



**EXPLAINING PATTERNS OF PUBLIC
PARTICIPATION IN BANGKOK: CASE ANALYSIS OF
RECYCLING IN BANGKOK, THAILAND**

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ABSTRACT

Solid waste is one of the most significant environmental problems in the city of Bangkok, capital of Thailand. Bangkok is a heavily populated and fast growing city where growth and development are highly concentrated. Urbanisation has resulted from a combination of rural migration and uncontrolled and poor planning. Air pollution, traffic, wastewater and solid waste are the major serious environmental dilemmas. The Bangkok Metropolitan Administration (BMA), a special form of local government, is responsible for managing the city. The BMA established the recycling program of Bangkok in order to decrease the volume of household solid waste. The recycling scheme encourages residents to separate recyclable materials from household waste before discarding them. However, this recycling program has a low public participation rate.

The main goal of this thesis is to examine the effectiveness of Bangkok's recycling program by looking at public participation patterns. In order to reach its goal, the study first examines the role of the state in policy-making and environmental planning processes, particularly how it influences the way residents become involved in the recycling program. Second, the study explores public perceptions and residents' recycling behaviour, in order to understand more about how residents respond to public policy and environmental management programs.

The results showed that even though political decentralisation of power and responsibility has occurred in Thailand, and now emphasising public participation more than before, Thai governance and its attendant political culture was deeply hierarchical and conservative. The state has always played a major role in decision-making and planning processes. In addition, rational or top-down planning was mainly employed in environmental planning in Bangkok, and local knowledge and public perception played a limited role. Therefore, citizens did not commit to public policy when they perceived that their participation would be limited. Thus, the structure of governance and political culture in Thailand tended to discourage public participation. It reinforced a gap between the state and citizens.

Secondly, Bangkok's residents' perceptions and participatory behaviour in the recycling program differed according to their socio-economic status. Economic inducements and personal convenience were most favoured by low-income groups but not higher income groups. Furthermore, civil society in Bangkok was considered relatively weak due to a low level of social capital. In Bangkok's competitive and increasingly market-oriented and consumer-driven society, people tended to be socially and economically independent. Therefore social exchanges or connections were rarely seen. As social capital was minimal, collective action or participation was problematic. Lastly, the results also showed a communication gap between the state and citizens, leading to a minimal collaboration in working toward the benefits of recycling.

This research proposes a bottom-up planning mode in which citizens are the centre of planning processes. Local knowledge and public perceptions are utilised as crucial sources of information. Some sections of the Bangkok populace are well informed and able to access information regardless of resource limitations. Public participation in planning and decision-making processes is recognised in order to promote transparency and therefore close the gap between the Thai state and citizens. A genuine program of decentralisation where more power and responsibility exist at the central level (in this case is the BMA), is required. Efficient delegation of power and distribution of resources will enable local government to work more closely and effectively with the community. Furthermore, a community's capacity to build an efficient recycling program must be put in place in order to strengthen citizens' ability to participate effectively.

DECLARATION

This Thesis contains no material which has been accepted for the award of any other degree of diploma in any university and that, to the best of my knowledge and belief, the thesis contains no material previously published or written by another person, except where due reference is made in the text of the thesis.

I give consent to this copy of my thesis, when deposited in the University Library, being available for loan and photocopying.

Sasikamon Thamrongvoraporn

I would like to dedicate this work to my family and love one.

Thank you for your love and support.

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TABLE OF CONTENTS

TITLE PAGE.....	i
ABSTRACT.....	ii
DECLARATION.....	iv
DEDICATION.....	v
ACKNOWLEDGEMENTS.....	vi
TABLE OF CONTENTS.....	vii
LIST OF TABLES.....	xi
LIST OF FIGURES.....	xii
LIST OF BOXES.....	xiv
CHAPTER ONE – INTRODUCTION.....	1
1.1 The Significance of this Research.....	1
1.1.1 Urbanisation: Major Environmental Problems.....	1
1.2 Bangkok’s Solid Waste Management Problem.....	6
1.3 Research Aims and Objectives.....	8
1.4 Structure of the Thesis.....	12
CHAPTER TWO- RESEARCH DESIGN AND METHODS.....	14
2.1 Introduction.....	14
2.2 Research Methods.....	15
2.2.1 Case Study.....	16
2.3 Data Collection.....	17
2.4 Research Design.....	22
2.5 Validity and Reliability.....	25
CHAPTER THREE – BACKGROUND TO THE CASE STUDY.....	27
3.1 An Overview of Bangkok.....	27
3.2 The Bangkok Metropolitan Administration.....	31
3.3 The Solid Waste Management System of Bangkok.....	33
3.3.1 Waste Sources.....	34
3.3.2 Solid Waste Collection Methods.....	36

3.3.3 Solid Waste Disposal.....	36
3.3.4 Waste Collection Cost.....	37
3.4 The Existing Recycling Program of Bangkok.....	40
3.5 An Informal Section of Waste Sorting.....	43
CHAPTER FOUR- URBAN PLANNING AND GOVERNANCE.....	48
4.1 Introduction.....	48
4.2 Discourse of Urban Planning.....	49
4.2.1 Modern Planning.....	51
4.2.2 Post Modern Planning.....	53
4.2.2.1 Advocacy Planning.....	54
4.2.2.2 Marxist Planning Theory.....	55
4.2.2.3 Transactive Planning.....	55
4.2.2.4 Communicative Planning.....	56
4.2.2.5 Radical Planning.....	57
4.3 Public Participation.....	59
4.3.1 What is Public Participation?.....	60
4.3.2 Why do We Need Public Participation?.....	61
4.3.3 How does Participation Work?.....	64
4.3.4 Is Public Participation “Efficient”?.....	66
4.4 Empowerment and Decentralisation.....	67
4.4.1 What does Decentralisation Entail?.....	69
4.4.2 Why Decentralisation? What are its implication?.....	70
4.4.3 Ensuring Decentralisation Works.....	72
4.5 Conclusion.....	74
CHAPTER FIVE- SOCIOLOGICAL FACTORS AND RECYCLING	
BEHAVIOURS.....	76
5.1 Introduction.....	76
5.2 Influence of Sociological Factors on Participatory Behaviours	
in a Recycling Program.....	77
5.2.1 Environmental Concern on Solid Waste Management.....	77
5.2.2 Socio-economic Status.....	79
5.2.3 Personal Convenience.....	81

5.2.4 Education Program and Public Campaign.....	83
5.2.5 Economic Inducement.....	85
5.3 Conclusion.....	86

CHAPTER SIX- CASE STUDY RESULTS: RECYCLNG BEHAVIOURS OF BANGKOK'S RESIDENTS.....87

6.1 Introduction.....	87
6.2 Results and Discussion.....	88
6.2.1 Socio-economic Status.....	88
6.2.2 Recycling Behaviour.....	91
6.2.3 Environmental Awareness and Solid Waste Management.....	93
6.2.4 Solid Waste Service.....	96
6.2.5 Recycle Education Campaign.....	97
6.2.6 Personal Convenience.....	100
6.2.7 Economic Inducement.....	102
6.2.8 Informal Waste System Practice.....	103
6.2.9 Community Participation.....	105
6.2.10 Personal Interview with Bangkuhntean District Officer.....	107
6.2.10.1 The BMA Recycling Program.....	107
6.2.10.2 Bureaucratic System.....	107
6.2.10.3 Different Type of Communities.....	108
6.3 Conclusion.....	109

CHAPTER SEVEN- DISCUSSION: UNDERSTANDING RECYCLING BEHAVIOURS IN BANGKOK.....111

7.1 Introduction.....	111
7.2 Roles of the State and Planners in the Policy-making, Planning and Implementing Environmental Management Program.....	113
7.2.1 The History of Thailand Political System.....	114
7.2.1.1 Elitism, Bureaucracy, and Corruption in Thailand's Guided Democracy.....	115
7.2.1.2 Participatory Democracy (1997-Present Day).....	116
7.2.2 Impediments to Decentralisation: Rational Planning and Political Culture.....	118

7.3 The Participation of Civil Society in Environmental Management.....	124
7.3.1 Civil Society in Environmental Management.....	127
7.3.2 Social Capital: The Foundation of Civil Society.....	129
7.3.3 The Impact of Differences in Socio-economic Status.....	133
7.3.3.1 Civil Society and Public Participation in Middle and High-income Group.....	138
7.3.3.2 Civil Society and Public Participation in Low-income Group.....	140
7.4 Sustainable Environmental Management.....	143
7.4.1 Working Together: the State and Civil Society.....	145
7.4.2 What is Missing: the Recycling Program of Bangkok.....	147
7.4.2.1 Planning Mode.....	148
7.4.2.2 Centralised Governance.....	149
7.4.2.3 Diffuse Urban Civil Society.....	150
7.5 Conclusion.....	151

CHAPTER EIGHT- CONCLUSION AND RECOMMENDATIONS.....154

8.1 Introduction.....	154
8.2 Summary of the Key findings.....	155
8.2.1 Centralised State and Comprehensive Planning.....	156
8.2.2 Public Perceptions toward the Recycling Program.....	158
8.2.3 Gap between the State and Citizens; Communicative Distortion.....	159
8.3 Proposed for Improved Waste Management in Bangkok.....	161
8.3.1 Recommendations on Public Policy and Planning Process.....	161
8.3.1.1 “Bottom-up” Planning mode.....	163
8.3.1.2 The Recognition of Public participation in the Planning and Decision-making Process.....	165
8.3.2 Recommendations on Decentralisation and Community Capacity Building.....	166
8.3.2.1 Genuine Decentralisation.....	166
8.3.2.2 Community Capacity Building.....	167
8.4 Future Research.....	167

LIST OF TABLES

Table 1.1 Urban Population project around the World between 1950 and 2000.....	2
Table 1.2 Population in Bangkok Metropolis Areas, Vicinity and Bangkok Metropolitan Region.....	5
Table 2.1 Sample Size of the Study.....	24
Table 3.1 The Number of Factories in Bangkok, 1995-1998.....	30
Table 3.2 The General Physical Composition of Solid Waste in Bangkok.....	35
Table 3.3 The Current Waste Collection Fee of the Bangkok Metropolitan Administration.....	37
Table 3.4 Income and Expenditure Statement for 1999 of the Bangkok Metropolitan Administration.....	38
Table 3.5 Solid Waste Collection Cost and Fee from 1994-1999 of the Bangkok Metropolitan Administration.....	38
Table 3.6 Characteristic and Quantity of Recyclable Material in Bangkok: 1996 and 2000 (tonnes/day).....	40
Table 3.7 The Expected Quantity of Recyclable Material in Bangkok.....	41
Table 3.8 Quantity of Recyclable Material Collected via Informal System.....	46
Table 6.1 Number and Gender of Respondents.....	88
Table 6.2 Age group of Respondents.....	89
Table 6.3 Income of Respondents.....	89
Table 6.4 Highest Education Level of Respondents.....	90
Table 6.5 Occupations of Respondents.....	90
Table 6.6 Household Size of Respondents.....	91
Table 6.7 The Frequency of Bangkok's Residents Response to General Environmental Concern.....	93
Table 6.8 The Frequency of Bangkok's Resident Response to Environmental Concern over Solid Waste Management.....	94
Table 6.9 The Correlation Value of Environmental Awareness and Other Variables.....	96
Table 6.10 The Correlation Value of Solid Waste Service and Other Variables.....	97
Table 6.11 Sources of Information about the Recycling Program.....	97

Table 6.12 The Correlation Value of the Education Campaign and
Other Variables.....99

Table 6.13 The Response of Bangkok’s Resident on the Convenience of the
Recycling Scheme.....100

Table 6.14 The Correlation Value of Personal Convenience and
Other Variables.....101

Table 6.15 The Correlation Value of Economic Inducement and
Other Variables.....103

Table 6.16 The Correlation Value of the Informal Waste System
Practice and Other Variables.....105

Table 6.17 The Correlation Value of Community Participation and
Other Variables.....106

LIST OF FIGURES

Figure 1.1 The Trend of Urban Population Growth between 1950 and 2025.....	3
Figure 3.1 The Map of Bangkok Metropolitan Area.....	27
Figure 3.2 The Organisational Chart of the Bangkok Metropolitan Administration...	32
Figure 3.3 The organisational Chart of Solid Waste Collection and Transportation.....	45
Figure 6.1 Frequency of Recycling Behaviour.....	92
Figure 6.2 Frequency of Types of Recyclable Materials that have been Separated....	92
Figure 6.3 Level of Environmental Concern of Bangkok's Residents Toward Solid Waste Management Problems.....	95
Figure 6.4 The Recycling Campaign.....	98
Figure 6.5 Recycling Practice.....	98
Figure 6.6 Level of Concern for Personal Convenience in the Recycling Program..	101
Figure 6.7 Opinion of Respondents about Economic Inducement Scheme.....	102
Figure 6.8 Opinion of Respondents on the Informal Waste System Practice.....	104
Figure 6.9 The Frequency of Community Participation of Respondents.....	106
Figure 7.1 The Connection between Sociological Factors and Participatory Behaviour of Bangkok's Residents regarding the Recycling Program.....	132
Figure 7.2 The Map of Low-income Communities in Bangkok.....	134
Figure 7.3 The Map of Middle-income Communities in Bangkok.....	135
Figure 7.4 The Map of High-income Communities in Bangkok.....	136
Figure 7.5 Relationships between Socio-economic Status of Resident and Various Attributes.....	137
Figure 7.6 Model of Sustainable Development.....	144

LIST OF BOXES

Box 2.1 Guidelines for Questionnaire Design.....	20
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Chapter One

Introduction

Environmental issues are best handled with participation of all concerned citizens, at the relevant level. At the national level, each individual shall have appropriate access to information concerning the environment that is held by public authorities, including information on hazardous materials and activities in their communities, and the opportunity to participate in decision-making processes. States shall facilitate and encourage public awareness and participation by making information widely available. Effective access to judicial and administrative proceedings, including redress and remedy, shall be provided (Principle 10 of the Rio Declaration, UNCED, 1993).

1.1 Significance of the Research

1.1.1 Urbanisation: Major Environmental Problems

Urbanisation, which is the process of people moving into a city or urban area, is becoming a major source of environmental problems in the developing world today. The urbanisation process in developing countries, especially Southeast Asia, emerged as early as the immediate post-war period when industrialisation began to boom (Potter, 1985). During the industrialisation period, development expanded unequally and usually concentrated in urban areas where industries, businesses and housing were located. Consequently, people from the rural areas moved into the city seeking jobs and to improve their quality of life. Potter (1985) considered that under capitalism, urbanisation is an outcome of uneven surplus accumulation and distribution. The extent of the urbanisation problem in developing countries is critical and its progress depends on the number of urban people in developing countries. Between 1950 and 1990, the urban population in Africa, Asia and Latin America increased from 286 million to more than 1.5 billion (Hardoy *et al.*, 1995). The urban population's growth rate in developing countries has been estimated at 3.6% per year and continues to increase (Ryding, 1992). The United Nations' projection for worldwide urban population growth between 1950 and 2000 is shown in Table 1.1 below.

