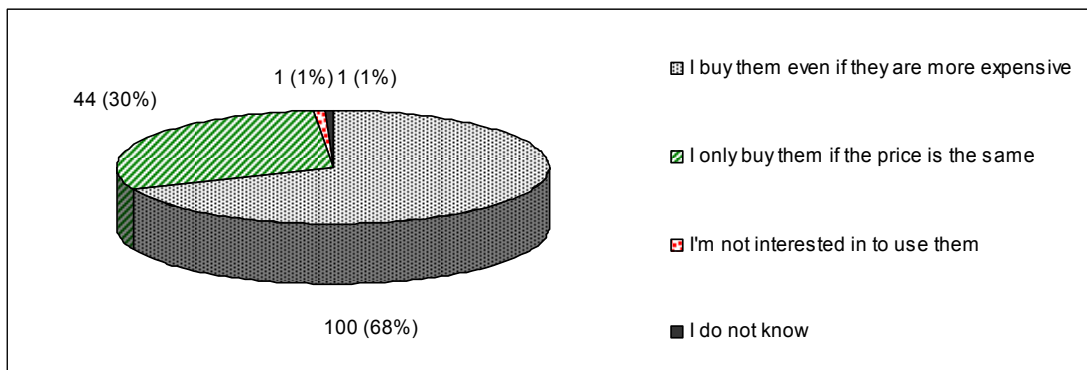
**Q.32. Do you try to save water and energy consumption in your daily life?
If yes, what is the reason?**



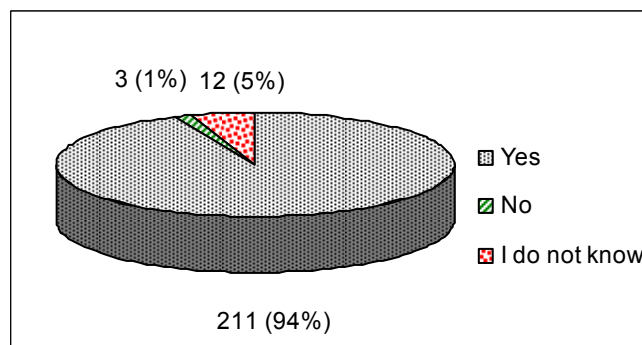
Q.33. Do you know “Environmentally Friendly Products”? (Those concerned with not damaging the Environment)



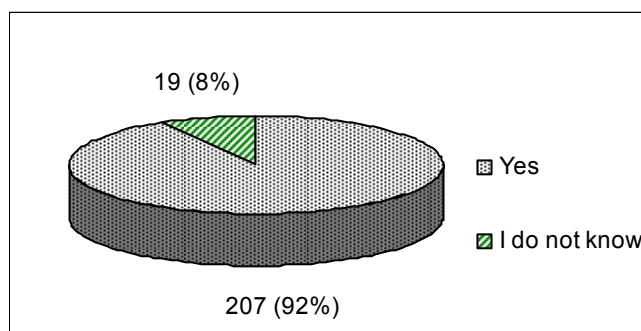
Q.34. Which of the following statements regarding Environmentally Friendly Products is an appropriate description of your attitude?



Q.35. Are you willing to cooperate to reduce environmental problems in your community?



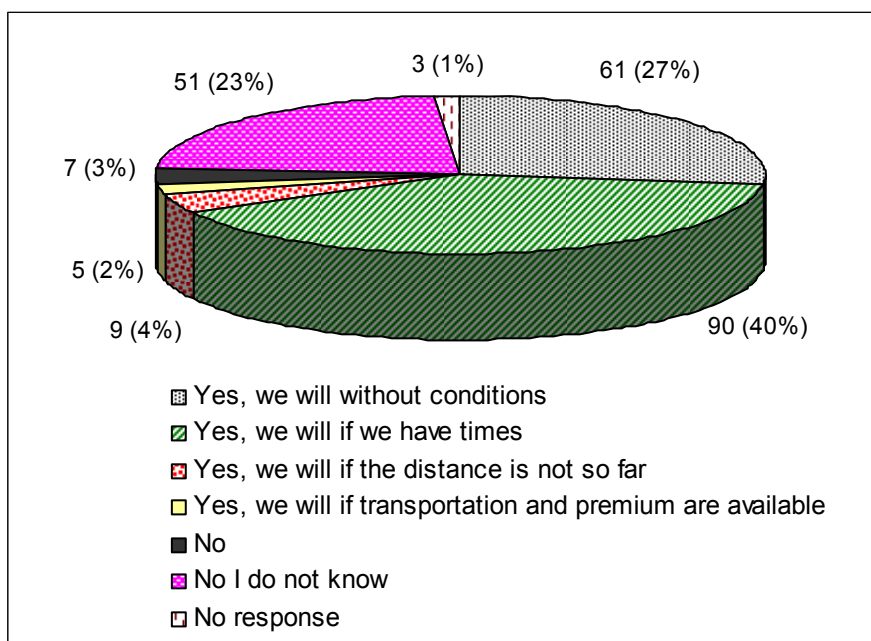
Q.36. If the local administration would introduce a different waste collection system, such as segregating the waste into “easily decomposable” (food, gardening) and “recyclable” (metal, bottles), would you be willing to cooperate?



Q.37. Why would you not be willing (or do not know if you would be willing) to cooperate with such a system? (Plural answers are accepted)

Reason	Answer	Rank
1. Several containers and bags are needed	1	4
2. More work and effort are needed	2	3
3. I do not have time	13	1
4. It is very inconvenient	13	1
5. It could increase the collection fee	1	4
6. I am afraid that segregated waste will be mixed when it is collected	4	2

Q.38. The Ayutthaya Province is now formulating a Provincial Environmental Quality Management Plan (PEQMP) in order to establish a sustainable natural resources and environmental management in the Province. Are you interested to participate in the process or attend the meetings organized by the Project?



4. Suggestions for Formulation of Provincial Environmental Quality Management Plan

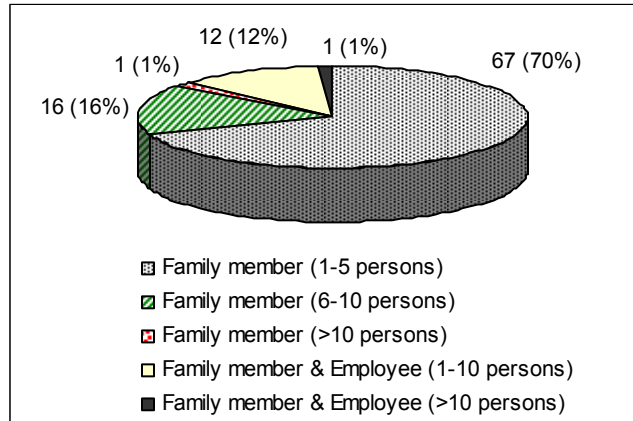
The Ayutthaya Province is now formulating a Provincial Environmental Quality Management Plan (PEQMP) in order to establish a sustainable natural resources and environmental management in the Province. We are very welcome to receive your valuable suggestions for the plan.

No.	Suggestion	Answer
1	Open more information to the public and public participation is important for environmental management.	16
2	Law enforcement is important to control emission of pollution from factories and small enterprises in the province.	10
3	The separation discharge of municipal solid waste and sanitary landfill should be done seriously	5
4	Responsibilities of related organizations should be cleared	5
5	Implementation of the PEQMP should be concrete. All information gathering from questionnaire survey should be used to support the project.	3
6	Supporting of environment education to people is important	3
7	The construction of provincial wastewater treatment facilities should be done.	3
8	The province should construct more water drainage system to protect flood.	3
9	Campaign and build up environmental conscience to people continually.	3
10	All related organizations should work together to improve the environment.	2
11	Government should go to the field before making the plan.	1
12	Government should refer to environmental management from Japan as a model.	1
13	Environmental management should in line with the way of life of people.	1

Reponses from Business Enterprises

1. General Question

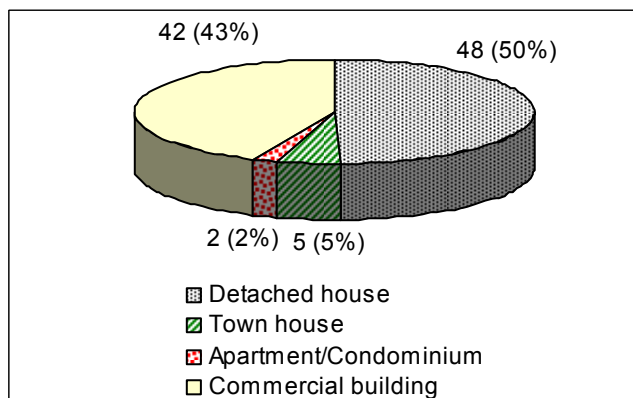
Q.1. How many persons are there in your premises?



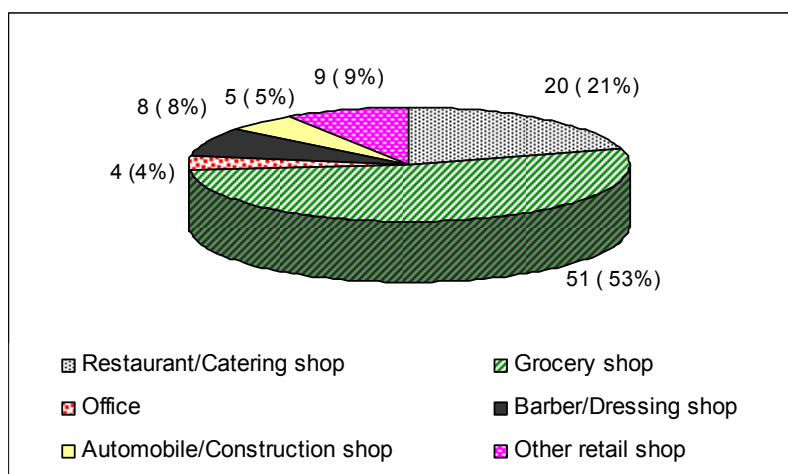
Average of family member 4 persons (84 answers)

Average of employee 4 persons (13 answers)

Q.2. What type of housing are you living in now?

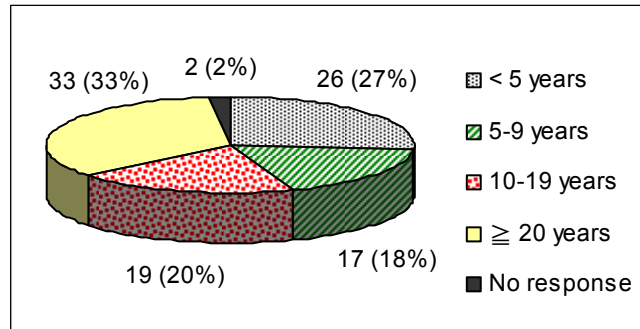


Q.3. What is the business Category of the House?

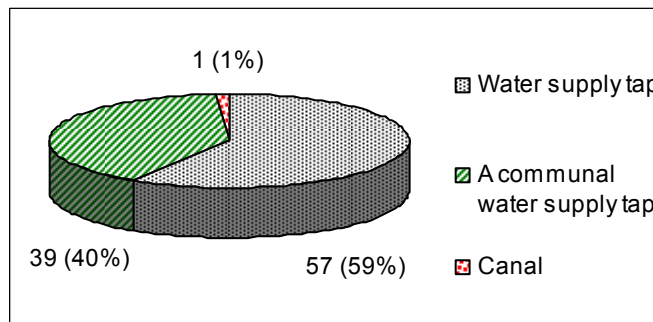


Q.4. How much is total income of your family per month? (for Residence only)

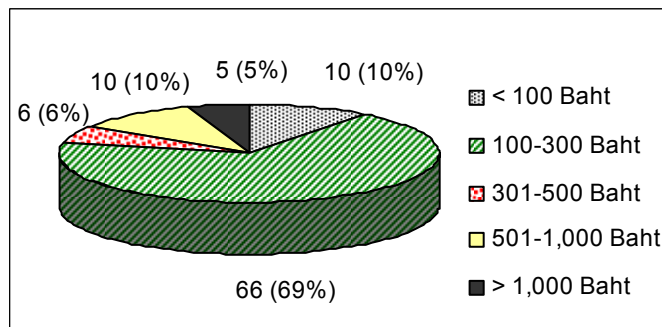
Q.5. How many years do you dwell in present premises?



Q.6. How do you get water for your daily life?

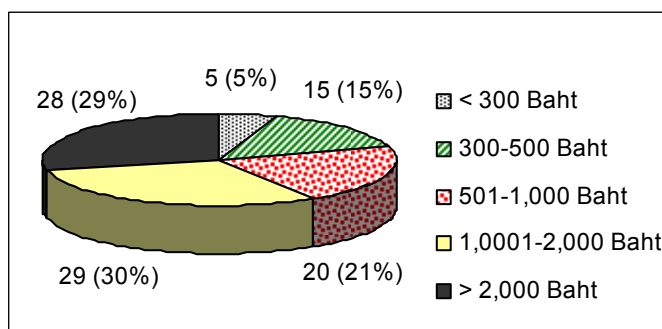


Q.7. How much do you pay for water per month?



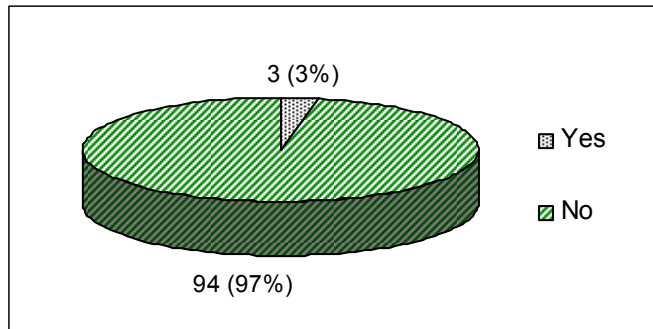
Average 486 Baht/month

Q.8. How much do you pay per month for electricity?



Average 2,109 Baht/month

Q.9. Do you have sewage service in your premise?

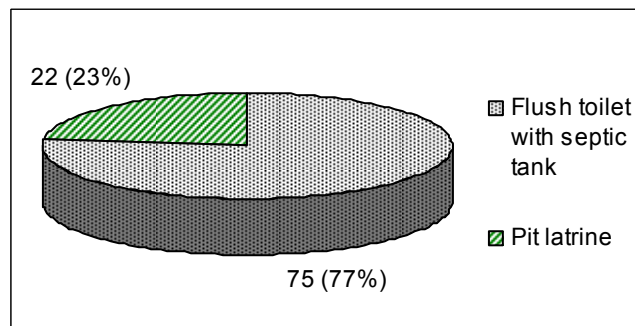


Q.10. Do you pay sewage service charge?

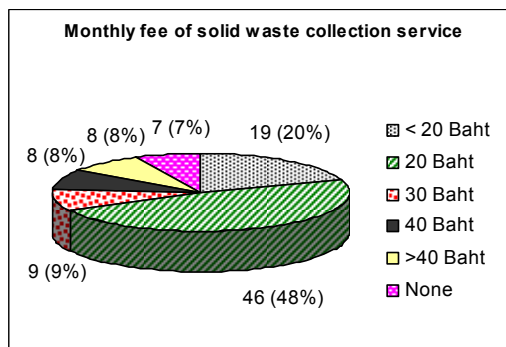
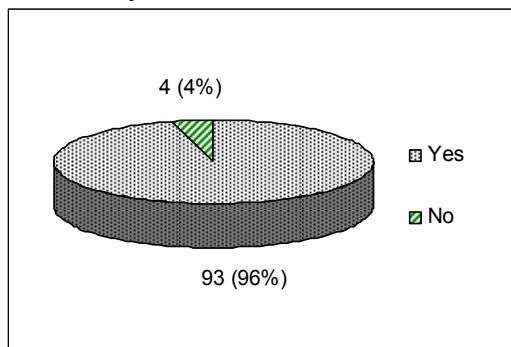
Q.11. If yes, how much do you pay for sewage service per month?

Nowadays, there is no service charge for sewage treatment.

Q.12. What type of toilet facility do you use in your premises?

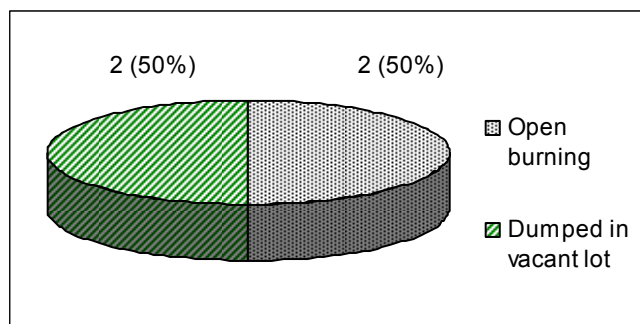


Q.13. Do you have solid waste collection services?



Average 40 Baht/month

Q.14. How do you dispose of your refuse? (If the answer in Q.13 is “No”)



Q.15. Suppose the provincial and local administrations make a plan to construct solid waste treatment/disposal facilities in and around your region, what conditions do you set to agree with the plan? Please select all that you agree among the following choices)

Condition	Answer	Rank
01. We can participate in the planning process.	20	8
02. The location of facilities is decided, regarding human health and conservation of nature.	47	2
03. The environment impact assessment survey is thoroughly carried out.	56	1
04. The provincial and local administrations reveal all necessary information and data to public.	43	3
05. The provincial and local administrations conduct monitoring and inspections of facilities properly and gives guidance to the facilities when it is needed.	38	4
06. Waste treatment/disposal facilities take all necessary measures to prevent leakage and emission of toxic substances from facilities.	37	5
07. The provincial and local administrations promote reuse/recycle of waste and cleaner production technology to reduce the volume of waste.	31	6
08. The provincial and local administrations provide special programs to promote local economy.	29	7
09. I won't agree with any plans to construct treatment/disposal facilities in my neighbor.	11	9
10. I do not know.	2	11
11. Far away from the community at least 20 km.	1	12
12. No response	8	10

2. Prioritized Issues on Natural Resources and Environmental Management

Q.16. What do you think the most serious problem is in your administrative area now? What is the second most serious problem? Please mark 1st and 2nd most serious problem respectively.

Q.17. In order to solve the most serious problem what do you think the most and the second most prioritized measure in your administrative area at present?

The most serious problem

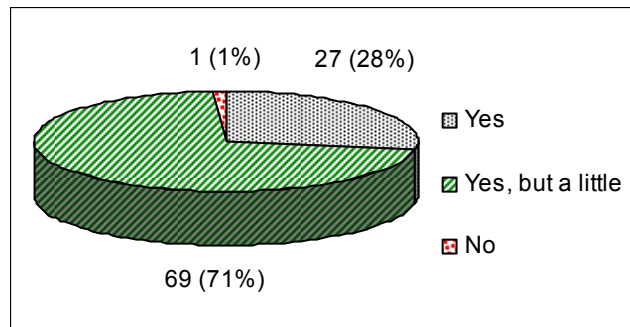
Topic	Detail	Answer	Measure
Natural resources and environment degradation	lost of natural resources and good environment	30	- government should tightens control of laws and regulations - establish new laws and regulations if necessary - related organizations should pay more attention to environmental problems and work together - province should focus on flood prevention, - control pollution emission of the factories - educate and build up environmental conscience to people
	degradation of water quality	3	- construct wastewater treatment facilities - improve water drainage system - control the discharge of wastewater from factories
	solid waste management	3	- sanitary landfill should be considered - collect solid waste more often
	pollution from factories	1	- control pollution emission of the factories
	unrenovation of cultural assets	1	- government should pay more attention
Economics stagnation	gain less income than the past	44	- related organization should support - build up more additional careers - government should motivate the economics - provide loan for small and medium enterprises
Insufficient capability of the LA	its services are not cover all areas	2	- construct more infrastructure
Politics	not work in harmony	2	- unanimity option should be considered
Poor public health conditions	low quality and quantity of potable water	5	- improve potable water supply service
Social problems	drugs and thieves	2	- related organizations should pay more attention
No particular problem		4	
Total		97	

The second most serious problem

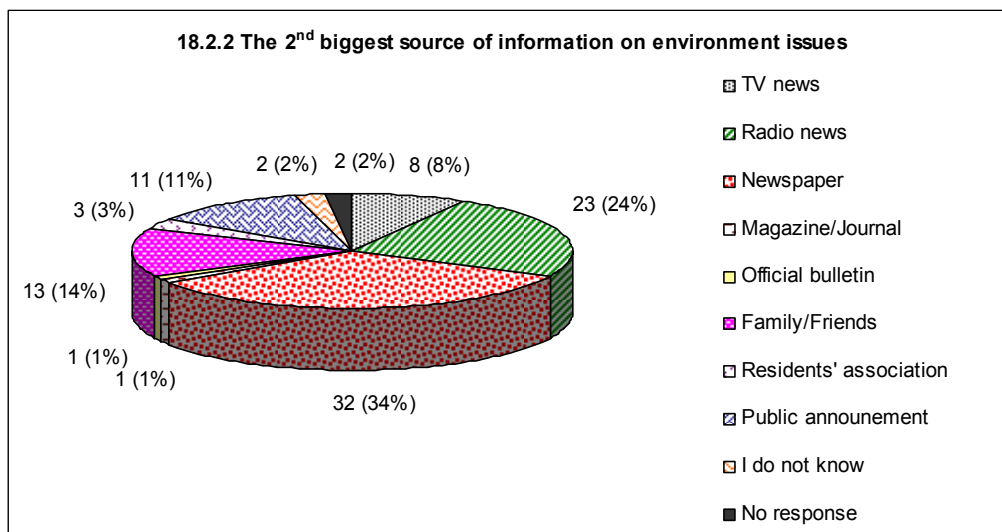
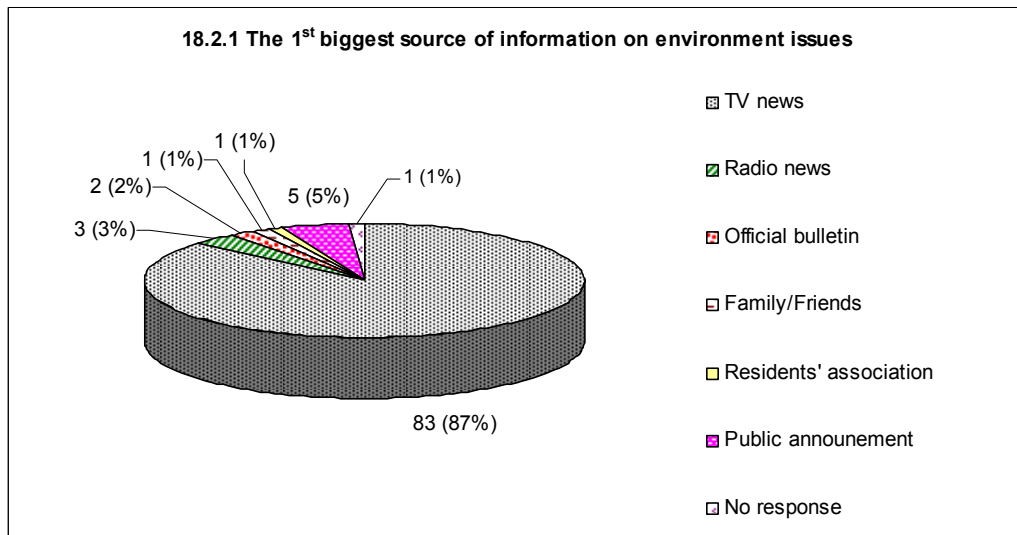
Topic	Detail	Answer	Measure
Natural resources and environment	lost of natural resources and good environment	14	- government should tightens control of laws and regulations - educate and build up environmental conscience to people
	solid waste management	1	- increase more solid waste containers
	pollution from factories	1	- control smell from the factories
Economics stagnation	less income, more expenses	28	- government should support - build up more careers in the community
	unemployment	1	- build up more careers in the community
Insufficient capability of the LA	LA cannot take care cover all its administrative areas	20	- construct more infrastructure
Politics	not work in harmony	2	- unanimity option should be considered
Poor public health conditions	low quality and quantity of potable water	8	- LA should solve the problem
No particular problem		22	
Total		97	

Q.18.

18.3 Are you interested in environment issues?



18.4 If you are interested in environment issues, how do you get information on environment issues? Please select the two biggest sources of information among the following choices



Q.19. How serious do you feel the following natural resources and

environment problems?

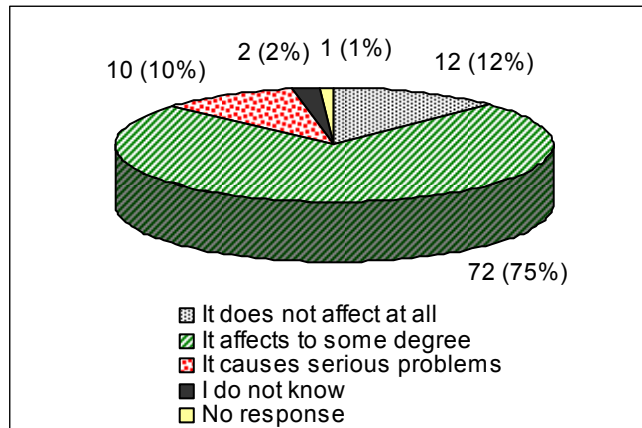
Please select one in each of the following environment problems.

	1. Not serious at all	2. Not very serious	3. Some what serious	4. Very serious	5. Can't choose	6. No response	Total
1. Soil and land resources	5	7	3	6	23	0	97
2. Water resources	38	14	11	34	0	0	97
3. Biodiversity	81	5	5	2	4	0	97
4. Water quality	52	9	19	17	0	0	97
5. Solid waste	66	13	10	8	0	0	97
6. Air quality	61	7	17	11	1	0	97
7. Noise quality	70	7	15	4	1	0	97
8. Hazardous wastes and toxic substances	83	9	4	1	0	0	97
9. Urban environment such as parks, amenity, landscape, etc.	82	9	2	4	0	0	97
10. Natural and cultural assets	89	5	2	1	0	0	97
11. Global warming /climate change	12	14	55	15	1	0	97

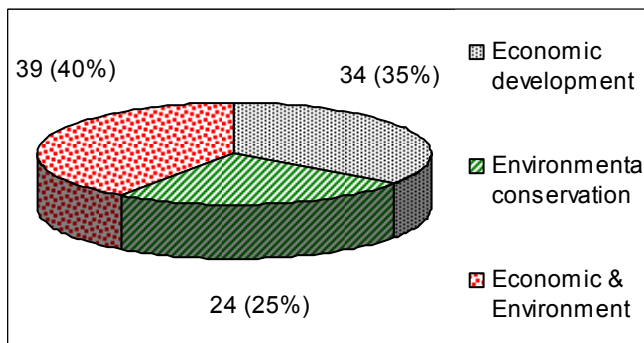
If you select [4. Very serious], please give us reasons why you select and what aspects specifically.

