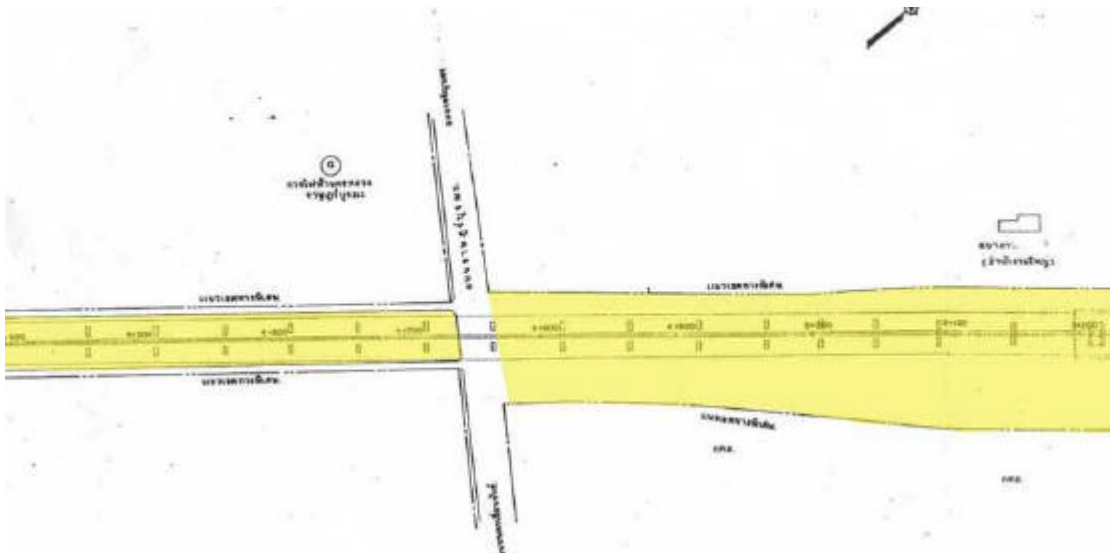# CHAPTER 3
RESEARCH DESIGN

3.1   Scope of study

3.1.1.   Spatial dimension :

The selection of study area will be determined from each kind of public own under-utilized land with different physical characteristic of the space, different ownership, and different policy decision making process. They will be referred in the questionnaires and interviews as the examples. The preliminary categorization of the uses will cover the following functions;

1. Parking

2. Play lot/sport field (for active recreation)

3. Pocket garden (for passive recreation)

4. Holiday market

5. Service road/short cut

6. Light rail transit

7. Bike/pedestrian park way

8. Rental storage space

9. Esthetic (no function)

Each sample will attach the data from observation survey, images (photos), location plan (drawing).
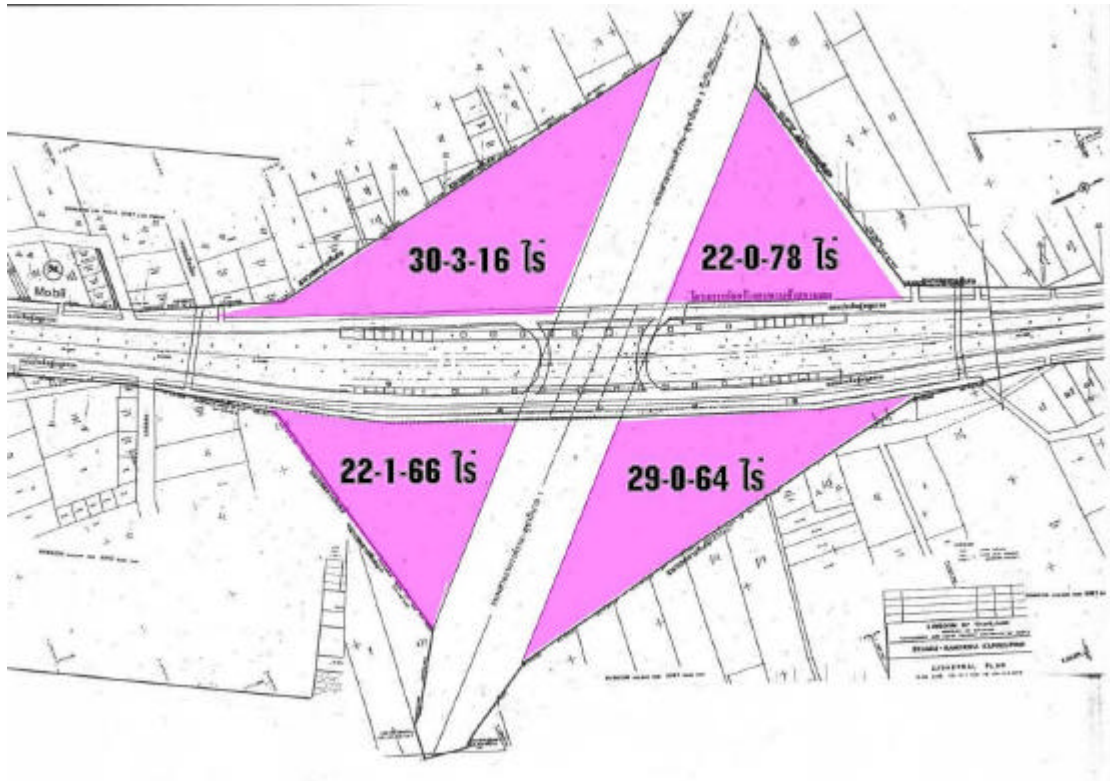
Figure 16: Samples of the space

