

調査団からタイ側関係機関に対する提言事項について

本調査団では、プロジェクトの基本的な枠組みを導き出すことができたが、今後、この枠組みにそってどのような具体的活動を行うのか、また、各活動の実施機関を明らかにする必要がある。調査団はタイ側に対して、プロジェクト実施体制を確立することを目的とした準備委員会を設立すると共に、その委員会の中で下記4点について議論し、JICA タイ事務所宛に係る議事録を提出するよう提言を行い、この旨を団長レターに取り纏め各関係機関に配布した。

- a. タイ側がプロジェクトの中で取り組みたいアプローチの選択
- b. アプローチを担当、実施する機関
- c. 各アプローチに沿った活動計画案
- d. 活動に必要な投入の案

なお、この内容については、PCM ワークショップ・プレゼンテーションセッション（17日）の際に調査団から参加者に対して提言を行っており、参加者はこの提言を了承している。また、JICA タイ事務所がこの議事録を受け取った後、本邦において第2次短期調査団の派遣を検討する旨もあわせて団長レターに記した。

PREPARATORY STUDY TEAM FOR
SEWAGE WORKS TECHNOLOGY CENTER (Tentative Title)

20 October 2000

Mr. Voravit Lertlaksana
Director General
Public Works Department
Ministry of Interior

Mr. Chalerm Sak Vanichsombat
Director General
Department of Environmental Quality Promotion
Ministry of Science, Technology and Environment

Mr. Thongchai Klankrong
Director General
Department of Drainage and Sewerage
Bangkok Metropolitan Authority

Dear Sirs,

In response to your request for Sewage Works Technology Center, Japanese Preparatory Study (hereinafter referred to as “the Team”) was dispatched to Thailand by Japan International Cooperation Agency (hereinafter referred to as “JICA”) from 8 October to 20 October 2000. The purpose of the Team was to conduct preliminary study before the adoption of Japanese Technical Cooperation Program for Sewage Works Technology Center (hereinafter referred to as “the project”).

First of all, on behalf of members of the study team, I would like to express my heartfelt thanks to your kind cooperation to this study.

I would like also to inform you of the results of the workshop held in 11,12 and 17 October 2000 with the officials of related organizations as mentioned below;

(Organizations attended at the workshops)

1. Public Works Department, Ministry of Interior
2. Department of Local Administration, Ministry of Interior

3. Department of Environmental Quality Promotion, Ministry of Science, Technology and Environment
4. Office of Environmental Planning and Promotion, Ministry of Science, Technology and Environment
5. Pollution Control Department, Ministry of Science, Technology and Environment
6. Department of Drainage and Sewerage, Bangkok Metropolitan Administration
7. Wastewater Management Authority
8. Department of Technical and Economic Cooperation, Office of Prime Minister

Both Thai side and the Team mutually confirmed the matters mentioned below; (the detail is described in the attached document.)

(Main results of the workshops)

1. The core problem of Thai sewage works is identified as follows: “SEWAGE TREATMENT PLANTS DO NOT WORK EFFECTIVELY”. Therefore, the objective of the project should be “SEWAGE TREATMENT PLANTS WORK EFFECTIVELY”.
2. The Team recommended, among fifteen, following four possible approaches for which Japan might bring assistance to Thailand in case of the adoption of the project. (Refer to Appendix 6 of the attached document)
 - 1) Guidelines approach
 - 2) Public awareness approach
 - 3) Efficient training approach
 - 4) National Information system approach

Instead of 1), “Facility approach (refer to Appendix 6, page 14, ②)” is also feasible on condition that the budget for installation of proper equipment, rehabilitation, design and construction of sewage plants are prepared by Thai side.

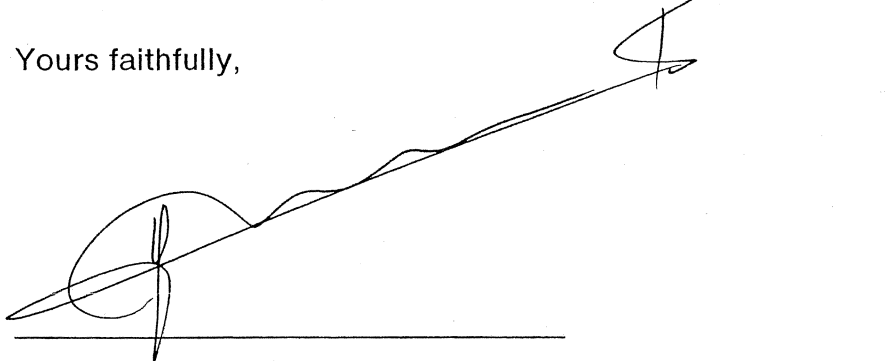
3. Public Works Department, Ministry of Interior will take initiative to set up preparatory committee for this project and inform JICA Thailand Office of the implementing organization and required matters. After the report of the

preparatory committee is sent to Japanese Government, the next step of the preparation (possibly dispatch of another study team in order to confirm the contents of the assistance) will be proceeded.

I would like to recommend the matters discussed in the preparation committee to be finalized in the format attached (see Appendix 7) so that the project steps further.

I sincerely appreciate your cooperation and consideration for the preparation of the Project.

Yours faithfully,

A handwritten signature in black ink, consisting of several loops and a long horizontal stroke extending to the right, ending in a small arrowhead-like flourish.

Mr. Yukuo MURATA

Leader

Preparatory Study Team

Japan International Cooperation Agency

Japan

CC.

1. Director General, Department of Local Administration, Ministry of Interior
2. Director General, Office of Environmental Planning and Promotion, Ministry of Science, Technology and Environment
3. Director General, Pollution Control Department, Ministry of Science, Technology and Environment
4. Director General, Wastewater Management Authority
5. Director General, Department of Technical and Economic Cooperation, Office of Prime Minister
6. Embassy of Japan, Thailand
7. Resident Representative, JICA Thailand Office

ATTACHED DOCUMENT

RESULTS OF THE WORKSHOP AMONG RELATED ORGANIZATIONS

(1) BACKGROUND OF THE WORKSHOP

Since sewage works in Thailand are implemented by various related organizations, the Team invited representatives of organizations concerned with sewage works and held the workshop on 11, 12 and 17 (presentation session) October 2000 in Bangkok. The meetings were held in workshop style in order to grasp whole pictures of Thai sewage works. Participants of the workshop were listed in Appendix 1.

(2) THE OBJECTIVES OF THE WORKSHOP

The objectives of the workshop are,

- 1) Both Thai side and Japanese side mutually understand the problems of Thai sewage works.
- 2) Identify a core problem and an objective of the project through analysis.
- 3) Identify proper approaches to achieve the objective of the Project

(3) METHODOLOGY APPLIED IN THE WORKSHOP

Problems on Thai sewage works were analyzed at the beginning. Then, an objective and approaches of the Project were identified based on the result of the problem analysis. Project Cycle Management (PCM) method was applied in order to identify standing problems and confirm the objective of the Project systematically. The process of the workshop was as follows:

- 1) Problem Analysis
- 2) Objective Analysis
- 3) Identify approaches
- 4) Evaluation of approaches

(4) FINDINGS FROM THE WORKSHOP

- 1) Problem Analysis (refer to Appendix 2)
Objectives of the problem analysis were,

- a) Identify what kinds of problems are in Thai sewage works.
- b) Identify cause and effect relations among these problems.
- c) Identify the most important problem that should be given a high priority, which is called “core problem”.