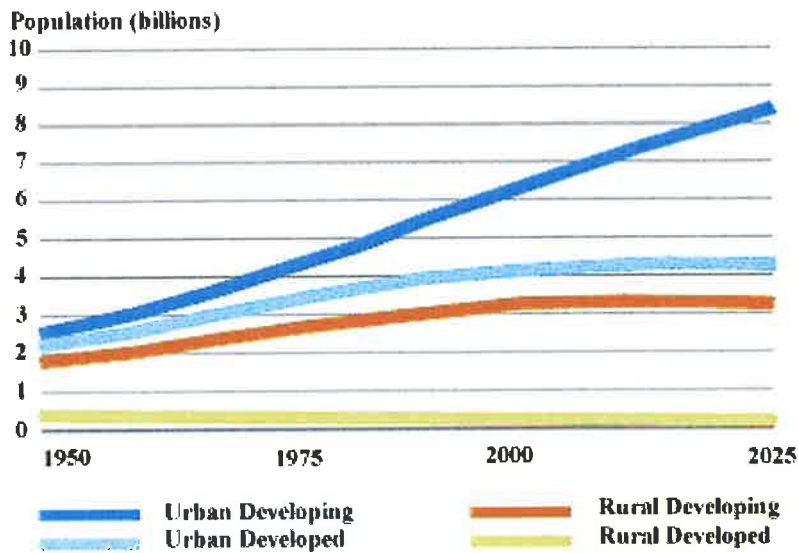
Table 1.1 Worldwide Urban Population Projection between 1950 and 2000

Region	1950	1970	1990	2000
<i>Urban Population (millions of inhabitants)</i>				
Africa	32.2	82.7	217.4	352.4
Latin America and Caribbean	68.8	163.6	320.5	411.3
Asia (not including Japan)	184.4	406.8	975.3	1,485.7
Other	0.2	0.7	1.4	2.1
<i>Third World total</i>	285.6	653.8	1,214.7	2,251.4
<i>Rest of the world</i>	448.2	698.6	975.5	946.2
<i>Percentage of Population living in urban centers</i>				
Africa	14.5	22.9	33.9	40.7
Latin America and Caribbean	41.5	57.3	71.5	76.4
Asia (not including Japan)	14.2	20.4	32.6	41.5
Other	7.5	17.5	23.1	27.3
<i>Third World total</i>	17.0	24.7	37.1	45.1
<i>Rest of the world</i>	53.8	66.6	72.6	74.9

Source: The United Nations (1991), *World Urbanization Prospects 1990; Estimates and Projections of Urban and Rural Populations and of Urban Agglomerations*.

More recently, the World Resource Institute has recorded the trend of urban population growth between 1950 and 2025 (see Figure 1.1).

Figure 1.1 The Trend of Urban Population Growth between 1950 and 2025



Source: The United Nations Population Division, 1996

Urbanisation in developing countries is occurring very rapidly. South-East Asia shares a similar pattern, in which the largest cities are the focus of development. This pattern follows that of ‘urban primacy’ (Potter, 1985; Hardoy *et al.*, 1995; Smith, 2000). Urban primacy is identified by a city that is nationally concentrated in terms of political, economic and social conditions. Many of the urban primacy cities are very populated, some of them having more than one million inhabitants forming what is called a ‘mega-city’. Hardoy *et al.* (1995) noted that Asia has eleven cities with between five and ten million inhabitants. Moreover, nine of the largest cities in Asia were also among the largest cities of the world in 1800 (Hardoy *et al.*, 1995). As the number of people migrating to the cities continually increases, a city’s capacity to absorb them cannot keep pace with this influx. Therefore, the rapid growth of population in urban areas has put pressure on the available infrastructure and public services, such as drinking water, sewage, transportation, housing and solid waste management.

Solid waste management is a major problem in many developing countries. Accelerated population growth along with increasing resource consumption promotes solid waste generation. This problem has put pressure on governments to deal with increasing quantities of solid waste especially in developing countries where infrastructure is inadequate. The urban poor are those who are directly impacted on by environmental and health problems due to inadequate waste management. The key problems are water contamination, poor sanitation, and pests (Baud *et al.*, 2001; Bentinez *et al.*, 2002; Dahiya, 2003). Public policy on solid waste management tends to concentrate on the technological aspects of the problem rather than the social and economic aspects. The state plays a major role in planning and policy-making process. While there is frequently a discourse about the importance of public participation in planning, there is also evidence that public perceptions and local knowledge are sometimes left out of planning processes (Friedmann, 1987; Sandercock, 1998a). In Asian countries, environmental protection programs are mainly handled by the state as public services. However, these 'services' are often not distributed equally especially in urban areas. Low-income communities are frequently poorly served by public services and therefore environmental problems are more serious in poor areas of the city (Douglass, 1999; Lee and So, 1999; Baud, 2001).

Bangkok, the capital of Thailand, is one of the world's largest mega-cities, and is a perfect example of the process of industrialization, rapid economic growth, urbanisation and the resulting environmental problems. The Bangkok Metropolitan Area is the center of political, economic and social dynamism in Thailand. For this reason, development is heavily concentrated in the city. Moreover, the distribution of private wealth and public services in Bangkok and Thailand's other regions is very different. The income gap between rich and poor people in the urban and rural areas is large. Ten percent of the richest people account for nearly 40 percent of the country's income. On the other hand, 20 percent of the poorest accounted for less than 5 percent (Smith, 2000). In addition, Smith states that:

nearly half of the physicians live in the BMA [Bangkok Metropolitan Administration] and more than three-quarters of the pharmacists; two-thirds of all the banking and insurance services and three-quarters of all passenger cars are registered here. In order to get a higher education, it is almost a necessity to move to Bangkok, which produces over 80 percent of the country's graduates (Smith, 2000:19-20).

Obviously, there are many strong motives for people who live in other regions to migrate to Bangkok to seek employment opportunities and a higher standard of living. The number of migrants, both permanent and temporary, is increasing as shown in Table 1.2 below.

Table 1.2 Populations in Bangkok Metropolis Area, Vicinity and Bangkok Metropolitan Region

Year	Bangkok Metropolis Area	Vicinities	Bangkok Metropolitan Region
1992	5,562,141	3,099,087	8,661,228
1993	2,572,712	3,196,629	8,769,341
1994	5,584,226	3,266,954	8,851,180
1995	5,570,743	3,325,763	8,896,506
1996	5,584,963	3,424,041	9,009,004
1997	5,604,772	3,510,080	9,114,852
1998	5,647,799	3,594,239	9,242,038
1999	5,662,499	3,646,425	9,308,924

Source: (Department of Local Administration, 2002)

Note: The vicinities are Samut Prakan, Nontaburi, Nakorn Phatom, Pathumtani, and Samut Sakorn
Bangkok Metropolitan Region consists of Bangkok Metropolis Area and Vicinities

Although the provision of infrastructure, such as road networks, water supply systems, and housing has increased to support rapid growth and residents' demands, it cannot keep pace with an uncontrolled number of people migrating to Bangkok. Thus the overpopulated conditions of Bangkok have created a shortage of these basic services and an environmental crisis.

As the population increases, the demand for water, electricity, vehicles and waste management also increases. As a result, air, water, noise pollution, slums, and garbage collection are common environmental dilemmas in Bangkok. The main sources of air pollution in the Bangkok Metropolitan Areas are motor vehicles and small industry. Air quality and noise levels in some areas of heavy traffic have reached dangerous levels. According to the Pollution Control Department, Ministry of Natural Resources and Environment (2002) particles and trace gases, most importantly NO₂ and ozone, are exceeding the acceptable standard. Noise pollution is also a problem. The average noise level around Bangkok ranges between 65.7 and 83.6 decibels, which exceeds the standard level of 70 decibels. Moreover, the lack of appropriate technologies and sewage facilities has caused severe water pollution. Wastewater from households, streets, businesses, and industries are being directly discharged into the canals and rivers (Rigg, 1995).

1.2 Bangkok's Solid Waste Management Problems

Solid waste in Bangkok is a critical environmental problem that has impacted on residents' living standards. The continual increase in the waste generation rate of Bangkok residents - 1 kg/person/day - has overwhelmed the city. The daily solid waste generation doubled from 3,260 tonnes/day in 1985 to 6,633 tonnes/day in 1995. In 2001, approximately 9,173 tons/day of solid waste were generated in the Bangkok area (Bangkok Metropolitan Administration, 2001). The BMA, the local government body responsible for solid waste management, is currently implementing waste collection and transferring waste to the disposal sites. Three waste disposal methods are operating: landfill, composting and incineration (Bangkok Metropolitan Administration, 2001; World Bank, 2003).

Most of the household waste is disposed of by landfill. With such a phenomenal amount of waste, coupled with the fact that landfill sites are increasingly scarce, Bangkok is now facing a solid waste crisis. The current solid waste management system cannot keep up with the increasing amount of waste. Moreover, the equipment and human resources to manage it are not sufficient. Therefore, some waste remains uncollected and this creates environmental and health problems for local residents. In addition, the waste composition in household waste streams now consists increasingly of large amounts of packaging wastes. This waste is mostly recyclable material such as plastics, aluminum, glass, cardboard and paper. The change in waste characteristics is associated with a rapid economic growth and development that has improved residents' incomes and lifestyle, enabling them to purchase processed foods and consume goods. Approximately 40 percent of the materials in the current waste stream is recyclable. However, only 15 percent is recovered and this is done predominantly through what is called the informal system.

Solid waste is an obvious environmental problem in many communities. The continuing increase in waste quantity, together with its changing composition to a more non-degradable material from households and businesses, has become overwhelming in terms of disposal. Technology has been developed to cope with this problem but the irony is that the more advanced the technology, the more energy it uses. Furthermore, this seems to encourage people to utilize more resources without thinking about how to dispose of waste products properly. In order to solve the problem at the local level, residents have to use as few resources as possible, and use them efficiently. For this reason, recycling programs have been used as a preferred solid waste disposal alternative.

To solve the problems associated with solid waste, the BMA set up a recycling program in Bangkok suburbs to encourage residents to separate their household wastes into three categories. The system was voluntary and required little effort. However, the level of people's participation in the recycling program was relatively low. Residents still put all kinds of waste in the same container. Most of the recyclable materials were contaminated and therefore very difficult, if not impossible, to sort. Therefore, the recovery rate was very low.

1.3 Research Aims and Objectives

If the waste management crisis in Bangkok is to be resolved, it is necessary to evaluate the effectiveness of the recycling policy and identify what the weaknesses are. This research aims to examine the effectiveness of the recycling policy with a view to improving policy performance.

The term *effectiveness* as it is used in this context needs to be explained. A crucial dimension of recycling is the extent to which the public participates in the program. Unless the public participate and actively recycle their waste as part of their daily lives, recycling programs fail. Voluntary participation is therefore crucial. Public participation is of course also widely recognized as an important aspect of good governance, from policy development thorough to implementation. Participation is said to ensure that public policy efforts is effective (Thosman, 1995). Evidence suggests, however, that these kinds of 'state-society relations', involving a high degree of participation and collaboration between individuals, civil society and the state, requires careful and intensive effort to achieve (Abers, 2000).

The *effectiveness* of Bangkok's recycling policy can be gauged by the levels of public participation. There are, furthermore, two distinct dimensions of public participation that need to be examined. First, there is the willingness and motivation of individuals and communities to participate in the recycling program, i.e. to sort and categorize their daily waste so as to facilitate recycling. This is a crucial measure of the likely success of the recycling effort. This largely is a matter of their motivation to participate and their perception of the impact of their participation (Thomas, 1995). Second, the design and conduct of the recycling program as public policy will significantly determine the level of public participation - and fashion this aspect of state-society relations. For this reason, participation in the planning and policy process itself also needs to be examined.

This study, therefore, in seeking to determine the effectiveness of Bangkok's recycling program, pursues the following research questions:

- 1 How did the waste management policy-making and planning process shape, constrain or facilitate the participation of Bangkok's residents in the recycling program?; and
2. What were the sociological factors that have influenced Bangkok's residents in terms of their willingness to participate in the recycling program by making recycling a part of their daily lives?

Policy Processes and Participation

The long history of Thailand's governance has had a great impact on environmental planning processes. Thailand had been governed as an absolute monarchy until the first constitution was adopted in 1932. However, Thailand's democracy was dominated by the political elites and the military. The state powers were centralised in a bureaucratic system. The Thai government, which was mostly managed by and comprised of elites, has all the decision-making power regarding national laws, regulations and departmental policies. As a result, Thai citizens have not really developed a tradition of truly exercising their political rights or of taking part in any decision-making processes. The first environmental policy in Thailand was mentioned in the 1968 Constitution, thirty-four years after the first Constitution was inaugurated. Much of this first policy did not concern itself with environmental protection, however. On the contrary, it was designed mainly to mobilize natural resources for economic growth and productivity (Stubbs, 1981). Not until 1977 did environmental protection become part of a national environmental policy. The 1997 Constitution advocated public participation in Thai politics, and it marked a major political reform that tried to give Thai citizens a say in political decision-making. The new Constitution encourages citizens to participate in public policy-making processes in several ways.

Research on public participation has emphasized the design of planning and policy-making process in shaping the way people participate and their preparedness to participate or act in accordance with that policy (Thomas, 1995; Abers, 2000). Accordingly, this research also examines how the policy-making process affected the preparedness of Bangkok residents to participate in the recycling program. Thus, the research has two further objectives:

1. To examine the public's perceptions of the public policy and planning process, particularly in relating to the recycling program; and
2. To examine how the policy-making process sought to facilitate participation in the recycling program.

Sociological Factors and Participation

Widespread citizen participation in the solid waste management program is the focal point of any effective recycling program. Much of the success of the program depends on public participation: the decision, by individuals and families to routinely sort their household garbage in accordance with the operation of the program. Getting people involved in the recycling program is a critical task. There is existing research on the impacts of sociological factors on individuals' participation. Environmental concerns are apparently a major factor that influence recycling behavior and perception (Oskamp *et al.*, 1991; Bruvoll *et al.*, 2002). Additionally, there are some other factors, such as socioeconomic status, personal convenience, and economic incentives that influence participation behavior. For example, Vinning *et al.* (1992) found that residents who are of a high socioeconomic status and have good education levels are more likely to participate in a recycling program than those who do not. Likewise, personal convenience can be a vital factor that influences recycling behavior (Noehammer and Byer, 1997). The more convenient a recycling program is, the greater the intensity of public participation.

Each community has its unique pattern of waste management that is shaped by culture, politics, economics and demography. This is equally true for Bangkok. This study therefore also involved a study of Bangkok's citizens' participatory behaviors and perceptions. This thesis examines sociological factors such as: environmental

concerns; socio-economic status and education level; personal convenience; education programs; and public campaigns as well as economic inducements in order to establish how recycling behaviours are shaped. The research not only examines the contribution of individual participation to the program's effectiveness, but also seeks to consider the role of civil institutions in managing and solving Bangkok's solid waste problems. Thus the role of civil society from an environmental management perspective in planning and decision-making process is considered.