3.1.2. Stakeholder / Involved actors

- Public agencies ; BMA, District offices, Ratchaphatsadu land (Treasury Department , Ministry of Finance), Dept of Harbour (Ministry of Transport and Communications), Thai Military (Ministry of Defend), etc.

- State enterprise ; ETA, SRT, etc

- Crown Property Bureau (special organization)

3.1.3. Environment / Socio-economic dimension :

- Sampling of survey questionnaires on public activities and attitudes from the communities in the potential areas, and involved stakeholders.
- The significance impacts of the sampled areas

3.2 Assumption

Public owned under-utilized spaces are projected as one of the possible opportunity to solve the complex problems of urban re-development for ensuring social equity, better urban environmental management and economic growth. Its linear shape and small parcel of land tends to form the integrated network and physical framework for linking communities and their amenities together. In addition, the space itself can transform into valuable public land, provides the opportunity of equity of public space distribution through the districts. And as will be indicated in the last chapter, the study would bring better result for urban environmental management to achieve the sustainable and sound urban land planning.

There are 4 assumptions in the study;

1. Public decision-making process is an important step of urban land management policy.

2. The integrated or multiplism approach would bring better result for urban environmental management to achieve the sustainable and sound urban land planning.

3. Under-utilized space creates another possible opportunity to solve the complex problems of urban re-development for ensuring social equity, better urban environmental management and economic growth.

4. The space itself can transform into valuable public land, provides the opportunity of equity of public service distribution through the districts.

Some of the photographs below are the example of the under-utilized spaces created by elevated structure, which has been assumed from the study that there should be the feasibility to be utilized for the public use instead of being left as an abandoned space or occupied by specific private purpose.

Figure 17: under-utilized land under elevated expressway

Figure 18: under-utilized land under the elevated road/bridge and under and along the Hopewell / rail line

Figure 19: under-utilized land adjacent to the bridge and along the old fortress conservation site

3.3   Coordination schema/Research questions/Methodology

The study is planned to establish the linkages between each topic, to consolidate the followed research design, to ensure co-relation, to avoid unintentional redundancy by using coordination schema table as shown in Table 3.2

Table 3.1: Coordination Schema

Objectives	Problem area	Topic	Parameter	Complex Variable	Simple Variable	Value									Source	Technique
						Figure	Fact	Category	Statement	Scaling	Ranking	Reference	Reaction	Cognizance		
1. To understand the existing urban land management policy in public agencies.	- General background, reviewed examples.	- Existing related policies on land utilization	- Statement and identification of land utilization policy.	- Specification, categorization of land utilization policy.	- Policy models : Elitist, Pluralist, Sub-government, Tripatite, Rational-comprehensive, Incremental, Systems models	/	/	/				/			Document Observation Organization visiting Questionnaire /interview	Literature review Observation Organization visiting Descriptive statistic
	- Land management policy and decision-making.	- Decision-making model(s).	- Identification and types of decision-making model(s).	- Categorization of decision-making model(s).	- Decision-making models : Rational, political, legal, etc.	/	/	/				/				
	- Public agencies	- Involved stakeholders	- Types and characteristic of involved stakeholders.	- Categorization of involved stakeholders and their conditions.	- Governmental agencies, Executive officers, Committees, Interest groups/their efficiency, involvement	/		/	/			/	/			