As a result of the problem analysis, a problem tree was formulated and the core problem was identified. The core problem of Thai sewage works was, “SEWAGE TREATMENT PLANTS DO NOT WORK EFFECTIVELY”

2) Objective Analysis (refer to Appendix 3)

Objectives of the objective analysis were,

- a) Identify the objective of the Project
- b) Identify the structure of the processes to achieve the objectives

As a result of the objective analysis, an objective tree was formulated based on the problem tree and the objective of the project was identified. The objective was,

“SEWAGE TREATMENT PLANTS WORK EFFECTIVELY”

3) Identify approaches (refer to Appendix 4)

An objective to identify approaches of the project was,

- * Find out the approaches to achieve the objective of the project

As a result of this process, fifteen types of approaches were identified based on the objective tree.

4) Evaluation of approaches (refer to Appendix 5)

An objective to evaluate approaches was,

- * Identify feasible approaches that compose the project
(Select approaches that will make results during the project period)

As a result of the evaluation, feasibility of each approach was confirmed and approaches recommended for the Project were identified.

5) SELECTION OF APPROACHES OF THE PROJECT

As a result of the workshop, both Thai side and the Team identified some feasible approaches for the project (refer to Appendix 6). Summaries of proposed approaches are as follows,

a) Guidelines approach (Approach No.16)

Guidelines of operation and maintenance, construction and design of sewage plants will be set up through the studies on existing sewage plants so that Thai side is able to reduce operation and maintenance cost of sewage plants, install proper equipment, rehabilitate sewage plants, establish efficient operation and maintenance, and design and construct sewage plants suitable for Thailand.

b) Public awareness approach (Approach No.8)

Activities to increase public awareness for sewage works will be conducted so that Thai side is able to increase people's willingness to pay for sewage works. Also local government will give high priority on sewage works during and after the project.

c) Efficient training approach (Approach No.13)

Sewage workers will be trained through on-the-job-training and training courses so that Thai side has well balanced staff in quality, quantity and ranks.

d) National Information system approach (Approach No.5)

Information system on sewage plants will be prepared through networking sewage plants and analysis of problems on sewage plants so that Thai side is able to design, construct, operate and maintain sewage plants.

The Team considers that Facility approach (Approach No.2) is also feasible. However, the budget for installation of proper equipment, rehabilitation, design and construction of sewage plants should be prepared by Thai side.

(5) OTHER MATTERS DISCUSSED

1) Set up a preparatory committee for the project

At the presentation session on 17 October, a participant from Thai side

recommended that a core organization, which coordinates organizations involved the project, should be selected for the smooth preparation for the Project. Also it was recommended that Public Works Department, Ministry of Interior take initiative on setting up the preparatory committee. The attendants of the workshop confirmed the recommendation.

2) Next step to be taken for the project

The team advised Public Works Department, Ministry of Interior to call the preparatory committee to confirm approaches of the project and organizations responsible for each approach. Also the Team advised that Public Works Department, Ministry of Interior submit report of the preparatory committee meeting to JICA Thailand office to inform progress of preparation for the Project. The team informed that the next preparatory study team will be dispatched on condition that,

- a) Preparatory committee is established by Thai side,
- b) Approaches are confirmed and required information is provided to Japanese Government.

(6) CONCLUSION OF THE WORKSHOP

The project will be formulated based on these approaches that were identified by attendants in the workshop.

Thai side decided to set up preparatory committee to build solid cooperation system for the project. Thai side is requested to inform the progress of preparation of the project to JICA Thailand Office. Next preparatory study team will be dispatched based on the sufficient preparation by Thai side.

PCM Workshop (Day 1)

11 Oct. 2000 13 : 00~17 : 00 @ Meridian President Hotel, Concorde 3

	Name	Organization	Department	Position	Sign
1	(Example) Mr. Yasuhiro Kawazoe	JICA HQ	Social Development Cooperation Department	Staff	
2	Ms. Wilasinee Saktaywin	Pollution Control Dept. →		Envisonmental officer	
3	Ms. Cheeranan Pantachak	ERTC / DEQP		Envi. Researcher	
4	MR PIYA SANSANAYUTH	ERTC	DEQP	n n	
5	Ms. Mitravarun Kaochada	ERTC / DEQP		Env. Technologist	
6	Ms Apinan Janchajakul	DDS / BMA	DDS	Scientist	
7	Mr. Thamanat	BMA	DPS	Engineer	
8	Mr. Kiyoshi Yoshida	JICA ST / WMA	Design Depart.	Adviser for W.W.	
9	Mr. Kitti Teerasoradech	WMA	Engineering Dept.	Engineer	
10	Mr. Akrawit Weebayatin	WMA	Research Department	Researcher	
11	Ms. Thitima Thitiprawit	MOSTE	OEPP	Environmental Officer	
12	Mrs. Chenisa Poboon	MOSTE	OEPP	Environmental Officer	
13	Ms. Asnee Kulpradit	MOSTE	OEPP	Environmental Office	
14	MR Thanachai Khamphe	DOLA	Local Governmental Development Affairs Division	Policy + Plan Analyst	

	Name	Organization	Department	Position	Sign
15	Mr. Sataphong Sunthornarak	DOLA	Local Governmental Development Affairs	Chief, Infrastructure Development	
16	MS. SOMBIT PIYASIL	PWD SED	PWD	ENGINEER 8	20.210.021
17	Mrs. CHATATHORN SAUDOM	PWD	Public Work Department	Plan and Policy Analyst	
18	Ms. Piyaphan BOONPRAPOB	NRD	PWD	Scientist	
19	Ms. Thiraphan Thongprawati	PWD TTI	PWD	Chief Engineer	
20	ms. Keiko Yamamoto	JICA	I F I C	senior adviser	
21	Mr. BANCHONG AMORNCHERWIN	DTEC	Japan - Sub-division	Chief	
22	Mr. VEERACHON NAISINGHAHARN	PWD TTI	PWD	Human Research officer	
23	Ms SOPHAN CHITANDIT	PWD	Public Works Department	Human Resource Development	
24	Mr PORNPAK JEVASUNAN	NRD	PWD	coordinator of SWTC project	
25	Yukuo Murata	(TECA Study Team)	-	leader	-
26	Nobuyuki Horie	"	-	Sewage Works Policy	-
27	Keiko Yamamoto	"	-	Sewage Works Planning	-
28	Masatoshi Yamada	"	-	sewage works Admin.	-
29	Kiwamu Anraku	"	-	Medulator of PCM.	-
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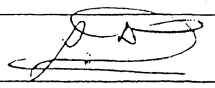
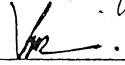

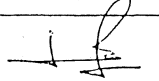
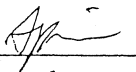
PCM Workshop Day 2 (12.Mt. 2000) 9:30 ~ 17:00 @ Merid. President Hotel Con code 3.
 Department Status Sign