The research also has the following subsidiary objectives:

1. Identify the sociological factors that influence the recycling and participatory behavior of Bangkok residents;
2. Identify the barriers that prevent residents from becoming involved in the recycling program;
3. Describe the public perceptions of a public policy and planning process, particularly in the recycling program; and
4. Examine the roles of civil society in planning and decision-making processes concerning waste management in Bangkok.

1.4 Structure of the Thesis

Chapter Two outlines the methods and research design employed in conducting this research.

Chapter Three provides a background to the case study and describes Bangkok's solid waste management problems and their significance. The organisational structure of the Bangkok Metropolitan Administration (BMA) and its responsibilities are identified. The solid waste management system and recycling scheme are also outlined.

Urban planning and governance discourse are developed in Chapter Four. A review of planning practice from its beginnings to the most recent trends is included. The concept of public participation is outlined, including its principles, promises and implications in the planning and policy-making process. In addition, the recent developments of decentralisation and citizens' empowerment are outlined. These principles serve as the basis for examining and analysing the planning and policy-making process of the case study.

Chapter Five provides the framework of public perceptions about the recycling program by reviewing various sociological factors that have had an impact on the participatory behaviours of Bangkok residents. A literature review on sociological factors is provided in order to justify its significance and to develop the questionnaire that will be used to record public perceptions. Chapter Six presents and discusses the results from the fieldwork.

Chapter Seven discusses the role of the state in policy-making, planning and implementing the environmental management program. Thailand's tradition of having a centralised mode of planning and policy-making was the key impediment to having a successful environmental management system. The political culture and hierarchy in an essentially conservative and entrenched bureaucratic system were also problematic. Developing an inefficient decentralisation program was another drawback that has compromised the ability of government to be flexible in working with various communities. In addition, the role of civil society in an environmental management

program regarding public participation, social capital and the impact of residents' differences in socio-economic status are examined. Diffused social capital and disorganised civil institutions in Bangkok were the main problems that have prevented society from acting in a communal or collective sense. Furthermore, the gap between the state and civil society in working together toward the goal was evident. An ineffective mode of communication and the state bureaucracy's ignorance of local knowledge and issues were the crucial mistakes that have worsened the connections between the state and society generally.

Chapter Eight concludes the study and provides recommendations for public policy and planning. It concludes that a bottom-up planning approach and investing in public participation were needed. Furthermore, the recommendations emphasize decentralisation and empowerment. A genuine and systemic decentralisation process was needed to improve local governments' capacity and willingness to work in and with local communities. Community capacity building can be improved through continual iterative communicative processes between the state and communities. Finally, future research regarding waste management is outlined.

Chapter Two

Research Design and Methods

2.1 Introduction

Chapter One outlined the rationale and justified the significance of the research. Solid waste management has long been a major environmental problem in urban areas, including Bangkok. An improved lifestyle enabled residents to consume more products and resulted in an increasing volume of solid waste. The particular waste characteristics have also changed, now consisting of more packaging waste and recyclable materials. For this reason, recycling has been introduced in order to decrease the volume of solid waste. In Bangkok, the national government instituted the recycling program to encourage citizens to participate in reducing accumulated waste. It has been suggested, on the basis provided by the existing literature, that public participation is crucial in achieving a successful policy such as recycling. The effectiveness of the recycling program relied on two components that shape the way residents participate in the program: firstly, the design of policy-making and planning processes which, in turn, shape citizen participation; and secondly, there are individual recycling behaviors (based on the sociological factors and perceptions of residents). In pursuing these distinct questions about public involvement in the recycling program, the study will be able to ascertain the program's effectiveness.

The literature suggests that public participation in public programs is shaped by the character of the planning and policy-making process. If the "architecture" of policy-making processes does not facilitate citizen participation, or collaborative state-society relations, program like Bangkok's recycling effort, have little chance of success. The political system, culture and institutional structures have a deep-seated influence on how planning and policy-making processes are formulated.

Moreover, to achieve a high volume of recycling, public participation is crucial. Individuals need to change their old habit of continually discarding all kinds of waste and start recycling. Change is required at both the individual level and also the community level. Public participation has a crucial role in making the program effective. However, the literature suggests that there are a number of sociological variables that shape public participation. Differences in the social, political and economic circumstances of citizens shape (impede or facilitate) the degree of public participation that actually occurs. In Bangkok, there is a sharp difference in residents' socio-economic and political circumstances. As a result, the character of civil society varies across Bangkok. Since the literature (e.g. Putnam, 1993) suggests that civil society plays an important role in mediating the relationship between citizens and the state, differences will manifest themselves in civil society-state relations.

2.2 Research Methods

In conducting any research, the initial consideration and the most important component is developing a theoretical framework. The theoretical framework is a set of perspectives that explain how the world is viewed and how society works. The methodology employed in this study is to examine individual and civil society perceptions regarding Bangkok's public policy and waste management program, which influences people's degree of participation. This premise has been developed from the literature, which suggests that participation is crucial to the efficacy of such programs.

The methodology adopted in this study is best described as an interpretive approach, in which perspectives, beliefs and people's behavior are shaped through their experiences and then explored. There is no single rule or restriction that directs human behaviour. People have their own ways of interpreting the world through experience and interaction (Sarantakos, 2000). Values, beliefs, and experiences strongly influence people's behaviors and lead to ongoing patterns of doing things at an individual and social level. Knowledge not only derives from observation, but also through interpreting and experiencing in order to gain more understanding of those actions.

To select the appropriate method for a research project, a researcher needs to consider the aims of the research in order to decide which method would be the best tool (Catherine, 1989). This should assist in the information that is collected so that a meaningful conclusion can be made. Given the goals of this research, people's perceptions, attitudes and experiences regarding the recycling program, will be collected and used as raw data. Lastly, the research examines the planning and policy-making processes in relation to waste management. To achieve this, a combination of qualitative and quantitative methods is employed in this study to gather and enhance the data used.

The pattern of public participation is very specific and relies on its setting. It depends on the social, political and economic environment. In Bangkok, the political, social and economic setting has a marked impact on residents especially their participation in the recycling program. Therefore, a case study strategy is used in order to gain as full an understanding as possible and provide insights on the pattern of public participation in Bangkok.

2.2.1 Case Study

Case study is a methodological approach that incorporates various data gathering methods in order to gain sufficient information about a particular setting. The case study is a useful strategy to examine the interaction of multiple variables that might be implicated in explaining a given phenomenon (Yin, 1994). This approach enables a researcher to focus on contextual aspects such as organization, community and individuals in their 'natural' setting over a period of time (Yin, 1994; Berg, 1998; Punch, 1998; Sarantakos, 1998). Conducting a case study allows the researcher to utilize various sources of data using different data collection methods in order to obtain information. Therefore, a case study approach can employ both quantitative and qualitative research (Sarantakos, 1998). Therefore, the 'case' in this thesis is Bangkok's recycling policy. The policy and its implementations described, and then interrogated in order to answer the research questions. This involves interviews, questionnaires, document analysis and a literature review to acquire data.

2.3 Data Collection

Various data collection techniques will be employed in this study. Both primary and secondary data will be obtained and utilized. In order to understand the policy-making process, government documents, records, statistical data, formal studies and reports will also be accessed and evaluated. The data collections will also include interviews and questionnaires to obtain individuals' perceptions and their participatory behaviour in the recycling program.

Interviews: Questionnaires

The interview technique is a very useful data collection tool. Interviewing is one of the most popular techniques in conducting social research because it has a number of applications. Survey research using the interview technique has been used in the social sciences since the 1800s. During the nineteenth century, interviews were mainly used in quantitative research for reasons of social and political reform (Neuman, 2000). It is still very convenient and pertinent to collect data from interviewees by using a set of questions. Neuman (2000) claims that survey research by interviewing is appropriate for research projects that focus on investigating behavior, attitudes, beliefs, opinions, expectations, self-classification, and knowledge (Catherine, 1989).

Interviewing is therefore very suitable for obtaining data on Bangkok residents' perceptions about recycling and their participation in the recycling program. There are many interview techniques that can be applied to various types of research, for example structured interviews, semi-structured interviews, and non-structured interviews. The characteristics of each technique are different in terms of structure, goals, flexibility and the role of the interviewer (Sarantakos, 1998). Each type of interview is discussed further below.

Structured or standardized interview is a form of interview that uses questionnaires as the main tool. The procedure of the interview is very strict. The interviewer must read the questions exactly as it is stated without any adjustment. Most of the questions are close-ended questions. The same questionnaires will be used with every respondent.

The role of an interviewer is not as important as it is in other techniques due to the very strict nature of the interview. In order to eliminate bias as much as possible, the interviewer cannot provide any input or prompts. As Sarantakos states, an interviewer “is expected to perform like a ‘robot’; acting in a neutral manner, keeping the same tone of voice, offering the same impression and showing no initiative, spontaneity or personal interest in the research” (Sarantakos, 1998: 247).

Unstructured interview is another form of interview that is more flexible in terms of questions, organisation, language, and procedure. It is not necessary for an interviewer to put the questions in the same order to every respondent and the questions are not necessarily asked in the same sequence for each respondent. Most of the questions are open-ended questions. The pattern of the interview varies according to each respondent. The interviewer acts as a guide during this process.

The interview is designed to make the respondent feel that he/she is having a conversation with the interviewer rather than being asked questions. The role of the interviewer is to encourage the respondents to share their perceptions and opinions. This type of interview allows the respondents to express their opinions and share their experiences. The interviewer can explore any unexpected answers or aspects that might occur in the interview. For this reason, the unstructured interview is mainly employed in qualitative research.

Semi-structured interview is a mixture of the structured and unstructured interview. It contains some characteristics of each type. The design of the semi-structured interview mainly depends on the objectives of a particular research topic, methodological framework, and type of data needed (Sarantakos, 1998). The type of questions used in a semi-structured interview can be both closed and open-ended, depending on the type of information desired.

The researcher needs to carefully design the appropriate interview by focusing on the research topics, research objectives, and research methodology required. Generally, the semi-structured interview can be used in both quantitative and qualitative research. Sarantakos (1998) has characterised the semi-structured interview as follows:

- They are predominantly single interviews, questioning one person at a time.
- The question structure is not fixed or rigid, allowing changes to the question order, or even adding new questions where necessary.
- They offer the interviewers more freedom in presenting the questions, changing wording and order, and adjusting the interview so that it meets the goals of the study.

Given the goals of this study, semi-structured interviews were deemed the most appropriate tool for gathering meaningful data as it a flexible yet structured interview method. In addition, using both closed-and open-ended questionnaires enables the interview process to gather information on aspects of various issues either quantitatively or qualitatively.

Questionnaire Design

The questionnaire design process is the most important step in the data collection strategy. This design has an impact on the effectiveness of the tool, which governs the quality of collected data. The main principles of a good question are clarity, validity and reliability. The questions need to be constructed carefully to avoid any confusion and bias. Wording is also a significant aspect of questionnaire design. Neuman (2000) states that some frequent errors occur with writing questions and these are summarized in Box 2.1 below.

Box 2.1 Guidelines for Questionnaire Design

- Avoid the use of slang, jargon and abbreviations in order to prevent confusion because some respondents - due to having a background different from the author's - might not know the meaning of words or abbreviations.
- Avoid double meanings and dubiousness. The researcher needs to clarify the meaning of the wording in a question to minimize confusion.
- Avoid words that contain an emotional meaning because it might stimulate the respondent to answer questions emotionally instead of focusing on the issue.
- Avoid complicated questions. The question should focus on one issue at a time. The researcher should not raise more than one issue within one question.
- Avoid guided questions. The question should not lead a respondent to any particular answer.
- Avoid questions that are beyond the respondent's ability to answer because this would make a respondent feel frustrated and as a result, the researcher will not get a good quality answer.
- Avoid questions about future actions. The respondents can seldom give a good prediction of their behavior. The question should focus on current behavior and attitude.
- Avoid double negative questions. This easily confuses respondents.

Source: Neuman (2000)

In accordance with these guidelines, the questionnaire in this study (see Appendix C) is comprised of both closed-and opened-ended questions.

Elite Interview

Elite interview is a special form of interview that focuses on a particular type of respondent. Elites include those who are powerful and influential in an organisation or society, and have been selected because they have expertise in particular areas that are relevant to the research. Elite interview technique enables a researcher to gain in-depth information about particular aspects. However, the drawback of this technique

is that it is difficult to obtain access to elite people due to their busy schedule or political reasons. This study includes an elite interview with a government officer concerning the design and conduct of the policy-making and planning processes.

Document Analysis

Documents are considered to be secondary data. Document analysis is employed in many types of research including quantitative, qualitative research and case studies. The process of document analysis starts with identifying relevant documents. This involves various sources that will be used to support and strengthen the aims and objectives of the study. It enables a researcher to study past events and is particularly relevant to policy analysis (Catherine, 1989; Jupp and Norris, 1993; Sarantakos, 1998). The method has some advantages and disadvantages. It is a low cost and efficient technique - particularly since the advent of the Internet, which enables the researchers to access a wide variety of documentation. However, the drawbacks of this method are that documents may not be up-to-date, accurate and include bias (Sarantakos, 1998; Neuman, 2000).

Therefore, the interpretation of a document is crucial. Triangulation is a method that used to validate the data. According to Marshall and Rossman, the triangulation method is “the act of bringing more than one source of data to bear on a single point” (Marshall and Rossman, 1989). For the purposes of this research, document analysis is vital because it will incorporate the study of governmental policy-making and planning documents, laws, records, reports, policies and statistical data. In addition, relevant formal study and reports are used to maximise an understanding and interpretation of the information.

Literature Review

Literature review is an important technique that serves to summarise and evaluate relevant previous research, and to criticize and justify gaps in related topics. The main goal of a literature review is to demonstrate to the reader that the researcher is familiar with knowledge in the areas in which the researcher wishes to further explore and attain credibility in. In addition, the literature review demonstrates the link between

the current project and previous studies (Cooper, 1989; Neuman, 2000). There are two main types of literature review - the integrative review and theoretical review. Firstly, the integrative review summarises overall results and conclusions of past studies, and addresses important issues that are related to the research. Secondly, the theoretical review is employed to present theories that explain particular issues. As Cooper (1989) states: "theoretical reviews will typically contain descriptions of critical experiments already conducted or suggested, assessment of which theory is most powerful and consistent with known relations, and sometime reformulations or integrations of abstract notions from different theories" (Cooper, 1989:13).

A comprehensive literature review using both integrative and theoretical will be used in this study. In Chapter Four, a theoretical literature study will be employed to present theories concerning governance and planning in reference to patterns of public participation. The integrative literature review will be used in Chapter Five to review and critique past research on personal motives that have influenced people's recycling behavior. It will be used to identify and justify gaps in the field of research and therefore will be used to develop a set of motives that will be applied to the Bangkok case study in order to acquire knowledge about public perceptions and residents' recycling habits.