Objectives	Problem area	Topic	Parameter	Complex Variable	Simple Variable	Figure	Fact	Category	Statement	Scaling	Ranking	Reference	Reaction	Cognizance	Source	Technique
2. To identify and categorize existing public own under-utilized spaces.	- Zoning / geographical information	- Land uses, urban zones, location, service distance, proximity	- Living conditions of each zone	-Socio-economic condition/ land use	- Location/Type of land use/ Standard/ Density/ Affordability		/	/	/	/		/			Document/ Map	Spatial analysis (GIS),
	- Physical characteristics of the space	- Spatial and physical characters of the space, nature of access	- Characteristics of the voids, location , accessibility to space	- Physical/ conditions of the voids, geographical information of the voids, physical/ psychological/ ecological conditions, accessibility potential of the voids	- Specification/ Spatial distribution/ Type/ area/ Ownership/ Accessibility?/ Dump site? / Abandoned?/ Safety?/ Ventilation / Shade & light / Pollution (visual, air, noise,vibration), network connection / level of the efficiency of the void	/	/	/	/			/		/	Observation Survey Questionnaire	Snap shot / image processing, Survey mapping Multivariate analysis (factor analysis)
	- Land usage	- Activities, program	- Type of the usage	- Categorization of the usage	- Specification of use (passive,active, commercial)/ benefit level, attitudes.		/	/	/	/	/		/	/		

Objectives	Problem area	Topic	Parameter	Complex Variable	Simple Variable	Figure	Fact	Category	Statement	Scaling	Ranking	Reference	Reaction	Cognizance	Source	Technique
2. (cont.)	- Land owners, responsible actors	- Involved stakeholders	- Types and characteristic of stakeholders and land ownership.	- Categorization of involved stakeholders and their conditions related to ownership, responsibility	- Governmental agencies, Executive officers, Committees, Interest groups/their efficiency, involvement		/		/	/		/	/			
3. To describe the factors, criteria, and motivation on the use of public space.	- Program and usage analysis	- Activities choices and relationship to requirement and objectives of policy makers, stakeholders	- Type of activities and relationship to requirement and objectives of policy makers, stakeholders	- Conditions and information of the existing public activities/ motivation of the public activities	- Image / Type and characteristic of the activities (frequency, occasions) / requirement and objectives of policy makers, stakeholders	/	/	/	/			/		/	Document Observation	Spatial analysis, Observation survey

Objectives	Problem area	Topic	Parameter	Complex Variable	Simple Variable	Figure	Fact	Category	Statement	Scaling	Ranking	Reference	Reaction	Cognizance	Source	Technique
4. To explore, describe, and evaluate the alternatives of the utilization and the possibilities of conflicts and constraints by applying to the case of Bangkok.	- Stakes attitude	- Attitudes toward cases/models, Expression and opinion	- Characteristic of community and their interest/ Income / financial affordability of economic public activities / Expression / Opinion / Motivation/ Attitude/ Preference	- Economic benefit assessment of the activities/ Other benefits/ Demographic information of target users, Socio-economic condition of the community - Attitude toward the policies and their preference/ Level of accepting	- Level of efficiency of the activities (by economic factors); gain/loss/equal - Level of efficiency of the activities (by other factors) - Related demographic information (age, gender, education, occupation, income, hobbies/leisure) - Community evaluation (appreciation, income generation, complaint, comments) - Level of accepting	/	/	/		/	/	/	/	/	Observation Questionnaire /interview	Multivariate Analysis, Descriptive statistic

Objectives	Problem area	Topic	Parameter	Complex Variable	Simple Variable	Figure	Fact	Category	Statement	Scaling	Ranking	Reference	Reaction	Cognizanc	Source	Technique
5. To recommend, formulate, and generalize public land management policy guideline for under-utilized space.	- Institution / Organization/ Administration	- Recommended institutional and organization frameworks Involved actors, stakeholders	- Identification of policy framework, statement of plans and policies/Suggested involved actors, stakeholder/ Participation	-Responsibility, Procedure, Allocation, involved actors and participatory, Actors contribution on participation	- Information on the existing framework and recommended one (Level/ operation / task / actual actor/ participation / evaluation/ budget/ staffs/ priority, term)/ Condition and Level of benefit, potential, funding , Information on actors (Initiation, man power, finance, material, public relation, monitoring)		/		/			/		/	Document

Questionnaire /Interview | Literature review

In-dept interview |

Objectives	Problem area	Topic	Parameter	Complex Variable	Simple Variable	Figure	Fact	Category	Statement	Scaling	Ranking	Reference	Reaction	Cognizance	Source	Technique
5. (cont.)	- Public policy decision-making development	- Plans and policies study	- Statement of recommendation/ Feasibility - Socio economic affordability / Compatibility / Benefit	- Problem identification, Feasibility - Evaluation on affordability , benefit and compatibility in socioeconomic aspect of the solutions	- Problem magnitude, weakness level, level of benefit (in all aspects) - Experts' and decision makers' comment, suggestions Level of accepting (none, low, medium, strongly)/ Willingness to participate (level, channel), - Condition and Level of benefit, potential, funding	/	/	/	/	/	/	/	/	/	Questionnaire /Interview	Descriptive statistic / Delphi In-dept interview SWOT analysis