Name.	Organization	Department	Status	Sign
* KAWAZOE Y	TECA HQ	Social Cooperation Div. Dept.	staff	
1 Pisut Sukhum	SED, PWD	SED	Engineer.	
2 SUPOL SRIPAN	SED, PWD	PWD	Engineer	
3 PORNSAK JEWASUWAN	MRD PWD	PWD	Scientist	
4 CHENISA POBOON	OEPP/MOSTE	OEPP	Envi. Official	
5 Thitima Thitaprasat	Moste	OEPP	Env. Officer	
6 Thumchai Khamph	DELA	CGDAD	Policy & Plan Analyst	
7 PIYA SANSANAYUTH	ERTC/DEQP	DEQP	RESEARCHER	
8 CHEERANAN PANTACHAK	ERTC	DEQP	Researcher	
9 Mitthavaram Kasachada	ERTC	DEQP	Env. Technologist	
10 Wilasinee Saktaywin	R	PCD	Env. Officer	
11 SEKSON CHULANGSARIT	TOCD/PHD	PWD	CIVIL ENGINEER 7	
12 Piyaphan BOONPRAPOB	PWD	PWD	Scientist	
13 APIMAN JARUCHAIYAKUL	BMA.	PPS.		
14 KITTI TEERASORADECH	WMA	WMA	ENGINEER	
15 ASVEE KULPRADIT	OEPP/MOSTE		Environmental Official	
16 AKRAWAT WEJTAYAVATIN	WMA	Research Division	ECONOMIST	

17	Iukuo Murata	JICA Study Team.	Leader.
18	Nobuyuki Horie	"	Sewage works Policy
19	Keiko Yamamoto	"	Sewage works Planning
20	Masatoshi Yamada	"	Sewage works Administration
21	Kiwamu Anraku	"	Modulator of PCM Workshop

PRESENTATION SESSION OF PCM Workshop

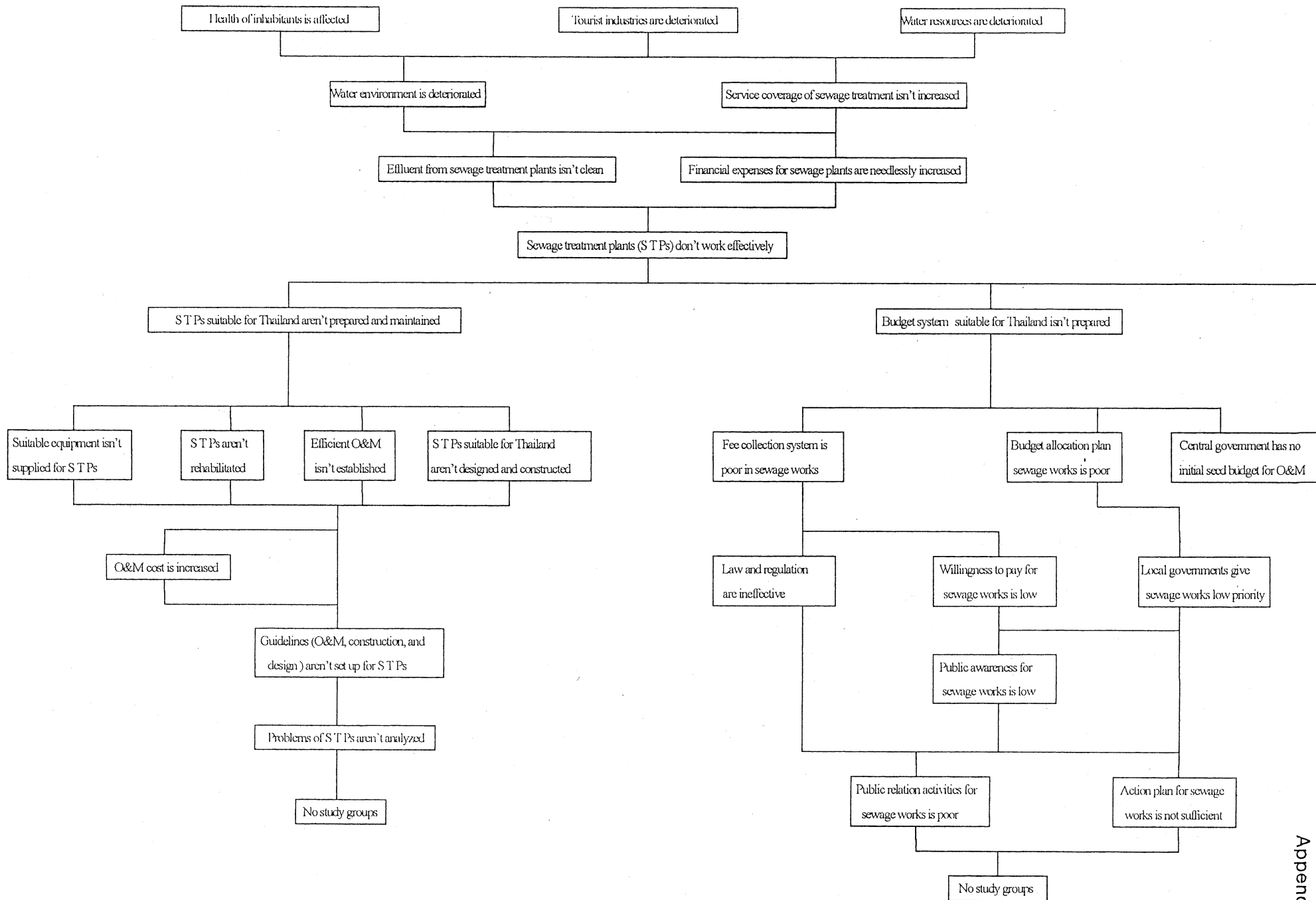
17 Oct. 2000 9 : 30 ~ 17 : 00 @ PRESIDENT 1, Meridian President Hotel,