2.4 Research Design

This research is designed to answer two main research questions in order to examine the effectiveness of Bangkok recycling program. Therefore, this study will employ a case study approach in order to enable the study to gain insight issues of Bangkok recycling program at its natural settings.

First, to answer the research question regarding policy making and planning process, the study will examine the extent of the design and the conduct of public policy in shaping public participation. The study will then use document analysis, literature review, and elite interview methods to acquire related data. Government documents, data, statistics will be used to analyse the design and the conduct of policy and planning process particularly relating to the recycling policy. Elite interview with government officers will be conducted to gain more understanding regarding

organisations' administrative structure, solid waste management system, and local community from the state's point of view. The interview will be unstructured to provide the respondent to freely express his or her perceptions and opinions toward the issues.

Second, to answer the research question concerning public perceptions and residents recycling behaviour, the study will examine sociological factors that have impacts on individual motivation and willingness to participate in the recycling program. The study will first review literature on related sociological factors that have influences on recycling behaviour. In addition, interviews and questionnaires will be used to obtain data from Bangkok's residents. Each section of the questionnaires will be focused on selected sociological factors. The questionnaires comprises of nine sections. First section is designed to obtain socio-economic status of the respondents. Section Two is designed to explore environmental awareness of individual, in particular about solid waste problem. Section Three investigates the quantity and types of household waste and also examines residents' level of satisfaction regarding the BMA solid waste service. Section Four evaluates the efficiency of the education campaign. Section Five investigates public perceptions of the convenience of the recycling program. Section Six explores the impact of economic inducement on respondents' willingness to recycle. Section Seven explores the existing practice of an informal waste system. Section Eight records resident's recycling behaviour. Section Nine (the last section) examines the degree of public participation in a community activity. The interview will take approximately 15 –20 minutes.

Sampling Method

Due to the great differences in the socioeconomic status of Bangkok residents, the sample groups have been purposely selected based in order to see if their status correlates to their perceptions. Therefore, the stratified random sampling method is employed. The list of all Bangkok districts is constructed as a sampling frame. The number of low-income, middle-income and high-income communities in each district is identified in order to sample the target district (see Appendix A). The district that has the greatest frequency of low-income, middle-income and high-income communities respectively is selected. However, in the middle-income categories, the

highest frequency district is not selected due to a geographical distribution purpose in order to cover the northern, central and southern parts of Bangkok (see Appendix B). As a result, three districts have been chosen as the study areas: Bang Sue; Bangkhuntean; and Don Muang. Quota sampling is then conducted to determine the number of respondents. The expected sample size is shown in Table 2.1 below. The fieldwork is conducted during March-May 2003.

Table 2.1 Sample Size of the Study

Community type	Number of respondents
Low-income community	200
Middle-income community	200
High-income community	200

The sample size in this research was limited due to the limitation of resources and time line that allowed the author to complete the fieldwork. The sample size of this research might not be adequate or representative compared to the actual population in the selected districts; however, this size could produce and demonstrate the overall public perception toward the recycling program. The actual number of households interviewed was 588. The sample was drawn based on their age, occupation and income. The interviews were mostly conducted during daytime therefore there were some households that could not be contacted. As a result, those households were interviewed at the weekend.

Data Processing and Presentation

After collecting both primary and secondary data, selecting an appropriate data process or analysis technique is important in order to manage large amounts of data. In this study, questionnaires will be used to collect data on residents recycling habits and their perceptions of the recycling program. This will result in the creation of a large set of data. Computer software is the best tool to use for analysing data, and in this case the Statistical Package for Social Science (SPSS) computer software program is employed. This software allows the researcher to manipulate data with different statistical techniques. The correlation test will be used to demonstrate the

relationship between motives and recycling behaviours. Graphs and tables will be used to present data in visual.

2.5 Validity and Reliability

Validity and reliability are important principles in conducting social research. To produce credible findings and interpretations, it is important that a researcher ensures the measures are valid and reliable. The terms validity and reliability have several meanings, therefore they need to be clearly defined.

Validity refers to how measurement matches with the constructs of the study (Sarantakos, 1998). In this study, we try to understand public perceptions and their participation in the recycling program. The questionnaires are used to acquire data from residents. The content of questionnaires needs to cover every aspect that will later be used to describe public perceptions and residents' recycling participation. To validate the questionnaire, Chapter Five will present the literature review on personal motives that have an impact on recycling behaviour and perceptions regarding the recycling program. Reviewing relevant past studies and the triangulation method are used to justify variables that will be used in the questionnaire. Each motive is selected to represent various aspects of the research constructs, thus enabling the researcher to interpret the findings more effectively. This research not only uses the questionnaire method, but also analyses documents to examine government policy and planning processes. Reports, plans, statistical data, and related academic research papers concerning policy-making processes, environmental planning, and governance both internationally and locally, are utilized and triangulated.

Reliability means consistency. It refers to the ability of a tool to produce consistent results. There are three main types of reliability: stability, representative, and equivalence. Stability reliability refers to reliability over time. It tests whether a tool delivers the same result when it is used in different periods of time. Representative reliability is reliability across different population groups. Equivalence reliability refers to a researcher who uses various questions to test specific attributes - whether it provides the same result by using different questions (Neuman, 2000). This study will use questionnaires to collect data from Bangkok residents. The same set of questions

will be used for all respondents regardless of their socio-economic status in order to improve representative reliability. Each section of the questionnaire contains several questions to measure one motive or attribute in order to increase the equivalence reliability.

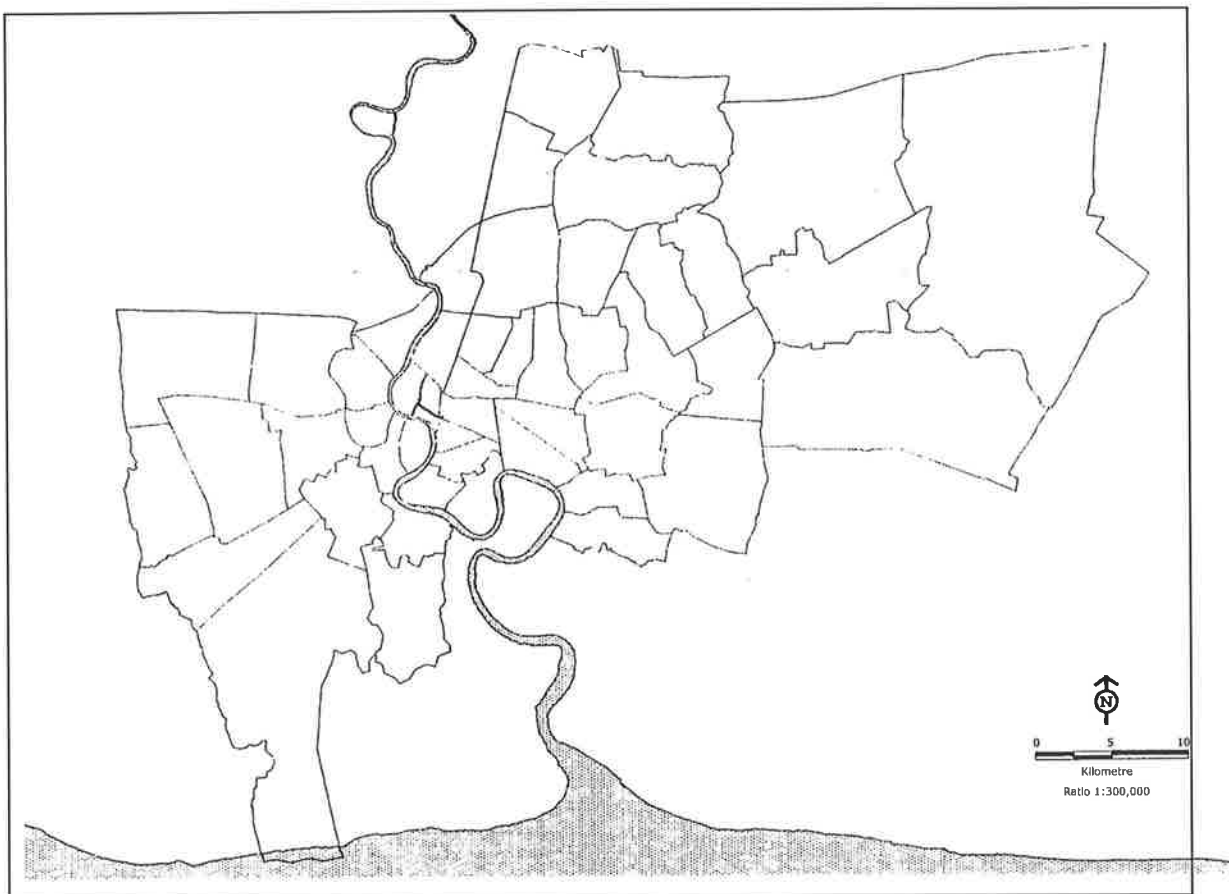
Chapter Three

Background to the Case Study

3.1 An Overview of Bangkok

Bangkok, the capital city of Thailand, is one of the world's largest mega-cities. Since the 1960s Thailand has experienced massive industrialisation and urbanisation and most of the associated developments, for example building construction, were concentrated in Bangkok (Bangkok Metropolitan Administration, 2001). The city is comprised of 50 districts as shown in Figure 3.1 below.

Figure 3.1 The Map of Bangkok Metropolitan Area



Source: Adapted from the Department of City Planning (BMA, 2000)

The rapid industrial growth and expansion led to vast socio-economic changes in terms of population movement, social patterns, cultural values, politics, public infrastructure and the environment. These gave Bangkok a unique character that was very different from any other city in Thailand. The changes had both positive and negative impacts on Thai society and the environment. The uncontrolled expansion of industry in Bangkok caused severe environmental degradation, including air and water pollution, noise pollution and land subsidence. Overwhelming loads of solid waste generated by residents' homes, offices, and industries provided a major environmental management dilemma. The solid waste management system of Bangkok is currently trying to find solutions to these problems.

This chapter will provide an overview of Bangkok and serves as the background of the case study. The structure of the Bangkok Metropolitan Administration (BMA), as a local government utility is outlined, including its overall responsibilities. Additionally, the chapter reviews the significant features of Bangkok's solid waste management system. Lastly, the formal and official recycling program and the informal waste system in solid waste management are also discussed.

Geography

Bangkok is located in the middle of the country on the banks of the River Chaophraya, Thailand's major waterway. The latitude of the city is 13 45' North, and the longitude is 100 28' East. The total area of Bangkok is 1,562.2 km², but the urbanised area is only 18 km². Due to its geographic location and infrastructure, Bangkok serves as the administrative, economic and cultural center of the country.

Climate

Bangkok has a monsoon type of climate, which can be classified into three main seasons: rainy (May-October); cool (November-January); and hot (February-April). The average annual temperature is 33.3 C and the lowest average is 24.9 C. The relative humidity is high throughout the year.

Population

Over the last two decades, Bangkok's economic growth has been rapid. Urbanization became an important issue for this fast-growing city. Large numbers of people came into Bangkok for many reasons such as business, employment, education, and tourism. The total population of Bangkok in 2000 was 5.68 million, which was approximately 9% of the total population of the country. However, the actual population of Bangkok may be greater, as there were many people who commute to work in or live in Bangkok without having been registered. It was estimated that there were approximately 3.21 million unregistered residents. Therefore, the actual population of Bangkok was estimated as being 8.89 million (Bangkok Metropolitan Administration, 2001).

During 1987-2000 the population trend in Bangkok showed a decline in the inner area from 15.27 to 11.09 thousand/km² (around 3.25 to 2.36 million). However, the population has increased in the middle and outer areas from 0.77 to 1.28 thousand/km² (around 0.67 to 1.12 million). There were six million registered Bangkok residents in 2000.

Infrastructure

Urbanisation and industrialisation in Bangkok resulted in the expansion of infrastructure such as road networks, and real estate development into the surrounding areas. The number of communities in Bangkok increased due to the migration of people from rural areas who were mostly low paid workers. These new groups of people typically lived in slum communities located on illegal land or cheaply rented land. As a result, it created communities lacking proper facilities. According to the Department of City Planning in 1997 there was a total of 1,298 communities in Bangkok and 857 of them were slum communities located in the inner city area. However, in 2000, the number of communities increased to 1,584 with a total population of 1.26 million, comprising 310,490 households with 256,489 houses. The number of communities in the middle and outer areas of Bangkok increased as a result of land development. The outer area of Bangkok was transformed from agricultural land to housing. Nevertheless, new housing developments still lack proper

management in terms of environment and basic facilities. According to the Public Works Department, in 2000 there were 4,076 km of road in Bangkok, which has a total area of 58.45 km². There were also 1,375 canals in Bangkok.

Industrial activities

Bangkok's industrial development was intense and the number of factories grew. Without proper land planning, factories were scattered across the city. Industrial activities in Bangkok varied from small industry with no machines such as household small businesses to large-scale industries with heavy machines such as electronics and textiles. However, the major types of industrial activities in Bangkok areas were small to medium scale industries (Department of Industrial Work, 2004). The number of factories established in Bangkok is shown in Table 3.1 below.