Table 3.2: Research questions and methodology

	Research questions	Research methodology	Remarks
Public own under-utilized land questions	1. What is the under-utilized spaces, public owned land? Clarification.	Literature review on the previous definition and trend.	
	2. Why do the under-utilized spaces exist in the urbanized area?	Literature review, Analytical observation	
	3. Clarification of under-utilized public land and its relationship to the use of the space and location.	Literature review, Analytical observation	Special study (Sep 2001 term)
	4. Clarification of organization framework of involved actors.	Literature review, Organizations visit	+ Special study (Jan 2001 term)
	5. Why does it have to be systematic / holistic /integrated approach?	Literature review	
	6. What are the appropriate public activities assigned on the utilized land concerning integrated approach (social, economic, and environment aspect)?	Multivariate analysis, attitude analysis, interview	Study areas : by districts
	7. What are the alternatives for utilization?	Literature review, Models evaluation and SWOT analysis	-
Policy / decision-making questions	8. What are the direction of plans, policies, in the National, local level related in public land utilization?	Literature review, Policy study	+ Special study (Jan 2001 term)
	9. Clarification of decision-making / policy models	Literature review, Policy study	-
	10. Why the public land management policy study is important to urban environmental management?	Literature review, Policy analysis	-
Application to case study questions	11. What are the significance indicators of under-utilized space in the case of BKK?	Multivariate analysis, attitude analysis, interview	-
	12. Which model(s) is appropriate to the case of Bangkok, Thailand	Literature review, Models evaluation and SWOT analysis	-
	13. What would be the attitude, opinion and reaction from the involved actors?	Multivariate analysis, attitude analysis, interview	-
	14. How to manage the plan?	Literature review, Policy study	-

3.4   Methodology and analytical framework

The main emphasis in this research analysis is on: 1) analyzing the administrative decision-making process of the public own under-utilized land 2) recommend the policy for utilization of those spaces by using integrated systematic approaches 3) a comparative study of the most feasible management alternative to achieve the sustainability in development.

The selecting of analytical method and tools depend on the required outputs and data availability. Since in this study both qualitative and quantitative analytical method would be used for the requirement indicated above. The output from analysis tools ; 1) requires a descriptive policy analysis both quantitative analysis methods on the past policies and qualitative analysis method on comparative study, goal achievement analysis, urban governance and environmental conflict resolution and impact assessment. and 2) requires a prescriptive policy analysis to find out the policy guideline for future development. (see also Figure 19, Figure 20 which describe study process)
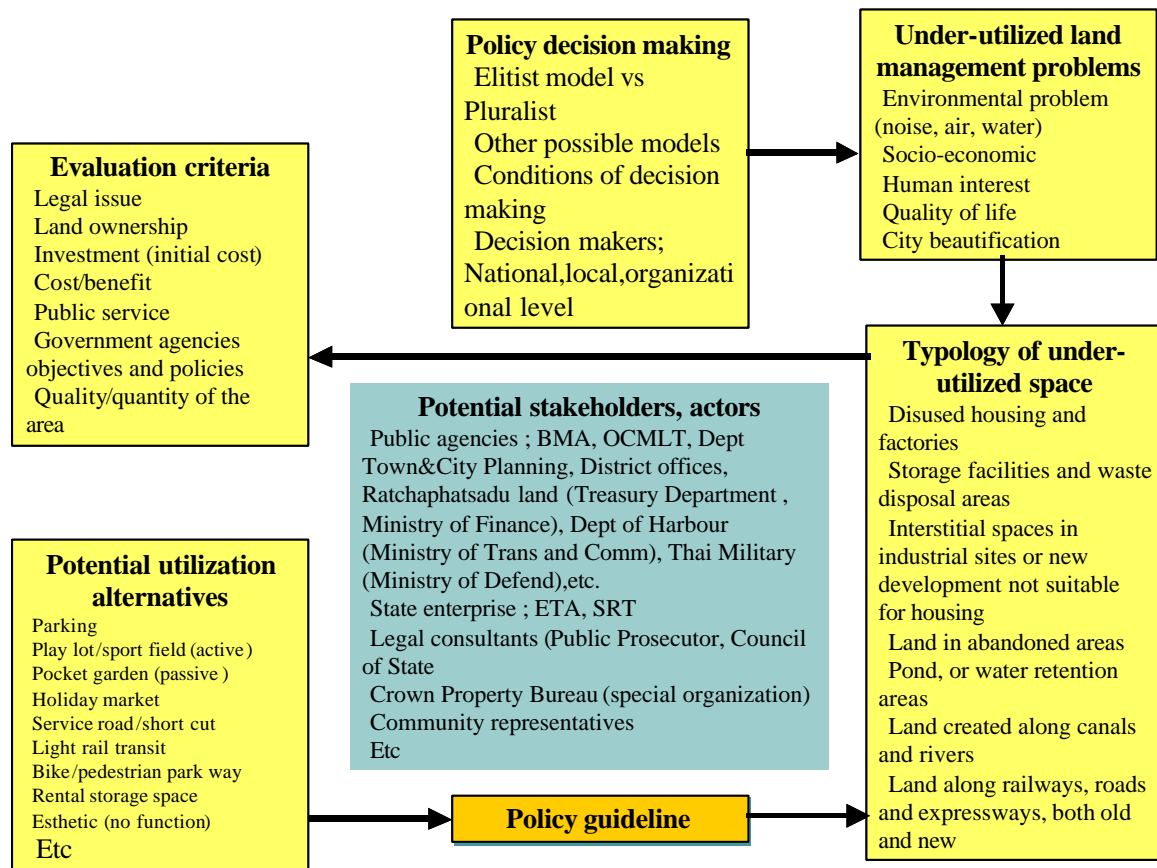