Question	Answer	Reasons why you select "4. Very serious"
1. Soil and land resources	- low quality of soil (salty, sour, hard) - intrusion of public areas	- soil is not proper for agriculture - lost of public property
2. Water resources	- flood	- obstacle for transportation and agriculture
3. Biodiversity	- lost of fish species	- lost of income
4. Water quality	- wastewater from solid waste and factories	- caused water pollution and health problems
5. Solid waste	- solid waste collection - smell from garbage	- remaining garbage - caused health problems
6. Air quality	- dust/smoke from factories - smell from factories	- caused respiratory problems
7. Noise quality	- noise from transportation	- noise pollution
8. Hazardous wastes	- no separate collection	- caused hazard to people
9. Urban environment	- public parks are not enough	- no recreation ground
10. Cultural assets	- renovation of cultural assets	- government should pay more attention
11. Global warming	- rising of temperature	- caused health problems

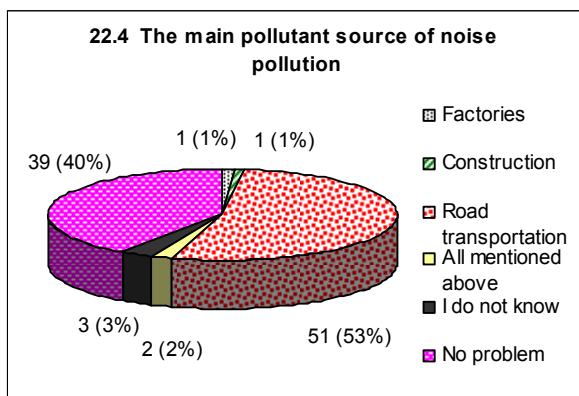
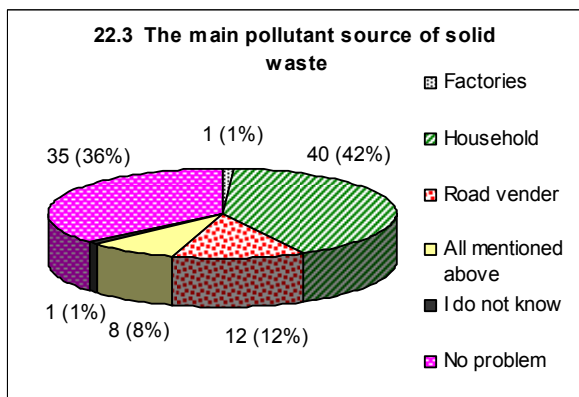
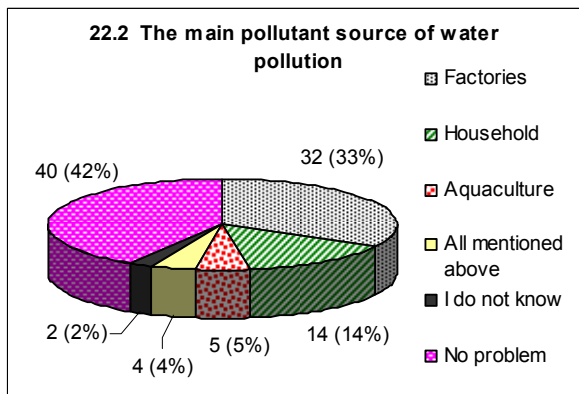
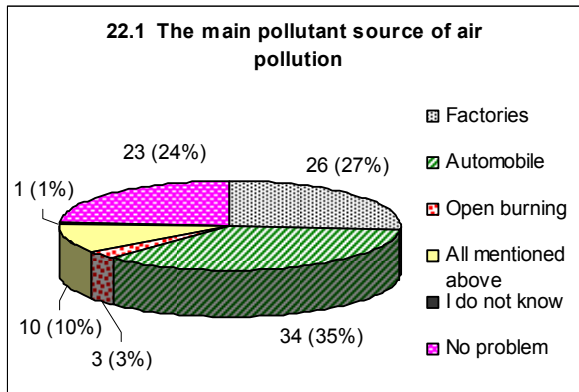
Q.20. How much do you feel environmental degradation affects your life?



Q.21. Which is more important for you, Economic Development or Environment Conservation?

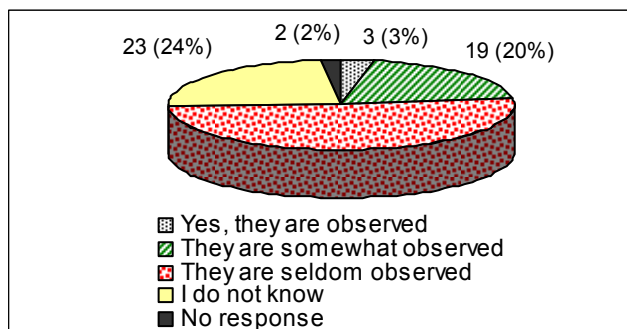


Q.22. What do you think the main pollutant source is for the following pollution problems? Please answer in each pollution problem.

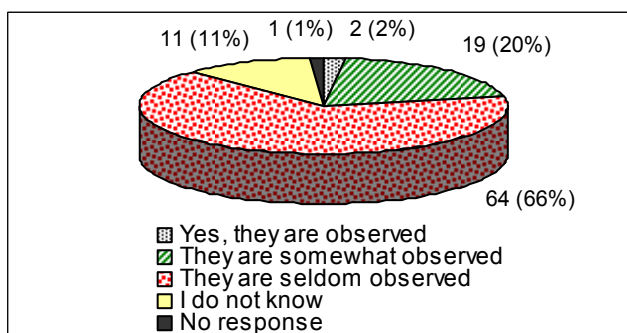


3. Willingness to Cooperate for the Improvement of Natural Resources and Environmental Management

Q.23. Do you think that environmental regulations are observed in Ayutthaya Province?



Q.24. Do you think that environmental regulations are observed in your administrative area?



Q.25. What kind of measures do you think should be taken to make regulations observed?

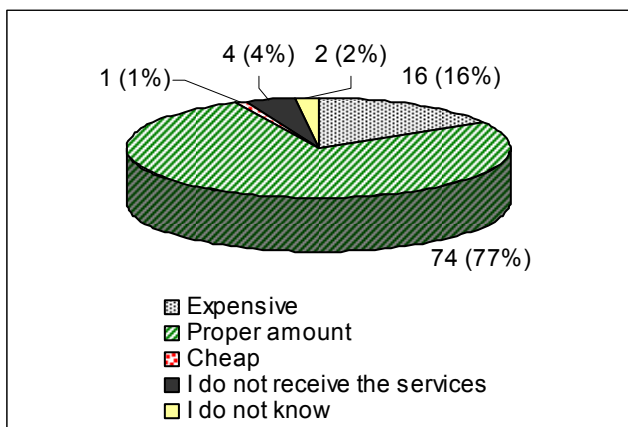
(Plural answers are accepted)

Measure	Answer	Rank
1. The central government tightens control and increases penalty	26	3
2. The provincial administration tightens control and increases penalty	25	4
3. The local administration (Orborjor, Tessaban and Orbortor) tightens control and increases penalty	42	1
4. Industries should be raised awareness to take pollution control measures more seriously	18	5
5. People should be raised awareness to pay more attention to environmental issues	38	2
6. To publicize and to promote environmental education	2	6
7. I do not know	4	5
8. No response	2	6

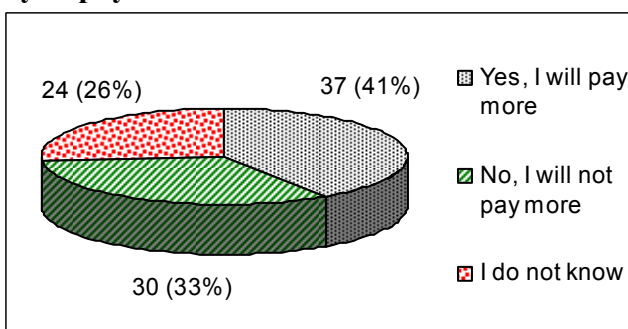
**Q.26. What do you think the government should do to improve environment?
Please select 3 among the following choices.**

Measure	Answer	Rank
01. Law enforcement (for example to establish new laws and regulations, to tighten its control, etc.)	54	2
02. To construct more waste water treatment facilities and solid waste treatment & disposal facilities	17	6
03. To promote the reduce of solid waste - reuse/recycle	28	4
04. To help industries improve pollution control capabilities	13	7
05. To promote environment education	65	1
06. To strengthen provincial administrations	27	5
07. To strengthen local administrations	17	6
08. To promote participation of local people	36	3
09. To open more information and data	25	5
10. I do not know	4	8

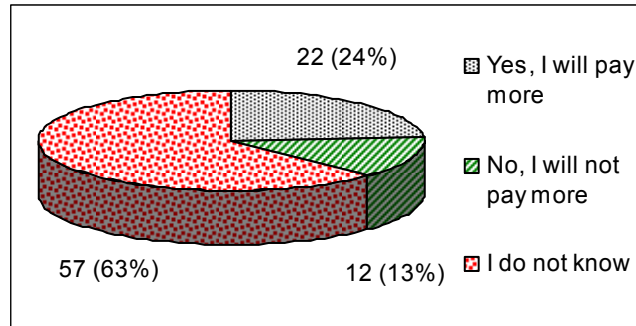
Q.27. Regarding city water supply service, how do you think the service charge?



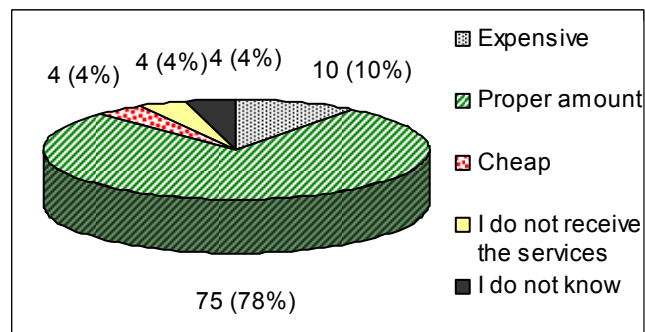
Q.28. Regarding city water supply, if it is improved better than the present situation, will you pay more?



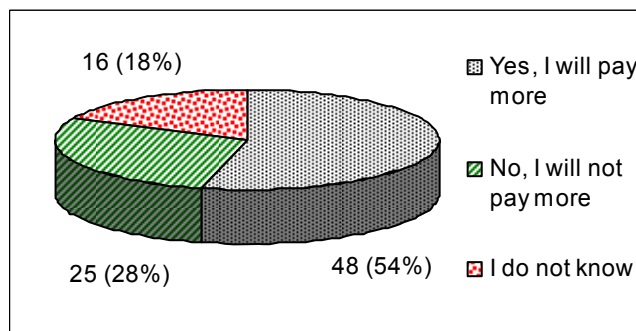
Q.29.Regarding sewerage, if it is improved better than the present situation, will you pay some fee?



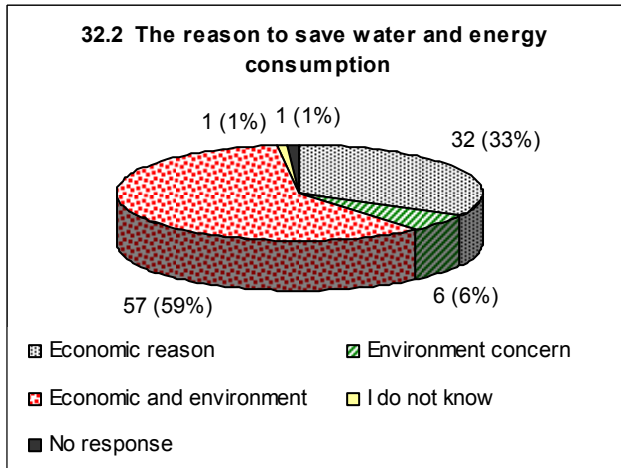
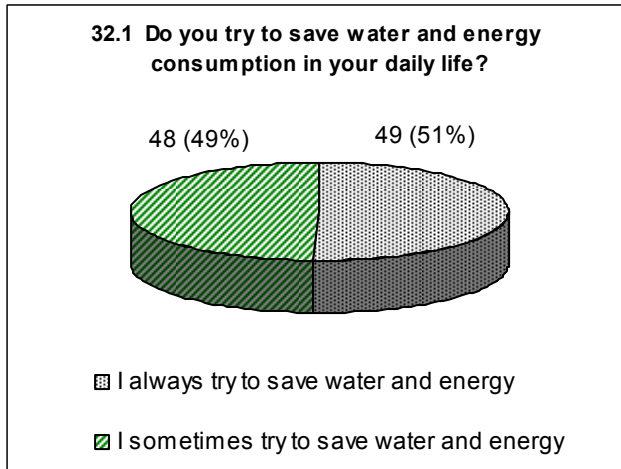
Q.30.Regarding solid waste collection services, how do you think the service charge?



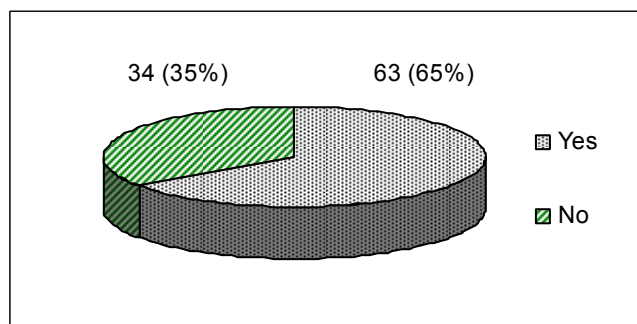
Q.31.Regarding refuse collection service, if it is improved better than the present situation, will you pay more?



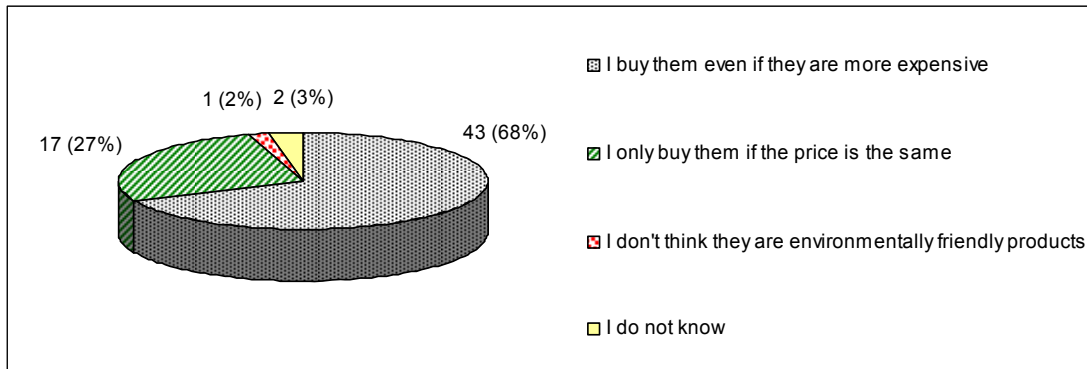
**Q.32. Do you try to save water and energy consumption in your daily life?
 If yes, what is the reason?**



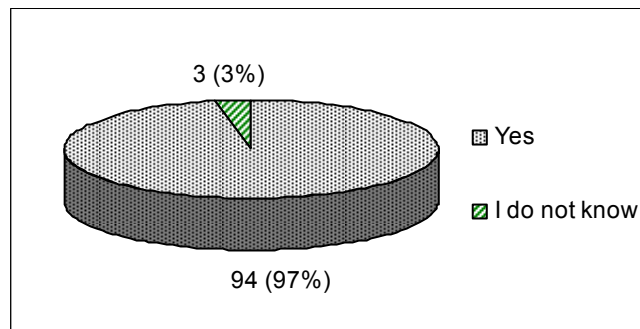
Q.33. Do you know “Environmentally Friendly Products”? (Those concerned with not damaging the Environment)



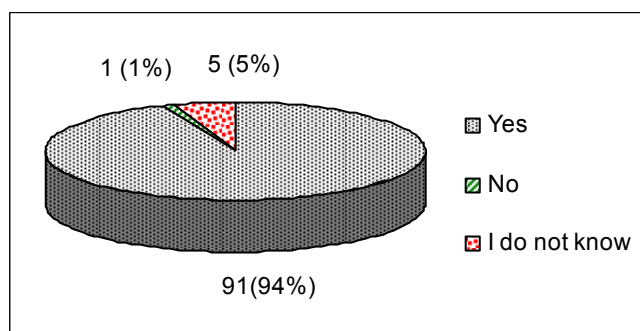
Q.34. Which of the following statements regarding Environmentally Friendly Products is an appropriate description of your attitude?



Q.35. Are you willing to cooperate to reduce environmental problems in your community?



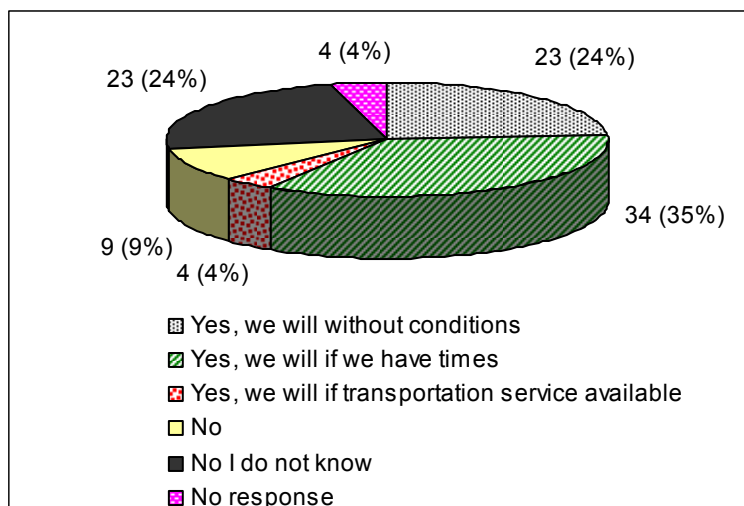
Q.36. If the local administration would introduce a different waste collection system, such as segregating the waste into “easily decomposable” (food, gardening) and “recyclable” (metal, bottles), would you be willing to cooperate?



Q.37. Why would you not be willing (or do not know if you would be willing) to cooperate with such a system? (Plural answers are accepted)

Reason	Answer	Rank
1. Several containers and bags are needed	1	3
2. More work and effort are needed	1	3
3. I do not have time	4	2
4. It is very inconvenient	5	1
5. It could increase the collection fee	0	0
6. I am afraid that segregated waste will be mixed when it is collected	1	1

Q.38. The Ayutthaya Province is now formulating a Provincial Environmental Quality Management Plan (PEQMP) in order to establish a sustainable natural resources and environmental management in the Province. Are you interested to participate in the process or attend the meetings organized by the Project?



4. Suggestions for Formulation of Provincial Environmental Quality Management Plan

The Ayutthaya Province is now formulating a Provincial Environmental Quality Management Plan (PEQMP) in order to establish a sustainable natural resources and environmental management in the Province. We are very welcome to receive your valuable suggestions for the plan.

No.	Suggestion	Answer
1	Increase the penalty of laws and regulations and tighten its control, especially factories.	8
2	Supporting of environment education to people is important.	6
3	Improve solid waste management and promote solid waste separation in the province	5
4	Improve water drainage system to solve flood and wastewater problems	3
5	The government should open more information and data to people.	2
6	The government should work on environmental problems seriously and conduct monitoring regularly.	2
7	The government should have long term plans and control factories seriously.	1
8	The province should allow private enterprises to operate recycle business.	1
9	Related organization responsible for the PEQMP should educate people about the plan.	1
10	The government should follow up the implementation of LAs.	1

3 Results for Samut Songkhram Province (SKP)

3.1 Target Groups and Interview Schedule in SKP

3.1.1 Target Local Administrations (LA)

The target LAs identified by the Study Team and counterparts (C/P) are shown in the following tables. The discrepancy between the planned and actual values of Tessaban was due to 3 Orbortor being combined with others.

Table 3-1: Summary of Target LA in SKP

Result	Orborjor	Tessaban	Orbortor	Total
Planned	1	5	33	39
Actual	1	5	30	36

Table 3-2: Target LA in AYP and Interview Schedule

District	Orborjor/Tessaban	Date of Interview	Orbortor	Date of Interview
1. Mueang Samut Songkhram	1.0.1 Orborjor Samut Songkhram 1.1.1 Mueang Samut Songkhram	4 Oct 07 27 Aug 07	1.2.1 Khlong Kern	7 Sep 07
			1.2.2 Khlong Khon	12 Sep 07
			1.2.3 Tai Had	6 Sep 07
			1.2.4 Nang Ta Kien	14 Sep 07
			1.2.5 Bang Kaew	12 Sep 07
			1.2.6 Bang Kan Taek	13 Sep 07
			1.2.7 Bang Ja Kreng	12 Sep 07
			1.2.8 Ban Prok	6 Sep 07
			1.2.9 Lat Yai	6 Sep 07
			1.2.10 Laem Yai	6 Sep 07
			2. Bang Khonthi	2.1.1 Tambon Kra Dang Nga 2.1.2 Tambon Bang Nok Kaewg
2.2.2 Jom Pruak	11 Sep 07			
2.2.3 Don Manora	11 Sep 07			
2.2.4 Bang Kra Bue	11 Sep 07			
2.2.5 Bang Khon Tee	13 Sep 07			
2.2.6 Bang Prom	11 Sep 07			
2.2.7 Bang Yee Rong	10 Sep 07			
2.2.8 Bang Sakae	14 Sep 07			
2.2.9 Rong Heeb	10 Sep 07			
3. Amphawa	3.1.1 Tambon Amphawa 3.1.2 Tambon Mueang Mai	13 Sep 07 7 Sep 07	3.2.1 Kaew Aom	12 Sep 07
			3.2.2 Tha Kha	4 Oct 07
			3.2.3 Bang Kae	10 Sep 07
			3.2.4 Bang Chang	12 Sep 07
			3.2.5 Bang Nang Lee	12 Sep 07
			3.2.6 Plai Pong Pang	13 Sep 07
			3.2.7 Praek Nam	7 Sep 07
			Daeng	7 Sep 07
			3.2.8 Yee Sarn	10 Sep 07
			3.2.9 Wat Pradoo	10 Sep 07
			3.2.10 Suan Luang	13 Sep 07
			3.2.11 Mueang Mai	
Total	1+5		30	

3.1.2 Target NGOs

The target NGOs identified by the Study Team and counterparts (C/P) are shown in the following table.

Table 3-3: Target NGO in SKP and Interview Schedule

Name	Date of Interview
1.3.1 Samut Songkhram Chamber of Commerce	4 Oct 07
1.3.2 We love Mae Klong Group	4 Oct 07
1.3.3 Samut Songkhram Marine Fisheries Center	14 Sep 07
1.3.4 Mae Klong Marine Fisheries Co-operatives	10 Sep 07
1.3.5 Samut Songkhram Industrial Council	14 Sep 07
Total (Actual)	5
Total (TOR)	5

3.1.3 Target Residents

The target residents had the following characteristics:

Table 3-4: Sample Size and Distribution of Target Residents in SKP

Samut Songkhram District	Number of Population*	% of Population	Minimum of Questionnaire	Number of QN survey**		
				Resident	Business	Total
Mueang Samut Songkhram	103,148	53	50	28	31	59
Bang Khonthi	33,979	17	20	14	6	20
Amphawa	58,091	30	30	22	10	32
Total	195,218	100	100	64	47	111
TOR				75	25	100

Remark: * Data from "Administrator Record 2006", Department of Provincial Administration.

** Since the business category of the house in Samut Songkhram Municipality are rarely to be used for residence only. That is why the number of questionnaire survey for resident is less than expectation.

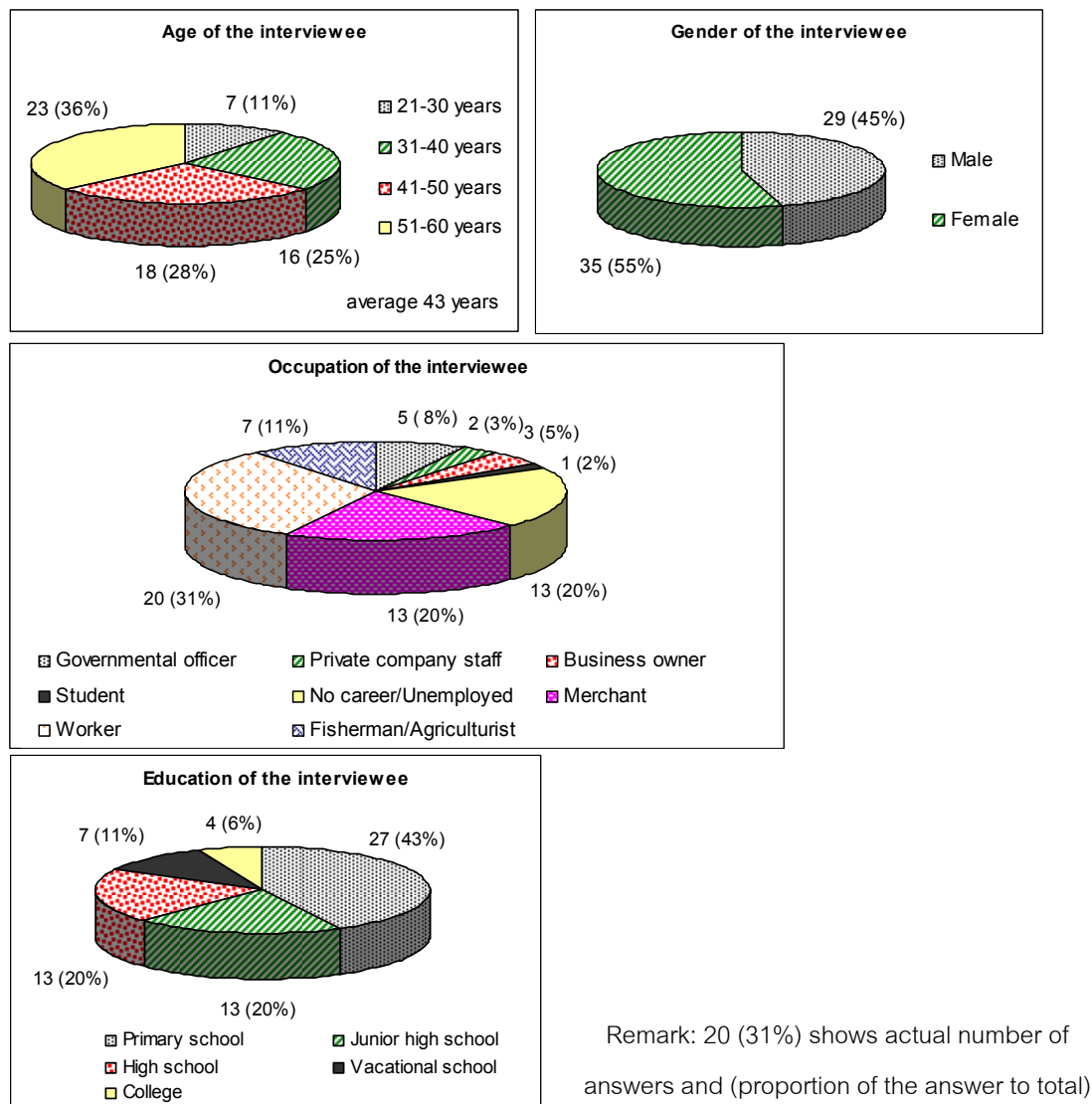


Figure 3-1: Age, Gender, Occupation, and Education Level of Target Residents in SKP

3.1.4 Target Business Enterprises

Business Enterprises are defined as small businesses, and are often residential households which are also used for business purposes. The target business enterprises had the following characteristics:

Table 3-5: Sample Size and Distribution of Target Business Enterprises in SKP

Samut Songkhram District	Number of Population*	% of Population	Minimum of Questionnaire	Number of QN survey**		
				Resident	Business	Total
Mueang Samut Songkhram	103,148	53	50	28	31	59
Bang Khonthi	33,979	17	20	14	6	20
Amphawa	58,091	30	30	22	10	32
Total	195,218	100	100	64	47	111
TOR				75	25	100

Remark: * Data from "Administrator Record 2006", Department of Provincial Administration.

** Since the business category of the house in Samut Songkhram Municipality are rarely to be used for residence only. That is why the number of questionnaire survey for business is over than expectation.