Table 3.1 The Number of Factories in Bangkok, 1995-1998

Number of Employees	Year of Establishment							
	1995	%	1996	%	1997	%	1998	%
1-9 Employees	93,158	69%	98,517	68%	104,739	69%	105,809	69%
10-99 Employees	37,102	27%	40,362	28%	42,661	28%	42,923	28%
100-499 Employees	4,202	3.1%	4,412	3.1%	4,182	2.7%	3,891	2.5%
>500 Employees	737	0.5%	734	0.5%	735	0.5%	694	0.5%
Total	135,199	100%	144,034	100%	152,317	100%	153,317	100%

Source: Solid waste management study for Bangkok 2001, Sogreah (2001)

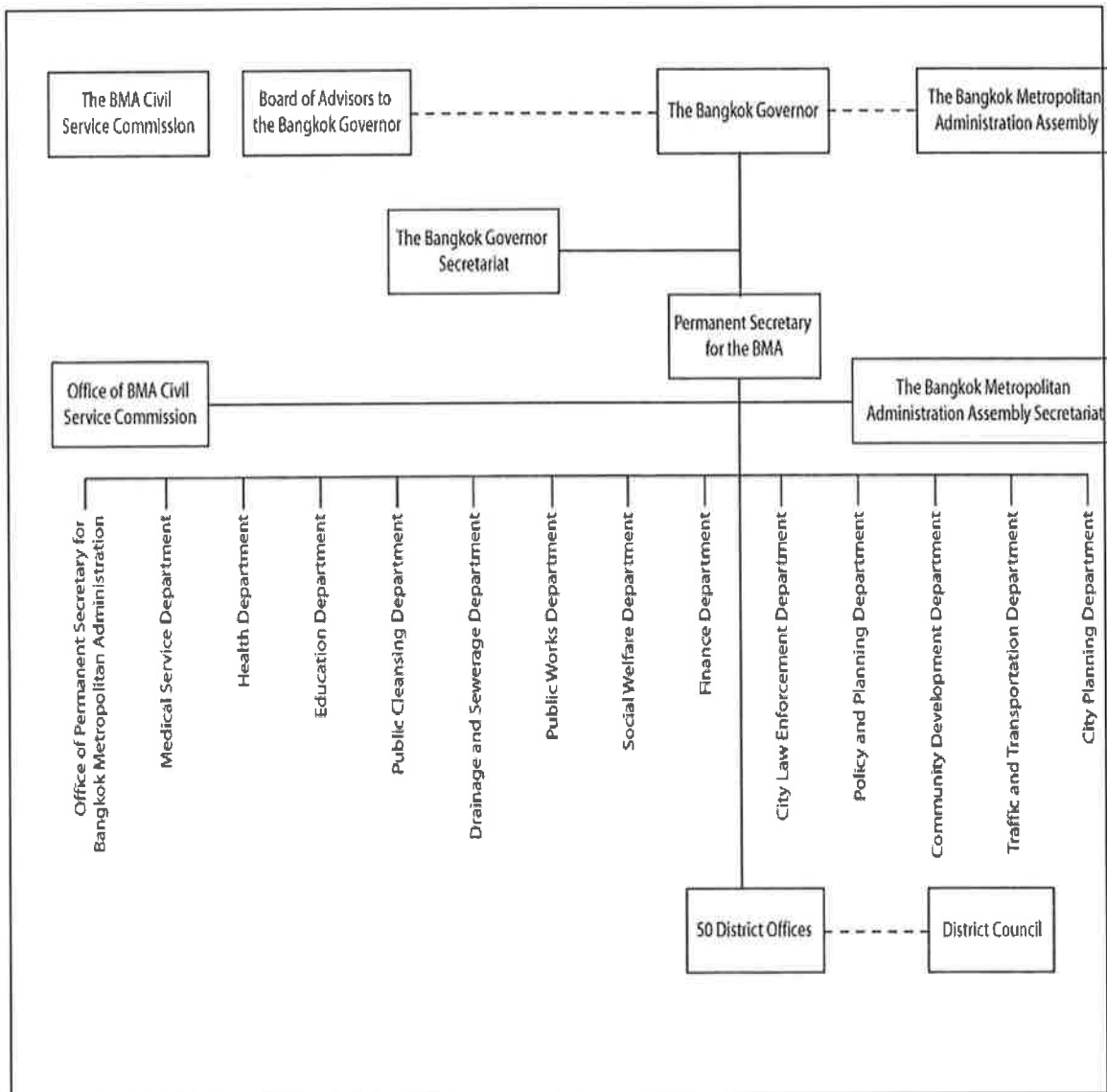
According to Table 3.1, the number of factories in Bangkok increased over time. Small to medium-scale factories with less than 100 employees grew the fastest, due in part to the late 1990s economic crisis and the implementation of the Bangkok Comprehensive Plan in 1999, which defined specific zones for industrial estates. New

factories were encouraged to shift to the outer areas of Bangkok. Moreover, the comprehensive plan promoted good environmental management practice in factories. The total number of factories in Bangkok was 21,026 in 2000. The total capital investment was 261,428 million baht with 608,088 employees.

3.2 The Bangkok Metropolitan Administration

The Bangkok Metropolitan Administration (BMA) was established by the Administration Act of 1985 and is responsible for the management of the city of Bangkok. It was the sole organisation at the local authority level responsible for the well-being of Bangkok's residents, and received some financial support from the central government. The first election of the governor, the deputies, and the Bangkok Metropolitan Assembly was held in August 1985. According to this Act, the governor is elected by popular vote and four deputy governors are appointed by the governor for a four-year term. Bangkok Metropolitan Council comprises elected members. The number of council members depends on the population of Bangkok. At the district level, district councils also had elected members. The Bangkok Metropolitan Council and District Council each has a four-year term. The BMA controls the area in which the central government is located, and it may undertake activities that lie outside its jurisdiction if such activities were necessary for other matters that are being carried out within the remit of the Metropolitan Authority. For example, there is a BMA code of law for solid waste collection fees, permits for building construction, and control of street-adjacent commercial shops. Extra jurisdictional activities may also be carried out if they are in the interests of Bangkok residents. The organisational chart of the BMA is shown in Figure.3.2 below.

Figure 3.2 The Organisational Chart of the BMA



Source: Bangkok Metropolitan Administration (2001)

The BMA consists of the following fourteen departments:

1. Department of Permanent Secretary for the BMA
2. Department of Policy and Planning
3. Department of Medical Service
4. Department of Health
5. Department of Education
6. Department of Public Cleansing
7. Department of Drainage and Sewage
8. Department of Public Work

9. Department of Social Welfare
10. Department of Finance
11. Department of Law Enforcement
12. Department of Community Development
13. Department of Traffic and Transport
14. Department of City Planning

As shown in Figure 3.1, the BMA is a large bureaucratic organisation. Each department is under the control of the BMA head office, which in turn is headed by the BMA's governor. The main responsible for each department is to draft and propose policies and plans for Bangkok's governor. The district office is considered to be an implementation unit that works directly for and serves the residents.

The main goal of the BMA is to maintain the well-being of Bangkok residents, particularly in recent years because industrialisation, urbanisation and the rising population have created long-term damage to the environment in which people live. The quality of the environment was of great concern to the BMA. However, in the absence of prior planning to handle the problem, residents' activities and industrial activities in Bangkok generated increasing levels of environmental pollution, of which solid waste was one of the most serious. The solid waste generation rate in Bangkok was high. The overwhelming amount of waste is now a critical problem.

3.3 The Solid Waste Management System of Bangkok

As stated above, the population of Bangkok was increasing steadily and it resulted in a rising solid waste production rate that became critical. The average waste generation per day increased from 3,260 tons/day in 1985 to 6,633 tons/day in 1995, to 9,173 tons/day of solid waste in 2001. People in Bangkok produced approximately 1 kg/day of waste. The annual growth rate of solid waste generation in Bangkok was 2.74% each year. With this growth rate, the predicted waste generating quantity will reach 13,000 ton/day by the year 2015 (Sogreah, 2001). This increase was due to various factors such as increasing population, consumption patterns and changing lifestyle. The Bangkok Metropolitan Administration (BMA) has now reached a critical point in how it deals with the many problems of municipal waste management.

The Department of Public Cleansing and 50 district offices in Bangkok were directly in charge of cleaning Bangkok. Their main duties were collecting and transferring household waste in their area to the waste transfer site. However, large amount of solid waste from many waste sources and also the limitation of the waste disposal alternatives resulted in poor solid waste management performance. Most of the municipal waste that was the responsibility of the BMA to manage came from a wide variety of sources.

3.3.1 Waste Sources

The main sources of municipal waste in Bangkok were households, schools, hotels, markets, restaurants, department stores, and park and street sweeping. The general physical composition of solid waste for the decade 1991-2001 is shown in Table 3.2 below.

Table 3.2 The General Physical Composition of Solid Waste in Bangkok, 1991-2001

Type of Solid Waste	Composition (% by weight)									
	1991	1992	1993	1994	1995	1996	1997	1998	1999	2001
Combustible	81.03	83.80	91.01	91.63	92.31	86.67	92.23	93.94	97.37	95.08
Paper	19.23	10.80	15.40	13.99	14.49	11.25	11.39	11.58	9.57	8.66
Textile	5.53	4.15	4.50	3.49	1.95	7.34	6.17	3.71	11.01	6.43
Plastic & Foam	16.22	19.10	16.02	20.66	18.72	19.06	17.34	19.80	25.84	19.47
Wood & Leaves	4.78	7.06	4.24	5.89	5.39	2.98	5.77	14.51	7.89	6.77
Garbage	8.10	18.94	15.76	14.72	20.72	28.74	44.28	35.54	35.41	46.88
Leather	5.28	1.66	2.17	0.15	0.82	2.36	0.62	0.82	2.15	0.11
Unclassified	21.69	22.09	32.92	32.72	30.22	17.93	7.57	7.87	5.50	6.76
Non-Combustible	19.17	16.20	8.99	8.37	7.69	10.34	6.77	6.17	2.63	4.92
Metals	4.98	1.66	2.52	2.00	1.28	2.76	2.30	2.00	0.96	1.49
Glasses	4.52	10.80	4.65	4.64	3.86	6.72	4.47	4.17	1.67	2.57
Stone & Ceramic	4.70	2.08	0.61	1.11	1.77	0.46	0.00	0.00	0.00	0.51
Bones & Shells	4.97	1.66	1.21	0.62	0.78	0.40	0.00	0.00	0.00	0.35
Total	100	100	100	100	100	100	100	100	100	100

Source: Department of Public Cleansing Annual Report (2001)

According to Table 3.2, the composition of solid waste of Bangkok has dramatically changed over time. Combustible waste increased, especially in the form of garbage, plastic and foam. On the other hand, non-combustible waste declined. This was a result of the changing lifestyle of people in Bangkok. Residents consumed more recyclable material such as plastic, foam, glass, and aluminium largely as packaging of processed or manufactured goods. The Department of Public Cleansing and the Public Park Section of 50 district offices is now implementing two different systems

to collect this solid waste from households. The system that used depends on the location of households.

3.3.2 Solid Waste Collection Methods

A *Direct Method* is used for collecting waste by vehicles or boats from households, apartments and business areas. Each household has to arrange its own waste bin. The crews load it onto the truck.

An *Indirect Method* is used for collecting waste from public areas. The BMA provided containers at various sources such as markets, department stores, and pedestrian walk ways. The crews collected waste from waste bins and waste cabins that were at the designated areas.

The BMA employed six types of collection vehicle: compaction pack; side loading truck; recycle truck; loading container truck; collection boat; and wood shredding truck. There were 2,400 trucks use to collect solid waste every day. The collected wastes were then transferred to three solid waste transfer stations to be separated according to waste categories and sizes. After that, the sorted wastes were disposed according to their characteristics.

3.3.3 Solid Waste Disposal

The disposal of collected solid wastes occurs by one of three disposal methods. These are:

Sanitary Landfill

There are two private landfill sites - Kampaengsean and Rachatheva - where most of the collected solid waste was processed. A private company undertook this operation. Solid waste from a transfer station was transported to a landfill site. Once at the landfill site, it was weighed and recorded in order to meet the daily operation capacity limit. Then waste was dumped into the landfill and covered on a daily basis. The landfill site was also equipped with a wastewater treatment facility and leachate collection system.

Composting

There is one composting plant at On-Nuch that took care of this part of the operation. Fresh garbage such as food waste was sent to be processed. The composting process was conducted by the BMA operators. District officers used the fertiliser to grow trees in public spaces and parklands.

Incineration

There is one incineration plant at On-Nuch that incinerated only infectious waste from hospitals. Infectious waste from hospitals included waste from diagnostic and medical treatment activities. The incinerator had two chambers, which operated at 850 and 1,100 degrees Celsius. Gas from the incineration process is treated by a scrubber before being released into the air. Residue from the incinerator will be sent to landfill at the sanitary landfill site.

3.3.4 Waste Collection Cost

The cost of waste management can be divided into collection costs, which were the direct expenses of the BMA, and the treatment costs, which were mostly the treatment fees paid to private contractors. The only income was a collection fee that was set at the rate as shown in Table 3.3 below.

Table 3.3 The Current Waste Collection Fee of the Bangkok Metropolitan Administration

Generation Source	Volume	Collection fee
Households or Buildings	<20 litres/day	4 Thai Baht/month
	20-40 litres/day	6 Thai Baht/month
	40-60 litres/day	8 Thai Baht/month
	60-80 litres/day	10 Thai Baht/month
	80-100 litres/day	12 Thai Baht/month
		Each Additional 10 litres =1 Thai Baht/month

Source: The Department of Public Cleansing Annual Report (2001)

The waste collection income and expenditure of the BMA in 1999 and a comparison of costs and fees from 1994-1999 are shown in Tables 3.4 and 3.5 below.

Table 3.4 Income and Expenditure Statement for 1999 of the Bangkok Metropolitan Administration

Expenditure (Thai Baht)		Income (Thai Baht)	
Salaries	892,815,415	Revenue from the collection fees	58,096,121
Employee welfare	191,476,032		
Gasoline	239,332,918		
Collecting equipment	32,020,222		
Collecting trucks	150,933,842		
Investment in collecting trucks	29,574,931		
Total	1,797,153,360	Total	58,096,121

Source: Department of Public Cleansing Annual Report (2001)

Table 3.5 Solid Waste Collection Cost and Fee from 1994-1999 of the Bangkok Metropolitan Administration

Fiscal Year	Cost of collecting waste (Baht)	Collection fees (Baht)	Fees over cost (%)
1994	889,208,536	53,466,358	6
1995	1,017,331,868	65,424,323	6.4
1996	1,154,404,828	56,632,015	4.9
1997	1,276,433,233	62,053,181	4.8
1998	1,290,026,432	58,136,586	4.5
1999	1,797,153,360	58,096,121	3.2

Source: Department of Public Cleansing Annual Report (2001)

According to Tables 3.4 and 3.5, the operating costs relative to income were overwhelming. The collection fee did not cover the cost of collection. This situation was exacerbated with increasing amounts of waste being generated. Therefore, the operating cost was continually very high.

Since the solid waste generation was increasing dramatically, the waste collection service did not fully cover every area. This created environmental and health problems for Bangkok residents. Moreover, waste disposal methods did not work efficiently due to many limitations such as the fact that existing landfill sites were nearly full and land was scarce for any further landfill creation. Also, the market for fertilizers made from waste composting was very small. The operations were not cost-effective. For these reasons, some of the solid waste has not been treated appropriately. Open dumping was often seen and practised. It generated environmental and health problems, such as: leachate from the dump site contaminating ground water; garbage smells; and sources of disease, especially those carried by animals.

The massive amount of solid waste in Bangkok created environmental problems that urgently needed to be resolved. Without good city planning along with the social pattern changes in Bangkok, the steadily rising quantity of solid waste was too much for the BMA to manage. More importantly, the waste characteristics of Bangkok have changed to comprise more recyclable materials due to residents' increasing incomes and resulting better lifestyles (Pollution Control Department, 1998). People favour a lifestyle of convenience. As a result, packaging wastes that can be recovered and recycled such as paper, foam and plastic bags are increasing. Also, residents are still used to the old habit of waste management. Recyclable materials were abandoned without any consideration of their potential reuse or recycling. It is now estimated that 40% of solid waste can be recovered and recycled. However, only 5% of it is now being separated and recovered (Sogreah, 2001). A genuine solution in the problem of solid waste management involved minimizing waste generation and decreasing the waste quantity being sent to landfills. Moreover, such a solution would help to lessen the operational costs of waste collection. For these reasons, the BMA recognized that introducing an appropriate recycling program was essential. The existing recycling program of Bangkok needs to be understood, and this is outlined below.