Figure 20: Analytical Framework

3.5   Study and data gathering plan

3.5.1.   Primary data :

-        Field survey for specific spatial dimension.

-        Observation on public activities.

-        Structured   questionnaires   on   views   of   multi-stakeholders   regarding utilization, random selected representatives sampling method from each selected

district and responsible administrative officers from selected involved organizations.

- Meeting and/or in-depth interview of policy decision makers.

3.5.2.   Secondary data sources :

- Maps and documents : Bangkok Metropolitan Administration (BMA)

- Maps and documents : Expressway and Rapid Transit Authority (ETA)

- Office of Commission for the Management of Land Traffic (OCMLT)

- Office of National Economic and Social Development Board (NESDB)

- Literatures - Prior researches and studies on specific aspect of the under-utilized lands (legal issues, health reports, financial reports, EIA reports, security and safety records)

Table 3.3: Data and type of data

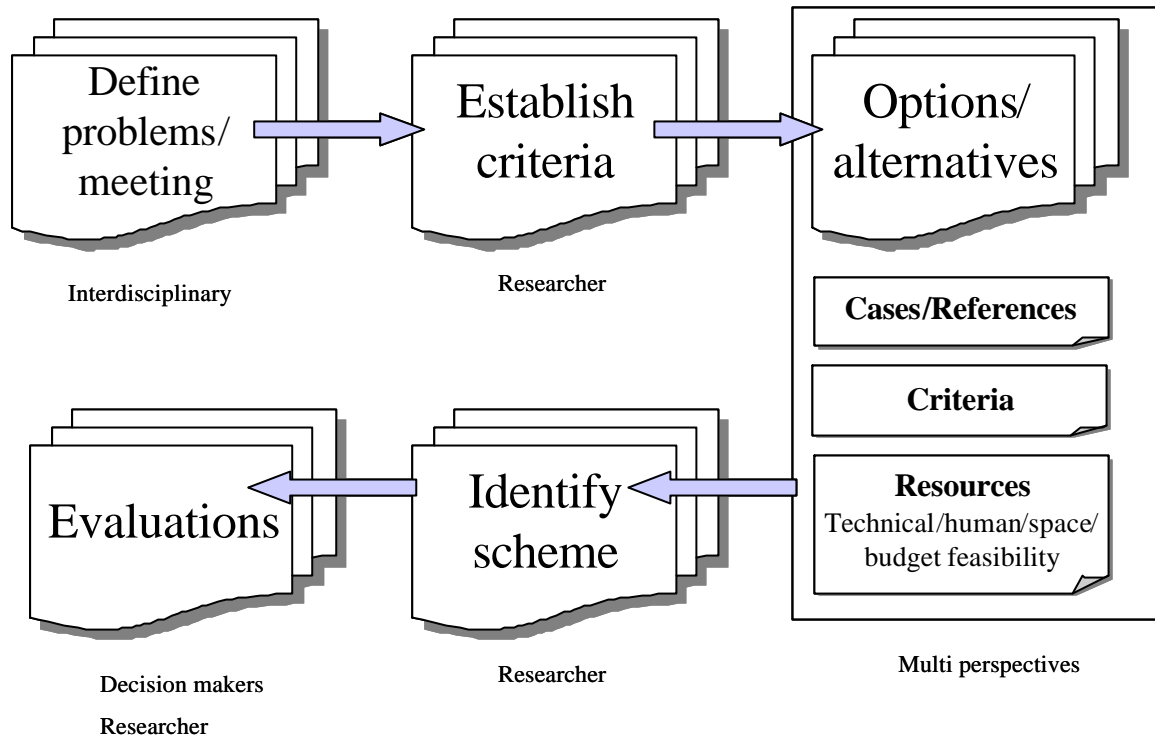| Data	Type of data	Collecting
1. Maps	Secondary data	From local administrative offices, public land owner organizations
2. National, local policy	Secondary data	From NESDB, and local administrative offices, involved actors.
3. Socio-economic data	Secondary data	From local administrative offices (BMA),
4. Quality of space	Primary data	Field observation, images
5. Views of stakeholders data	Primary data	Survey questionnaire
6. Selected case study areas information for comparative study	Primary data	Evaluation, selected events