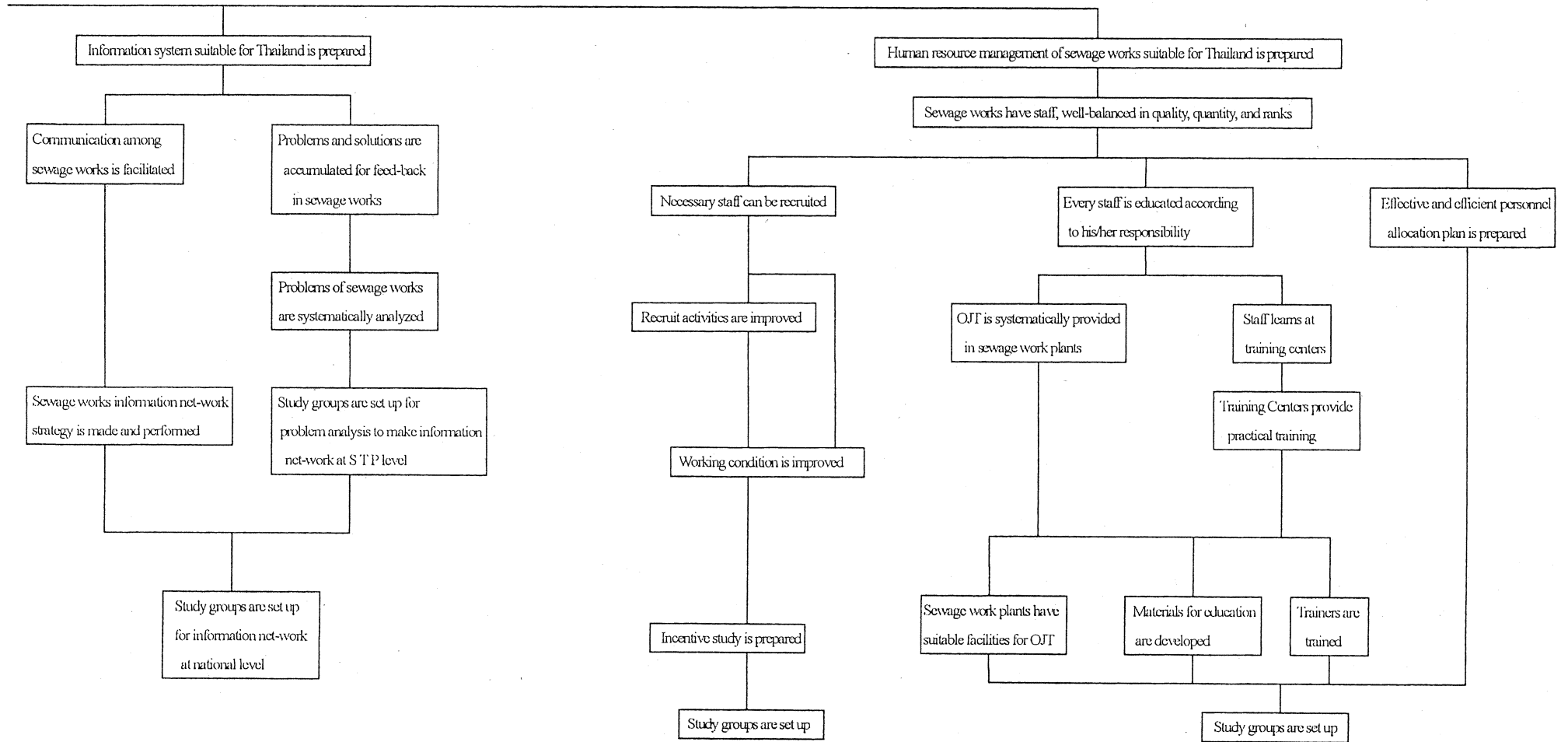
	Name	Organization	Department	Position	Sign
1	(Example) Mr. Yasuhiro Kawazoe	JICA HQ	Social Development Cooperation Department	Staff	
2	Mr. Seksom Churangsarit	TOCD, PWD	PWD	Civil Engineer 7	
3	Mr. Pornsak Jevaswan	MRD, PWD	PND	coordinator of SWTC project	J. Jevaswan
4	Mr. Veerachon Natsingphanan	TTI, PWD	PWD	Human Resource officer	
5	Mrs. Chenisa Poboon	MOSTE	CEPP	Environmental official	C. Poboon
6	Ms. Asnee Kulpradit	MOSTE	CEPP	Env. official	
7	Ms. Mittravarun Kasachada	ERTC	DEQP	Env. Technologist	Mittravarun