3.4 The Existing Recycling Program of Bangkok

Recycling solid waste from households not only helps to reduce the waste load that needs to go to landfills but also benefits the environment. Natural resource and energy conservation is promoted by Bangkok's existing recycling campaign. The quantity of recyclable material that still has economic value is tremendous. The characteristics and quantity of recyclable materials from the waste stream in Bangkok are shown in Table 3.6 below.

Table 3.6 Characteristic and Quantity of Recyclable Material in Bangkok: 1996 and 2001 (tonnes/day)

Waste Characteristic	1996 (tonnes/day)	2001(tonnes/day)
Glass	449	521
Paper	1,131	1,314
Plastic	1,201	1,462
Metals	254	278
Wood	1,014	1,141
Cloth	394	464
Leather/Rubber	8	1
Total recyclable material	4,451	5,172
Total merchandise valuable material	3,035	3,566
Food waste and other	3,134	3,712
Total waste	7,585	8,884

Source: The Feasibility Study of Waste Recovery, Pollution Control Department, Ministry of Technology and Environment (1998)

According to Table 3.6, the volume of recyclable materials increased over time. Moreover, considering the population growth rate, waste generation rate, and waste characteristic from the waste stream, the trend of recyclable materials of Bangkok's waste stream has multiplied. The expected quantity of recyclable waste from 1997 to 2017 is shown in Table 3.7 below.

Table 3.7 The Expected Quantity of Recyclable Material in Bangkok

Year	Recyclable material (tonnes/day)
1997	4,605
2002	5,304
2007	5,930
2012	6,509
2017	7,056

Source: The Feasibility Study of Waste Recovery, Pollution Control Department, Ministry of Technology and Environment (1998)

Evidently, the amount of recyclable materials that can be recovered and reused was substantial. However, most of them were mixed with other waste and were worthless even though they can be properly separated and sorted. The BMA had to pay to handle these wastes. It not only added strain to an already limited budget but also meant wasted energy and resources to manage these materials.

All in all, since 1996 the BMA has established the goal of waste minimization through schemes based on the 4Rs - “reduce, reuse, repair and recycle” - in order to decrease the number of waste loads that need to be sent to a landfill. The waste recovery goal set was to recover 50 tons of waste daily from each district by 2001. Waste separation at the source has been promoted and used as a key to reach this goal. Households and waste generators were encouraged to separate their waste into three categories according to the disposal method, which were food waste, recyclable waste, and hazardous waste. Each household needed to provide their own bin or bag for each type of waste. However, for public places, the BMA has provided three different bins for people to discard their waste. These are:

- Yellow Container: used for dry recyclable wastes such as plastics, glass and metal.
- Green Container: used for fresh organic garbage.
- Grey Container with red lid: used for household hazardous waste such as fluorescent tubes, batteries, insecticide, and bleach.

The recycling program of Bangkok was a co-mingled system, a recycling system in which all types of dry recyclable material were put in one container, which required residents to place their sorted waste in front of their household door. The BMA crew collected both general waste and recyclable waste together by using the door-to-door system, which was considered convenient for people to practice. Along with providing containers at public places and a convenience waste collection system, the Department of Public Cleansing and district offices also promoted an education program for the residents: "Project on campaign and promotion of garbage reduction and separation in Bangkok area". The main objectives of the program were:

- To invoke environmental awareness of residents
- To illustrate the critical situation of the solid waste problem, and
- To encourage residents' participation in the recycling program.

The 14 target groups in each district are BMA schools, general education schools, private schools, colleges and other higher education institutions, department stores, banks, hotels, mini-marts, markets, hospitals, temples/religious places, communities, villages and high-rise buildings. Educational materials such as posters, pamphlets, and handbooks were distributed to residents in these target groups (Sogreah, 2001).

Ideally, the formal system of waste sorting involved household waste sorting for the BMA to pick up. The collected recyclable material will be sent to a sorting plant at the waste transfer station to be sorted and cleaned before being sent to the manufacturer. However, Bangkok residents did not separate their waste for the BMA consistently enough. Unfortunately, all kinds of waste were put into the same bin as a result recyclable materials are contaminated and very difficult to sort. For this reason, the rate of participation was relatively low (Department of Public Cleansing, 2000). Nevertheless, there was an informal system of waste sorting which was practical and operated by different groups of people outside the BMA's more formal system.

3.5 An Informal Sector of Waste Sorting

During the fieldwork, the author has done the observation on the practice of an informal waste system in Bangkok. An informal system of waste sorting has been practised in Thai society for a long time. These so-called “waste pickers” were the most common group of people who practiced waste sorting. Since the quantity of reusable and recyclable materials has been increasing in Bangkok’s waste stream, it led to an increase in the activity of waste pickers and other groups of people who engaged in this informal system. It is now considered to be a business and as such involved several types of people:

Waste scavengers

They were several types of waste scavengers such as those who walked and used their bare hands to collect recyclable waste, those who used push carts, those who ride tricycles, and those who ride motorized vehicles. Most waste scavengers were poor and migrated from rural areas to find work. Waste scavenging was the simplest form of employment and did not require any skills or experience. The number of waste scavengers in Bangkok grew with the rise in volume of recyclable materials. Waste scavengers who did not have money to buy a vehicle looked for recyclables by walking and collecting materials from household waste bins, roadsides or wherever they found it. For those who could afford a push cart or tricycle that carried big-sized material, they went around housing areas to collect and call out for purchasing recyclable material. They paid households by cash, pricing the material by weight or unit according to type of materials. The price was set in accordance with the price that junk shops were willing or able to pay. Therefore, prices varied widely according to demand. The most common recyclable materials were paper, cardboard, glass, metal and plastic. Waste scavengers sold collected recyclable material to junk shops or wholesale shops.

BMA waste collection crews

The Department of Public Cleansing and the cleansing section of each district employed collection crews. Their main responsibility was to collect waste from households and transport it to waste transfer stations. These teams consisted of one driver and four to five collection men per truck. However, beside their main duties,

waste collection crews also sorted recyclable materials from household waste while collecting waste. They kept recyclable materials in separate big bags on the truck. The recovered materials were sold at junk shops near the transfer sites. Money from recovering recyclable material was an extra source of income for them.

Waste pickers at dumping sites

The final stage of waste sorting took place at the waste transfer station. All collected waste was transported to transfer sites before being loaded onto the truck and sent to a landfill. At the transfer site, waste pickers sorted out most of the remains of the recyclable materials. During the 'rush hour' – lasting from 6.00-9.00 a.m. and 3.00-5.00 p.m. - waste pickers were not allowed to work in the transfer station but they could work on the excess of waste from the previous day that has been unloaded outside the transfer station. For the rest of the time, the waste pickers were allowed to work only in the station. They used simple tools such as a spiked stick, a plastic basket and a woven plastic bag hanging on their belt. The more material they recovered, the more money they received. The sorted materials were sold to junk shops around the transfer station.

Recycling shops or junk shops

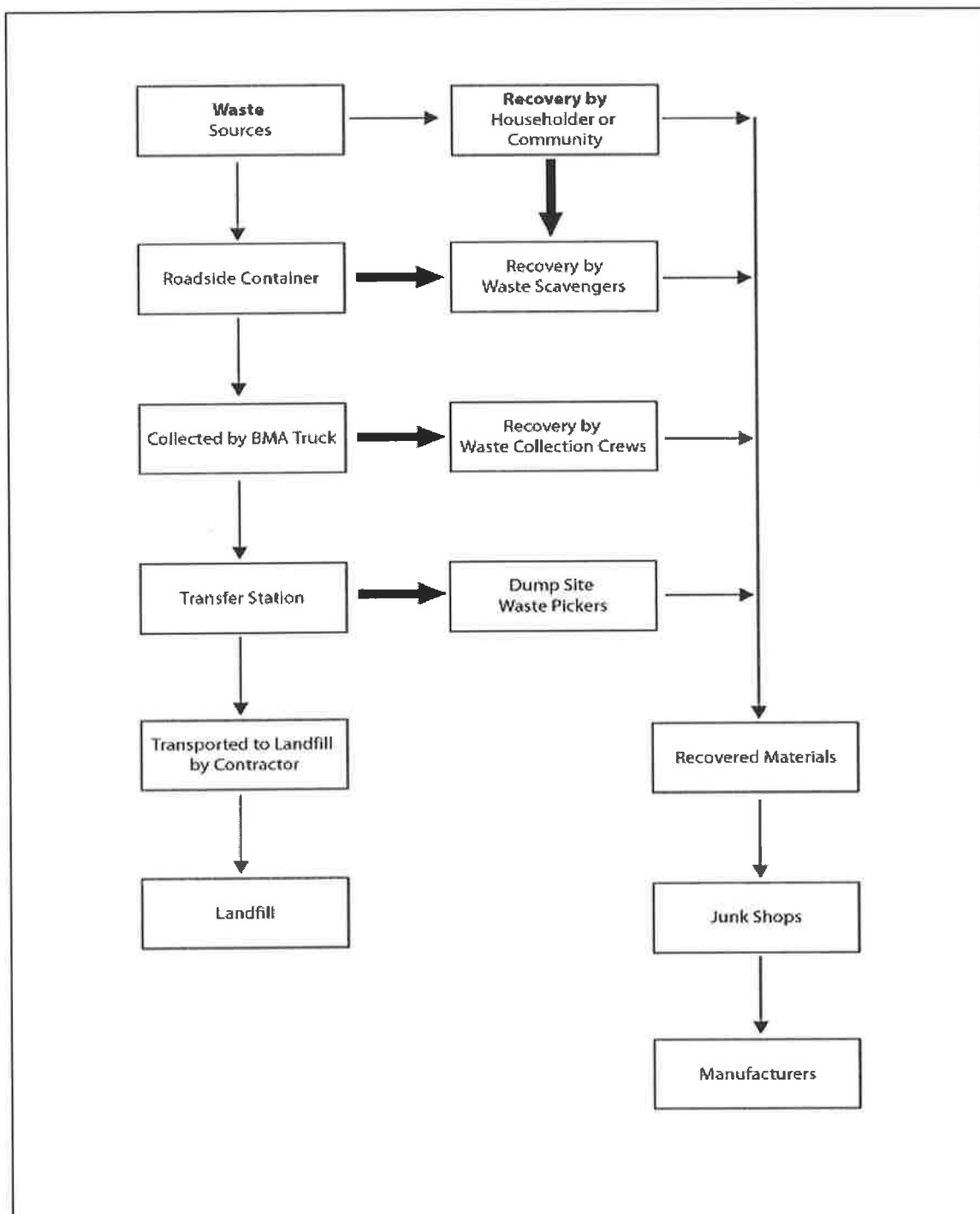
There were two types of junk shops: registered and unregistered. A registered shop had a permit from the Ministry of Commerce and a certificate from the Police Department while unregistered shops did not. However, they followed the same process. Junk shops served as a middleman to connect waste collectors and wholesalers. They bought recyclable material from waste collection crews, waste scavengers, and dumpsite waste pickers. The purchased materials were sorted into categories and cleaned and stored until a sufficient quantity accumulates before selling to wholesalers.

Wholesalers

Wholesalers served as intermediaries on a large scale in the recycling network. They had a close connection with recycling shops and manufacturers. Many of them were registered with the Ministry of Commerce. They purchased a high volume of recovered materials from junk shops. Therefore, they rarely bought small volume material from waste scavengers. The purchased materials were cleaned and sorted into

different quality grades before selling to manufacturers. Wholesalers usually sell materials directly to manufacturers who used the wastes as raw materials for their products. The flow chart of this process is shown in Figure 3.3 below.

Figure 3.3 The Organisational Chart of Solid Waste Collection and Transportation



Source: The Author

The efficiency of the informal waste sorting system was fairly high. The system has been operating as a business (see Figure 3.2). Huge amounts of money circulated in the system. The system created employment for poor people and improved their economic status. The quantity of recyclable materials recovered and the economic value of recyclable material in an informal system are shown in Table 3.8 and Appendix D.

Table 3.8 Quantity of Recyclable Materials Collected via the Informal System

Type	Quantity of Waste collected (kg/person or vehicle/day)	Persons or Number of vehicles	Collected quantity (kg/day)
Waste collection crews (per vehicle)	222.58	1,856	413,100
Waste Scavengers and dump site waste pickers	99.65	190	18,934
Recycling shops	2,100	885	1,858,500

Source: The Feasibility Study of Waste Recovery, Pollution Control Department, Ministry of Technology and Environment (1998)

Bangkok's recycling program worked most successfully when it operated in an informal way. However, this waste management system was still illegal and it created a nuisance and sanitary problems. Frequently, waste scavengers picked recyclable materials out of household bins and public bins and left some unwanted materials outside the bins after they picked all the materials they wanted. Their untidy behavior generated many complaints from residents. For those who ride tricycles or push carts, their vehicles often interfered with traffic flow and caused accidents. Moreover, there were various complaints from residents directed at BMA waste collection crews who were trying to sort people's waste and providing a service while putting up with delayed services and traffic problems. The truth was that Thai government agencies did not publicly support this informal system. Therefore, there were still many

difficulties in carrying on this system that was efficient in some ways but impeded recycling practices in others.

The recycling system that has been established by the BMA struggled to cope with the increasing amount of waste produced. An important reason for the sub-optimal performance of the recycling program was that many citizens simply did not participate. While the BMA has gone to great efforts to promote the recycling program since 1996, and a considerable sum has been spent on education and advertising, resident participation remained low.

This study approaches Bangkok's waste management problem in two ways. Firstly, it looks at the policy-making and planning strategies of the BMA and secondly, it explores public perceptions of the recycling program and citizens' role in the planning and decision-making processes. The environmental planning approach and decision-making process endorsed by the BMA will emerge in the next chapters as a significant factor that has contributed to the effectiveness of the recycling policy. The role of the state in policy-making and planning in the case study is discussed in detail, and in the context of global planning and governance practice. The next chapter addresses the urban planning and governance discourse both in the Thai context and at the global level.

Chapter Four

Urban Planning and Governance

4.1 Introduction

Chapter Three discussed the background of Bangkok's solid waste system and the significance of the recycling program. Solid waste was a common environmental dilemma in an urban city such as Bangkok. Environmental management programs were mainly initiated by the state. The state, particularly in Thailand, played a crucial role in policy-making and planning processes. The state's administrative structure and planning approach had significantly influenced the effectiveness of policy delivery in shaping the way citizen participates in the decision-making and planning processes. This chapter examines urban planning discourse from the beginning of its practice and considers the most recent trends. The significance of public participation in planning processes is identified. In addition, decentralisation is proposed as a means to deliver improvement in environmental management programs.

Bangkok is a vast and fast growing urban area where diverse economic, industrial, social, and political activities were concentrated. Urbanisation has accelerated in the past few decades. The rapid economic growth diversified the resident population, particularly in terms of socio-economic status, which resulted in widening the gap between income groups (Douglass, 1999). The fast growing population put pressure on local government to provide public services such as infrastructure, housing, water supply and waste management. However, the provision of these services did not keep pace with the growing population. Planning for a populated urban area like Bangkok was a complicated task.