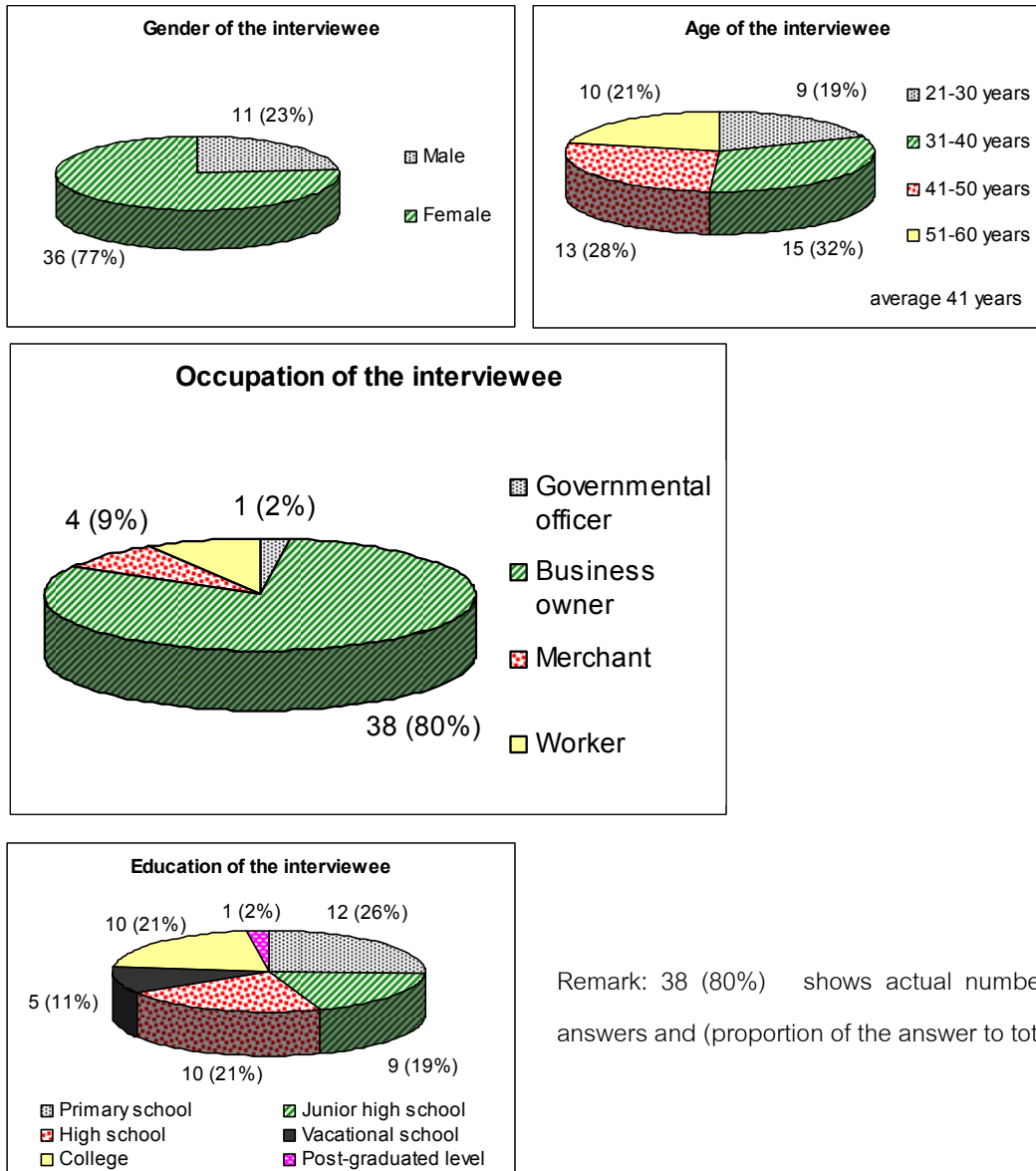


Figure 3-2: Age, Gender, Occupation, and Education Level of Interviewees at Target Business Enterprises in SKP

3.2 Responses to the Opinion Survey in SKP

Note: In this section, Orbortor will be referred to as PAO, Tessaban as Municipality, and Orbortor as TAO.

Reponses from Local Administration (LA)

1. Current Natural Resources and Environmental Management in Your Local Administration (LA)

Q.1. Area, population, household and employee of your local administration?

1. Average of Administration Area:

- PAO	416.7	km ²
- Municipality	12.0	km ²
- TAO	13.2	km ²

2. Average of Population:

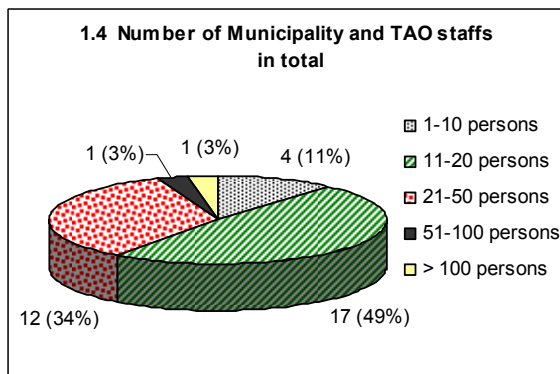
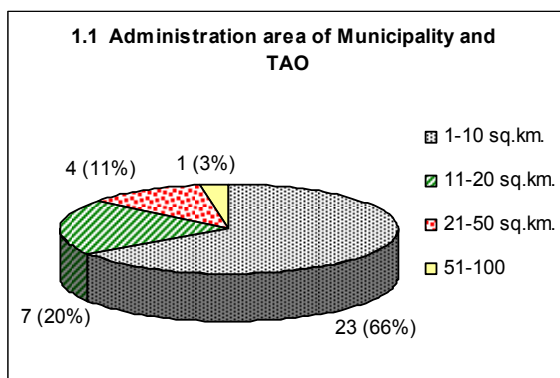
- PAO	195,068	persons
- Municipality	8,610	persons
- TAO	5,082	persons

3. Average of Household:

- PAO	51,964	households
- Municipality	2,608	households
- TAO	1,310	households

4. Average of Number of LA Staffs in Total:

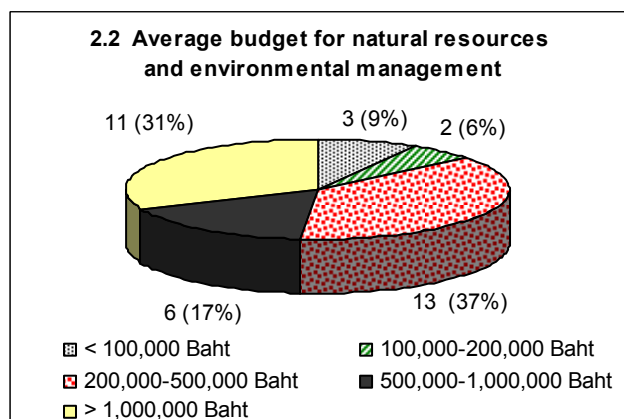
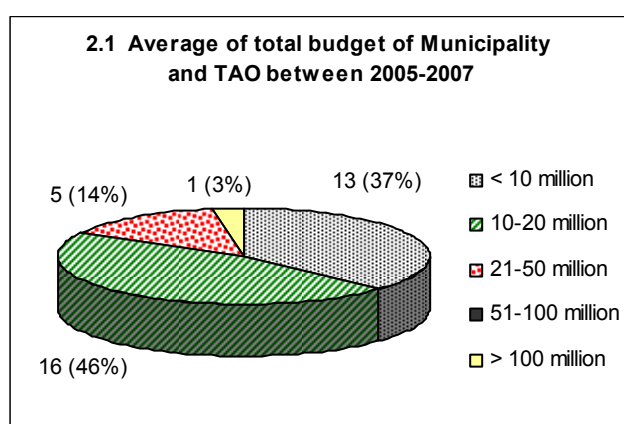
	Total Staff	Government Officer	Permanent Staff	Temporary & Daily Staff
PAO	132	55	25	52
Municipality	84	34	15	35
TAO	17	8	2	8



Remark: 23 (66%) shows actual number of answers and (proportion of the answer to total)

Q.2. Budget of your local administration (LA) in past three years?

	2005	2006	2007
2.1 Average of total budget (Baht)			
- PAO	160,521,629	152,174,515	191,703,423
- Municipality	59,623,164	60,207,666	64,577,566
- TAO	10,163,147	11,535,193	12,449,954
2.2 Average budget for natural resources and environmental management (Baht) (excluding Salary)			
- PAO	160,000	160,000	160,000
- Municipality	2,893,680	2,772,340	2,898,640
- TAO	759,640	983,866	1,180,468

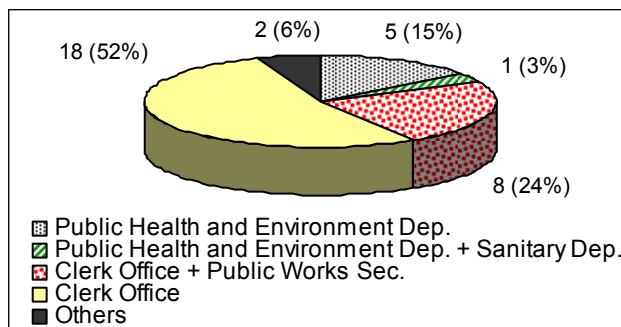


Q.3. Do you have an organization responsible for the natural resources and environmental management in your LA?

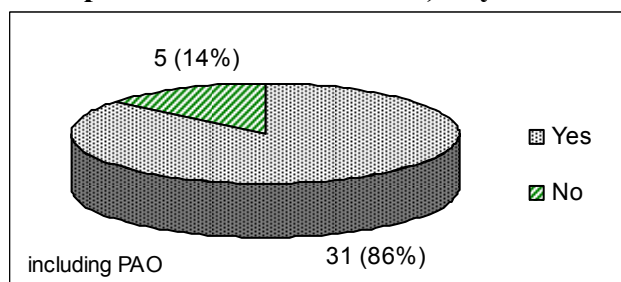
Most of LAs (34 out of 36) have 1 or 2 organizations responsible for the natural resources and environmental management. On the other hand, 2 TAOs do not have particular organization responsible for this work since the work has been done by temporary staffs only.

Q.4. Name of the organization responsible for the natural resources and environmental management.

	Organization	No. of LA	Average Total Staff	Average Government Officer	Average Permanent Staff	Average Temporary & Daily Staff
PAO	Civil Works Department	1	6	2	4	0
Municipality	Public Health and Environment Department	5	18	4	4	9
	Sanitary Department	1	5	1	0	4
TAO	Clerk Office	26	8	3	1	4
	Public Works Section	9	3	1	1	1
	Public Health and Environment Section	1	13	4	0	9
	Education Religion and Culture Section	1	1	1	0	0



Q.5. Do you have an organization responsible for development control (building and construction permits and enforcement) in your LA?

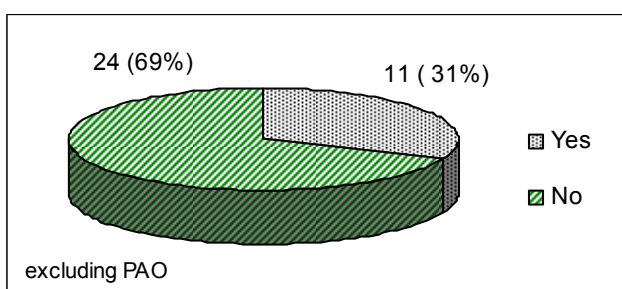


Q.6. Name of the organization responsible for development control.

	Organization	No. of LA	Average Total Staff	Average Government Officer	Average Permanent Staff	Average Temporary & Daily Staff
PAO	Civil Works Department	1	6	2	4	0
Municipality	Civil Works Department	5	14	4	3	7
TAO	Public Works Section	25	3	2	0	1

Q.7. Do you have a zoning map (area development plan, land use plan, etc.) to control development of your administrative area?

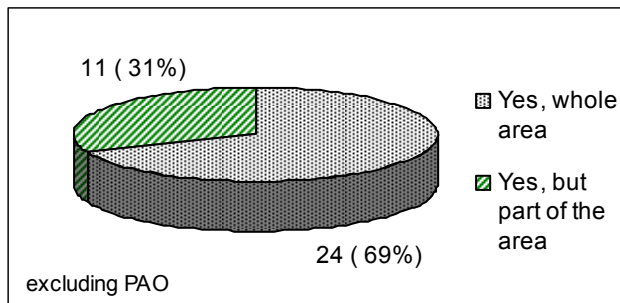
* This information excludes PAO



Q.8. Do you have a potable water supply system in your administrative area?

* This information excludes PAO

8.1



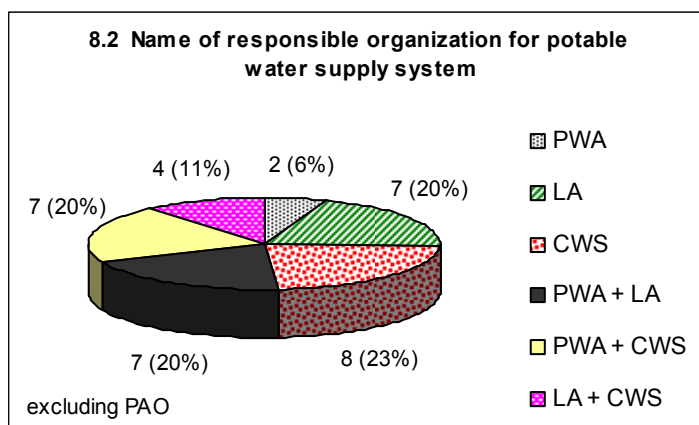
8.2 Name of responsible organization:

- Provincial Waterworks Authority (PWA)
PWA has subcontracted Egcom Tara Co.,Ltd. for water production since the quality of raw water in Samut Songkhram Province is salty. PWA purchases the potable water from the subcontractor and supply to residents in the province with the cost 17.71 Baht/m³.
- Local Administration (LA)
Some LAs have managed potable water supply by themselves. In the case that PWA expands its service to the area, the LAs tend to stop their operation since the maintenance cost is expensive. However, some LAs have to continue their service since the tariff of PWA service is much higher.
- Communal Water Supply (CWS)

Many parts of area still use communal water supply that manage by committee of the village. However, LAs also support annual maintenance budget to the village since this cost is too high compare to the tariff that the committee collected from people.

	PWA	LA*	CWS*
8.3 Design supply capacity (m ³ /day)	24,000	639	480
8.4 Average actual supply (m ³ /day)	20,900	410	215
8.5 Coverage rate in area (%)	60	75	75
8.6 Coverage rate in population (%)	40	75	75
8.7 Tariff (Baht/m ³)	7.75-21.00	3.00-18.00	5.00-15.00
8.8 Production cost (Baht/year) (electricity and maintenance)	2,430,000	590,304	179,753
8.9 Location (and number) of water purification plant	Tambon Paeng Puai, Amphur Damnoen Saduak, Ratchaburi	Municipality - Kra Dang Nga (1) - Bang Nok Kaewg (2) - Mueang Mai (2) TAO - Bang Kae (1) - Bang Chang (1) - Bang Sakae (2)	
8.10 Main sources of potable water	Mae Khlong River in Ratchaburi	Mae Khlong River, Canals, Groundwater	Groundwater, Canals

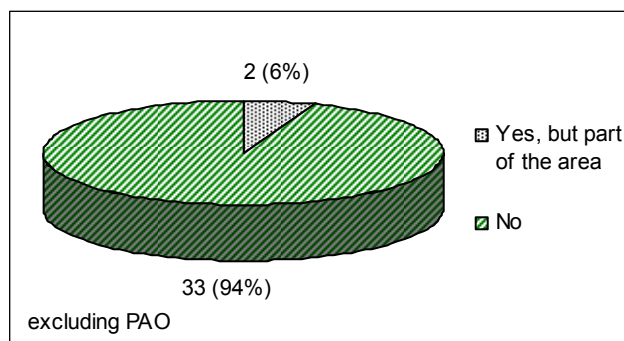
Remark: * Average figure of all data from LAs and CWSs



Q.9. Do you have connection to sewerage system in your administrative area?

* This information excludes PAO

9.1



9.2 What kind of sewerage system?

- Kra Dang Nga Municipality Sewerage pipe with treatment facility
- Bang Nok Kaewg Municipality Sewerage pipe with treatment facility

9.4 Name of operating organization:

- Kra Dang Nga Municipality Civil Works Department of the Municipality
- Bang Nok Kaewg Municipality Public Health and Environment Department of the Municipality

9.4 Coverage rate in area:

- Kra Dang Nga Municipality 9 % in area
- Bang Nok Kaewg Municipality 1.8 % in area

9.5 Coverage rate in population:

- Kra Dang Nga Municipality 11 % in population
- Bang Nok Kaewg Municipality 6.5 % in population

9.6 Tariff: Free of charge

9.7 Operation cost:

- Kra Dang Nga Municipality 0 Baht/year
- Bang Nok Kaewg Municipality 10,000 Baht/year

9.8 Location and name of sewerage treatment plant:

- Kra Dang Nga Municipality Moo 5, 6 and 8, Tambon Kra Dang Nga
- Bang Nok Kaewg Municipality Moo 7, Tambon Bang Nok Kaewg

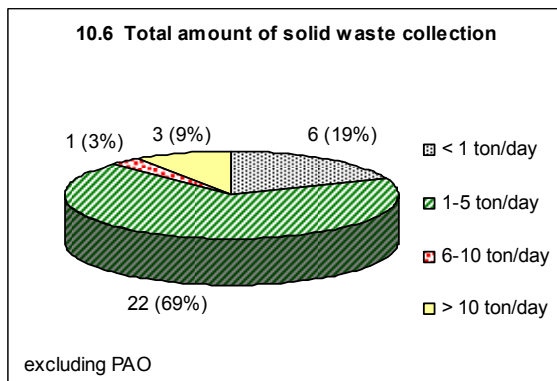
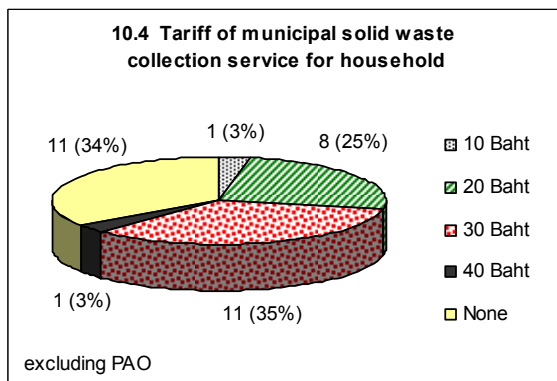
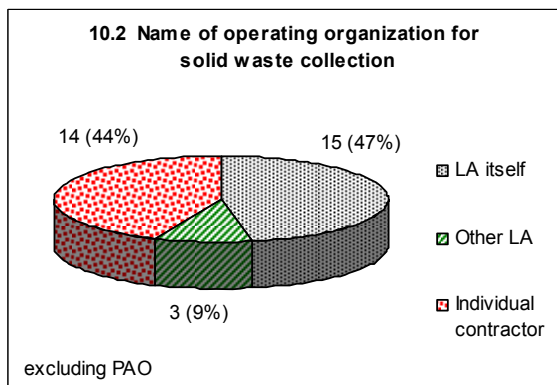
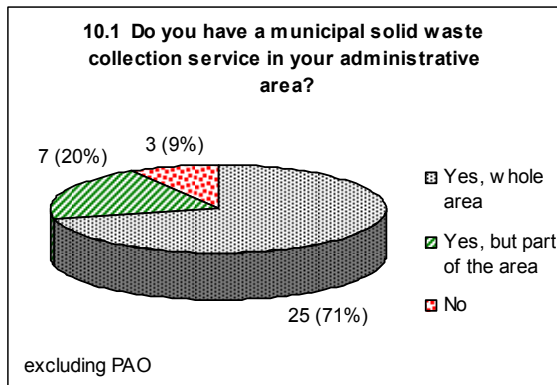
9.9 Main treatment method of domestic wastewater:

- Kra Dang Nga Municipality Septic Tank Volume 3000, 2000 and 3000 litre
- Bang Nok Kaewg Municipality Polishing Pond (บ่อบำบัด)*

* This system is similar to Stabilization Pond but more simple since it use natural aerobic condition for treatment only.

Q.10. Do you have a municipal solid waste (MSW) collection service in your administrative area?

* This information excludes PAO



- 10.3 Average coverage rate in area: 91.6 % in area
 10.4 Tariff: 0-5,000 Baht/month
 10.5 Average operation cost:
 - LAs that collect solid waste by themselves 417,693 Baht/year
 - LAs that subcontracted solid waste collection to others LA or individual

	contractor, this cost including disposal fee	319,176	Baht/year
10.6	Total amount of solid waste collection:	100	ton/day

Q.11. Do you have some treatment facilities for MSW in your administrative area?

TAO Laem Yai has a transfer station for MSW in its administrative area at Moo 1, Tambon Bang Kaew, Amphur Mueang Samut Songkhram. This facility owned by a private company - Siri Piboon Pattanakarn Partnership.
Total amount of solid waste transported to the site is 91.5 ton/day

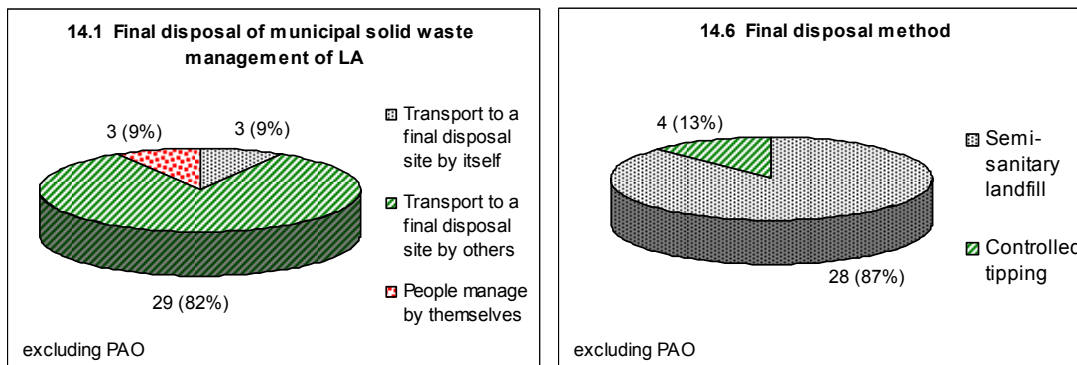
Q.12. Do you have some final disposal sites for MSW in your administrative area?

There is no final disposal site in Samut Songkhram province. All solid waste is transported to other final disposal sites in neighboring province.

Q.13. Please give us information on the MSW final disposal site(s) by filling the following table.

Q.14. How does your LA manage final disposal of MSW?

* This information excludes PAO



14.2 Where is your final disposal site?

- Amphur Pak To, Ratcha Buri Province (There is a transfer station in Samut Songkhram Province)
- 149 Moo 1, Tambon Ang Hin, Amphur Pak To, Ratcha Buri Province
- 149 Moo 1, Tambon Ang Hin, Amphur Pak To, Ratcha Buri Province
- Tambon Nadee, Amphur Mueang, Samut Sakhon Province

14.3 Name of operating organization:

- Siri Piboon Pattanakarn Partnership (provide service for 4 Municipalities and 22 TAOs)
- Siamwit Construction Co.,Ltd. (provide service for 1 TAO)
- Mrs. Niyom Nitikarnchana (provide service for 1 Municipality)
- Somnuek Business Co.,Ltd. (provide service for 4 TAOs)

14.4 Tipping fee:

- LAs transport to the transfer station by themselves
1,218,400 Baht/year
- Contractor collects and transports to final disposal site for LAs
331,882 Baht/year
- LAs transport to the final disposal site by themselves
624,000 Baht/year
- LAs transport to the final disposal site by themselves
180,000 Baht/year
- LAs transport to the final disposal site by themselves
148,800 Baht/year
- Contractor collects and transports to final disposal site for LAs
192,000 Baht/year

14.5 Final disposal amount:

- | | |
|-----------------|----------------|
| a) 91.5 ton/day | b) 2 ton/day |
| c) 1.5 ton/day | d) 3.8 ton/day |

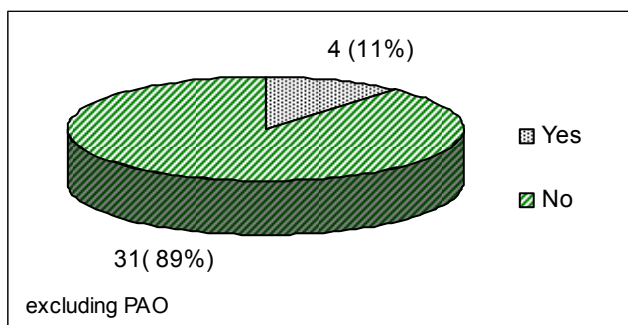
14.6 Final disposal method:

- Semi-sanitary Landfill that use covering soil without liner and wastewater treatment system.
- Semi-sanitary Landfill that use covering soil without liner and wastewater treatment system.
- Semi-sanitary Landfill that use covering soil without liner and wastewater treatment system.
- Controlled tipping that similar to open dumping but control the entrance of people to the site.

Q.15. Do you have any illegal dump sites in your administrative area?

* This information excludes PAO

15.1

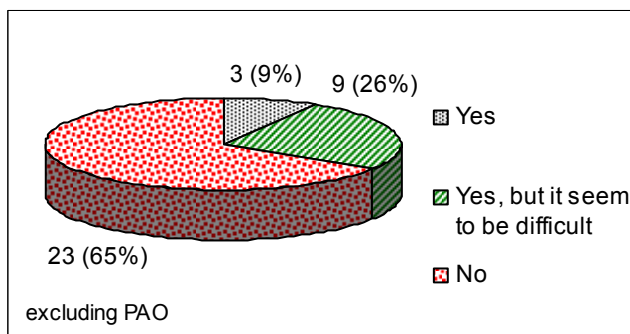


15.2 Please specify:

- a) Kra Dang Nga Municipality – Other LAs always dump some of their garbage beside Municipality's containers that caused remaining solid waste problem in the area.
- b) Bang Nok Kaewg Municipality – People dump their garbage in Bang Nok Kaewg Canal
- c) Amphawa Municipality – Municipal waste is dumped along Bang Pae - Damnoen Saduak Road, near Suri Yaen Bridge
- d) TAO Praek Nam Daeng – Some factories dump their waste along Rama 2 Road.

Q.16. Do you intend to have a final disposal site in your administrative area?

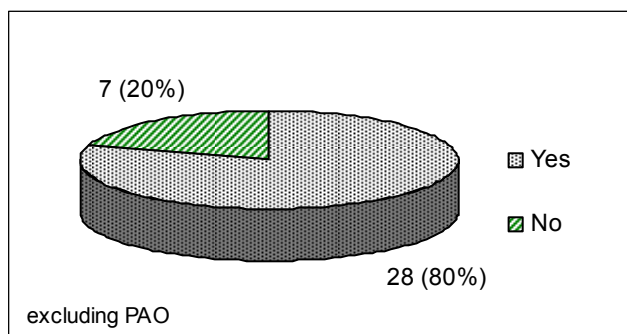
* This information excludes PAO



Q.17. Do you have any special natural assets in your administrative area?

* This information excludes PAO

17.1



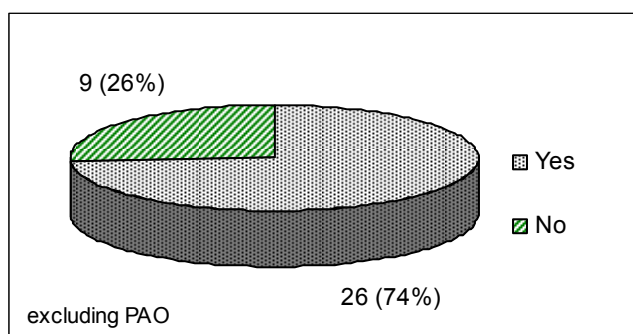
17.2 Please specify:

No.	LA	Natural Resource 1	Natural Resource 2
1	Samut Songkhram Municipality	Mangrove	
2	TAO Khlong Khon	Mangrove	
3	TAO Tai Had	Mae Khlong River	
4	TAO Bang Kaew	Queen Sirikit Park	Muean Han Canal
5	TAO Bang Kan Taek	Bang Khan Taek Canal	
6	TAO Bang Ja Kreng	Don Hoi Lod	Mangrove
7	TAO Ban Prok	Mae Khlong River	Sonneratia caseolaris along the canals
8	TAO Lat Yai	Salt Farm	
9	TAO Laem Yai	Natural Aqua Culture Canal	
10	Kra Dang Nga Municipality	Mae Khlong River	Bang Noi Canal
11	Bang Nok Kaewg Municipality	Mae Khlong River	Bang Nok Kaewg Canal
12	TAO Kra Dang Nga	Bang Noi Canal	
13	TAO Don Manora	Tha Ka Float Market	
14	TAO Bang Khon Tee	Bang Khon Tee Canal	Charoen Sukharam Worawihan Temple
15	TAO Bang Yee Rong	Kra Ja Canal	Thai Bam Rung Canal
16	TAO Bang Sakae	Canals	
17	Amphawa Municipality	Amphawa Canal	Amphawa Community
18	Mueang Mai Municipality	Kaew Om Canal	
19	TAO Kaew Aom	Ancient Cat Conservation Center	Litchi (plant) 200 years
20	TAO Tha Kha	Tha Ka Float Market	
21	TAO Bang Kae	Canals	
22	TAO Bang Chang	Holy Water Souce	Daowadueng Canal
23	TAO Bang Nang Lee	Bang Kae Canal	Po Pang Canal
24	TAO Plai Pong Pang	Ancient Thai House	
25	TAO Praek Nam Daeng	Canals	
26	TAO Yee Sam	Mangrove	
27	TAO Wat Pradoo	Canals	
28	TAO Suan Luang	Pracha Comchuen Canel	Fruit Garden

Q.18. Do you have any special cultural assets in your administrative area?