8	Mr. Kitti Teerasoradech	WMA	WMA	Engineer	T. Kitti
9	Ms. Thraphan Thongprasath	PWD	TTI	Chief Eng	
10	Mr. Akanit AMPAWASIRI	WMA/MOSTE		Deputy Director	A. Ampawasiri
11	MR SUCHAI JANEPOJANAT	WMA		CHIEF OF COORDINATION DIV.	S. Suchai
12	Ms. Apinan Jombaykul	BMA	DDS		
13	Ms. Pornthip Panchasen	DEQP/ERTC	DEQP	Director, ERTC	Pornthip
14	Mr. Animon Leelooem	DTEE	DTEE	Program Officer, Iron Sub-Division	A. Leelooem

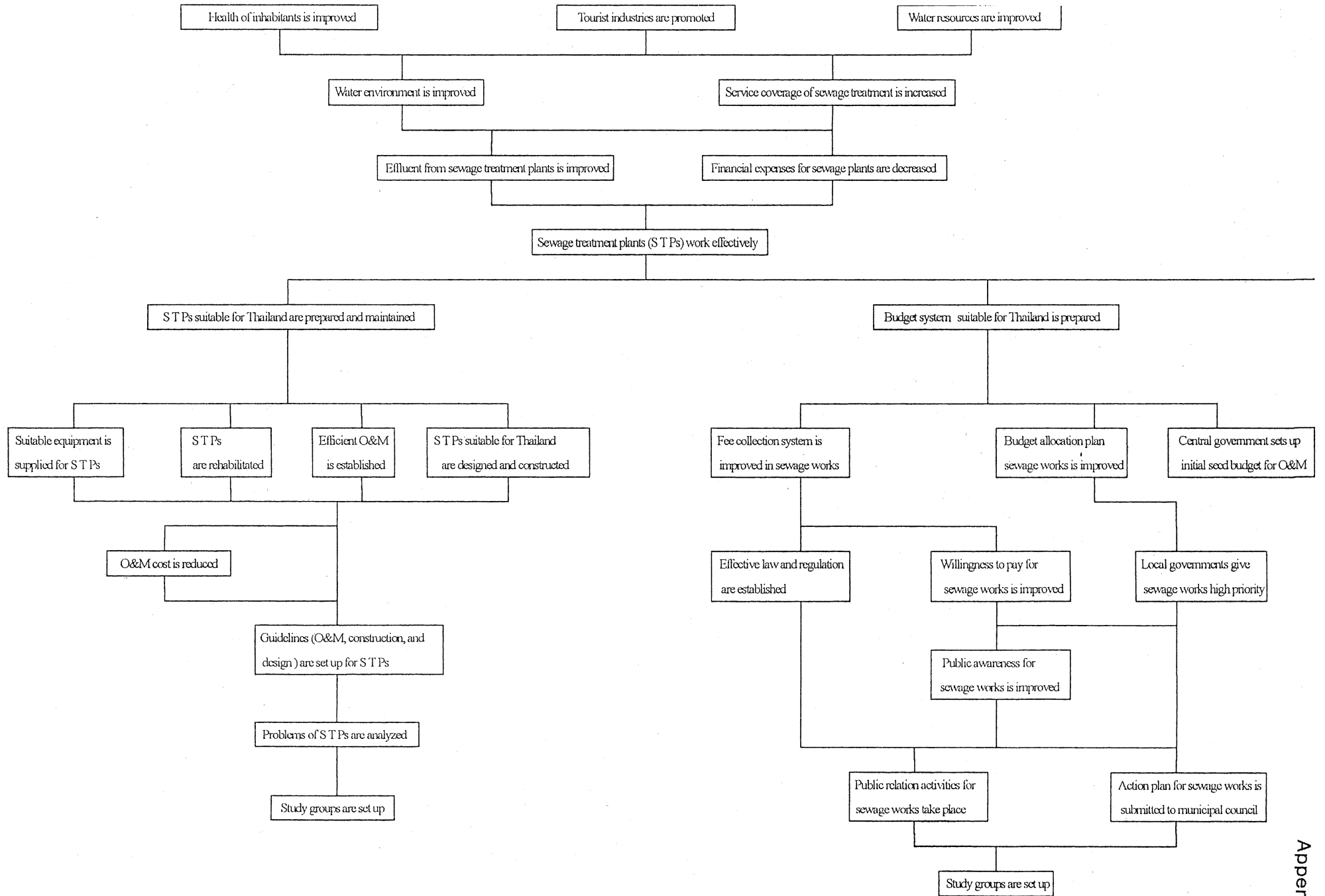
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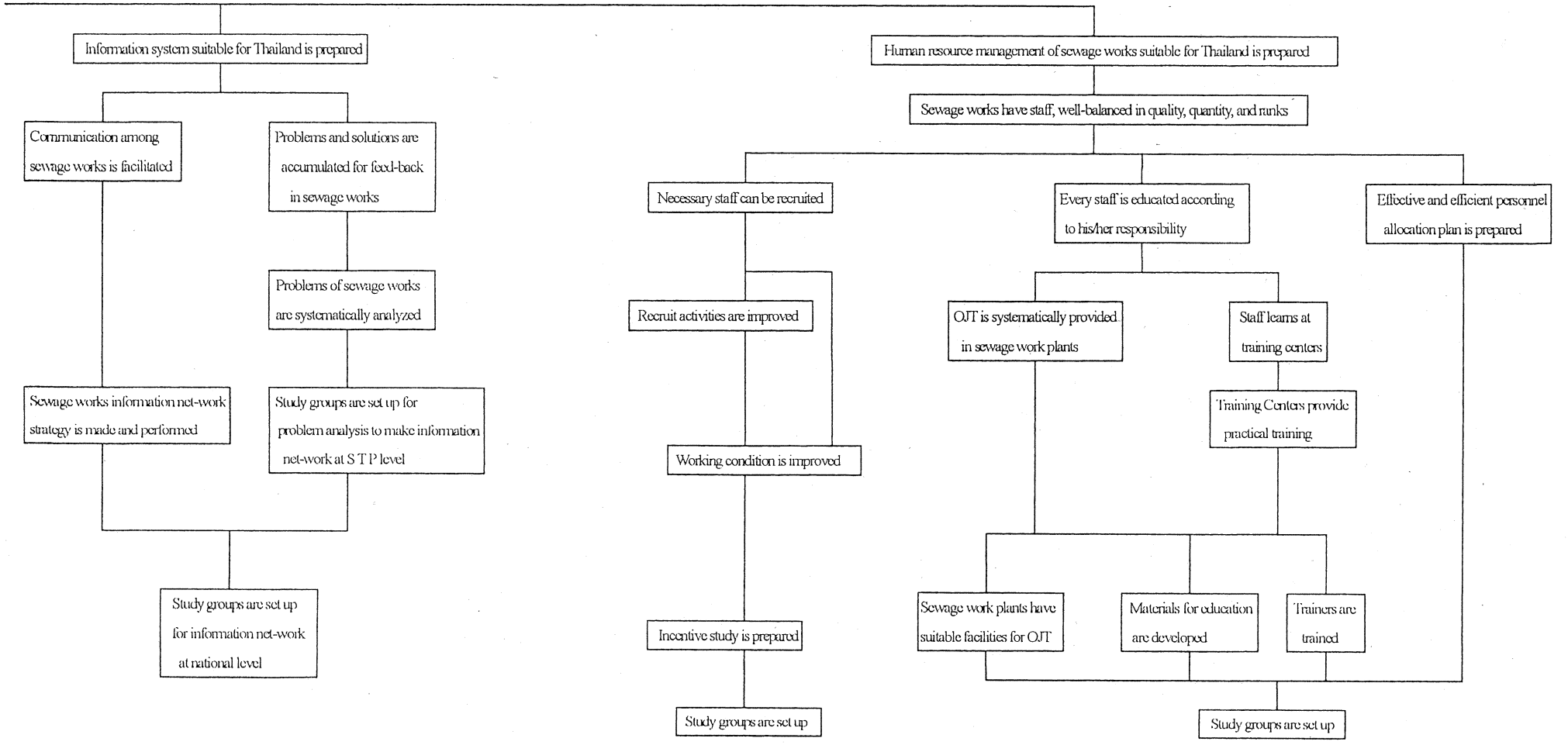
Program
Officer,
Iron Sub-Division