3.6 Study Process

Figure 21: Study process diagram

Study process is planned to compose with these following steps;

1. <u>Define problem</u> – using expert surveys technique to develop an estimation of problems defining. Expert surveys are planned to be conducted by open-ended interviews and meetings with interdisciplinary actors. The interview provides the various informants' views of things.

2. <u>Establishing criteria</u> – A criterion is a rule or standard by which to rank the alternatives in order of desirability. It provides a way to relate objectives, alternatives, and impacts (Quade,1982). Evaluation criteria are essential to measuring achievement of any objective. The researcher should identify relevant criteria in category, which can be briefly as followings; technical feasibility, economic and financial possibility, political viability, and administrative operability (Patton and Sawicki, 1993).

3. <u>Alternatives finding</u> – to uncover the full set of possible actions or alternatives that offer some hope of accomplishing what is wanted (Quade,1982). It is based on statistical techniques through human judgment and attitudes from cross-sectional survey questionnaires with the combination of scenario writing of case references, criteria and resources, which is completely non-quantitative. The scenario writing is most often a description or prediction of conditions under which a policy that is to be analyzed, designed, or evaluated is assumed to perform. It is both a way of using expertise individually and also a way of using experts collectively (Quade,1982). The alternatives should be screened to reduce the numbers left to manageable. The screening filters are from the criteria defining the weakness and deficiencies in various alternatives. Quade (1982) gave the obvious caution that 'it is better to be

conservative in screening, to err on the side of keeping too many alternatives rather than too few'.

4. <u>Identify scheme</u> – using 'quick analysis' technique. Quick analysis is primarily a set of orientations leading analysts to focus on core dimensions of a problem and to gather rapidly information relevant to those core dimensions (Putt and Springers, 1989). This research will gather the alternatives from the alternative finding step and identify the range of perspectives. The study in this step will provide the list of alternatives with prioritization of potential of each solution.

5. <u>Evaluation</u> – to evaluate the policy scheme may require 'quasi experiment' instead of true experiment, because of the reasons on complexity, limitations on administrative structure, time and resources, control groups, and constraining the use of true experiment. Quasi experiments method was discussed by Putt and Springer (1989) that well-designed quasi experiments are capable of ruling out many threats to the validity of policy findings. Such designs provide useful evidence of program effectiveness or ineffectiveness, particularly when used in conjunction with other sources of evidence. Quasi experiments are a 'mixture of methods and judgment' (Cordray, 1986 cited by Putt and Springer, 1989) requiring analysts to tailor study design to the particular information need. Quasi experiments also recommended by Putt and Springer that they can fill the gap of true experiments and pre-experiments in policy analysis. The analytical technique is planned to use 'Delphi' among decision-makers group, which are partially quantitative.

3.7 Questionnaire format

There are 2 types of respondents, whom will be provided the questionnaire. The questionnaires are designed to get the base information of preferences of each type of actors. The first group is officers and experts, the second group is the community.