* This information excludes PAO

18.1



18.2 Please specify:

No.	LA	Cultural Site 1	Cultural Site 2	Cultural Site 3
1	Samut Songkhram Municipality	Thamnimit Temple	Yai Temple	Ban Laem Temple
2	TAO Khlong Kern	Sukhothai porcelain at Dao Dong Temple	Stupa at Nang Ta Kien Temple	
3	TAO Bang Kan Taek	Pong Pang Temple		
4	TAO Bang Ja Kreng	Satthatham Temple	Krom Luang Chumpon Monument	Bang Ja Kreng Temple
5	TAO Ban Prok	Chonglom Thammachot Temple	Buddha Footprint at Koo Sanam Chan Temple	
6	TAO Lat Yai	In-Chan (Siam Twin) Monument		
7	Kra Dang Nga Municipality	Sai Temple	Ko Kaew Temple	Ko Yai Temple
8	Bang Nok Kaewg Municipality	Church at Wat Phra Mae Bangkerd		
9	TAO Kra Dang Nga	Pak Ngam Temple	Bang Yai Temple	
10	TAO Jom Pruak	Bang Noi Temple		
11	TAO Bang Khon Tee	Kuan Im Shrine	Chao Pun Tao Kong Shrine	
12	TAO Bang Prom	Bang Plub Temple		
13	TAO Bang Sakae	Water Library	Chao Mae Satue Shrine	
14	TAO Rong Heeb	Bang Kung Temple		
15	Amphawa Municipality	King Rama 2 Park	Amphawan Jetiyaram Temple	Amphawa Community
16	Mueang Mai Municipality	Intraram Temple	Kaew Charoen Temple	
17	TAO Kaew Aom	Bang Kae Noi Temple	Bang Kae Yai Temple	Bang Ko Teppasak Temple
18	TAO Tha Kha	Tep Pra Sit Temple		
19	TAO Bang Kae	Forest Community		
20	TAO Bang Chang	Chula Manee Temple		
21	TAO Plai Pong Pang	Muslim Temple	Pracha Kositaram Temple	
22	TAO Praek Nam Daeng	Petcharat Temple		
23	TAO Yee Sarn	Yee Sarn Temple		
24	TAO Wat Pradoo	Pra Doo Temple	Stupa at Jatuwatta Maharacha Nusorn School	
25	TAO Suan Luang	Pummarin Temple	Waen Jan Temple	
26	TAO Mueang Mai	Tung Sethee Temple	Nong Kra Pong Temple	

2. Prioritized Issues in Your LA

Q.19. What do you think the most serious problem is in your administrative area now?

What is the second most serious problem?

Q.20. In order to solve the most serious problem what do you think the most prioritized measure in your administrative area at present? What is the second most prioritized measure? Please specify the 1st and 2nd most prioritized measures respectively.

* This information includes PAO

The most serious problem

Topic	Detail	Answer	Measure
Natural resources and environment degradation	degradation of water quality	5	- related organizations should advise to prevent water pollution - campaign people not to dump garbage into the canals - treat wastewater from factories and pig farm in neighboring provinces - treat wastewater from cleaning squid activities
	marine water intrude agriculture area	2	- construct more dike or water gates
	fresh water intrude shell farm	1	- compensate from the government
	canals cannot be used for transportation	1	- dredge canals
	garbage from other area	1	- improve solid waste collection system
	invasive fishery, degradation of biodiversity	2	- campaign people about environmental conscience
	flood	1	- improve the efficiency of water gates
	lost of mangrove	1	- identify conservation areas clearly
coastal erosion	1	- use suitable measures to reduce the strong of wave	
Economics stagnation	low price of agriculture and fishery products	8	- build up more career in the province - promote tourism in the province - supporting from the government - develop the quality of fruit products
	unemployment and loan of people	4	- build up more career
Insufficient capability of the LA	lack of human resources	2	- revise organization structure - educate our staff on environmental issues
	lack of budget	1	- speed up decentralization
Politics	severe compete in local politics	1	
No particular problem		5	
Total		36	

The second most serious problem

Topic	Detail	Answer	Measure
Natural resources and environment degradation	degradation of natural resources	3	- campaign people about environmental conscience - campaign people not to dump garbage into the canals - provincial level should play more important roles
	degradation of agriculture area	1	- apply agriculture technology to improve soil
	wastewater from neighboring provinces	1	- cooperate among related provinces
	wastewater from factories and tourists	1	- campaign people about environmental conscience
Economics stagnation	low price of agriculture and fishery products	3	- promote marine by-products - government should support market - campaign people to reduce the use of chemical substance
	housing loan	4	- provide loan for people to build up new career
Insufficient capability of the LA	weak corporation among LAs	1	- set up policy framework together
	existing laws are not supported LA duties	1	- revise the laws
	small budget, lack of environmental staff	2	- make useful of existing staff - educate our staff on environmental issues
Politics	corruption in local politics	1	- apply good governance system
Poor public health condition	street dogs	1	- apply register system
No particular problem		17	
Total		36	

Q.21. Does your LA receive requests for improvement of your administrative area from your residents?

* This information includes PAO

Topic	Answer
The 1st largest number of request	
Infrastructure	11
Road and Bridge	10
Electricity in public area	5
Potable water supply	3
Dredge canals and prevent coastal erosion	2
Build up additional career	2
Social welfare for elderly	1
No request	2
Total	36
The 2nd largest number of request	
Road and Bridge	7
Electricity in public area	4
Potable water supply	6
Dredge canals	2
Build up additional career	2
Public health education	1
No request	14
Total	36
The 3rd largest number of request	
Road	2
Electricity in public area	1
Potable water supply	3
Prevent dengue fever and infectious disease	2
No request	28
Total	36

Q.22. Does your LA receive complains from your residents?

* This information includes PAO

Half of number of LAs receive complains from their residents from time to time. Most of complains related to environmental problems caused by small and medium factories in the province. In the case that the problem cannot be solved by LA itself, they will contact Provincial Environment Office (PEO) or Provincial Industry Office to support. However, they have never kept the number of complains in statistical records.

Topic	Answer
The 1st largest number of complain	
Solid waste collection	1
Wastewater from marine by-products factories, coconut juice factories and shrimp farm	4
Smell from marine by-products and coconut factories	5
Smoke from making coconut sugar	1
Noise from water transportation	1
Broken of infrastructure	2
Corruption and conflict on development projects	3
Java weed in Mae Khlong River	1
Street dogs	1
No complain	17
Total	36
The 2nd largest number of complain	
Solid waste collection	1
Wastewater from marine by-products and fish sauce factories	3
Dust/smoke from burning garbage and coconut shell	3
Smell from pesticide	1
Clog of sewage pipeline	1
No complain	27
Total	36
The 3rd largest number of complain	
Solid waste collection	1
Invasion of public areas and canals	1
Annoying from small entrepreneurs	1
No complain	33
Total	36

3. Prioritized Issues on Natural Resources and Environmental Management in Your LA

Q.23. How serious do you feel the following natural resources and environment problems? Please select one in each of the following environment problems.

* This information includes PAO

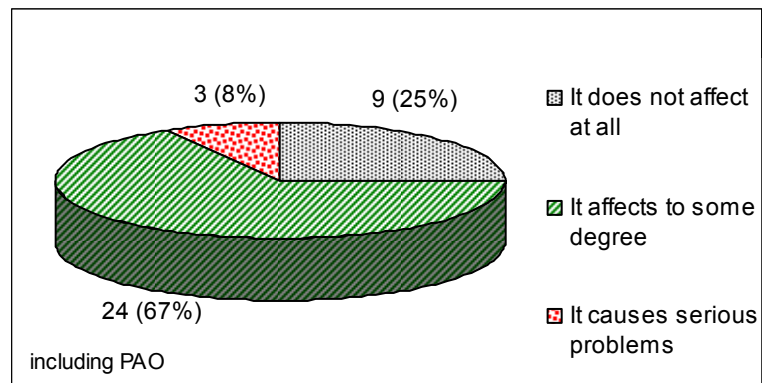
	1. Not serious at all	2. Not very serious	3. Some what serious	4. Very serious	5. Can't choose	6. No response	Total
1. Soil and land resources	20	13	3	0	0	0	36
2. Mangrove resources	22	6	5	3	0	0	36
3. Fishery resources	14	10	6	6	0	0	36
4. Water resources	21	11	2	2	0	0	36
5. Marine and coastal resources	19	4	5	8	0	0	36
6. Biodiversity	22	4	5	5	0	0	36
7. Water quality	8	12	12	4	0	0	36
8. Solid waste	5	11	10	10	0	0	36
9. Air quality	32	3	1	0	0	0	36
10. Noise quality	29	3	3	1	0	0	36
11. Hazardous wastes and toxic substances	32	2	0	1	1	0	36
12. Urban environment such as parks, amenity, landscape, etc.	23	9	4	0	0	0	36
13. Natural and cultural assets	28	6	1	0	1	0	36
14. Global warming / climate change	16	13	7	0	0	0	36

If you select [4. Very serious], please give us reasons why you select and what aspects specifically.

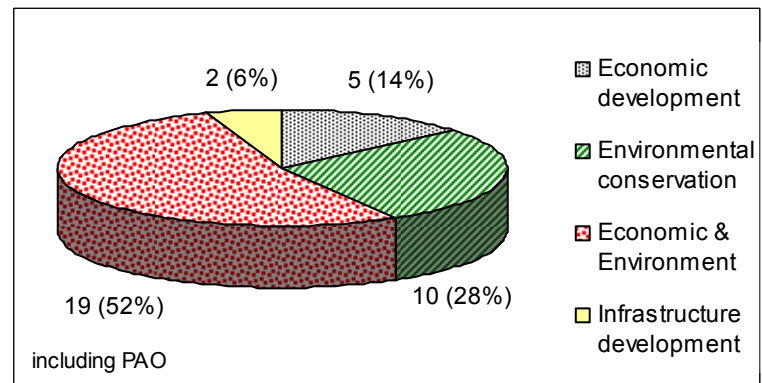
Question	Answer	Reasons why you select "4. Very serious"
2. Mangrove resources	- lost of mangrove	coastal erosion and lost of aquaculture area
3. Fishery resources	- invasive fishery - illegal fishery	marine resources decrease drastically and fisherman gain less profit than the past
4. Water resources	- flood	damage agriculture area
5. Marine & coastal resources	- coastal erosion - excessive tourists	- lost of land - degradation of natural resources
6. Biodiversity	- use caustic soda to catch Razer Clam - use poison to catch shrimp - extinction of fish species - lost of mangrove	extinction of marine species and degradation of biodiversity
7. Water quality	- wastewater from neighboring provinces - factories carry waste water and discharge at Mae Khlong estuary	lost of marine species

8. Solid waste	- tons of garbage is not managed properly - individual contractor does not managed the transfer station properly	caused serious environmental problems
10. Noise quality	- long-tail boat for tourists	noise pollution for community
11. Hazardous wastes	- illegal dump of hazardous waste from private clinics in municipality's containers	caused hazard condition to municipality staff

Q.24. How much do you feel environmental degradation affect your LA?



Q.25. Which is more important for your LA, Economic Development or Environment Conservation?



Q.26. Do you have an environmental quality management projects as a part of your annual budget plan?

* This information includes PAO

All LAs have an environmental quality management projects as a part of their annual budget plan. Basically, the type of projects is similar in every year.

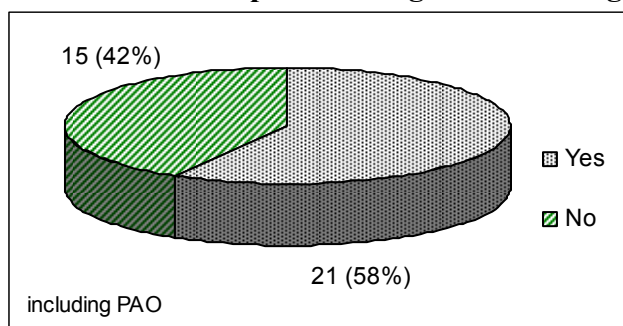
Year 2006

Type of Project	Number of Projects	Total Budget (Baht)	Average Budget (Baht)
Dredge canals	9	4,943,000	549,000
Improve the surrounding of public places	15	4,070,200	271,000
Canals conservation	7	1,310,000	187,000
Campaign people to build up environmental conscience	22	950,000	43,000
Promote the separation of solid waste	6	460,000	77,000
Set up environmental volunteer network	7	240,000	34,000
Forestation	8	205,000	29,000
Support grease tap & septic tank installation	3	155,000	52,000
Promote eco-tourism	3	120,000	40,000
Water quality monitoring	1	50,000	50,000
Total	81	12,503,200	

Year 2007

Type of Project	Number of Projects	Total Budget (Baht)	Average Budget (Baht)
Dredge canals	12	4,193,000	381,000
Improve the surrounding of public places	18	4,076,300	226,000
Canals conservation	6	1,293,000	216,000
Campaign people to build up environmental conscience	18	903,000	50,000
Promote the separation of solid waste	11	840,000	76,000
Forestation	10	243,900	24,000
Set up environmental volunteer network	5	180,000	36,000
Water quality monitoring	3	170,000	57,000
Promote eco-tourism	3	120,000	40,000
Preserve fishery resources	1	15,000	15,000
Promote septic tank installation	1	5,000	5,000
Total	88	12,039,200	

Q.27. Does your LA confront the problem of global warming?

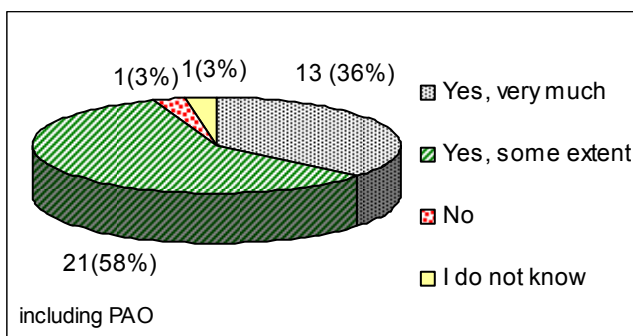


Q.28. What kind of activities your LA do for confronting the problem of global warming? Please select all that your LA are doing.

* This information includes PAO

Activity	Answer	Rank
Save water consumption	4	6
Save energy such as raising temperature of air conditioners, use bicycles in stead of cars	12	2
Promote 3Rs (waste reduction, reuse and recycling)	10	3
Separate collection of municipal solid waste	8	5
Forestation	9	4
Education of residents about environmental conservation, water and energy save, 3Rs, etc	17	1

Q.29. Do you think your residents cooperate to preserve environment of your administrative area?



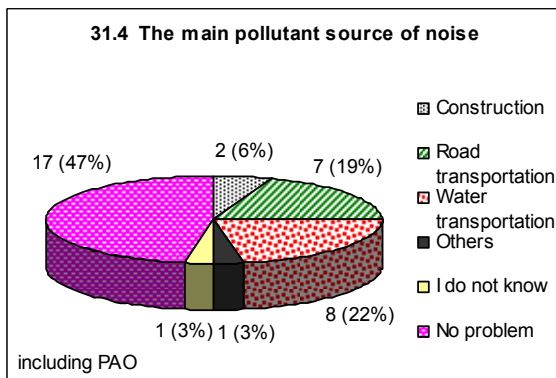
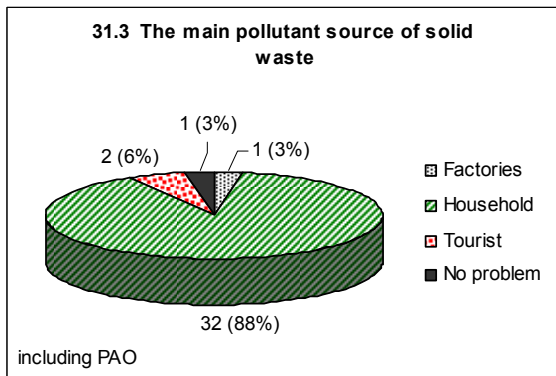
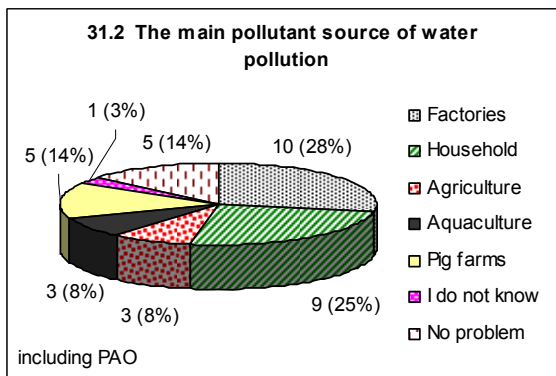
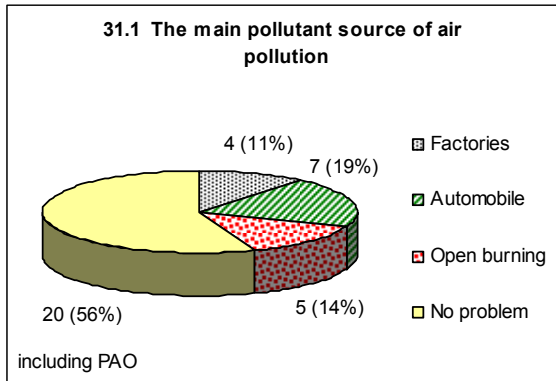
Q.30. What kind of activities do your residents do for preserving environment of your administrative area? Please select all that your residents are doing at present.

* This information includes PAO

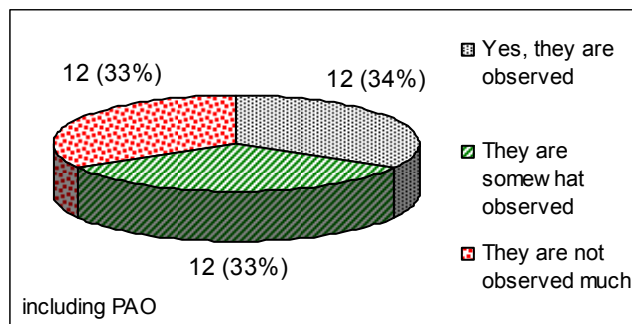
Activity	Answer	Rank
1. Separate discharge of municipal solid waste	11	4
2. Cleaning their surrounding area	15	3
3. Cleaning public area such as road, park, drain, etc.	26	1
4. Forestation	16	2
5. Environment monitoring and campaign	2	5
6. Produce natural fertilizer, natural products	1	6
7. Installation grease tap	1	6

Q.31. What do you think the main pollutant source is for the following pollution problems? Please answer in each pollution problem.

* This information includes PAO



Q.32. Do you think that environmental regulations are observed in Samut Songkhram Province?



**Q.33. What kind of measures do you think should be taken to make regulations observed?
(Plural answers are accepted)**

* This information includes PAO

Measure	Answer	Rank
1. The central government tightens control and increases penalty	4	2
2. The provincial administration tightens control and increases penalty	8	1
3. The local administration (Orborjor, Tessaban and Orbortor) tightens control and increases penalty	4	2
4. Industries should be raised awareness to take pollution control measures more seriously	8	1
5. People should be raised awareness to pay more attention to environmental issues	8	1

Q.34. What do you think the central government should do to improve environment? Please select 3 among the following choices.

* This information includes PAO

Measure	Answer	Rank
01. To establish new laws and regulations	12	4
02. To tighten its control and increase penalty	13	3
03. To construct more waste water treatment facilities and solid waste treatment & disposal facilities	16	1
04. To construct reuse/recycle center	12	4
05. To help industries improve pollution control capabilities	4	8
06. To have more programs to develop new technology	6	6
07. To promote environment education	12	4
08. To strengthen provincial administrations	2	10
09. To strengthen local administrations	8	5
10. To speed up decentralization	5	7
11. To promote participation of local people	15	2
12. To open more information and data	3	9

Q.35. What do you think Provincial Administrations should do to improve environment? Please select 3 among the following choices.

* This information includes PAO

Measure	Answer	Rank
01. To establish new regulations	3	8
02. To tighten its control and increase penalty	13	3
03. To construct a proper waste water treatment facilities and solid waste treatment & disposal facilities	21	1
04. To construct a reuse/recycle center	10	6
05. To help industries improve pollution control capabilities	5	7
06. To ask central government to introduce proper environmental management technology	3	8
07. To promote environment education	13	3
08. To strengthen capability of Local Administration	11	5
09. To promote participation of local people	16	2
10. To open more information and data	12	4

4. Suggestions for Formulation of Provincial Environmental Quality Management Plan

The Samut Songkhram Province is now formulating a Provincial Environmental Quality Management Plan (PEQMP) in order to establish a sustainable natural resources and environmental management in the Province. We are very welcome to receive your valuable suggestions for the plan.

* This information includes PAO

No.	Suggestion	Answer
1	The province should construct high technology incinerator for municipal solid waste and infectious solid waste disposal or establish the integrated solid waste management system in the province.	5
2	Public participation should be considered more.	2
3	PAO should play an important role for solid waste management in the province.	2
4	Promotion of natural products and environmental friendly products should be considered.	2
5	The PEQMP should in line with actual situation and serve the needs of local people.	1
6	The province has public area 2,000 Rai so-called Thung Hin in Moo 3, Tambon Yee Sarn, Amphur Mueang. Nowadays, the province doesn't use because some local mafias use that area for shrimp farm.	1
7	Government should promote small entrepreneur to treat their waste before discharge to the environment.	1
8	Government should disclose the information to LAs, for example water quality report in their area.	1
9	Government should study the direction of water current along coastal area for the study of wastewater dispersion.	1
10	The responsibilities of related organizations should be cleared.	1
11	Each district should have reuse/recycle center.	1
12	The solid waste separation system should be considered as a source of income for community.	1
13	Project development in the area should in line with the way of local people life.	1
14	Wastewater management from main pollution sources in neighboring provinces should be studied.	1
15	PEO does not cooperate with LAs as much as they could.	1

16	The budget from decentralization may not be used for environmental management since it depends on the policy of each LA.	1
17	Many LAs still lack of power to manage many duties transferring by decentralization act.	1
18	Government should set up local/domestic organization responsible for training/technical transfer for LAs/people.	1
19	Wastewater treatment facilities should be constructed in the province.	1

Reponses from NGOs

2. Activities of Your NGO

Q.1. How many members does your NGO have?

a. Samut Songkhram Chamber of Commerce	188	persons
b. We Love Mae Klong Group	33	persons
c. Samut Songkhram Marine Fishery Center	298	persons
d. Mae Klong Fishery Cooperative Ltd.	199	persons
e. Samut Songkhram Industrial Council	40	persons

Q.2. How many staffs does your NGO have?

a. Samut Songkhram Chamber of Commerce	2	persons
b. We Love Mae Klong Group	2	persons
c. Samut Songkhram Marine Fishery Center	4	persons
d. Mae Klong Fishery Cooperative Ltd.	83	persons
e. Samut Songkhram Industrial Council	15	persons

Q.3. When was your NGO established?

a. Samut Songkhram Chamber of Commerce	1986
b. We Love Mae Klong Group	1998
c. Samut Songkhram Marine Fishery Center	February 1945
d. Mae Klong Fishery Cooperative Ltd.	January 1981
e. Samut Songkhram Industrial Council	2004

Q.4. What are the main activities of your NGO?

- a. Samut Songkhram Chamber of Commerce
 - 1) Promote and support careers of people in the area
- b. We Love Mae Klong Group
 - 1) Study and collect local wisdom to be used for provincial development
 - 2) Promote natural resources conservation activities
 - 3) Promote the sustainability of agriculture, fishery, and tourism
 - 4) Acting as cooperation agency to organize activities among LAs in the province
 - 5) Produce leaflets, posters, books for public relation
- c. Samut Songkhram Marine Fishery Center
 - 1) Solve conflict interests between fishermen
 - 2) Acting as cooperation agency between governmental and private organization
 - 3) Promote natural resources conservation activities
 - 4) Educate knowledge (laws) for fishermen
- d. Mae Klong Fishery Cooperative Ltd.
 - 1) Supply necessary goods for fishermen (fuel, fishery equipment)
 - 2) Manage fishery market
- e. Samut Songkhram Industrial Council

1) Organize meetings among members for industrial development in the province

Q.5. What are the main activities of your NGO in Samut Songkhram Province?

a. Samut Songkhram Chamber of Commerce

- 1) Present community needs to the province through the monthly meetings
- 2) Cooperate and manage the dam construction project to prevent the intrusion

of

sea water to Tambon Preak Nam Daeng

- 3) Prepare proposal for local development to get budget from The Thailand Research Fund (TRF)

b. We Love Mae Klong Group

- 1) Organize Mackerel Festival
- 2) Organize Lichee Festival
- 3) Promote Eco-tourism
- 4) Educate environmental conservation to children

c. Samut Songkhram Marine Fishery Center

- 1) Promote Green Fuel Project (Subsidize fuel cost to members)
- 2) Promote Purple Fuel Project (Buy used fuel for recycle)
- 3) Preserve and release fish species into the rivers
- 4) Educate knowledge (laws) for fishermen

d. Mae Klong Fishery Cooperative Ltd.

- 1) Supply necessary goods for fishermen (fuel, fishery equipment)
- 2) Manage fishery market

e. Samut Songkhram Industrial Council

1) Organize meetings among members for industrial development in the province

Q.6. Budget or expenditure for the activities in Samut Songkhram Province in the past three years?

NGO	2005	2006	2007
a. Samut Songkhram Chamber of Commerce	700,000	700,000	700,000
b. We Love Mae Klong Group	150,000	150,000	150,000
c. Samut Songkhram Marine Fishery Center	300,000	300,000	300,000
d. Mae Klong Fishery Cooperative Ltd.	12,000,000	13,000,000	13,000,000
e. Samut Songkhram Industrial Council	200,000	200,000	200,000

Q.7. What are the issues and problems on your activities? Please select all that your NGO is facing? (Plural answers are accepted)

Problem	Answer	Rank
1. Insufficient financial resources	2	1
2. Insufficient human resources	1	2

3. Insufficient cooperation of central government	1	2
4. Insufficient cooperation of local government	0	0
5. Insufficient cooperation of local people	1	2
6. Insufficient coordination with other NGOs	0	0

3. Prioritized Issues on Natural Resources and Environmental Management

Q.8. What do you think the most serious problem is in your administrative area now? What is the second most serious problem? Please mark 1st and 2nd most serious problem respectively.

Q.9. In order to solve the most serious problem what do you think the most and the second most prioritized measure in your administrative area at present?