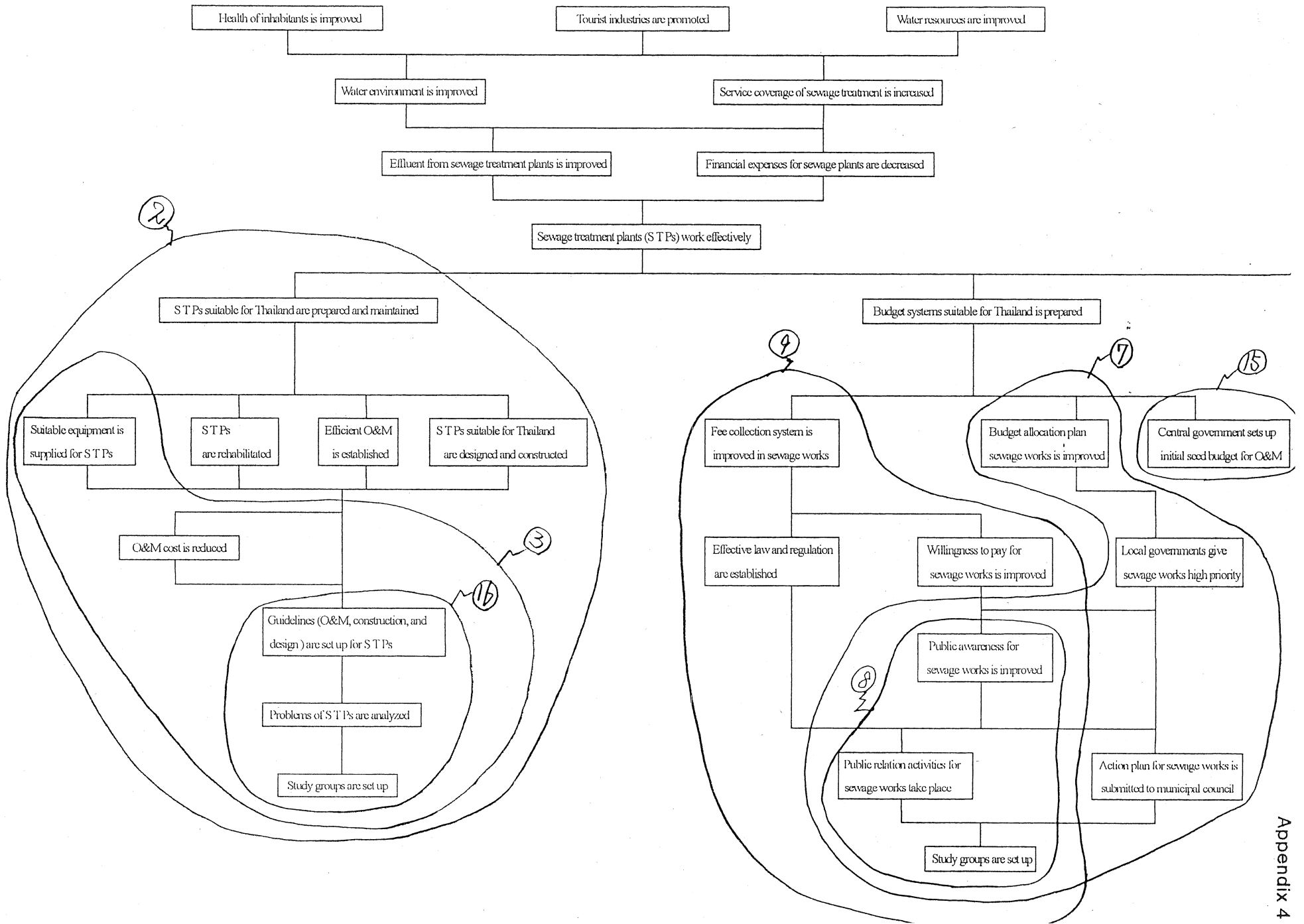
	Name	Organization	Department	Position	Sign
15	Yukuo Murata	JCCA Study Team	"	Leader	-
16	Nobuyuki Horie	"	-	Sewageworks Policy	-
17	Keiko Yamamoto	"	-	.. planning	-
18	Masatoshi Yamada	"	-	- Administration	-
19	Kiwamu Anraku	"	-	Modulator for PCM workshop	-
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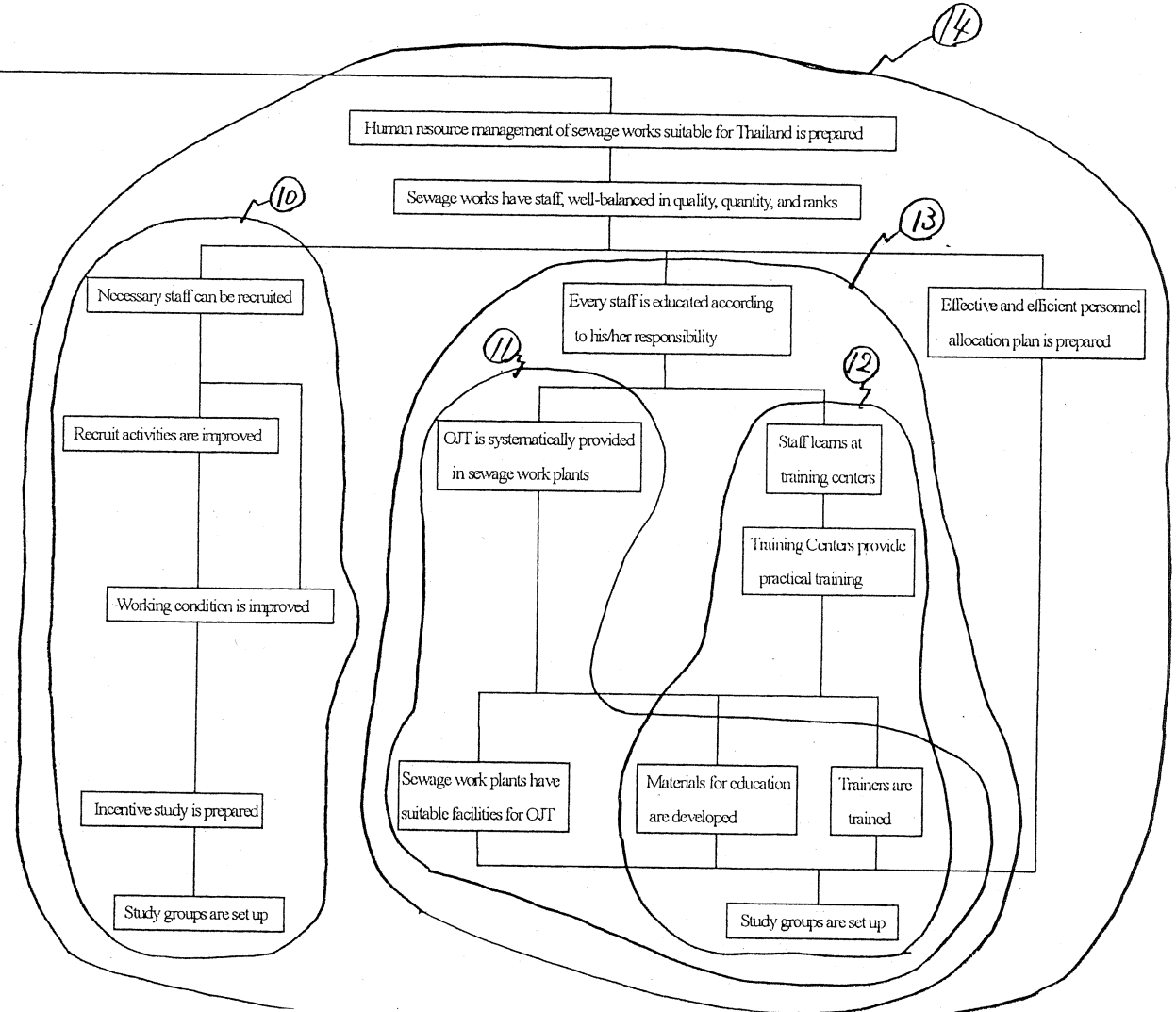
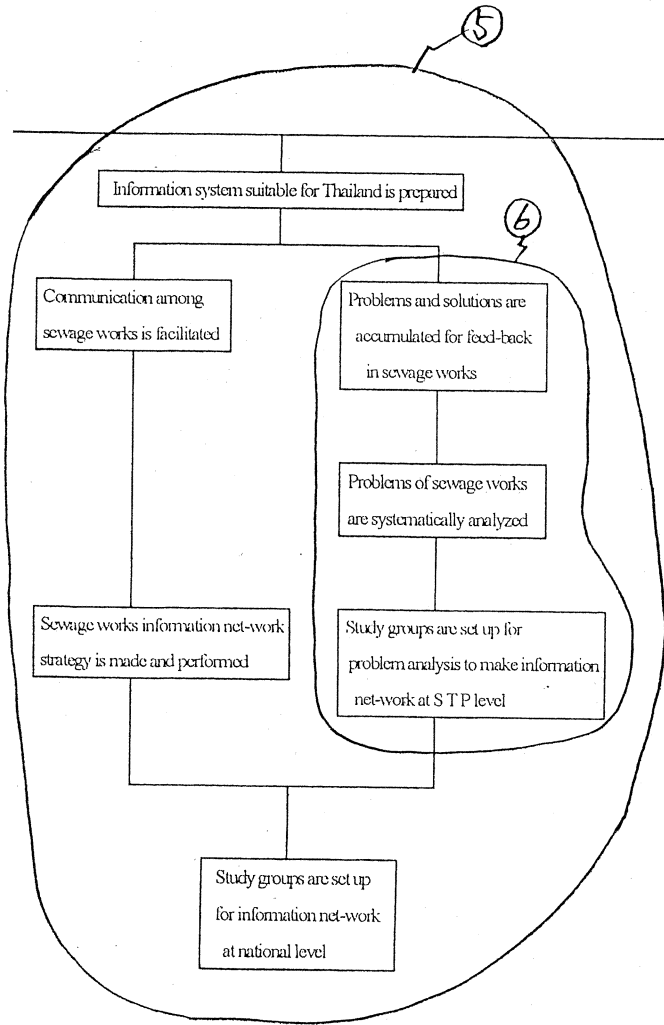