Due to poor urban planning, environmental degradation such as slums, traffic, air pollution, wastewater, and uncollected garbage is problematic and urgently needs to be solved. The state planned and implemented various environmental management programs. Top-down and rational planning approach was mainly employed by the state to design and construct plans with a minimal public participation. However, several public policies failed to accomplish the goal of improving the quality of public services and the urban environment (Lee and So, 1999). The case study will examine the policy design and implementation in the recycling program. Policy design, planning approach, and policy implementation shape public participation and therefore determine the effectiveness of the recycling program. Low levels of participation and a poor standard of practice were the major weaknesses of the planning process as demonstrated by this case.

This chapter is divided into three sections. Next section (4.2) discusses urban planning from the beginning to the most recent trends to demonstrate the development of planning practice. Section 4.3 addresses the principles of public participation and its significance in urban governance. Lastly, in section 4.5, the principles of decentralisation and empowerment are discussed. It is important to fully understand the development of planning practice in order to be able to analyse planning strategies of the case study.

4.2 Discourse on Urban Planning

In capitalist societies, it is assumed that individuals and organisations tend to pursue their self-interest by making rational decisions based on how to achieve their own goal of obtaining the most benefit. They are largely unconcerned with the effect they might have on society or other groups of people. Rationality is justified by the concern for individual over social welfare and is called “market rationality” (Friedmann, 1987). People are concerned about their own interests and will consider any means that will lead to their ultimate goal without regard to social considerations. Material advantage is the main objective. This action leads to the unequal amassing of capital and power and to inequity in society. It is true for Bangkok where the disparity of power and political, and economic status among residents is great.

The contrary principle is called “social rationality” which mainly involves making rational decisions based on the consideration of the welfare of society as a whole (Friedmann, 1987). To this end, planning has been used by the state to intervene in the affairs of society in order to balance equity and inequity in society. Theoretically, a state uses planning to serve as an apparatus to distribute services equally and to limit inequity in a society. However, in practice in a situation of highly competitive capitalism, the state also needs to rely on private organisations and businesses. Therefore, it is very challenging to practice effective planning in a domain in which society is complex and highly capitalist.

Planning theory has a long history going back to the eighteenth century and has been developing and changing since (Friedmann, 1987). At the beginning, planning was not practiced in the way it is now. The main concern was on the physical and architectural space management aspects. According to Friedmann, planning practice before the nineteenth century was influenced by the works of architects and engineers whose work involved building cities with the rational use of space (Friedmann, 1987). The philosophy behind planning was mainly influenced by the beliefs held by society’s masters who were priests, royalty, or philosophers. Therefore, planning was not necessarily ‘rational’ in the economic sense of the word. It was verified by two kinds of knowledge which Friedman described as “pragmatic knowledge based on experience and knowledge of the ‘will of heaven’” (Friedmann, 1987).

There have been wide arguments trying to define what planning is all about, what role planners should play in the process, and what were suitable theories that would serve to solve problems. Over two centuries, planning theory has developed over a wide spectrum of thoughts from the most centralised and technocratic rationality on the one hand to de-centralised radical planning on the other. Planning theory has been influenced by changes in the complexity of social and economic thought, politics and cultures. Planning theory may be divided into two major periods: modern and postmodern. To address the transition of planning theory, the dominant theory in each period of time and its implications will be examined.

4.2.1 Modernist Planning

Scientific or comprehensive planning dominated during the beginning of the industrialised era. Planning has been viewed as a process of making a rational decision based on predictions, estimates and assessments through scientific processes. Hudson (1979) defined planning as “foresight in formulating and implementing programs and policies” (Hudson, 1979: 387). This theoretical planning was originated by Saint-Simon back in the late eighteenth century (Friedmann, 1987; Sandercock, 1998a). His philosophy was that planning did not involve politics and is an administrative process (Dear, 1986). In comprehensive planning, the state is the only organisation dealing with public planning. Problems are identified and handled by the state and expert planners with no input from the public. The role of a state in comprehensive planning is dominant. Auguste Comte, who adopted Saint-Simon’s philosophy, believed that science produces facts and knowledge. Humans are separated from nature and human progress is controlled by laws that are established by scientific knowledge (Friedmann, 1987). He viewed planning as a logical process using scientific methods to resolve problems. Planning in this way viewed society as unfragmented and cohesive. People are in harmony and everyone is equal. People do not get involved in the planning process but are passive receivers of policy that is created by the state. In this approach planning attempts to be as scientific as possible. It assumed that decisions will be improved when scientific methods are employed. Good planning is that which brings welfare to society (Sandercock, 1998a). For these reasons, scientific planning ignores issues of conflicts and politics by assuming that there is a single public interest.

Planners are basically scientists and engineers work for the state to calculate and design a plan or a policy based on scientific knowledge in response to their understanding of the needs of the public. In the other words, a planner in scientific planning knows what is good for the public. The role of a planner is that of an expert technician who acts as a manager to handle problems (Dryzek, 1997). According to Sandercock, scientific planning can be described as “rationality; comprehensiveness; scientific method; faith in state-directed futures; and faith in the planner’s ability to know what is good for people generally, ‘the public interest’” (Sandercock, 1998a:170).

Scientific planning expanded over time into a more procedural form of practice designed to enhance the planner's ability to make rational decisions. However it still has a strong foundation in scientific planning such as 'system planning', 'synoptic planning', or 'policy analysis' (Hudson, 1979; Hall, 1983; Friedmann, 1987). It employs scientific methods in predicting, calculating, and assessing the course of the future. For example, Herbert Simon, a pioneer of this rational approach, established a policy analysis program for planning in 1945 using science and mathematics to create a model for use in determining the best solution (Dear, 1986; Friedmann, 1987). In the standard rational model, there are several steps, including goal setting, alternatives, consequences, evaluation, decision-making, implementation, and feedback analysis. Data are crucial for assessing and predicting the best possible means that would lead to accomplishing the goal. In synoptic planning, many models were created to facilitate the decision-making process for particular problems. It viewed problem solving as a system using models to identify means that lead to ends and mainly relied on quantitative analysis (Hudson, 1979).

Scientific planning dominated the planning field for the last two decades of the nineteenth century. However, when the issues of poverty, inequity, and the needs of civil society revealed the flaws resulting from concentrated capitalism, scientific planning was proved to be ineffective in responding and coping with such problems. Actual problems are more complicated than they appear. One must consider not only technical problems but also social problems such as poverty, homelessness, and joblessness (Hall, 1983; Friedmann, 1993; Friedmann and Kuester, 1994). There have been many criticisms of the principles of scientific planning and it has been challenged by many questions about its doctrine and practice.

First, scientific planning supposes that through planning, a future outcome is predictable; however, as society is dynamic and progressive, it is very difficult to predict an outcome with accuracy. Moreover, lack of information is a crucial problem. Sources of information and the choice of types of models that will be used in analysis are also problematic (Hall, 1983). To justify relevant information or facts is a difficult process. Different types of models yield different results therefore it becomes an issue to decide what rules are used to choose the appropriate model.

Second, scientific planning is centralized. Previously the state has dominated the planning process. Also it had been argued that planning has in the past been used as a tool to promote capitalism (Hall, 1983) since market forces have much influence on state decisions. Citizens or the public generally have not been allowed to have much influence on the planning process. The public voice has been kept away from the process due to the principle of scientific planning that people should keep their distance from government (Friedmann, 1987). The other principle of scientific planning that is very controversial is its assumption of societal harmony, which many consider is false. Such a view disregards the complex relationships of different groups of people in a society. People who have no power such as women, the poor or those of different races, have no voice in planning (Sandercock, 1998b).

To conclude, there have been many criticisms of scientific planning in terms of it being centralised and top-down oriented by state or experts, anti-democratic and with minimal participation of citizens in the planning process or with the expertise and technical roles of planners. It has become obvious that planning should perhaps not be understood as a top-down process and should not be focused only on theory or as a means to a limited end. In contrast, it needs to emphasise the end result of actions at the practical level. This leads to the new era of planning whereby thinking about planning has changed with an emphasis on diverse knowledge and on practice by multiple actors.

4.2.2 Postmodern Planning

As capitalism in society is all pervasive, society is not in a state of harmony. Rural people move to a city seeking employment. New communities are established in urban areas. Urban areas are diverse socially, economically and ethnically. Conflicts and disputes take place in every community. The complexity of relationships between groups of people, politics and power is increasing as a feature of competitive society. Society is plural, not unitary. People are inclined to take an active part in all issues that concern them.

During the mid-1960s, as the civil rights movement flourished in the US, planning theory moved into the postmodern stage. As stated above scientific planning has been doubted in its practice in terms of its scientific-based knowledge and its practice or methods that seem not to be appropriate for solving complex social problems. Therefore, in the postmodern period questions have been raised as to what it is that planning does as part of the problem solving process and what roles should planners have in the process. According to Friedmann (1993), planning has been viewed as “that professional practice that specifically seeks to connect forms of knowledge with forms of action in the public domain”. In the postmodernism period, planning theory has moved from a centralised, top-down mode to a more decentralised, bottom-up, pluralistic mode. The roles of planners are no longer merely those of technicians or managers but more of advocates and mobilisers. There are a number of different approaches to planning that emphasis plurality and conflict and which doubt the authority of science.

4.2.2.1 Advocacy Planning

The first planning theory that has embraced this ideas is advocacy planning which originated in the mid-1960s (Hall, 1983; Sandercock, 1998a). Advocacy planning theory mainly opposed the idea of a unitary society. It realises that the conflicts existing in a community arise mainly from people who are in an inferior position. It puts emphasis on solving conflicts in society by giving a voice to people whose voice has not in the past been heard in the planning process (Hudson, 1979; Sandercock, 1998a). In advocacy planning, people whose interests were previously ignored are represented by advocacy planners who would go to powerless groups and try to reflect their interest in a process. Advocacy planning believes that the decision-making process needs to be pluralistic. Every voice from those people who are affected by a planning decision needs to be heard.

Thus, the role of the planner has been changed from dictator to advocator. A planner not only advocates the planning process, but also encourages social mobilisation to motivate people to protect their own interests (Hudson, 1979; Friedmann and Kuester, 1994). Advocacy planning has contributed to the later expansion of planning theories which share the same philosophy as pluralism, bottom up, equitable, and decentralised

planning that has emerged to refine advocacy planning in other specific aspects. Marxist planning theory is another theory that provoked political and power issue in the development of planning theory.

4.2.2.2 Marxist Planning Theory

By the end of the 1970s, Marxism had developed a new paradigm which is called “the radical political economy model”, and is a critique of the concentrated power of the state as a tool of capitalism (Hall, 1983; Sandercock, 1998a). Marxist theory was strongly critical and provoked a new direction for planning theory to go in. It criticised planning theory on its lack of awareness of the power relations in capitalist society. He argued that planning is used as a tool in legitimising and negotiating by the capitalist state to maintain its status. As Castells stated, “three functions of planning: as an instrument of rationalisation and legitimation; as an instrument of negotiation and mediation of the differing demands of the various fractions of capital; and as a regulator of the pressure and protest of the dominated class” (cited in Sandercock, 1998a). The theory brought light to the political side of the planning theory. Unfortunately, the theory did not provide direction on how to put the theory into practice nor what role planning should play in the process. However, it can be said that Marxist theory has provoked a new way of thinking (Sandercock, 1998a). Since this time, planning theory has been more focused on practical aspects, which look at the roles of power, political and social relationships in the planning process. Another planning approach that emerged to fulfil the gap of planning theory is transactive planning with its notions of the value of local knowledge and mutual learning.

4.2.2.3 Transactive Planning

Transactive planning theories have been influenced by early experiences with advocacy planning. Advocacy planning was intended to impart technical expertise and information to local people, and to advocate their needs, realizing that local knowledge and skill exist in the community. This has led to new planning approaches which focus on fostering knowledge in the general community and translating it into action (Friedmann, 1987; Sandercock, 1998b).

The transactive approach was premised on the notion that there was a communication gap between planner and public. Planners usually act as experts and treat the public as their clients. The relationship between them is not equal. Technical language can cause confusion and become a major problem in a process (Hudson, 1979; Friedmann, 1993). The public finds it hard to understand and often seems to ignore the whole process. For this reason, social learning and transactive planning is used to try to overcome the problem by bringing the two sides together to take part in a process of mutual learning (Sandercock, 1998b). The process involves building a relationship through face-to-face dialogue between planners and the community. It is a long-term and continuous process of learning whereby the planner and the community must talk and listen to each other. Knowledge will thus be derived and grow from exchanged experience, perceptions, beliefs and values throughout a process (Hudson, 1979; Friedmann, 1987; Friedmann, 1993; Sandercock, 1998a). The process is reassessed continually against goals. Therefore, it works well with small groups of people. To conclude, transactive planning tries to overcome the problem through the process of face-to-face communication and to solve it at the practice level. This approach to planning is premised on a pluralist conception of society, is decentered in style and seeks to encourage people to participate, thus creating more “bottom-up” plans.

4.2.2.4 Communicative Planning

Communicative planning emerged in the late 1980s based on a similar philosophy to transactive planning. In communicative theory, planning processes are viewed as communicative action (Forester, 1989; Healey, 1992). The major work by Forester and other communicative theorists has been developed mainly relied on Harbermas’ theory of communicative action. The theory focused on what planners should do in employing communicative skills. A planner is an organiser who facilitates interest and attention in a planning process by listening and questioning (Sandercock, 1998a). Forester (1989) also points out that where a planner is working in an intense political situation, one thing that cannot be avoided is distorted communication such as that caused by the use of technical words. Therefore, a planner’s work involves trying to correct distortions by using communicative skills. This planning mode is someway a development of the transactive approach to enhance planner and citizen’s skills of communication. Another strong point in communicative planning is the power of

information. Information is a powerful tool in the planning process. People who have more information are in a superior position in terms of negotiation. Misinformation is one type of distorted communication that can manipulate the planning process. For this reason, a planner must anticipate misinformation and provide accurate information to enable citizens to participate in the process (Forester, 1989).

Another communicative theory was developed by Habermas in his model of rational communication (Healey, 1992). He argues that although many individuals in a society have their own different interests and beliefs they can act collectively in society through the process of debate, reason, and argument to inter-communicate and arrive at collective decisions (Healey, 1992; Sandercock, 1998b; Ploger, 2001). To conclude, this theory promotes democracy and pluralism by using open communication and the removal of distortions. A planner is no longer merely an expert but is an organiser who shapes arguments, interests, and attentions in open dialogues.

As capitalism is intense in society, it leads to the great differences of people in terms of socio-economic relations and political power. The issue of inequity, unfairness among different group of people in the society is crucial. Radical planning theory was developed based on these aspects in relation to solve the conflicts and enhance the equity in the society.