The most serious problem

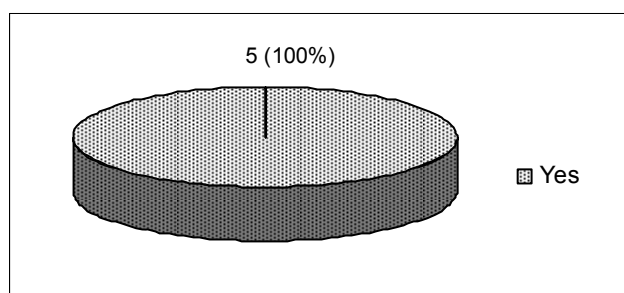
Topic	Detail	Answer	Measure
Natural resources and environment degradation	wastewater caused damage to aqua culture	1	- government should inform people about the water quality data in order to prepare themselves getting ready for waste water problem
	lost of natural resources	1	- Build up environmental conscience to people
Economics stagnation	increase of cost of fishery production	1	- Government should support production cost for fishery such as fuel
Communal knowledge	communal knowledge is behind governmental development projects	2	- government should learn the way of life of people before create developing projects
Total		5	

The second most serious problem

Topic	Detail	Answer	Measure
Economics stagnation	decrease of price of marine products	2	- not allow to do fishery for a certain period in order to recover and increase the quality of marine resouces - promote marine by-products industry
Politics	corruption in governmental projects	2	- government should admit that some construtral projects do not solve the real problems for local
Urban development	urban Planning Law is a constrain factor for industrial development in the province	1	- all related organization should have opportunity to discuss and make policy how to develop the province together
Total		5	

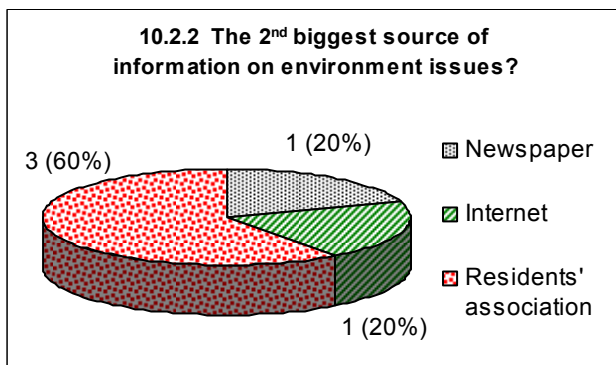
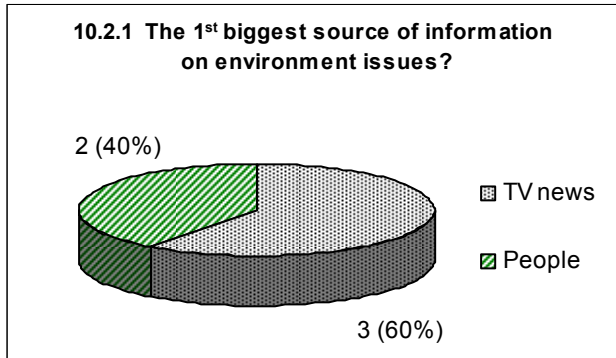
Q.10.

10.1 Are you interested in environment issues?



Remark: 5 (100%) shows actual number of answers and (proportion of the answer to total)

10.2 If you are interested in environment issues, how do you get information on environment issues? Please select the two biggest sources of information among the following choices



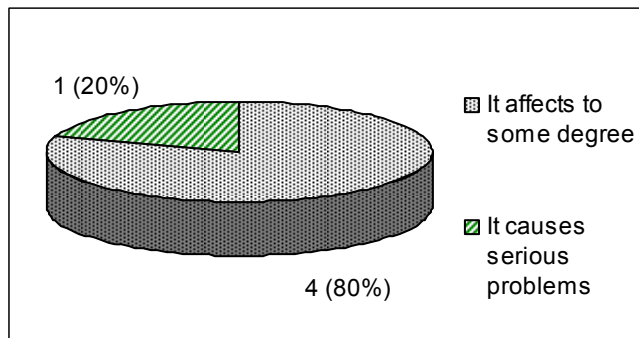
Q.11. How serious do you feel the following natural resources and environment problems? Please select one in each of the following environment problems.

	1. Not serious at all	2. Not very serious	3. Some what serious	4. Very serious	5. Can't choose	6. No response	Total
1. Soil and land resources	1	2	2	0	0	0	5
2. Mangrove resources	0	3	0	2	0	0	5
3. Fishery resources	0	2	1	2	0	0	5
4. Water resources	2	1	1	1	0	0	5
5. Marine and coastal resources	0	1	1	3	0	0	5
6. Biodiversity	1	0	3	1	0	0	5
7. Water quality	0	0	2	3	0	0	5
8. Solid waste	0	0	2	3	0	0	5
9. Air quality	5	0	0	0	0	0	5
10. Noise quality	2	3	0	0	0	0	5
11. Hazardous wastes and toxic substances	2	2	1	0	0	0	5
12. Urban environment such as parks, amenity, landscape, etc.	2	3	0	0	0	0	5
13. Natural and cultural assets	2	3	0	0	0	0	5
14. Global warming / climate change	3	1	0	1	0	0	5

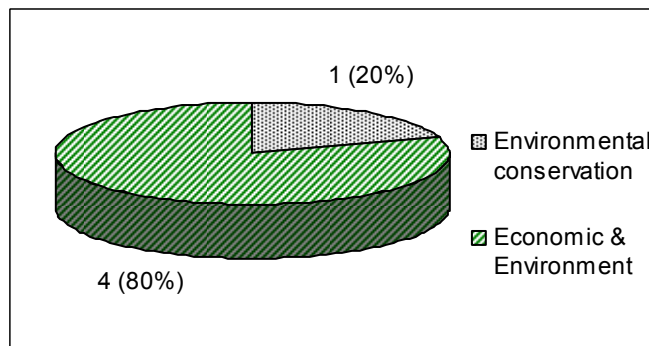
If you select [4. Very serious], please give us reasons why you select and what aspects specifically.

Question	Answer	Reasons why you select "4. Very serious"
2. Mangrove resources	- shrimp farms and factories intrude mangrove area	- lost of mangrove
3. Fishery resources	- invasive fishery - wastewater	- marine resources decrease drastically and fisherman gain less profit than the past
4. Water resources	- flood in Tambon Khlong Khon and Laem Yai	- damage agriculture area and people's property
5. Marine & coastal resources	- decreasing in quantity and quality of Razer Clam	- lost of Razer Clam
6. Biodiversity	- decreasing of variety of fish species	- fishery gain less profit than the past
7. Water quality	- wastewater from neighboring provinces - wastewater from the open-close of water gate	- lost of marine species - damage agriculture area
8. Solid waste	- garbage in canals - tons of garbage is not managed properly	- being obstacle for aqua culture - caused serious environmental problems
14. Global warming	- rising of temperature	- fruits cannot grow well

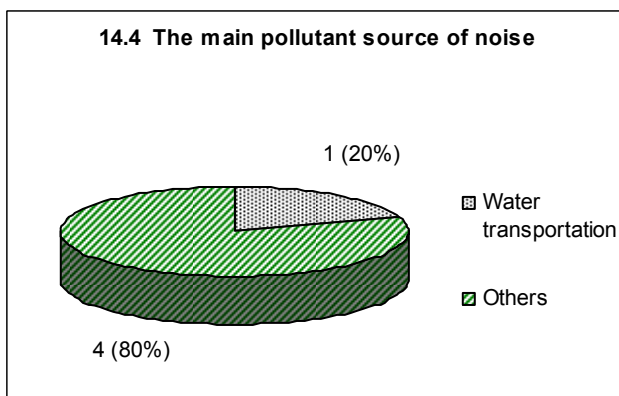
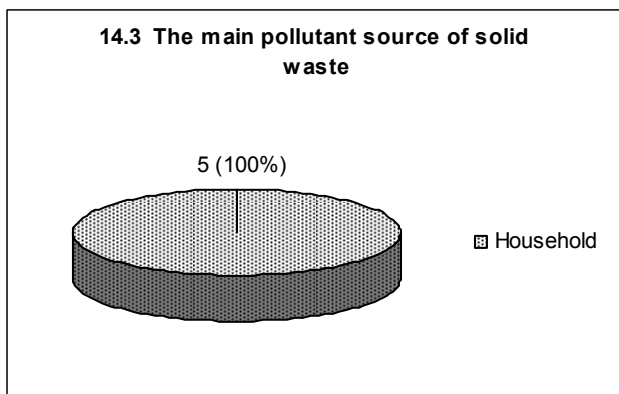
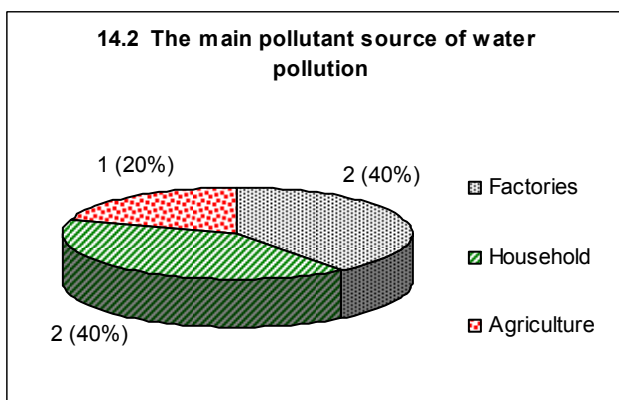
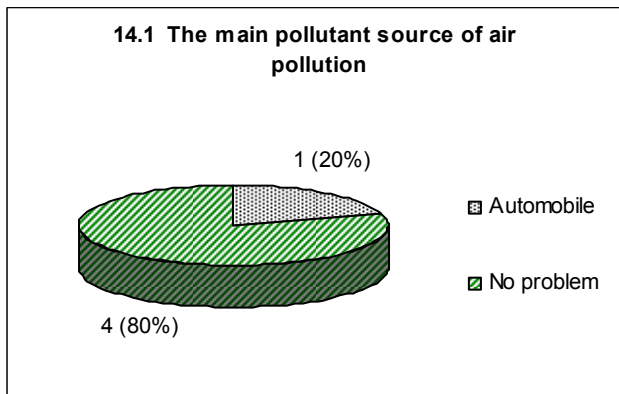
Q.12. How much do you feel environmental degradation affects your life?



Q.13. Which is more important for you, Economic Development or Environment Conservation?

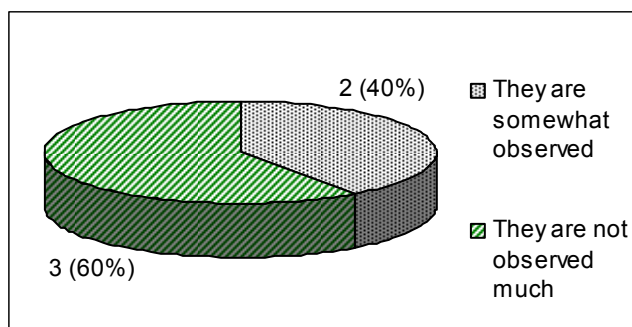


Q.14. What do you think the main pollutant source is for the following pollution problems? Please answer in each pollution problem.



3. Willingness to Cooperate for the Improvement of Natural Resources and Environmental Management

Q.15. Do you think that environmental regulations are observed in Samut Songkhram Province?



Q.16. What kind of measures do you think should be taken to make regulations observed? (Plural answers are accepted)

Measure	Answer	Rank
1. The central government tightens control and increases penalty	0	0
2. The provincial administration tightens control and increases penalty	1	2
3. The local administration (Orborjor, Tessaban and Orbortor) tightens control and increases penalty	1	2
4. Industries should be raised awareness to take pollution control measures more seriously	1	2
5. People should be raised awareness to pay more attention to environmental issues	2	1
6. Government should learn the way of life of people before create developing projects	2	1

Q.17. What do you think the central government should do to improve environment? Please select 3 among the following choices.

Measure	Answer	Rank
01. To establish new laws and regulations	1	4
02. To tighten its control and increase penalty	0	0
03. To construct more waste water treatment facilities and solid waste treatment & disposal facilities	0	0
04. To construct reuse/recycle center	0	0
05. To help industries improve pollution control capabilities	1	4
06. To have more programs to develop new technology	1	4
07. To promote environment education	4	1
08. To strengthen provincial administrations	0	0
09. To strengthen local administrations	2	3
10. To speed up decentralization	0	0
11. To promote participation of local people	3	2
12. To open more information and data	3	2

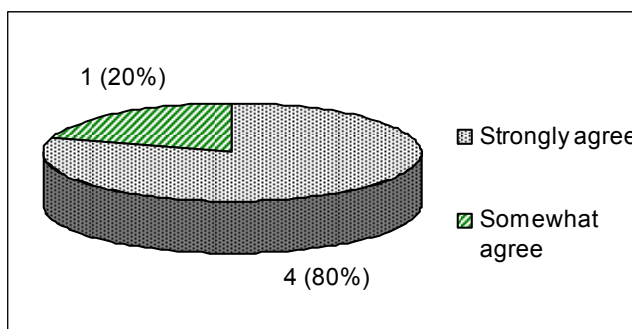
Q.18. What do you think Provincial Administrations should do to improve environment? Please select 3 among the following choices.

Measure	Answer	Rank
01. To establish new regulations	0	0
02. To tighten its control and increase penalty	1	3
03. To construct a proper waste water treatment facilities and solid waste treatment & disposal facilities	1	3
04. To construct a reuse/recycle center	0	0
05. To help industries improve pollution control capabilities	3	2
06. To ask central government to introduce proper environmental management technology	1	3
07. To promote environment education	3	2
08. To strengthen capability of Local Administration	1	3
09. To promote participation of local people	4	1
10. To open more information and data	1	3

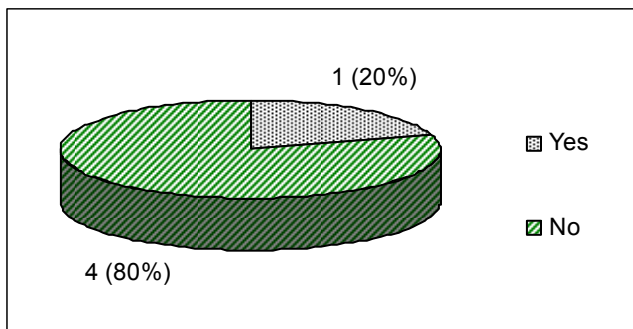
Q.19. What do you think Local Administrations (Orborjor, Tessaban and Orbortor) should do to improve environment? Please select 3 among the following choices.

Measure	Answer	Rank
01. To establish new regulations	0	0
02. To tighten its control and increase penalty	0	0
03. To construct a proper waste water treatment facilities and solid waste treatment & disposal facilities	1	3
04. To construct a reuse/recycle center	1	3
05. To help industries improve pollution control capabilities	0	0
06. To ask central government to introduce proper environmental management technology	0	0
07. To promote environment education	5	1
08. To promote participation of local people	4	2
09. To open more information and data	4	2

Q.20. Proper management of environment requires an additional cost such as installation of sewerage for domestic wastewater, sanitary landfill for municipal solid waste, maintenance of national parks, etc. Do you agree to pay more tax and/or more fee for the environmental conservation?



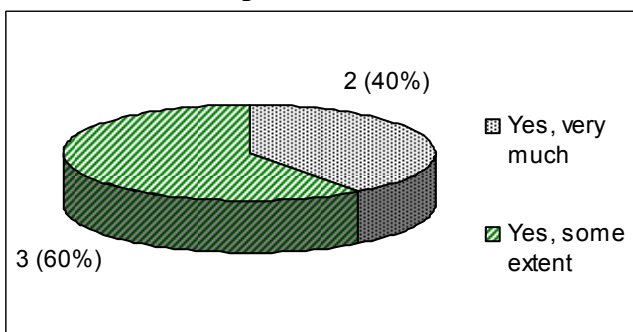
Q.21. Does your NGO confront the problem of global warming?



Q.22. What kind of activities do you do for confronting the problem of global warming? Please select all that you are doing.

Activity	Answer	Rank
1. Save water consumption	0	0
2. Save energy such as raising temperature of air conditioners	1	1
3. Promote 3Rs (waste reduction, reuse and recycling)	0	0
4. Separate collection of municipal solid waste	0	0
5. Forestation	1	1

Q.23. Do you think residents in Samut Songkhram Province cooperate to preserve environment of the province?



Q.24. What kind of activities do the residents do for preserving environment of the province? Please select all that the residents are doing at present.

Activity	Answer	Rank
1. Separate discharge of municipal solid waste	1	2
2. Cleaning their surrounding area	2	1
3. Cleaning public area such as road, park, drain, etc.	1	2
4. Forestation	2	1
5. Organize local meetings to share experiences and information	2	1
6. Protest projects that caused environmental impact in the area	1	2

Q.25. The Samut Songkhram Province is now formulating a Provincial Environmental Quality Management Plan (PEQMP) in order to establish a sustainable natural resources and environmental management in the Province. When the plan will be finalized, the provincial government will organize a committee to monitor the implementation of the plan and recruit members of the committee from various stakeholders including NGOs. Will your NGO be able to be a member of the committee?

All NGOs are willing to participate in the process without any conditions.

4. Suggestions for Formulation of Provincial Environmental Quality Management Plan

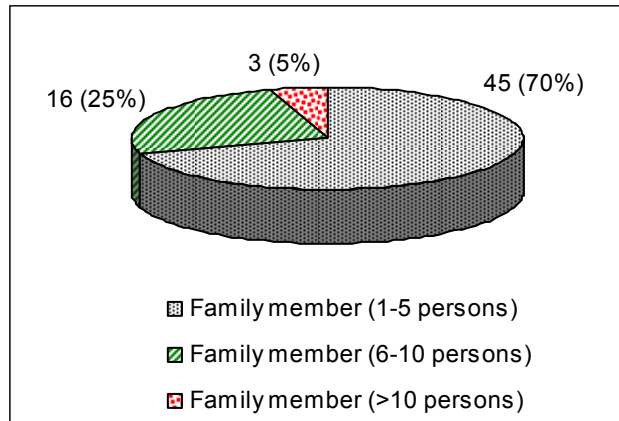
The Samut Songkhram Province is now formulating a Provincial Environmental Quality Management Plan (PEQMP) in order to establish a sustainable natural resources and environmental management in the Province. We are very welcome to receive your valuable suggestions for the plan.

No.	Suggestion	Answer
1	To create plan should start with the concept of public participation and design proper indicators for evaluation the achievement of the plan.	2
2	The implementing indicators should design for each area due to the differences of problems.	2
3	The province should promote tourism that create revenue to the community and conform to people's way of life	2
4	Construct artificial coral to be a nursery for marine resources.	1
5	The promotion of new technology to be used in the province should suitable for local people	1
6	Governmental organization should work quickly and sharply.	1
7	Utilization of fish's skin (waste from cleaning process) should be studies.	1
8	The province should develop by-product of seafood industry since it is easier to manage wastewater.	1
9	PEO should play an important role to disseminate environmental conservation to LAs.	1
10	Motivational measures should be used for environmental conservation.	1

Reponses from Residents

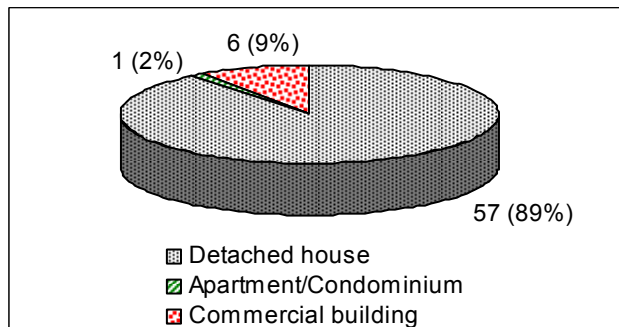
1. General Question

Q.1. How many persons are there in your premises?



Average of family member 5 persons

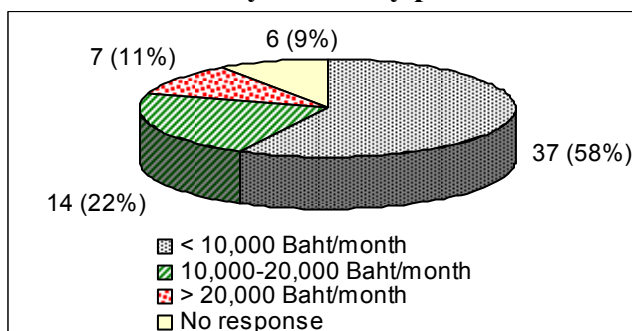
Q.2. What type of housing are you living in now?



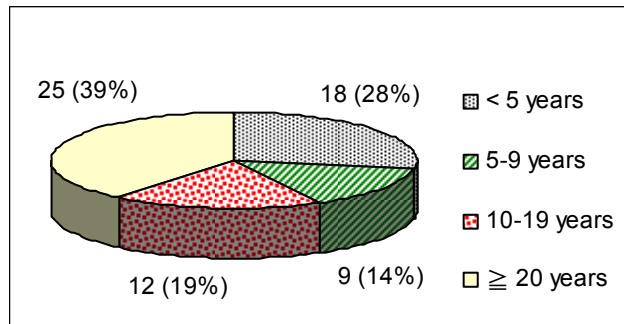
Q.3. What is the business Category of the House?

All interviewee's houses are used for residence only.

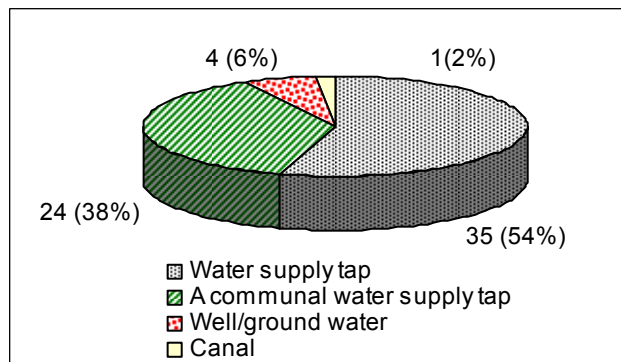
Q.4. How much is total income of your family per month?



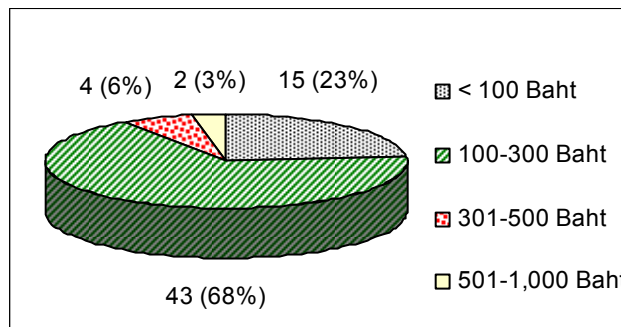
Q.5. How many years do you dwell in present premises?



Q.6. How do you get water for your daily life?

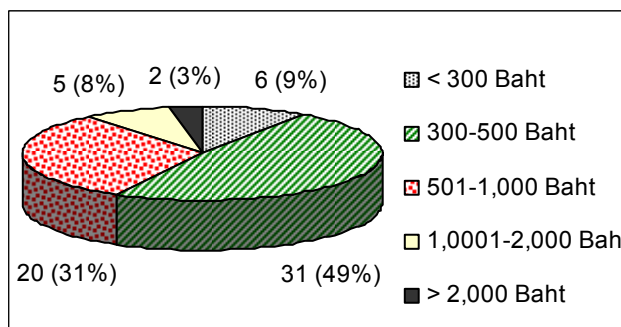


Q.7. How much do you pay for water per month?



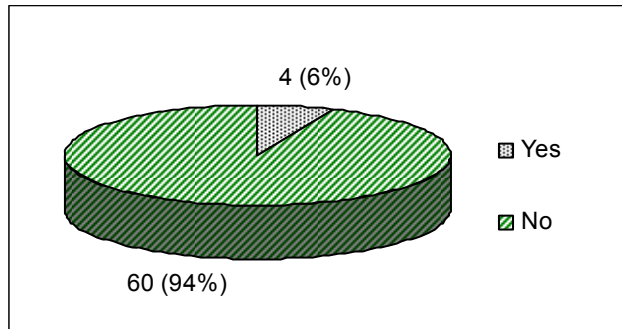
Average 188 Baht/month

Q.8. How much do you pay per month for electricity?



Average 659 Baht/month

Q.9. Do you have sewage service in your premise?

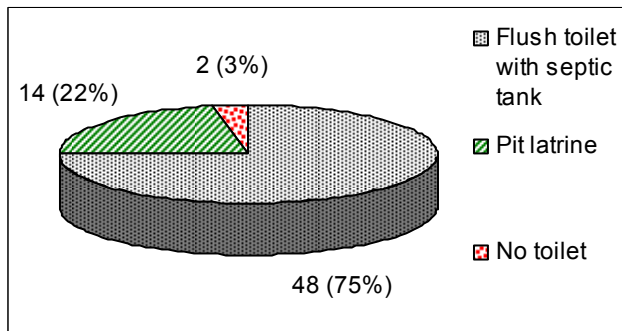


Q.10. Do you pay sewage service charge?

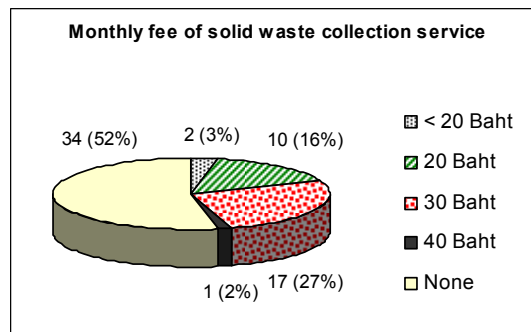
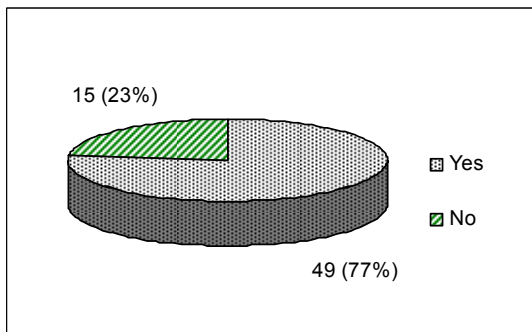
Q.11. If yes, how much do you pay for sewage service per month?

Nowadays, there is no service charge for sewage treatment.

Q.12. What type of toilet facility do you use in your premises?

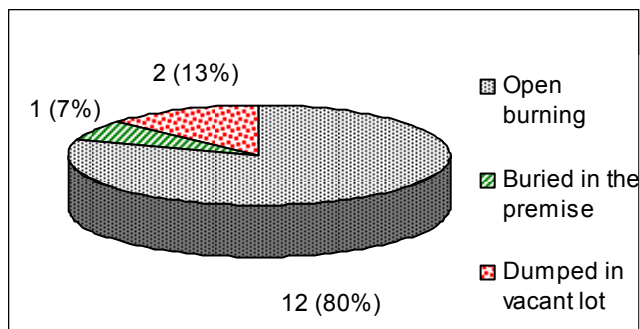


Q.13. Do you have solid waste collection services?



Average 15 Baht/month

Q.14. How do you dispose of your refuse? (If the answer in Q.13 is “No”)



Q.15. Suppose the provincial and local administrations make a plan to construct solid waste treatment/disposal facilities in and around your region, what conditions do you set to agree with the plan? Please select all that you agree among the following choices)

Condition	Answer	Rank
01. We can participate in the planning process.	15	6
02. The location of facilities is decided, regarding human health and conservation of nature.	30	1
03. The environment impact assessment survey is thoroughly carried out.	18	4
04. The provincial and local administrations reveal all necessary information and data to public.	24	2
05. The provincial and local administrations conduct monitoring and inspections of facilities properly and gives guidance to the facilities when it is needed.	19	3
06. Waste treatment/disposal facilities take all necessary measures to prevent leakage and emission of toxic substances from facilities.	19	3
07. The provincial and local administrations promotes reuse/recycle of waste and cleaner production technology to reduce the volume of waste.	16	5
08. The provincial and local administrations provides special programs to promote local economy.	12	7
09. I won't agree with any plans to construct treatment/disposal facilities in my neighbor.	11	8
10. I do not know.	0	0
11. Other	0	0
12. No response	5	9

3. Prioritized Issues on Natural Resources and Environmental Management

Q.16. What do you think the most serious problem is in your administrative area now? What is the second most serious problem? Please mark 1st and 2nd most serious problem respectively.

Q.17. In order to solve the most serious problem what do you think the most and the second most prioritized measure in your administrative area at present?