3.7.1. Descriptive analysis data from officer and expert respondents

Sampling method

Target respondent

Numbers of respondent

Additional media

**Table 3.4: Sample of questionnaire structure for officers respondents
(in the case of ETA)**

Section		Contents	Methodology / scales
A	1.	Education	Checklist
	2.	Occupation	
	3.	Position	
	4.	Organization	
B	1.	The perception about space under expressway	Checklist
	2.	Involvement in ETA voids utilization	
	3.	Select the most familiar space	
	4.	Familiarity to the place like space under expressway	
	5.	Using/visiting frequency	
C	1.	The overall perception of the respondents to the places	Binary scale
			(dissatisfied-satisfied)
		1.1 Place 1	
		1.2 Place 2	
		1.3 Place 3	
		1.4 Place 4	
		1.5 Place 5	
		1.6 Place 6	
		1.7 Place 7	
		1.8 Place 8	
		1.9 Place 9	
D	1.	The statement of activities provided in the place	4-Rating scale without mid-point
		1.1 Place 1 - Parking	(strongly disagree-- disagree--agree--strongly agree)
		1.2 Place 2 - Play lot/sport field (for active recreation)	
		1.3 Place 3 - Pocket garden (for passive	

			recreation)	
			1.4 Place 4 - Holiday market	
			1.5 Place 5 - Service road/short cut	
			1.6 Place 6 - Light rail transit	
			1.7 Place 7 - Bike/pedestrian park way	
			1.8 Place 8 - Rental storage space	
			1.9 Place 9 - Esthetic (No functions)	

E	1.	How many activities do the respondents expect to have at the place?	Checklist (include –none-)
		1.1 Place 1	
		1.2 Place 2	
		1.3 Place 3	
		1.4 Place 4	
		1.5 Place 5	
		1.6 Place 6	
		1.7 Place 7	
		1.8 Place 8	
		1.9 Place 9	
	2.	Functions preferences 2.1. Parking 2.2. Play lot/sport field (for active recreation) 2.3. Pocket garden (for passive recreation) 2.4. Holiday market 2.5. Service road/short cut 2.6. Light rail transit 2.7. Bike/pedestrian park way 2.8. Rental storage space 2.9. Esthetic (No functions) 2.10 Other (….specify)	Ranking
	3.	Perception and belief in using space under expressway	4-Rating scale without mid-point (strongly disagree--disagree--agree--strongly agree)

F	1	Experiences in other ETA places and comparison among cases	Checklist Ranking Checklist with ranking
		1.1 Place 1	
		1.2 Place 2	
		1.3 Place 3	
		1.4 Place 4	
		1.5 Place 5	
		1.6 Place 6	
		1.7 Place 7	
		1.8 Place 8	

		1.9 Place 9	
	2	Other activities preferences (….specify)	Open
	3	Comments/suggestion	Open

3.7.2. Descriptive analysis data from community respondents

Sampling method

Target respondent

Numbers of respondent

Additional media

Table 3.5: Sample of questionnaire structure for community respondents (in the case of ETA)

Section	Contents	Methodology / scales
A	1. Age	Checklist
	2. Sex	
	3. Income	
	4. Education	
	5. Occupation	
	6. Locality	
	7. Resident type	
	8. Leisure time	
B	1. The perception about space under expressway	Checklist
	2. Distance from home to the closest space under expressway	
	3. Select the most familiar space	
	4. Familiarity to the place like space under expressway	
	5. User frequency	
	6. Accessibility / mode	
C	1. The overall perception of the respondents to the places	Binary scale (dissatisfied-satisfied)
	1.1 Place 1	
	1.2 Place 2	
	1.3 Place 3	
	1.4 Place 4	
	1.5 Place 5	
	1.6 Place 6	
	1.7 Place 7	
	1.8 Place 8	
	1.9 Place 9	

D	1.	The statement of activities provided in the place	4-Rating scale without mid-point (strongly disagree--disagree--agree--strongly agree)
E	1.	How many activities do the respondents expect to do at the place?	Checklist (include –none-)
	2.	Functions preferences 2.1.　　Parking 2.2.　　Play lot/sport field (for active recreation) 2.3.　　Pocket garden (for passive recreation) 2.4.　　Holiday market 2.5.　　Service road/short cut 2.6.　　Light rail transit 2.7.　　Bike/pedestrian park way 2.8.　　Rental storage space 2.9.　　Esthetic (No functions) 2.10　　Other (….specify)	Ranking
	3.	Perception and belief in using space under expressway	4-Rating scale without mid-point (strongly disagree--disagree--agree--strongly agree)
F	1	Experiences in other ETA places and comparison among cases 1.1 Place 1 1.2 Place 2 1.3 Place 3 1.4 Place 4 1.5 Place 5 1.6 Place 6 1.7 Place 7 1.8 Place 8 1.9 Place 9	Checklist Ranking Checklist with ranking
	2	Other activities preferences (….specify)	Open

To find the alternatives/preferences, survey has to be outlined with these following factors to ensure the smoother and more effective conclusion.