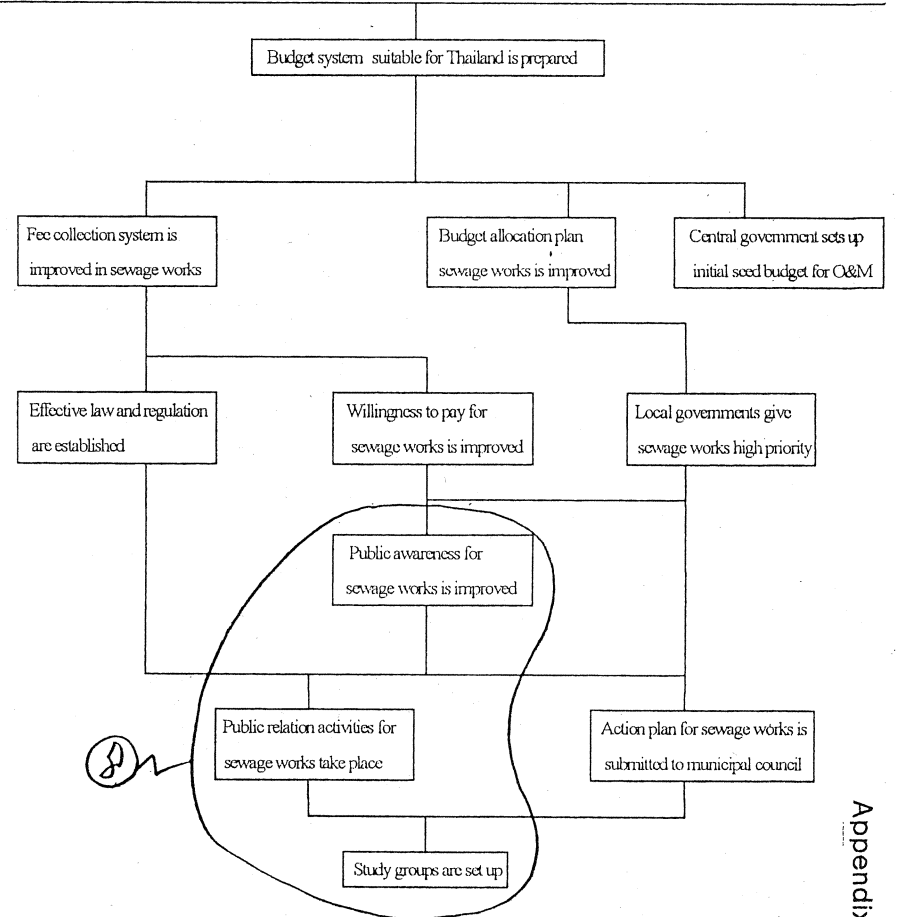
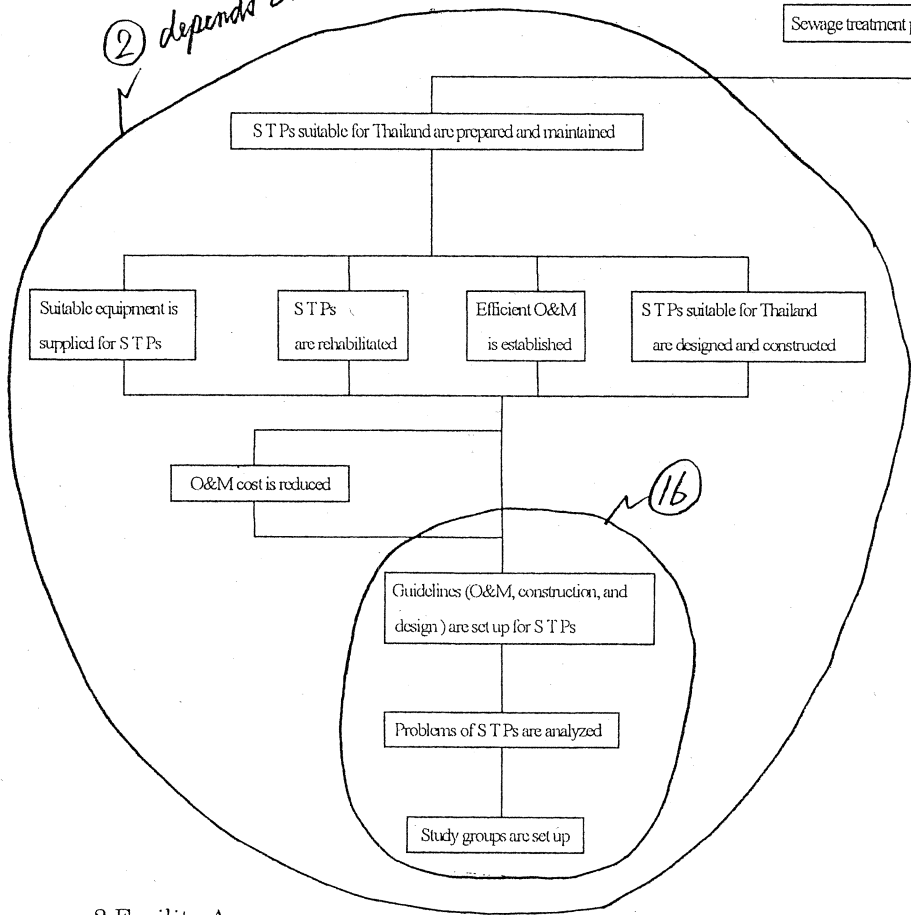
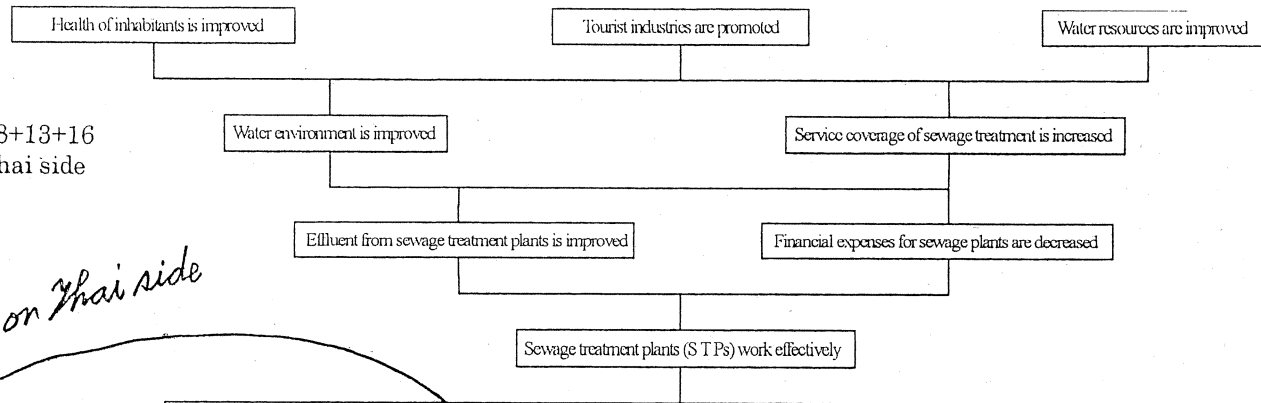
Approach(Apr)	Contribution	Cost	Transfer technology from Japan (Possibility)	Social risk	Who coordinates *2
1. Training Apr = Human *1 (10+11+12+13+14)	High	Medium	Experts Research TC training (High)	Low	PWD DEQP (MOSTE)
2. Facility Apr	High	High	Experts Equipment Research TC training (Medium)	Low	MOI (PWD)
3. Equipment development Apr	Medium	Medium	Experts Equipment Research TC training (Medium)	Low	PWD
4. Guidelines Apr(16) + 5	High	High	Experts Equipment Research TC training (High)	Low	PWD
5. National info-system Apr	Medium	Medium	Experts Equipment (High)	Low	MOI
6. Individual info-system Apr	Low	Low	Experts Equipment (High)	Low	MOI DOLA (LG)
7. Budget allocation Apr	High	Low	Experts Research (Medium)	Low	OEPP
8. Public awareness Apr	Medium	Medium	Experts Research (Medium)	Medium	DEQP
9. Fee collection Apr	High	Low	Experts Research (Low)	High	PCD (Pollution control committee)
10. Staff recruit Apr	Medium	Low	Experts Research (Medium)	Medium	It isn't discussed in work shop
11. OJT Apr	High	Low	Experts Research TC training (High)	Low	It isn't discussed in work shop
12. Training centers Apr	Medium	Low	Experts Research TC training (High)	Low	It isn't discussed in work shop
13. Efficient training Apr (11+12)	High	Low	Experts Research TC training (High)	Low	It isn't discussed in work shop
14. Well balanced staff Apr (10+13+allocation plan)	High	Low	Experts Research TC training (High)	Low	It isn't discussed in work shop
15. Central government fund Apr	High	Low	Nothing (Low)	Low	It isn't discussed in work shop
16. Guidelines Apr	High	Medium	Experts Research TC training (Medium)	Low	It isn't discussed in work shop
Japanese side idea=5+8+13+16 and 2 depends on Thai side	High	High	Experts Equipment Research TC training (Medium)	Low	It isn't discussed in work shop