The most serious problem

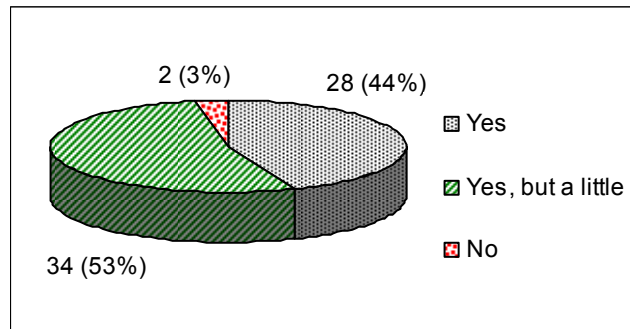
Topic	Detail	Answer	Measure
Natural resources and environment degradation	lost of natural resources and good environment	37	- government should tightens control of laws and regulations - establish new laws and regulations if necessary - related organizations should pay more attention to environmental problems and work together - environment impact assessment survey and public participation should be carried out before developing any projects - enhance the capability of community leaders - government should use urgent rehabilitation measures to recover the natural resources - reduce activities that caused damage to the sea - educate and build up environmental conscience to people
	degradation of water quality	2	- campaign people not dump garbage into the canals - control the discharge of wastewater from factories
	shallow of many canals	1	- government should dredge the canals
	erosion along the river banks	1	- control the speed of long-tailed boats
	noise pollution	1	- government should control the long-tailed boat operators and tourists about fireflies observation
Economics stagnation	gain less income than the past	8 3	- related organization should support - build up more additional careers to housewife and elderly groups
	low price of agriculture products	2	- related organization should support
Insufficient capability of the LA	not work closely with people	3	- enhance the capability of the LA
Politics	not work in harmony	1	- unanimity option should be considered
No particular problem		5	
Total		64	

The second most serious problem

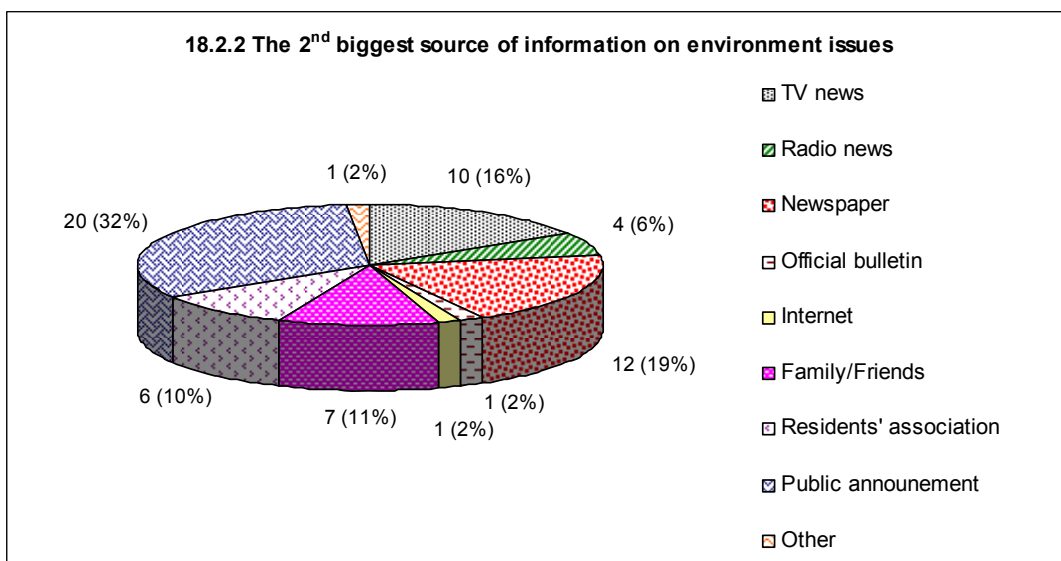
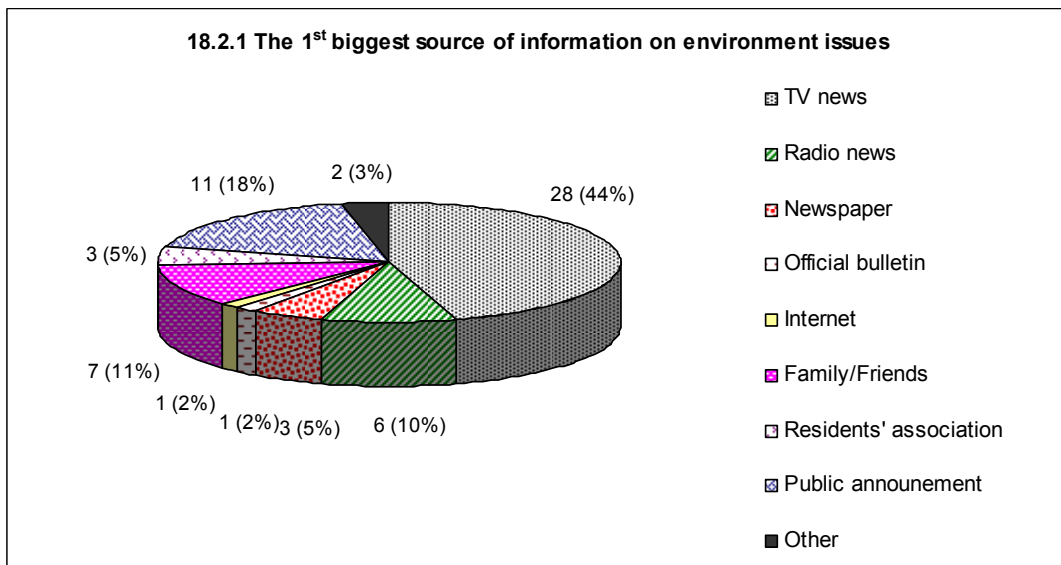
Topic	Detail	Answer	Measure
Natural resources and environment	lost of natural resources and good environment	6	- government should tightens control of laws and regulations - educate and build up environmental conscience to people
Economics stagnation	less income, more expenses	21	- government should support - build up more careers in the community - promote eco-tourism in the community
	unemployment	1	- build up more careers in the community
	low price of agriculture products	2	- government should support
Insufficient capability of the LA	LA cannot take care cover all its administrative areas	4	- LA should take care of quality of life of people more
	electricity in public places are not covered	1	- LA should take care of quality of life of people more
	decentralization to people is still low	1	- LA should open more information to people
Politics	not work in harmony	4	- unanimity option should be considered
Poor public health conditions	quality of communal water is low	2	- LA should solve the problem
No particular problem		22	
Total		64	

Q.18.

18.5 Are you interested in environment issues?



18.6 If you are interested in environment issues, how do you get information on environment issues? Please select the two biggest sources of information among the following choices



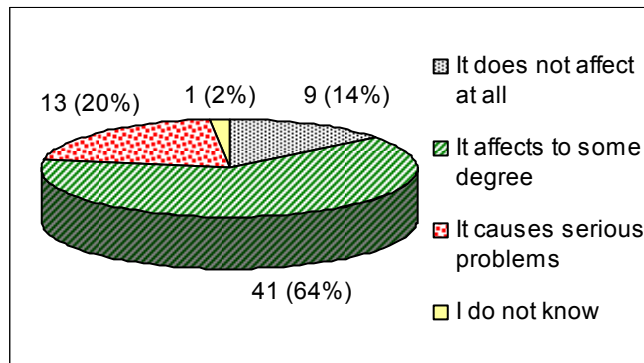
Q.19. How serious do you feel the following natural resources and environment problems? Please select one in each of the following environment problems.

	1. Not serious at all	2. Not very serious	3. Some what serious	4. Very serious	5. Can't choose	6. No response	Total
1. Soil and land resources	47	8	6	2	1	0	64
2. Mangrove resources	29	12	12	4	7	0	64
3. Fishery resources	32	10	12	7	3	0	64
4. Water resources	37	13	12	2	0	0	64
5. Marine and coastal resources	26	2	15	9	12	0	64
6. Biodiversity	37	9	15	1	2	0	64
7. Water quality	35	8	15	6	1	0	64
8. Solid waste	32	15	15	2	0	0	64
9. Air quality	47	9	8	0	0	0	64
10. Noise quality	47	11	6	0	0	0	64
11. Hazardous wastes and toxic substances	55	6	3	0	0	0	64
12. Urban environment such as parks, amenity, landscape, etc.	50	3	7	0	4	0	64
13. Natural and cultural assets	53	5	3	1	2	0	64
14. Global warming / climate change	11	9	29	15	0	0	64

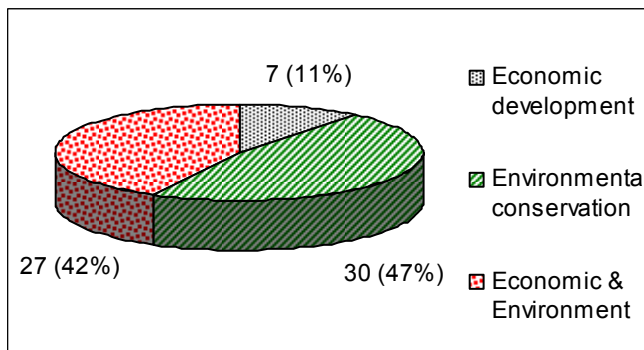
If you select [4. Very serious], please give us reasons why you select and what aspects specifically.

Question	Answer	Reasons why you select "4. Very serious"
1. Soil and land resources	- salty of soil - intrusion of public areas	- soil is not proper for agriculture - conflict between government and people
2. Mangrove resources	- lost of mangrove	- lost of natural habitat for marine species
3. Fishery resources	- decrease of fishery resources - invasive fishery	- lost of income - fishery resources decrease drastically
4. Water resources	- flood	- obstacle for transportation and agriculture
5. Marine & coastal resources	- use caustic soda to catch Razer Clam - over fishing Razer Clam - degradation and intrusion of coastal areas	- Razer Clam decrease drastically - Razer Clam decrease drastically - lost of land and fishery resources
6. Biodiversity	- decrease of fishery resources	- lost of income
7. Water quality	- wastewater - dump garbage into the canals - low quality of groundwater	- caused damage to aqua culture - caused water pollution - groundwater cannot be used
8. Solid waste	- dump garbage into the canels - tons of garbage is not managed properly	- caused water pollution - caused serious environmental problems
13. Natural and cultural assets	- government do not take care of natural assets seriously	- degradation of natural assets
14. Global warming	- rising of temperature	- cannot gardening as long as before - decrease of marine species - season change

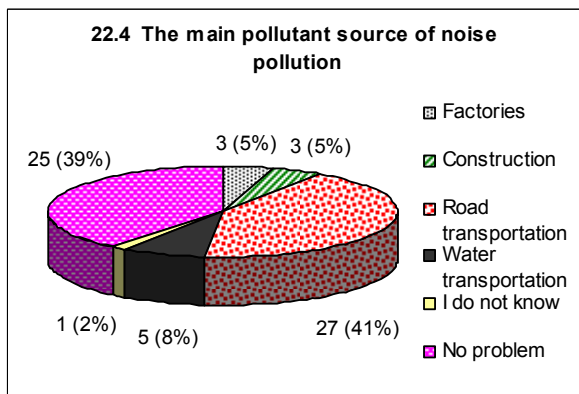
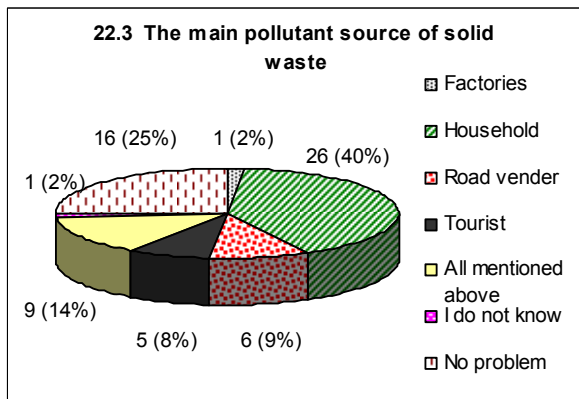
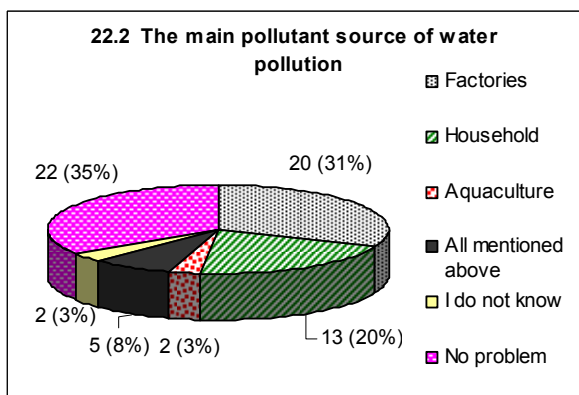
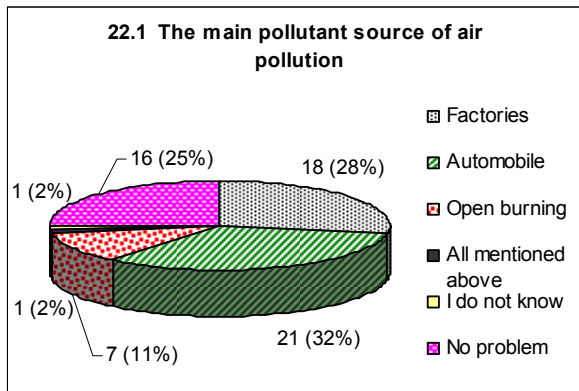
Q.20. How much do you feel environmental degradation affects your life?



Q.21. Which is more important for you, Economic Development or Environment Conservation?

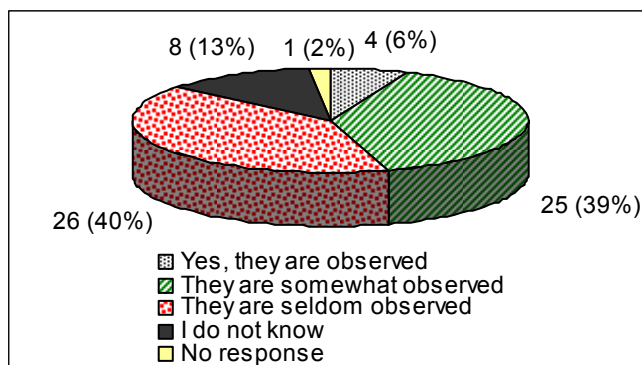


Q.22. What do you think the main pollutant source is for the following pollution problems? Please answer in each pollution problem.

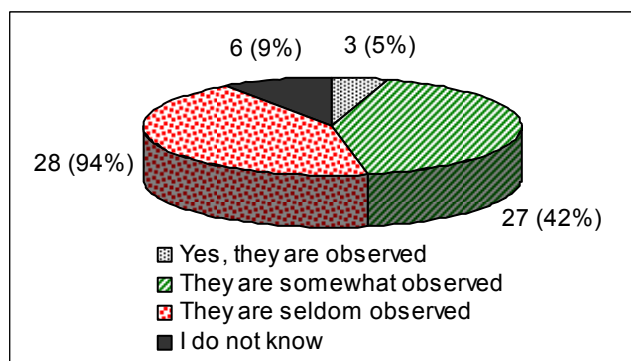


3. Willingness to Cooperate for the Improvement of Natural Resources and Environmental Management

Q.23. Do you think that environmental regulations are observed in Samut Songkhram Province?



Q.24. Do you think that environmental regulations are observed in your administrative area?



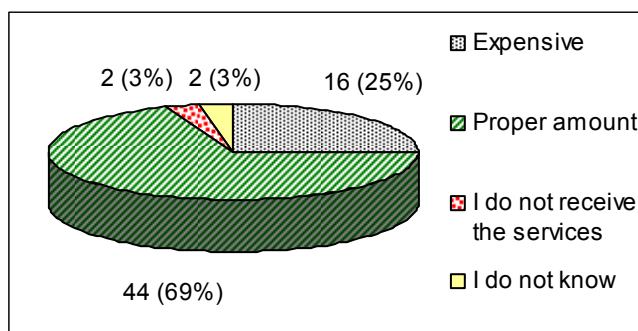
Q.25. What kind of measures do you think should be taken to make regulations observed? (Plural answers are accepted)

Measure	Answer	Rank
1. The central government tightens control and increases penalty	14	4
2. The provincial administration tightens control and increases penalty	20	3
3. The local administration (Orborjor, Tessaban and Orbortor) tightens control and increases penalty	39	1
4. Industries should be raised awareness to take pollution control measures more seriously	14	4
5. People should be raised awareness to pay more attention to environmental issues	36	2

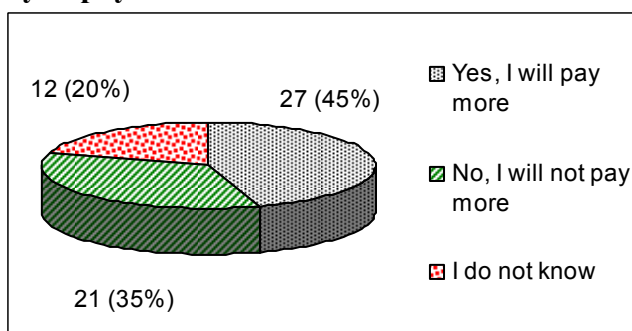
**Q.26. What do you think the government should do to improve environment?
Please select 3 among the following choices.**

Measure	Answer	Rank
01. Law enforcement (for example to establish new laws and regulations, to tighten its control, etc.)	26	3
02. To construct more waste water treatment facilities and solid waste treatment & disposal facilities	13	6
03. To promote the reduce of solid waste - reuse/recycle	18	5
04. To help industries improve pollution control capabilities	6	8
05. To promote environment education	45	1
06. To strengthen provincial administrations	7	7
07. To strengthen local administrations	18	5
08. To promote participation of local people	36	2
09. To open more information and data	19	4

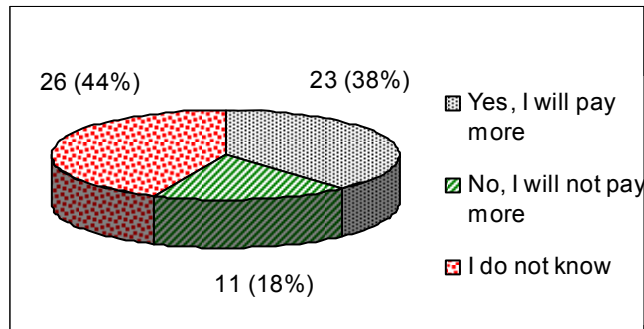
Q.27. Regarding city water supply service, how do you think the service charge?



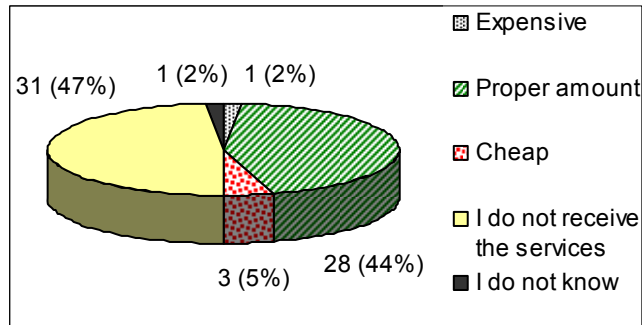
Q.28. Regarding city water supply, if it is improved better than the present situation, will you pay more?



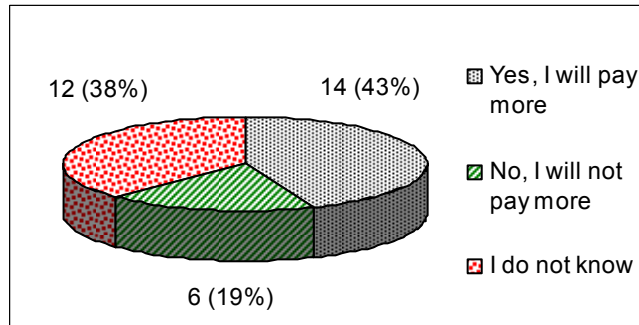
Q.29.Regarding sewerage, if it is improved better than the present situation, will you pay some fee?



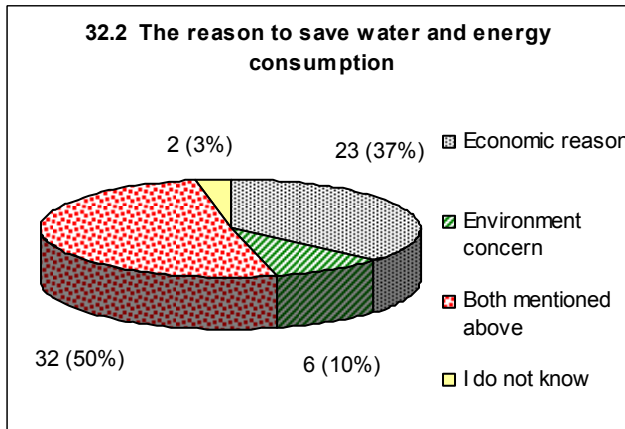
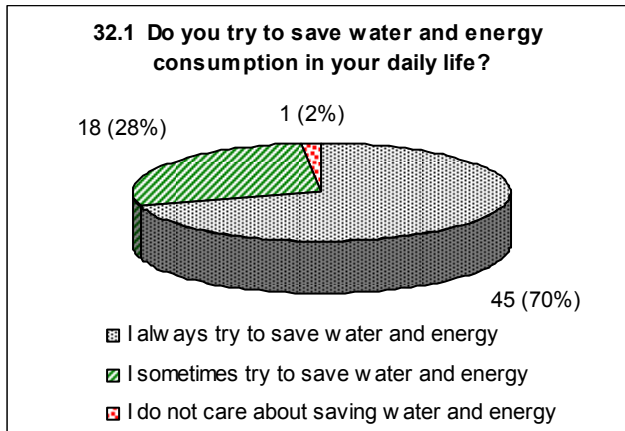
Q.30.Regarding solid waste collection services, how do you think the service charge?



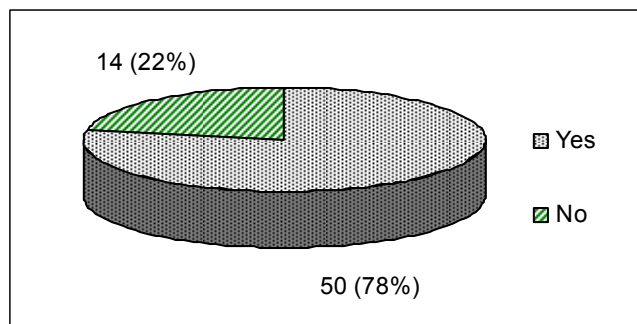
Q.31.Regarding refuse collection service, if it is improved better than the present situation, will you pay more?



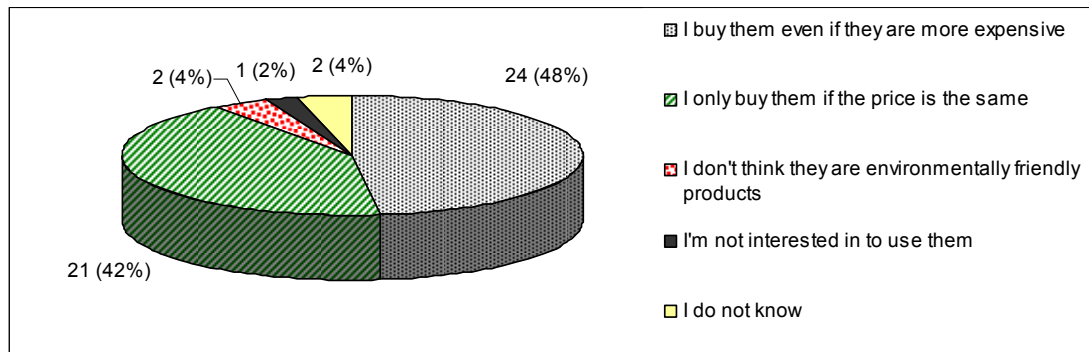
**Q.32. Do you try to save water and energy consumption in your daily life?
 If yes, what is the reason?**



Q.33. Do you know “Environmentally Friendly Products”? (Those concerned with not damaging the Environment)



Q.34. Which of the following statements regarding Environmentally Friendly Products is an appropriate description of your attitude?



Q.35. Are you willing to cooperate to reduce environmental problems in your community?

All interviewees (100%) are willing to cooperate to reduce environmental problems in their community.

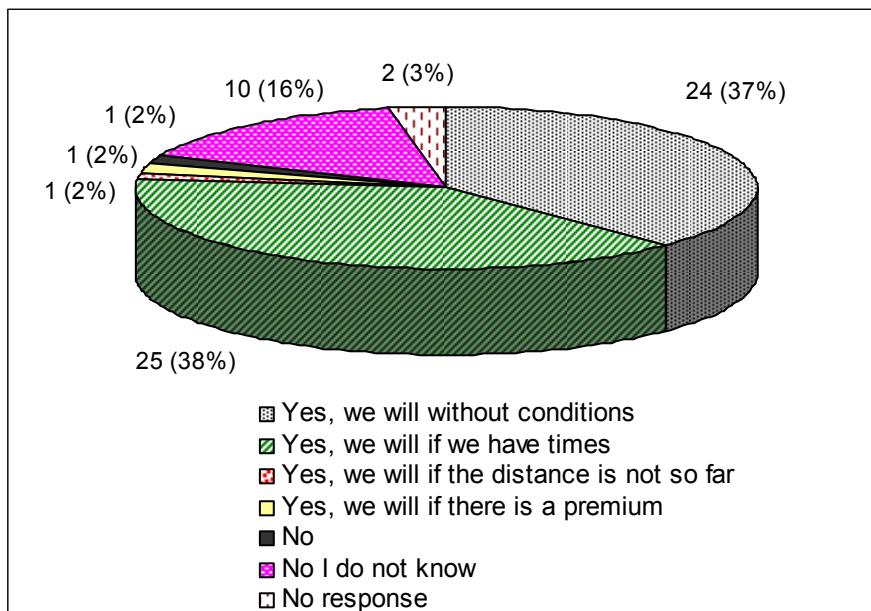
Q.36. If the local administration would introduce a different waste collection system, such as segregating the waste into “easily decomposable” (food, gardening) and “recyclable” (metal, bottles), would you be willing to cooperate?

63 out of 64 interviewees (98%) are willing to cooperate with a different waste collection system introduced by the local administration.

Q.37. Why would you not be willing (or do not know if you would be willing) to cooperate with such a system? (Plural answers are accepted)

The reason that an interviewee (2%) is not willing to cooperate with such a system is because “Several containers and bags are needed.”

Q.38. The Samut Songkhram Province is now formulating a Provincial Environmental Quality Management Plan (PEQMP) in order to establish a sustainable natural resources and environmental management in the Province. Are you interested to participate in the process or attend the meetings organized by the Project?



4. Suggestions for Formulation of Provincial Environmental Quality Management Plan

The Samut Songkhram Province is now formulating a Provincial Environmental Quality Management Plan (PEQMP) in order to establish a sustainable natural resources and environmental management in the Province. We are very welcome to receive your valuable suggestions for the plan.