- Members

- Cases / References

- Sample ETA voids

- Results from questionnaires

3.8   Evaluations meeting outline

The result from data analysis of the questionnaires will be brought up to the experts and decision-makers meeting, using Delphi method.

3.9   Suggested outline

<u>Chapter 1 Introduction</u>

Background

1.1 Statement of the problems

1.2 Specific problem area

1.3 Aim of the study

1.4 Research objectives

- To understand the existing urban land management policy in public agencies.

- To identify and categorize existing public own under-utilized spaces.

- To describe the factors, criteria, and motivation on the use of public space.

- To explore, describe, and evaluate the alternatives of the utilization and the possibilities of conflicts and constraints by applying to the case of Bangkok.

- To recommend, formulate, and generalize public land management policy guideline for under-utilized space.

1.5 Specific focus

1.6 Development of the rationale

1.7 Research assumption / Hypotheses

1.8 Conceptual framework

1.9 Scope of study

1.10   Methodology and research design

- Descriptive analysis

- Prescriptive analysis

1.11   Organization of data collection

- Sources of data

- Secondary sources of information

- Sampling design and survey format

1.12   Data processing and analysis

- Models study

- Prescriptive analysis

- Alternatives

<u>Chapter 2 Reviews on definition and description statement</u>

2.1 Policy study

2.2 Decision-making

2.3 Public owned under-utilized space

2.4 Selected case study

2.5 Utilization of the land

2.6 Urban environmental management issue

2.7 Utilization alternatives

2.8 Past practical models and case studies and lessons learned

Chapter 3 Theoretical and conceptual debate in public policy decision-making

3.1 Public policy decision-making model

- Elitist model

- Pluralist model

- Sub-government model / Tripatite model?

- Rational-comprehensive model

- Incremental model

- Systems model

3.2 Public policy analytical techniques

- Six common tasks (operational efficiency, resource allocation, environmental management, program evaluation, planning and budgeting, and strategic choice).

- Elements of analysis (the objectives, the alternatives, the impacts, the criteria, and the model).

- Analytic process (defining the problems, preparing an issue paper, organizing the work, choosing the approach, and gathering information).

- Finding out the models (analytic, simulation, gaming, and judgmental model)

3.3 Institution responsibility / stakeholders / actors

- Governmental agencies

- Executive officers

- Committees

- Interest groups

3.4 Scale and level of policy

- National level

- City level

- Public/state agency level

Chapter 4 Multiplism / Pluralism / Integrated approach model and the applications

4.1 Systematic approach in urban infrastructure planning

4.2 Social and community issues

4.3 Public activities on public space and their socio-economic constraint

4.4 Application of urban landscape aspect and city beautification

4.5 Legal and regulation issues

3.10   Research Organization

Organization of the research (chapter by chapter, module by module) The study is composed of 4 parts

3.7.1.) Data collecting part of the study

- The study will focus on the existing conditions of the public own land utilization and all involved sectors and people need, attitude and willingness toward the urban spaces and the uses.

3.7.2.) Policy descriptive analysis

- Focuses on the policy analytical technique to describe the past policies of national and local level including the involved organization policy on land utilization, systematically concerning on all aspects of decision-making process. Data are gathered from the researches, studies, existing information; are also included in the multivariate analysis of multi-stakeholders views. They are the existing conditions secondary data from various sources, and additional data of primary field survey and observation.

3.7.3.) Prescriptive part of the study

- Focus on the future and possible programs/projects alternatives of the case study which are inter-related to the public policy.

3.7.4.) Experimental part of the study

- focus on the planning guidelines to determine the proposed policies. This part is the most importance part which is divided into 3 parts

a) The potential and problems analysis: to find out the urban causes / effects, community and stakeholders views, and demand/supply for the potential assign public policies.

b) The policy guideline: to propose the solutions to achieve sound public policy, social beneficial and feasible financial schemes.

c) The framework: to explore the policy framework, how to implement the policy in the most environment / economic / social effective way of management for all involved actors and result smooth and sound future sustainable development.

3.11   Contribution of the research

3.11.1.   For academic purpose

To exercise systematic analysis tool / policy study / planning proposal and management knowledge in urban environmental management which regard to cross discipline academic courses.

3.11.2.   For specific research field of studying

Simulation in policy and systematic analysis could be developed to be helpful tool used for problem solving in decision-making process of urban land planning and management.

3.11.3.   For public purpose

An initiated idea may benefit to various involved organizations in Bangkok Metropolitan especially to BMA and other public land owners for future sustainable development plan and also sound re-development of the existing projects.

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