*1 1. Training Apr is equal to 14. Well balanced staff Apr.

*2 Not finalized.

Japanese side idea=5+8+13+16
and 2 depends on Thai side

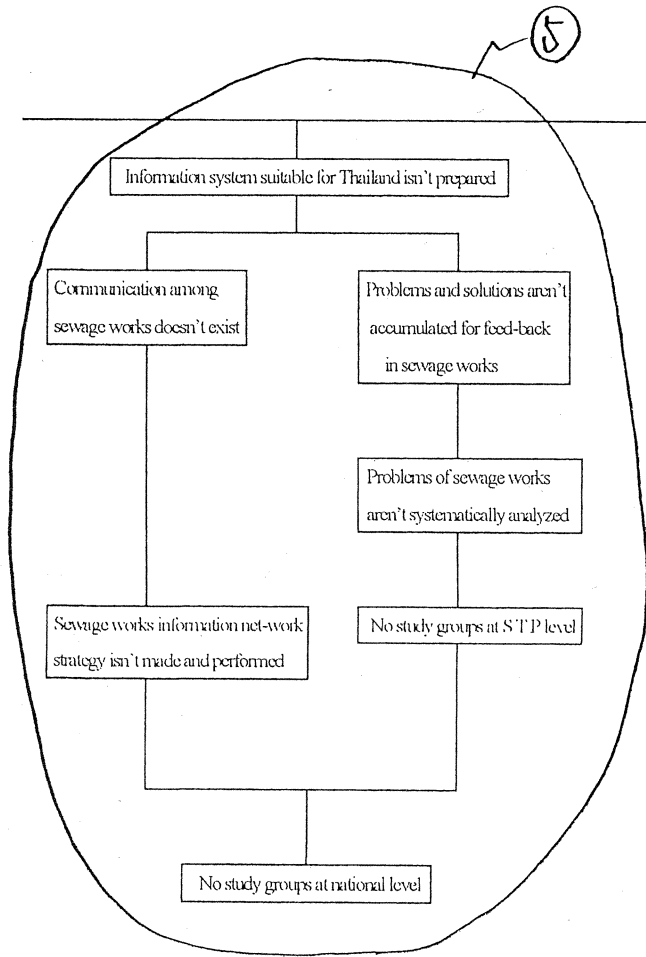
② depends on Thai side



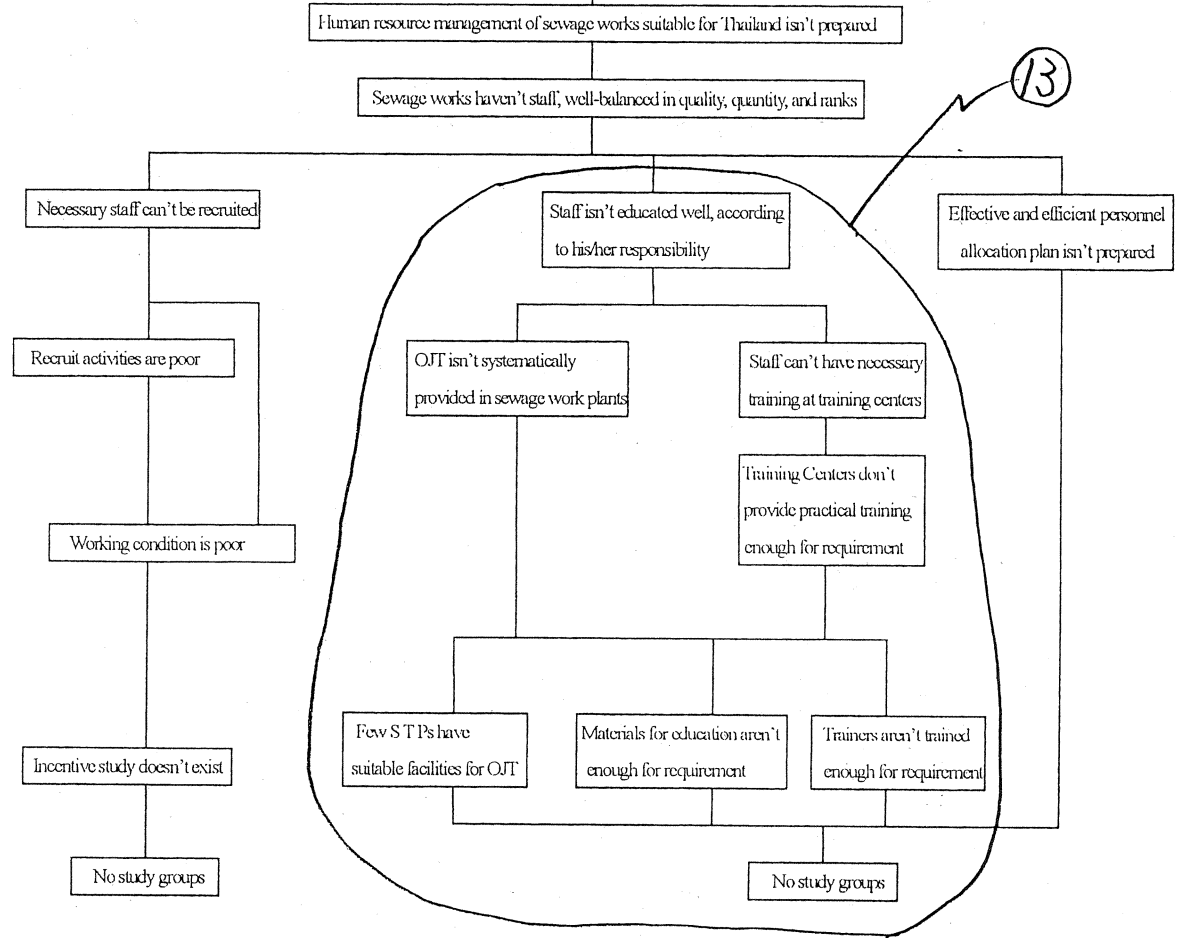
2. Facility Apr

16. Guidelines Apr

8. Public awareness Apr



5. National info-system Apr



13. Efficient training Apr

Necessary information for the preparation of the project (EXAMPLE FORMAT)

No	Name of Approach * 1	Organization responsible for the approach *2	Thai Draft	
			Activities (As precisely as possible)	Necessary Inputs (As precisely as possible)
1				
2				
3				
4				
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* 1 Please refer to Appendix 4, 5 and 6.

* 2 Please underline (_____) coordinating organization, if there are plural organizations.

* 3 "Input" mean Experts, Equipment, Facilities, Training, etc.