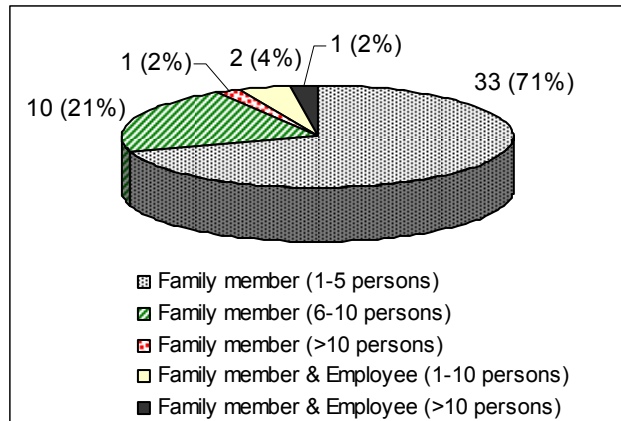
No.	Suggestion	Answer
1	All related organizations should work together to improve the environment.	4
2	Implementation of the PEQMP should be concrete. All information gathering from questionnaire survey should be used to support the project.	4
3	Supporting of environment education to people is important	3
4	Related organization responsible for the PEQMP should educate people about the plan. Monitoring and evaluation process should be done properly.	2
5	The number of solid waste containers for people who live along the canals should be increased. Moreover, the LAs should provide boats to collect garbage in the canals.	2

6	The construction of provincial wastewater treatment and solid waste disposal facilities should be done.	2
7	The province should control tourists' activities, particularly fireflies' observation since the speed of boats caused erosion and decrease of fireflies.	2
8	Public participation is important for environmental management.	2
9	The PEQMP should be set from bottom up.	1
10	Campaign and build up environmental conscience to people continually.	1
11	The province should not promote projects that may caused pollution in the community	1
12	The separation discharge of municipal solid waste should be done seriously	1
13	The province should promote the utilization of natural products	1

Reponses from Business Enterprises

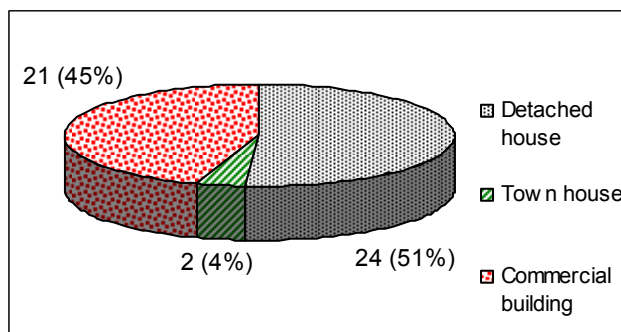
1. General Question

Q.1. How many persons are there in your premises?

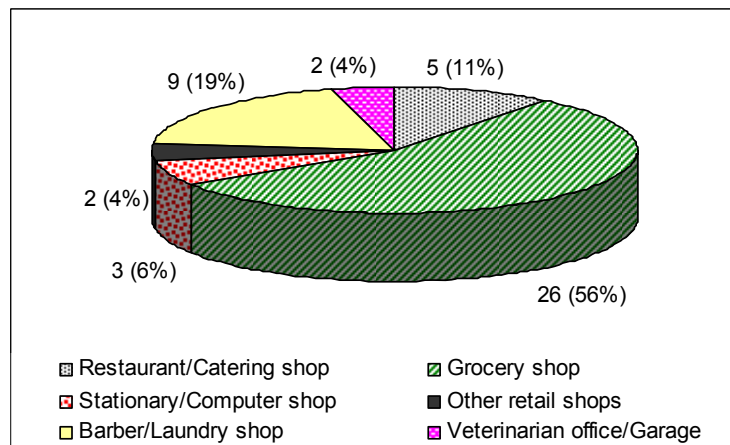


Average of family member 4 persons (43 answers)
Average of employee 5 persons (4 answers)

Q.2. What type of housing are you living in now?

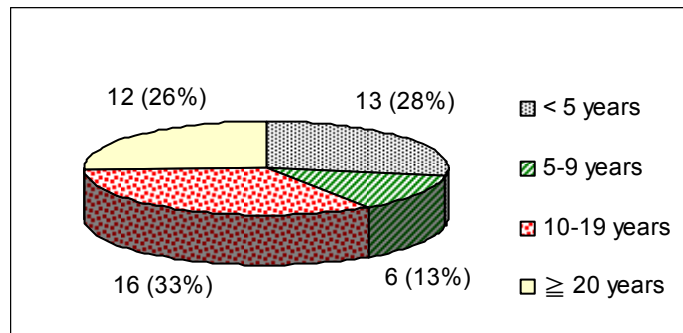


Q.3. What is the business Category of the House?

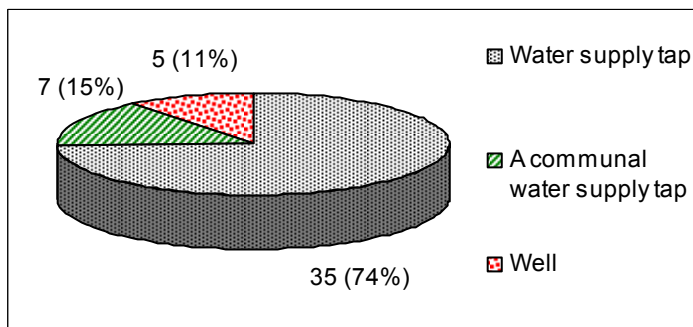


Q.4. How much is total income of your family per month? (for Residence only)

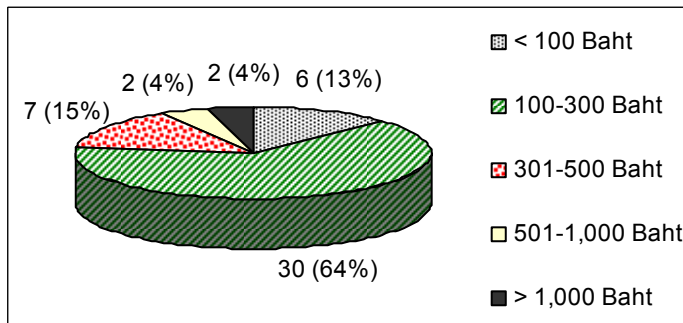
Q.5. How many years do you dwell in present premises?



Q.6. How do you get water for your daily life?

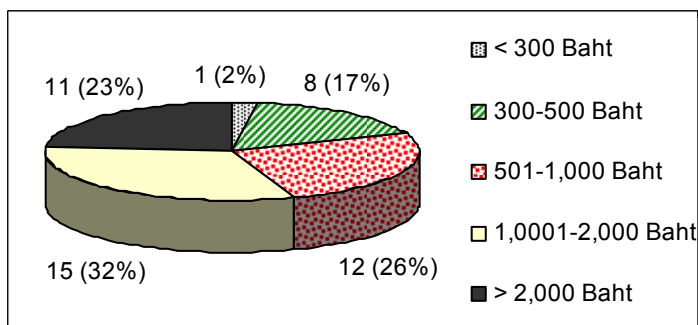


Q.7. How much do you pay for water per month?



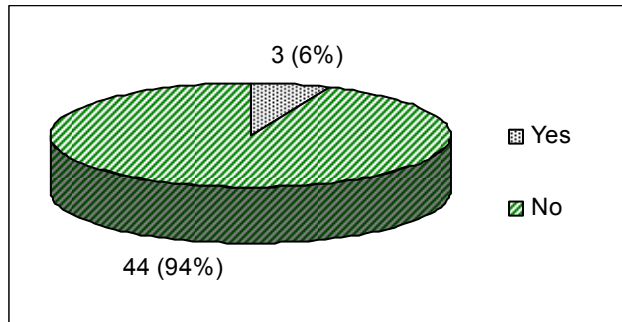
Average 296 Baht/month

Q.8. How much do you pay per month for electricity?



Average 1,653 Baht/month

Q.9. Do you have sewage service in your premise?

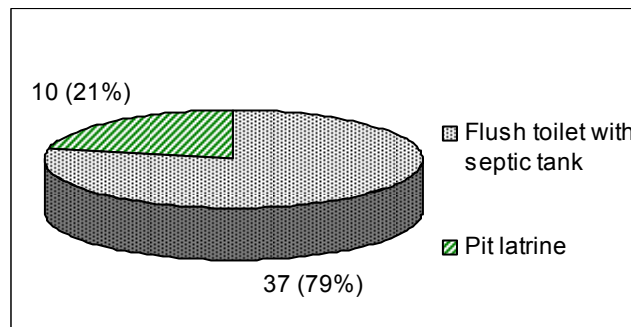


Q.10. Do you pay sewage service charge?

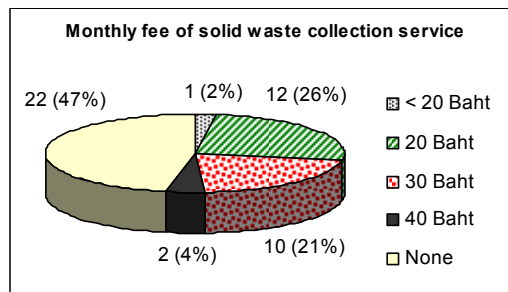
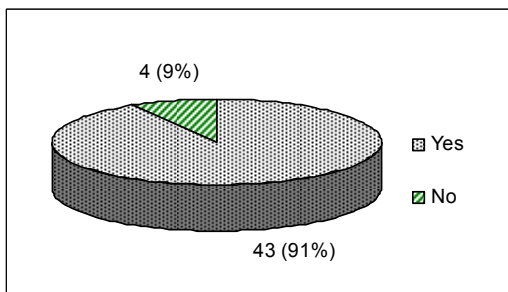
Q.11. If yes, how much do you pay for sewage service per month?

Nowadays, there is no service charge for sewage treatment.

Q.12. What type of toilet facility do you use in your premises?

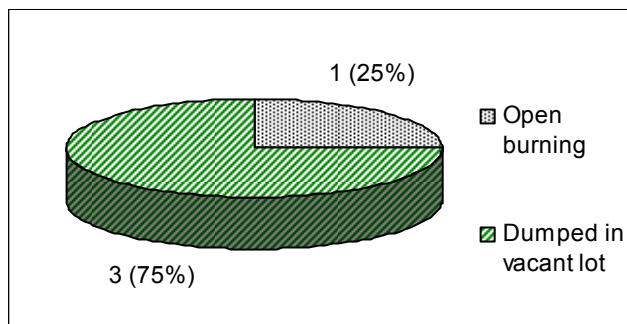


Q.13. Do you have solid waste collection services?



Average 15 Baht/month

Q.14. How do you dispose of your refuse? (If the answer in Q.13 is “No”)



Q.15. Suppose the provincial and local administrations make a plan to construct solid waste treatment/disposal facilities in and around your region, what conditions do you set to agree with the plan? Please select all that you agree among the following choices)

Condition	Answer	Rank
01. We can participate in the planning process.	8	3
02. The location of facilities is decided, regarding human health and conservation of nature.	14	1
03. The environment impact assessment survey is thoroughly carried out.	10	2
04. The provincial and local administrations reveal all necessary information and data to public.	14	1
05. The provincial and local administrations conduct monitoring and inspections of facilities properly and gives guidance to the facilities when it is needed.	8	3
06. Waste treatment/disposal facilities take all necessary measures to prevent leakage and emission of toxic substances from facilities.	10	2
07. The provincial and local administrations promote reuse/recycle of waste and cleaner production technology to reduce the volume of waste.	8	3
08. The provincial and local administrations provide special programs to promote local economy.	6	4
09. I won't agree with any plans to construct treatment/disposal facilities in my neighbor.	4	5
10. I do not know.	0	0
11. Other	0	0
12. No response	10	2

2. Prioritized Issues on Natural Resources and Environmental Management

Q.16. What do you think the most serious problem is in your administrative area now? What is the second most serious problem? Please mark 1st and 2nd most serious problem respectively.

Q.17. In order to solve the most serious problem what do you think the most and the second most prioritized measure in your administrative area at present?

The most serious problem

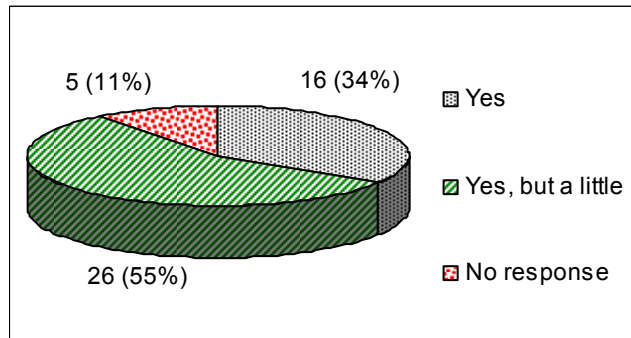
Topic	Detail	Answer	Measure
Natural resources and environment degradation	lost of natural resources and good environment	22	- government should tightens control of laws and regulations - establish new laws and regulations if necessary - educate and build up environmental conscience to people
	wastewater	1	- government should regularly monitor the discharge of wastewater from factories
Economics stagnation	gain less income than the past	19	- related organization should support - government should suggest people how to live by themselves. They should not wait and ask help from the government all the time.
Insufficient capability of the LA	quality of communal water is low	3	- related organization should take care more
Politics	severely compete in local politics	1	- unanimity option should be considered
No particular problem		1	
Total		47	

The second most serious problem

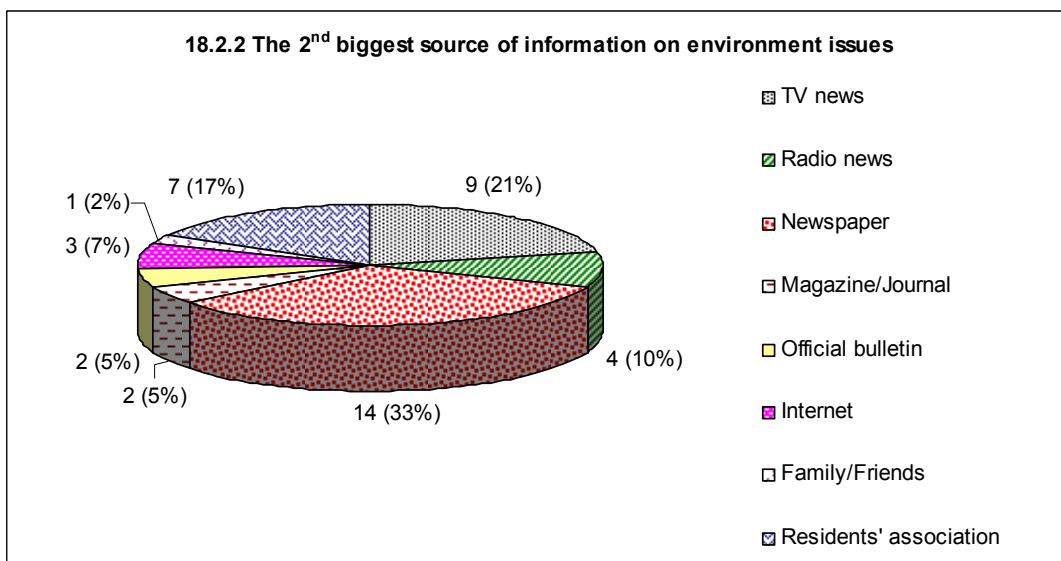
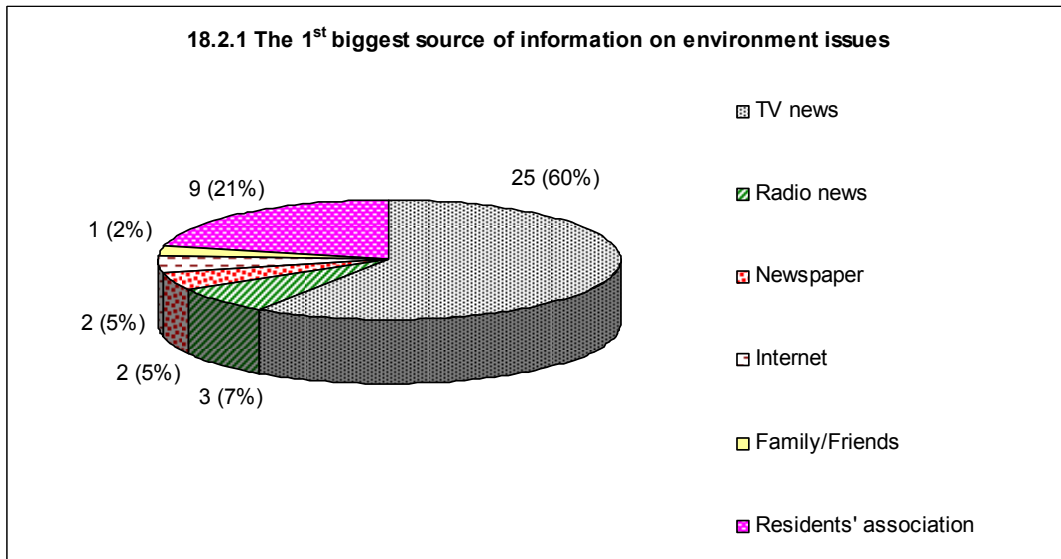
Topic	Detail	Answer	Measure
Natural resources and environment	lost of natural resources and good environment	8	- government should tightens control of laws and regulations - not allow power plant to be constructed - educate and build up environmental conscience to people
Economics stagnation	gain less income than the past	9	- government should support
	increasing of big department stores caused effect to local grocery shops	1	- establish new laws to protect local business
	decrease of price of agriculture products	1	- government should support
Insufficient capability of the LA	infrastructure development is not covered all areas	6	- LA should take care of quality of life of people more
Politics	conflict in local politics	2	- unanimity option should be considered
Poor public health conditions	quality of communal water is low	1	- related organization should take care more
No particular problem		19	
Total		47	

Q.18.

18.1 Are you interested in environment issues?



18.2 If you are interested in environment issues, how do you get information on environment issues? Please select the two biggest sources of information among the following choices



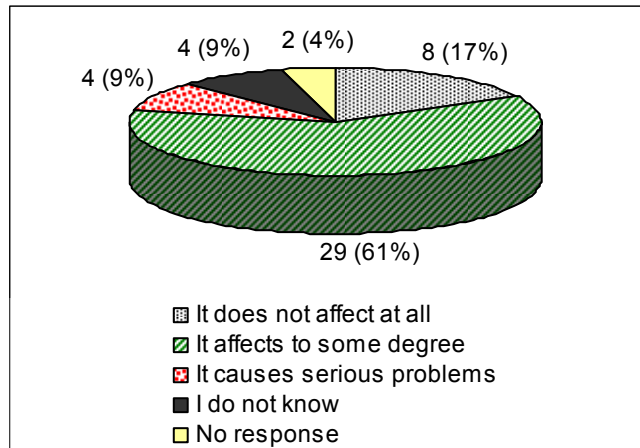
Q.19. How serious do you feel the following natural resources and environment problems? Please select one in each of the following environment problems.

	1. Not serious at all	2. Not very serious	3. Some what serious	4. Very serious	5. Can't choose	6. No response	Total
1. Soil and land resources	29	1	9	1	7	0	47
2. Mangrove resources	25	5	8	5	4	0	47
3. Fishery resources	19	11	7	7	3	0	47
4. Water resources	25	10	8	2	2	0	47
5. Marine and coastal resources	19	9	9	5	5	0	47
6. Biodiversity	26	9	8	3	1	0	47
7. Water quality	24	6	11	5	1	0	47
8. Solid waste	23	9	9	6	0	0	47
9. Air quality	35	3	9	0	0	0	47
10. Noise quality	35	5	7	0	0	0	47
11. Hazardous wastes and toxic substances	38	5	4	0	0	0	47
12. Urban environment such as parks, amenity, landscape, etc.	30	6	7	0	4	0	47
13. Natural and cultural assets	34	2	6	0	5	0	47
14. Global warming / climate change	11	4	24	8	0	0	47

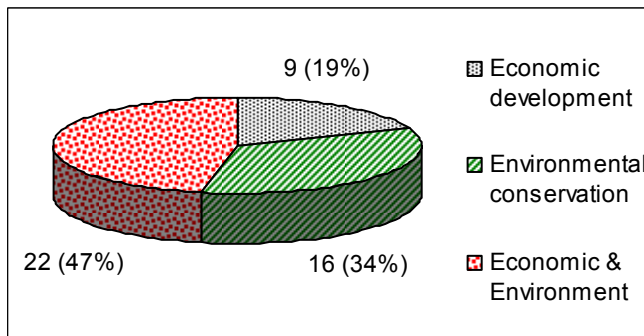
If you select [4. Very serious], please give us reasons why you select and what aspects specifically.

Question	Answer	Reasons why you select "4. Very serious"
1. Soil and land resources	- dry of soil	- soil is not proper for agriculture
2. Mangrove resources	- lost of mangrove	- lost of natural habitat for marine species
3. Fishery resources	- decrease of fishery resources - invasive fishery	- lost of income - fishery resources decrease drastically
4. Water resources	- flood	- obstacle for transportation
5. Marine & coastal resources	- decreasing of Razer Clam - many restaurants around Don Hoi Lod - coastal erosion	- lost of tourist attraction and income - caused pollution in the area - lost of land and property
6. Biodiversity	- wastewater	- lost of biodiversity
7. Water quality	- wastewater - dump garbage into the canals - low quality of groundwater	- caused damage to shrimp farm - caused water pollution - groundwater cannot be used
8. Solid waste	- dump garbage into the canals - tons of garbage is not managed properly	- caused water pollution - caused serious environmental problems
14. Global warming	- rising of temperature	- cannot gardening as long as before - caused health problems

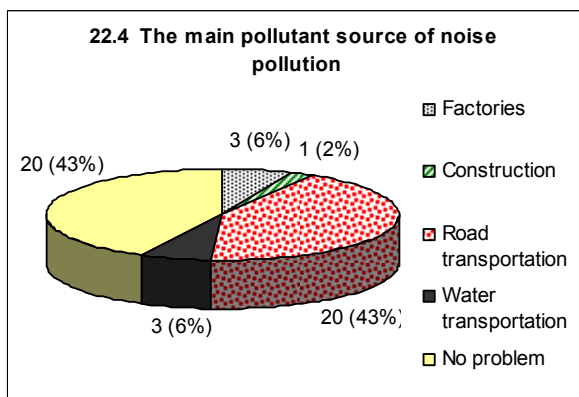
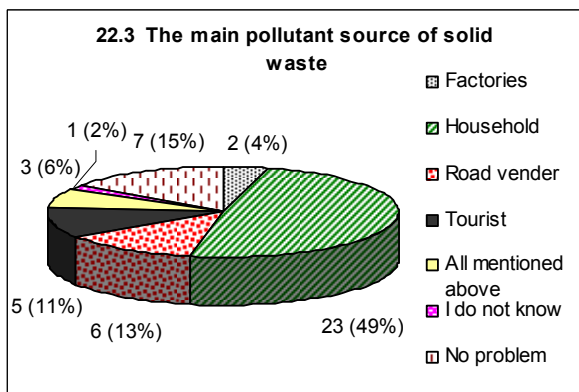
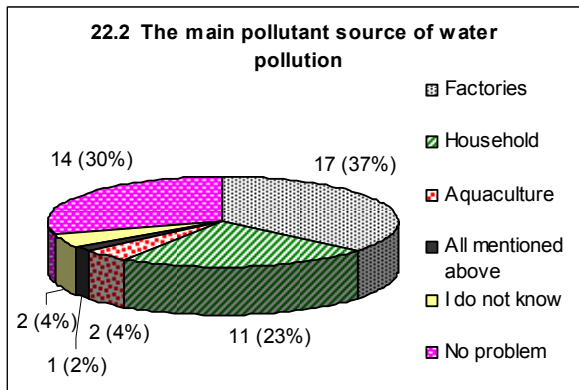
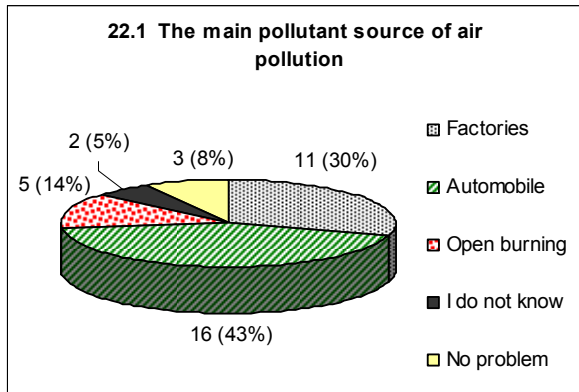
Q.20. How much do you feel environmental degradation affects your life?



Q.21. Which is more important for you, Economic Development or Environment Conservation?

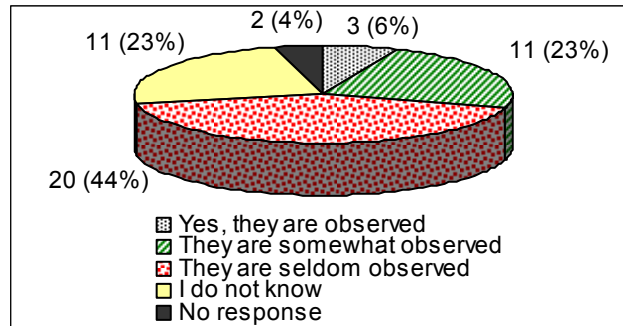


Q.22. What do you think the main pollutant source is for the following pollution problems? Please answer in each pollution problem.

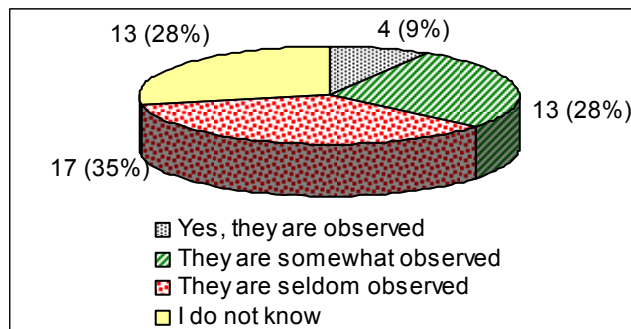


3. Willingness to Cooperate for the Improvement of Natural Resources and Environmental Management

Q.23. Do you think that environmental regulations are observed in Samut Songkhram Province?



Q.24. Do you think that environmental regulations are observed in your administrative area?



Q.25. What kind of measures do you think should be taken to make regulations observed?

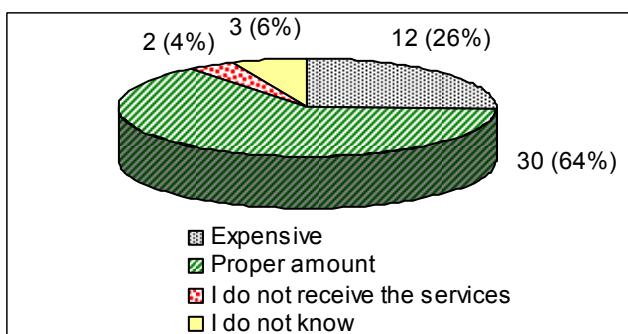
(Plural answers are accepted)

Measure	Answer	Rank
1. The central government tightens control and increases penalty	18	2
2. The provincial administration tightens control and increases penalty	13	4
3. The local administration (Orborjor, Tessaban and Orbortor) tightens control and increases penalty	16	3
4. Industries should be raised awareness to take pollution control measures more seriously	11	5
5. People should be raised awareness to pay more attention to environmental issues	21	1

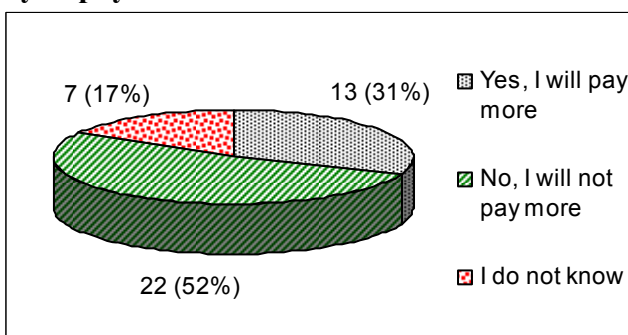
**Q.26. What do you think the government should do to improve environment?
Please select 3 among the following choices.**

Measure	Answer	Rank
01. Law enforcement (for example to establish new laws and regulations, to tighten its control, etc.)	19	3
02. To construct more waste water treatment facilities and solid waste treatment & disposal facilities	12	5
03. To promote the reduce of solid waste - reuse/recycle	14	4
04. To help industries improve pollution control capabilities	3	8
05. To promote environment education	26	1
06. To strengthen provincial administrations	8	7
07. To strengthen local administrations	10	6
08. To promote participation of local people	26	1
09. To open more information and data	23	2

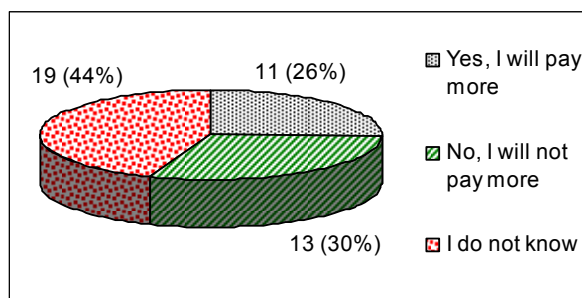
Q.27. Regarding city water supply service, how do you think the service charge?



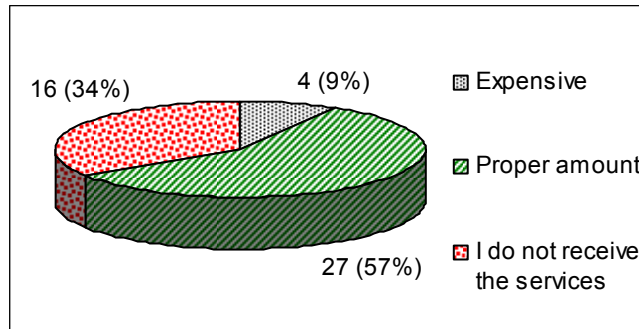
Q.28. Regarding city water supply, if it is improved better than the present situation, will you pay more?



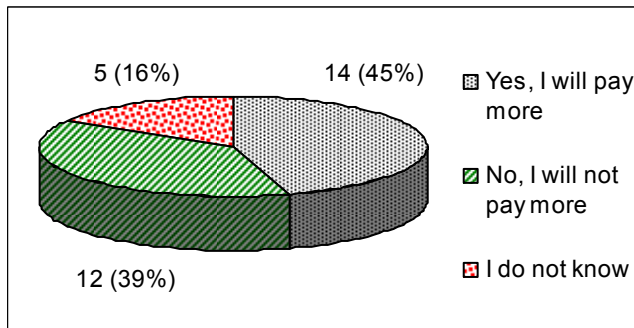
Q.29. Regarding sewerage, if it is improved better than the present situation, will you pay some fee?



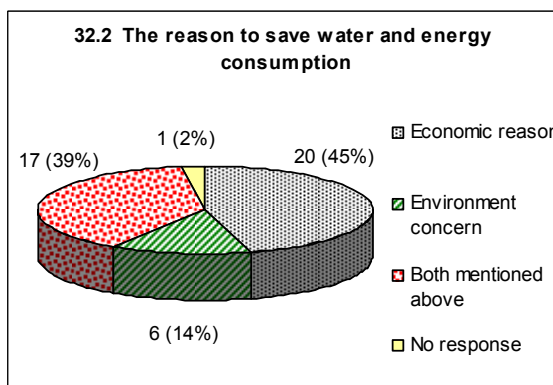
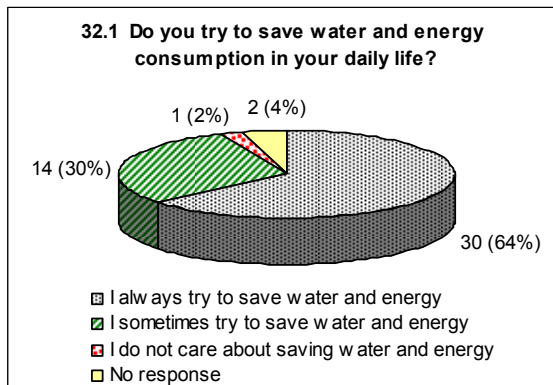
Q.30.Regarding solid waste collection services, how do you think the service charge?



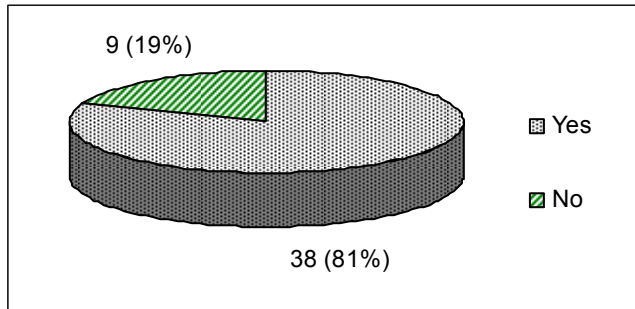
Q.31.Regarding refuse collection service, if it is improved better than the present situation, will you pay more?



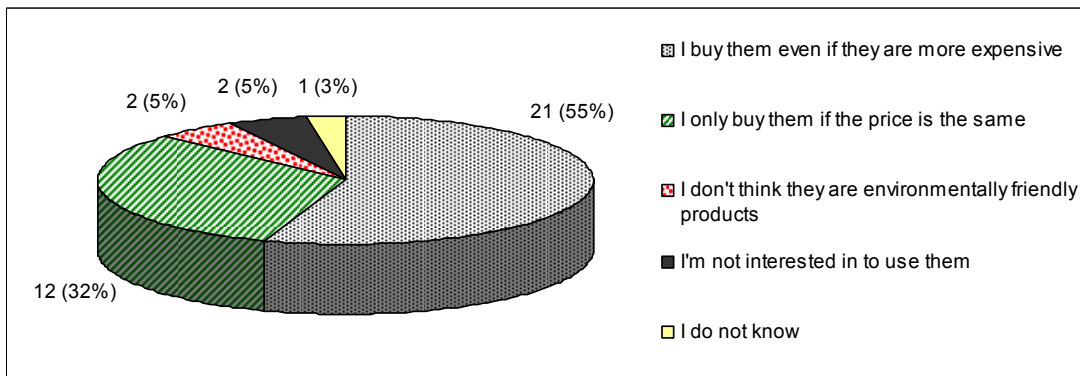
**Q.32.Do you try to save water and energy consumption in your daily life?
If yes, what is the reason?**



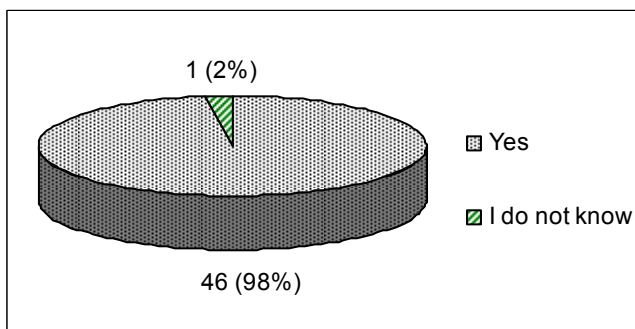
Q.33. Do you know “Environmentally Friendly Products”? (Those concerned with not damaging the Environment)



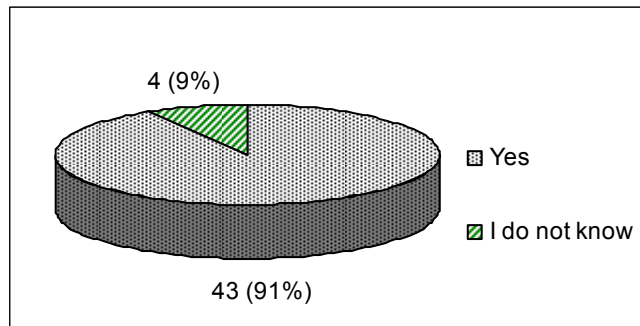
Q.34. Which of the following statements regarding Environmentally Friendly Products is an appropriate description of your attitude?



Q.35. Are you willing to cooperate to reduce environmental problems in your community?



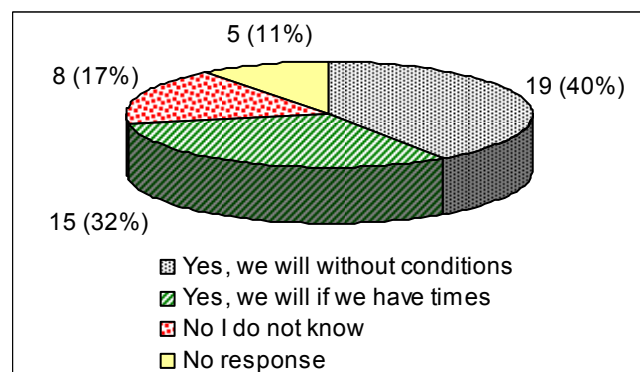
Q.36.If the local administration would introduce a different waste collection system, such as segregating the waste into “easily decomposable” (food, gardening) and “recyclable” (metal, bottles), would you be willing to cooperate?



Q.37.Why would you not be willing (or do not know if you would be willing) to cooperate with such a system? (Plural answers are accepted)

Reason	Answer	Rank
1. Several containers and bags are needed	1	2
4. It is very inconvenient	3	1

Q.38.The Samut Songkhram Province is now formulating a Provincial Environmental Quality Management Plan (PEQMP) in order to establish a sustainable natural resources and environmental management in the Province. Are you interested to participate in the process or attend the meetings organized by the Project?



4. Suggestions for Formulation of Provincial Environmental Quality Management Plan

The Samut Songkhram Province is now formulating a Provincial Environmental Quality Management Plan (PEQMP) in order to establish a sustainable natural resources and environmental management in the Province. We are very welcome to receive your valuable suggestions for the plan.

No.	Suggestion	Answer
1	The government should tighten its control on wastewater pollution and solve wastewater problems caused by neighboring provinces.	2
2	Implementation of the PEQMP should be concrete. All information gathering from questionnaire survey should be used to support the project.	2
3	Related organization responsible for the PEQMP should educate people about the plan. Monitoring and evaluation process should be done properly.	1
4	Supporting of environment education to people is important	1
5	Public participation is important for environmental management.	1

DATA BOOK 3

Minutes of Meetings

This Data Book contains the Minutes of Meetings pertaining to this study.

1 Background of the Study

In accordance with the request of the Thai Government to the Government of Japan, “the Study on Supporting System for Local Administrations on Natural Resources and Environmental Management in the Kingdom of Thailand“ (the Study) has been underway since June 2007. The Study aims to strengthen capacities of central, provincial, and local administrations through the formulation of the Provincial Environmental Quality Management Plan (PEQMP) for two model provinces, Phra Nakhon Si Ayutthaya Province (AYP) and Samut Songkhram Province (SKP).

2 Minutes of Meetings

This section contains the minutes of the following meetings:

- December 22nd, 2006: Preparatory Study Team Meeting and Scope of Work
- July 7th, 2007: Inception Report and First Steering Committee Meeting
- January 25th, 2008: Progress Report and Second Steering Committee Meeting
- March 14th, 2008: Interim Report Meeting
- July 14th 2008: Draft Final Report and Third Steering Committee Meeting

2.1 Minutes of Meeting by Preparatory Study Team Members

The Minutes of Meeting in this section was signed by the Preparatory Study Team and is dated prior to the start of this Study. It is, however, included as its contents are important to this Study.

2.1.1 Minutes of Meeting, 22nd December 2006, and Scope of Work

MINUTES OF MEETING
FOR
STUDY
ON
SUPPORTING SYSTEM FOR LOCAL ADMINISTRATIONS
ON
NATURAL RESOURCES AND ENVIRONMENTAL MANAGEMENT
IN THE KINGDOM OF THAILAND
AGREED UPON BETWEEN
MINISTRY OF NATURAL RESOURCES AND ENVIRONMENT
AND
JAPAN INTERNATIONAL COOPERATION AGENCY

In response to the request of the Government of the Kingdom of Thailand (hereinafter referred to as "GOT"), Japan International Cooperation Agency (hereinafter referred to as "JICA") dispatched a Preparatory Study Team (hereinafter referred to as "the Team") headed by Ms. Kyoko Okubo from December 17 to December 28, 2006, to discuss and determine the Scope of Work (hereinafter referred to as "S/W") for Supporting System for Local Administrations on Natural Resources and Environmental Management in the Kingdom of Thailand (hereinafter referred to as "the Study").

During its stay in Thailand, the Team visited several sites and government agencies in relation to the Study, had a series of discussions on the draft S/W submitted by the Team with the authorities concerned, in particular with the Ministry of Natural Resources and Environment (hereinafter referred to as "MNRE"). The main issues of the discussions regarding the draft S/W are shown in this minutes.

Bangkok, 22nd December 2006



Mr. Kasemsun CHINNAVASO

Secretary-General
Office of Natural Resources and Environmental
Policy and Planning
Ministry of Natural Resources and Environment
The Kingdom of Thailand



Ms. Kyoko OKUBO

Team Leader
Preparatory Study Team
Japan International Cooperation Agency

I. BACKGROUND

The Team made consultations with MNRE with regard to supporting system¹ for central and local administrations² on natural resources and environmental management through preparation of Provincial Environmental Quality Management Plan (hereinafter referred to as "the Provincial EQMP"). Main concerns of MNRE are as follows:

1. Translation of the National EQMP into actions at local level needs to be undertaken.
2. Central and local administrations on management of natural resources and environment needs to be strengthened to respond emerging issues in more comprehensive manners.
3. Linkage between central administrations and local administrations in the field of management of natural resources and environment needs to be strengthened.

II. TITLE OF THE STUDY

Both sides agreed that the title of the Study will be "Supporting System for Local Administrations on Natural Resources and Environmental Management in the Kingdom of Thailand".

III. SCOPE OF WORK (S/W)

The Team explained that the S/W, which stipulates the framework of the Study, will be prepared and signed by the representatives of the Office of Natural Resources and Environmental Policy and Planning (hereinafter referred to as "ONEP") of MNRE and JICA Thailand Office after notification of approval of implementation of the Study by JICA Headquarters. Both sides agreed that it is desirable that the S/W shall be signed as soon as possible after the signing of this Minutes of Meeting. Both sides also agreed on the provisional draft S/W shown as Appendix 1.

IV. TARGET YEAR

The Provincial EQMP shall cover a period from 2008 to 2011, in synchronous with National EQMP.

V. MODEL PROVINCE(S) FOR FORMULATING PROVINCIAL EQMP

The model province(s) for formulating provincial EQMP in the Study will be selected before the commencement of the Study. Japanese side requested Thai side to nominate a few candidate province(s) according to the following criteria, and both sides agreed to decide a model province (or two model provinces) as early as possible.

Selection Criteria

- 1) The area where natural resources and environmental problems are/will be serious (to cause adverse impact on the natural resources and environmental quality)
- 2) The area where comprehensive countermeasures are/will be needed
- 3) The area where provincial governor shows strong will for formulating provincial EQMP

¹ Meaning of "System" is a series of mechanisms such as Human Resource Development Plan, Management Plan of Information System, trainings, workshops and seminars, guidelines or manuals.

² Central administrations refer to the ONEP, OPS, REO (Regional Environmental Office) and local administrations refer to PEO (Provincial Environmental Office), municipality authorities (Tuesaburi) and Sub-district Administrative Organizations (Tambon).

VI. IMPLEMENTING ORGANIZATION OF THE STUDY

The implementing organizations of the Study is ONEP.

VII. IMPREMENTING ARRANGEMENT

Both sides agreed that for the successful implementation of the Study and effective usage of the Study results, Counterpart Team, Technical Working Committee for Provincial EQMP (provisional title) and Steering Committee will be organized at the commencement of the Study. The functions and members will be proposed in the Appendix 2. With respect to the Technical Working Committee, however, its formulation will be judged by the Provincial Governor in selected province(s).

VIII. CAPACITY DEVELOPMENT

The team and MNRE agreed the importance of capacity development of Counterpart Team. Both sides also agreed to make the maximum use of the opportunities for capacity development in the planning methods and skills in a course of the preparation of Provincial EQMP. Further, it was agreed that the supporting manuals and others are necessary for the development of the capacity of central and local administrations in the Provincial EQMP formulation, implementation as well as monitoring and evaluation methods and skills have to be developed and be utilized through workshop etc.

IX. COUNTERPART TRAINING IN JAPAN

The MNRE expressed their interest in availing of further counterpart training in Japan. The Team explained that their request might be considered.

X. EFFECTIVE USE OF THE STUDY RESULTS

The Team explained and the MNRE agreed that the results of the Study will be fully utilized by Thai side.

XI. COUNTERPART TEAM IN THAI SIDE

Tentative list of a team of counterpart personnel is shown in Appendix 2.

XII. Others

- 1) During the Study period, JICA study team shall provide Thai side technical assistance and advice.
- 2) The team expressed its strong wish that the Governor in selected province(s) reflects the model Provincial EQMP in Provincial Development Strategy Plan which will be formulated in the selected province(s).

Appendix	1 Scope of Work (provisional draft)
	2 Implementing Arrangement
	3 Tentative list of Counterpart Personnel
	4 List of Attendants

SCOPE OF WORK
FOR
STUDY
ON
SUPPORTING SYSTEM FOR LOCAL ADMINISTRATIONS
ON
NATURAL RESOURCES AND ENVIRONMENTAL MANAGEMENT
IN THAILAND

AGREED UPON BETWEEN
MINISTRY OF NATURAL RESOURCES AND ENVIRONMENT
AND
JAPAN INTERNATIONAL COOPERATION AGENCY

Bangkok, February 2007

Mr. Kasemsun CHINNAVASO

Secretary-General
Office of Natural Resources and Environmental
Policy and Planning
Ministry of Natural Resources and Environment
The Kingdom of Thailand

Mr. Mikiharu SATO

Resident Representative
Thailand Office
Japan International Cooperation Agency

K.C.

(S)

I. INTRODUCTION

In response to the official request of the Government of the Kingdom of Thailand (hereinafter referred to as "the GOT"), the Government of Japan (hereinafter referred to as "the GOJ") decided to conduct The Study on Supporting System for Local Administrations on Natural Resources and Environmental Management in Thailand (hereinafter referred to as "the Study") in accordance with the Agreement on Technical Cooperation between the GOJ and the GOT signed on November 5th, 1981.

Accordingly, the Japan International Cooperation Agency (hereinafter referred to as "JICA"), the official agency responsible for the implementation of the technical cooperation programs of the GOJ, will undertake the Study in close cooperation with the authorities concerned of the GOT.

II. OBJECTIVES OF THE STUDY

Capacity of MNRE and local administrations in the field of natural resources and environmental management is strengthened through planning process of the Provincial Environmental Quality Management Plan (hereinafter referred to as "the Provincial EQMP") for model province(s).

III. STUDY AREA

The Study Area will cover the entire area of Thailand. The model site(s) for formulating Provincial EQMP will be selected before the commencement of the Study.

IV. SCOPE OF THE STUDY

In order to achieve the objectives mentioned above, the scope of the Study shall cover the following items:

Phase 1 Formulation of Provincial EQMP Taking into Account National EQMP

- 1-1 To make analysis on the relation between the environmental conditions and socio-economic conditions.
- 1-2 To identify and prioritize issues and areas that need countermeasures and examine various approaches to be employed for the countermeasures and propose framework for Provincial EQMP.
- 1-3 To formulate programs and projects for implementation based on the above framework.
- 1-4 To finalize Provincial EQMP(s).

Phase 2 Development of supporting system for capacity development of central and local administrations regarding natural resources and environmental management

- 2-1 To summarize and analyze lessons learnt through the formulation of Provincial EQMP regarding natural resources and environmental management.
- 2-2 To develop supporting manuals and others for Provincial EQMP planning based on the lessons mentioned above.
- 2-3 To utilize supporting manuals and others mentioned in 2-2 for the capacity enhancement of central and local administrations through workshop, training and so forth.
- 2-4 To recommend mechanisms that ensure effective and efficient linkages between MNRE and its REOs, PEOs and local administrations and relevant agencies besides MNRE based on the basic analysis on the bottlenecks observed in the Study.

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V. SCHEDULE OF THE STUDY

The Study will be carried out in approximately sixteen (16) months from April 2007 with the tentative schedule as attached in the Appendix A. The schedule is subject to change upon agreement of both parties when any necessity arises during implementation of the Study.

VI. REPORTS

JICA shall prepare and submit following reports in English to the GOT.

1. Inception Report (hereinafter referred to as "IC/R"):
Thirty (30) copies will be submitted at the beginning of the first work period. This report will contain the schedule and methodology of the Study. Summary of the IC/R will be prepared in Thai as well.
2. Interim Report (hereinafter referred to as "IT/R"):
Thirty (30) copies will be submitted at the intermediate of the first work period. This report will contain outcomes of 1-1 and 1-2 in phase 1 of the Study. Interim version of the Provincial EQMP will be attached to the IT/R and prepared in Thai as well.
3. Progress Report (hereinafter referred to as "PR/R"):
Thirty (30) copies will be submitted at the end of first work period. This report will contain outcomes of 1-1 to 1-4 in phase 1 of the Study. Final version of the Provincial EQMP will be attached to the PR/R and prepared in Thai as well.
4. Draft Final Report (hereinafter referred to as "DF/R"):
Thirty (30) copies will be submitted at the end of the second work period in Thailand. This report will contain outcomes of 2-1 to 2-4 in phase 2 of the Study. The MNRE shall submit its comments within one (1) month after the receipt of the Draft Final Report.
5. Final Report (hereinafter referred to as "F/R"):
Fifty (50) copies will be submitted within one (1) month after the receipt of the comments on the DF/R from the MNRE and will be open (available) to the general public. Summary of the F/R will be prepared in Thai as well.

VII. UNDERTAKINGS OF THE GOVERNMENT OF THAILAND

1. Specific privileges and other benefits to the Japanese Study Team (hereinafter referred to as "the Team") necessary for the implementation of the Study will be provided in accordance with the Agreement on Technical Cooperation between the GOJ and the GOT signed on November 5th, 1981.
2. The Office of Natural Resources and Environmental Policy and Planning (hereinafter referred to as "ONEP"), The Regional Environmental Office(s) (hereinafter referred to as "REO") in region(s) covering selected province(s), The Provincial Environmental Office(s) (hereinafter referred to as "PEO") in selected province(s), of The Ministry of Natural Resources and Environment (hereinafter referred to as "MNRE"), shall act as counterpart agencies to the Team. ONEP shall coordinate with other governmental and non-governmental organization(s) concerned for smooth implementation of the Study.
3. To facilitate smooth conduct of the Study, ONEP shall take necessary measures in cooperation with other relevant organizations within law and regulations in force in Thailand.

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- 3-1. To cooperate in secure the safety of the team, when and as it is required in the course of the Study
 - 3-2. To cooperate in secure permission for entry into private properties or restricted areas in implementation of the study.
 - 3-3. To cooperate in secure permission for the Team to get access all data, documents and inform necessary for execution of the Study, and
 - 3-4 To provide medical services as needed, its expenses will be chargeable on members of the Team
4. ONER shall, at its own expenses, provide the Team with the following in cooperation with organizations.
- 4-1 Available data, documents and information necessary for execution of the Study.
 - 4-2 Counterpart Team.
 - 4-3 Suitable office space with necessary equipment in Bangkok and model site(s).
 - 4-4 Credential or identification cards.

VIII. UNDERTAKINGS OF JICA

For the implementation of the Study, JICA shall take the following measures.

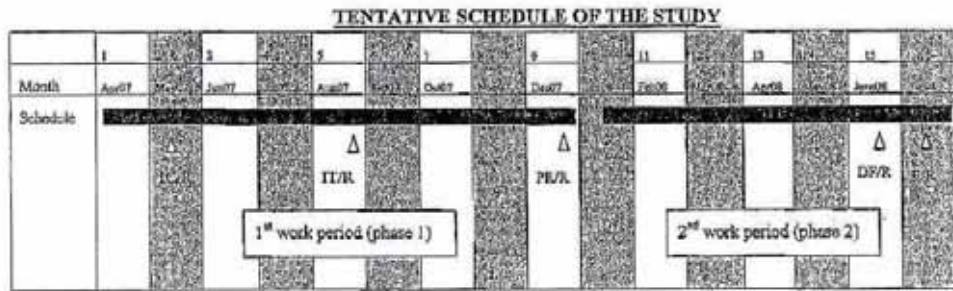
- 1. To dispatch, at its own expenses, the Study Team to Thailand, and
- 2. To pursue development of counterparts' capacity in the course of the Study.

XI. CONSULTATION

MNRE and JICA shall consult with each other in respect of any matters that may arise from or in connection with the Study.

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*IC/R: Inception Report
 II/R: Interim Report
 PR/R: Progress Report
 DF/R: Draft Final Report
 F/R: Final Report

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Appendix 2

Implementing Arrangement

Implementing organization

(definition) The responsible agency for the Study, the responsible recipient of the final report of the Study

⇒ **ONEP, MNRE**

Counterpart Team:

(definition)

- ① The Agency which works together with Japanese consultant team in order to formulate model Provincial EQMP
- ② The Agency which works together with Japanese consultant team in order to make recommendations for strengthening capacity of central and local administrations in natural resources and environmental management, to make supporting manuals and others needed, and to disseminate these to central and local administrations through seminars/workshops etc.

⇒ **ONEP, MNRE**

PEO of model province(s)

REO of model province(s)

Technical Working Committee for Provincial EQMP(provisional title):

(Definition)

A committee to be placed in the model province(s), examines a schedule for Provincial EQMP planning process, provides needed information and advice in the process of Provincial EQMP planning, and coordinates with other related agencies about draft provincial EQMP(s).

The committee also explains to the Governor(s) about the progress and contents of the Provincial EQMP at the point in important stages and gets advices and guidance from him/her. The committee also supervises public consultation.

⇒ **Representatives from local offices from Ministry of Industry, Ministry of Agriculture, Land Development Agency and Ministry of Interior etc. and also Municipalities such as Tassabarn, Tambon etc. , and the Team of Counterpart.**

* Other agencies or organizations deemed necessary

Steering Committee:

(Definition)

A coordinating committee of central government level which is set up for supporting smooth implementation of the Study and promoting utilization of the outputs of the Study after the completion of the Study.

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- ⇒ ONEP, MNRE
- OPS, MNRE
- MOI (DIW/MOE)
- Related Organizations such as Ministry of Industry, Ministry of Agriculture etc.
- PCD, MNRE
- DEQP, MNRE
- ACADEMICS
- TICA
- JICA Thailand Office
- Embassy of Japan
- * Other agencies or organizations deemed necessary

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Appendix 3

Tentative list of Counterpart Personnel

Counterpart Team:

(Definition)

- ① The Agency which works together with Japanese consultant team in order to formulate model Provincial EQMP
- ② The Agency which works together with Japanese consultant team in order to make recommendations for strengthening capacity of central and local administrations in natural resources and environmental management, to make supporting manuals and others needed, and to disseminate these to central and local administrations through seminars/workshops etc.

⇒ONEP, MNRE

PEO of model province(s)

REO of model province(s)

No.	Role in the Study	Organization	Position
1	Director of the Study	ONEP, MNRE	Secretary-General of ONEP
2	Deputy Director of the Study	ONEP, MNRE	Deputy Secretary-General of ONEP
3	Technical Counterpart	ONEP, MNRE	Environmental Officers
4	Technical Counterpart	REO	Environmental Officers
5	Technical Counterpart	PEO	Environmental Officers
6	Technical Counterpart	PEO	Environmental Officers
7	Technical Counterpart	PEO	Environmental Officers
8	Technical Counterpart	PEO	Environmental Officers

VC.

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Appendix 4

LIST OF ATTENDANTS

(Thailand side)

MNRE

ONEP

1. Mr. Kasemsun CHINNAVASO

Deputy Director General, National Park
Wildlife and Plant Conservation Department/
Acting for Secretary General, ONEP

2. Ms. Prasertsuk CHAMORNMARN

Director, Office of National Environment
Board

3. Ms. Raweewan BHURIDEJ

Director of Policy and Planning section

4. Ms. Yingprattana KEOPLUNG

Environmental Officer

5. Mr. Chatchai INTATHA

Environmental Officer

6. Ms. Paramaporn BOONKHUANG

Staff

7. Ms. Worapun POOKJAROON

Staff

OPS

1. Ms. Kanokwan PIBALSOOK

Environmental Specialist

2. Ms. Kanda CHOOKAEW

Policy and Plan Analyst

(Japanese side)

The Team

Ms. Kyoko OKUBO

Leader

Mr. Senro IMAI

National Environmental plan

Mr. Masami MIZUGUCHI

Regional Environmental plan

Ms. Naoko KAMEI

Study Plan

Mr. Takashi GOTO

Analysis of Environmental Plan

JICA Thailand Office

Mr. Mikiya SAITO

Assistant Resident Representative

Ms. Athaneepon SUSANSANEE

Staff

HR

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