4.2.2.5 Radical Planning

Radical planning has its roots in several theories such as advocacy planning, democracy, and the feminist critique. The critique of social inequity was significant from the 1960s through to the 1980s. Marxist theory also contributed to the idea of social transformation as a political process that involves the power of different groups in society (Hall, 1983). Inequity in a society is intense and conflicts over resource redistribution are unavoidable. The issue of inequity among the poor, racism, and sexism in capitalist society were the key concerns of radical planning. Those were the groups who were cut off and disempowered from the planning process.

The main goal of radical planning is to solve conflicts by trying to transform social structures and values that are inequitable by empowering citizens who are disempowered to take part in defending their own interests (Sandercock, 1998b). In order to give them power and voice, this empowering process needs to operate at the root level in the community. The unique feature of radical planning that differs from other planning theories is that the planner is not at the centre of the process. A planner does not work for or represent a community. On the other hand, communities themselves initiate and drive plans with assistance and advice from planners in terms of technical knowledge and information (Hudson, 1979; Sandercock, 1998b).

In summary, a variety of 'postmodern' approaches to planning have emerged in response to the strident criticisms of scientific planning and have all emphasized a shift away from scientific or comprehensive planning to a more decentralised, democratic and pluralist mode. In doing so, planning theory has developed in an attempt to improve by emphasising advocacy, communication, and empowerment. Knowledge, power, and politics are now considered central to planning. In summary, there are three major changes in postmodern planning. First, local knowledge derived from people's everyday experience is now considered an important source of planning knowledge. Second, the state is not the only actor in the planning process. Citizens and other organisations such as NGOs and communities are now included and encouraged to participate in the policy-making process. Last, the roles of planners and the state have changed from being mere experts who worked in the office and produced planning prescriptions. Planners in the postmodern era act as advocates, organisers, facilitators, and communicators working intensively with people.

As stated above, planning has now come to the point that for it to be effective, public participation in decision-making is crucial. Embracing citizens and other actors in the process is a core component of a planning process. How to get people to be involved in the planning process is another challenge. In the next section, public participation discourse, practice and difficulties in planning will be discussed.

4.3 Public Participation

Industrialisation and capitalism have produced increasing social, economic and political complexity. In a very competitive economic world, the national policy of most countries emphasises economic growth. Therefore, resources are used to sustain market growth. In developing countries such as Thailand, national policies stress economic growth through industrial expansion (Smith, 2000). The state and the private sector have a dominant influence on public policy. States, in a representative democratic system, are given authority to make decisions for the public. Marxist theory argues that the state has used its authority as a tool in supporting capitalism (Sandercock, 1998b; Kapoor, 2001). Some argue that public policy is controlled by small, powerful groups working mostly in the state or private sectors.

Material and economic capital are not equally distributed to every group of people in the global society. Wealth is accumulated in elite groups which consist of less than 10% of the population in developed countries and less than 1% in developing countries (Douglass and Friedmann, 1998; Marris, 1998). The gap between the socio economic status of people in society has widened. Powerless people in a society are victims of the exploitation of materials and the inequity of wealth accumulation. Since the late 1960s, over-concentrated, centralised and bureaucratic government has been challenged. There has been a strong call for public involvement in the decision-making process from disempowered groups such as feminist, environmentalists and low-income earners whose life is affected by government decisions (Thomas, 1995; Catt, 1999). Passive policy receipt is no longer an acceptable form of policy planning (Cornwall and Gaventa, 2000). The wave of democracy and civil society has promoted greater participation of citizens especially disempowered groups that have been excluded from the decision-making process. Active and direct forms of involvement in decision-making by citizens are needed. Planning has shifted to communicative and decentralised modes to enhance the roles of the local population. This is true also in South-East Asian countries such as Thailand (Douglass and Friedmann, 1998).

This section will address aspects of public participation in the planning process. First, brief principles and concepts of public participation are outlined. Next, the emergence and benefits of public participation are identified. Then constraints on public participation in planning practice are clarified. The section concludes with the implications of public participation for planning practice.

4.3.1 What is Public Participation?

Public participation is not a new concept, but is a core principle of democracy. Nowadays, the political system that dominates global politics is democracy. Democracy has a long history and its representative nature had its origins in ancient Athens. After the two world wars, there was a democratic movement against rule by elites, hierarchies, and the military (Catt, 1999). The term democracy, which can be broken down into *demos* meaning the people and *kratos* meaning rule, refers to government by the people (Cook and Morgan, 1971; Catt, 1999). In a democratic system, everyone has an equal right and power to participate in the political decision-making process. People have the freedom to express their thoughts and interests. A collective decision is derived from the public after participating in discussions and agreement. According to Catt (1999), there are two main concepts of the collective decision-making process in democratic systems:

Given this understanding of equality as treating people in the same ways, two important ideas follow for the democratic making of decision. First, if each person should be deciding for another. Therefore, all need a say in decisions, so they need collective self-government. Second, if people should be treated in the same way then the system must be impartial in its operation. In terms of democracy, this means that all must have the same chance to participate in the process (Catt, 1999:7).

Hence, in a democratic system, citizens exercise their political rights through participating in decision-making processes that affect their lives.

A process of making a collective decision for a group can be defined in different ways and varies by the degrees and forms of public participation (Arnstein, 1969). In most countries that have adopted a representative or liberal democratic system, voting for the election of government representatives is the most popular form of public participation. The state in a representative democratic system has full authority in making decisions for the public without notifying or consulting the public. The failures of policy implementations and powerlessness of people in the face of governments' actions have provoked a need for a more direct form of public participation in the planning and decision-making process (Sandercock, 1978; Flyvbjerg, 1998). In the next section, the emergence of greater public participation and the principles behind it will be outlined.

4.3.2 Why do We need Public Participation?

As a result of centralised state authority in policy-making that mainly aims to intensify the national economy and make profits for small elite groups, disadvantaged groups are left in a state of resource degradation and poverty. There are thousands of slums in urban areas, environmental pollution, and natural resource depletion around the globe. Disempowered people are living in poverty and degraded environments as consequences of resource exploitation and uneven wealth distribution.

The failure of comprehensive planning, top-down governance, and over-centralisation in a state leads to a new concept of planning that enhances the roles of civil engagement in and decentralisation of policy planning processes (Lane, 2003b). Since the late 1960s, civil society and democracy have put public participation forward in order to foster voices of minorities and powerless group in the planning process (Sandercock, 1978; Munro-Clark, 1992; Cornwall and Gaventa, 2000). As Sandercock put it:

So over-centralization, lack of communication between public authorities, their indifference to the effectiveness of their work and their unresponsive attitude to the people they serve- these are the problems from which community action has emerged and expressed the demand for some say in decision, particularly those decisions which affect the immediate environment (Sandercock, 1978: 119).

The resistance against the state-market dominance in the policy-making process demands participation of civil society in the processes. Civil society in this context is defined as of non-state actors and organisations (Lane, 2003b). According to Friedmann (1998), civil society is viewed as a body of resistance to the power of the state and capitalist interests.

Environmentalists, feminists, and the poor were those radical civil groups that started to fight for direct engagement in the policy-making decision which concerned their interests. In the late 1960s, for example, the civil rights movement in the US demonstrated against the mistreatment of the poor and minority groups. The case that finally led to the emergence of the requirement of public participation in policy planning in the US was the issue of "black removal". The proposed city plan was to renew central areas for commercial development and highways, which resulted in the removal of the African American community from these areas. This plan stirred up the civil rights movement against the centralized state (Thomas, 1995). This movement consisted not only of minority groups and the poor, but also of the environmental activists who have arisen in many countries around the world. The state exercises its power through industrialisation and the market-economy process. Natural resources have been exploited to support the growth. There are numbers of conflicts over resource uses between the state or private sectors and local people (Kalland and Persoon, 1998). The civil rights and environmental movement is a global issue.

In Asian regions environmental and civil rights campaigns were also intense. For example in the case of Thailand in the late 1970s, a civil group, mostly local citizens, organised a protest against the Thai government's National Forest Act that claimed all forests in the country belong to the government. Therefore, natural resource

management decisions were mainly government decisions. The protest resulted in military action against civilians (Harashima, 2000). After the incident, there were several civil and environmental movements that challenged bureaucratic and military government. Gradually, the Thai government has changed its perspective on environmental management to include public involvement in the decision-making process.

Public participation has a positive connotation. It entails principles of equity, fairness and democracy (Hampton, 1999). The centralised authority of the state in the policy planning process has dominated decision-making and therefore public involvement has been adopted to balance the power of the state and civil society (Sandercock, 1978; Kapoor, 2001; Beard, 2002). One of the benefits that a participatory approach offers is that it enhances the role of the citizen to engage in policy planning and to check on the performance of the state and therefore it democratises the process itself (Cornwall, 2000; Pennington and Ryding, 2000; Lane, 2003a). The citizen has a right to have a say in social, political and economic policy-making programs. As Cornwall and Gaventa (2000) state, public participation enables a citizen to act as an agency in terms of active decision-making and planning. In addition, public involvement encourages accountability and transparency of process. According to Sandercock, public involvement would enhance transparency and accountability of the decision-making process:

Participation may keep public authorities more honest and humane and thoughtful and concerned about their functions and considerate of the people they are serving than they might otherwise be. A more open planning process can reassure people by keeping them informed and consulting them (Sandercock, 1978: 131).

Participation also seeks to encourage diversity, fairness, and openness of the process. The process opens opportunities for diverse stakeholders to present their views on the issues (Robinson, 1993; Raniga and Treloar, 1999; Ribot, 1999). Different aspects and concerns of issues are reflected through individual perceptions and experiences of participants. Information from different sources is shared and used as a tool in the decision-making process. Local knowledge from people directly experiencing the

issues is used to obtain insights into the problem. Through this process the relationship between stakeholders and the state is also enhanced by dialogue (Forester, 1989).

Additionally, participation can help to avoid conflict during policy formulation and later on in the implementation stage since stakeholders have shared their views and communicated any differences of interests through the process of negotiation and discussion. As a result, a sense of commitment and responsiveness is built throughout the process and towards the outcome (Pennington and Ryding, 2000; Buchy and Race, 2001). Participation's principles entail equity, pluralism, and justice. However, there are questions of how to put this principle into action. In the next section, the implication, models and difficulties of public participation implementation are justified.

4.3.3 How does Participation Work?

The public participation process can be viewed as either of two different approaches based on its objective. One can be viewed as a means to the specific end of delivering more efficient policy, and the other approach can be viewed as a process that leads to social change (Chess and Purcell, 1999; Pennington and Ryding, 2000). Another use of the word participation is as a means to an end or as the end in itself. Buchy and Race (2001) described those approaches as instrumental and transformative participation. Instrumental participation viewed civil engagement in a planning program as a process of gathering information and local knowledge from participants in order to improve policy delivery. This approach focuses on the outcome of the process. On the other hand, transformative participation mainly looks at the participatory process itself. This approach enhances citizenship rights, equity, fairness, and transparency in the process. Its goal is not the outcome but the fairness of the process. There are various models of participation that have been adopted in the policy-making process, and these are discussed below.

There are several models of public participation that have been adopted and vary in their methodology and forms of participation. Sandercock (1978) provides some models of participation that employ different perspectives such as market research, the dissolution of organized opposition, and decision-making. From the market research point of view, public participation is seen as a feedback from the existing processes of implementation. Others might see participation as a way to avoid opposition. On the other hand, public participation from a decision-making point of view sees the public as an agent or planners. Direct involvement is encouraging (Sandercock, 1978). Participation forms can vary from public hearing, public consultation, public committees, and direct public involvement in decision-making or public self-initiation of a project.

In the case of Thailand, public participation has been adopted in various development projects. For example, it is a requirement for an Environmental Impact Assessment study to have a section on public participation. The project proponent is responsible for holding a public meeting, which mostly is in the form of a public hearing to gather public opinion and suggestions. The main goal of the process is to prevent public opposition during the construction stage. In other words it is a process of legitimation. However there is no law or regulation that requires public opinion to be taken into account in the decision-making process. Therefore, public participation does not get much attention since there is no guarantee that the public's voice will be heard (Nicro, 2000).

This idea is supported by the popular case of Pak Mun Dam hydro-electric power plant in Thailand. The Electricity Generating Authority of Thailand (EGAT) proposed to construct the Pak Mun Dam in order to serve the increasing demand of electricity in the Northeast Region. The project site is a valuable site for many fishes to spawn, and feed. The reservoir of the dam directly impacted 51 villages and affected the livelihood of villagers who subsisted by fishing in the area. In order to construct the dam, the project needed to conduct an Environmental Impact Assessment (EIA). However, during the EIA process, public participation and opinion were ignored. The EIA study of the project was approved by cabinet and ignored public participation. However, there were protests from local people, students, scholars and NGOs who formed an Anti-Pak Mun Dam Committee and requested the government to release

detailed information on the project. The protest went further to pull out an international fund from the World Bank to stop the project. Finally, the conflicts were settled when the state paid compensation to the affected villagers (Nicro, 2000). This case study shows that ignoring public participation in the decision-making process will lead to public objections and conflicts.

Another case study is the recycling program of Bangkok, which was initiated by the Bangkok Metropolitan Administration. The policy and the implementation plan has been put into practice without a public hearing. The program required public participation in order to achieve its goal however participation was very low due to lack of policy information especially to the poor who might not be able to access information.

The case study will highlight the core question of public participation and the power of civil society in the decision-making process. The inability of the public to gain access to the process due to lack of resources and power is a difficulty. Even though the public participation principle proposed is designed to promote equity, fairness, and diversity, to put it into practice and make it efficient encounters several constraints that need to be considered. In the next section, the constraints on and difficulties of public participation and their implications are examined.

4.3.4 Is Public Participation "Efficient"?

Public participation is a desirable concept both in developed and developing countries. The process creates opportunities for citizens to take part and have a say in an issue that affects their lives. However, the question of how to make it efficient is crucial. By its nature the process is time- and resource- consuming. It requires a high level of commitment from participants (Robinson, 1993; Buchy and Race, 2001). Those who lack resources and time to commit to the process are automatically cut off from the process or at best are included in the later stages. For example, in Thailand, public hearings are held to get public opinion on the policy or program that has already been set by the state or business interests. Citizens are not included in the policy-making process. This leads to the problem of lack of effective representation and equity in the process. It seems that at the participant selection stage, the group that

has power or resources is preferably selected to be involved in the process. As Pennington and Ryding argue “this situation has frequently resulted in selective participation by vocal and well organized interest groups in negotiation with the professional bureaucracy” (Pennington and Ryding, 2000: 119). Middle class people are the most likely participants groups who have resources in terms of time, knowledge, and money to get involved in the process. This answers the question of who gets involved and how, and the way in which power in the decision-making process is structured and handled (Johnson and Wilson, 2000). Some people do not get involved in the process because of uncertainty as to whether their voice would in any way influence the outcome (Pennington and Ryding, 2000). Information is another source of power. Forester (1989) argues that information holders have power to manipulate the process. Misinformation can lead to loss of trust and belief in the process. Therefore, people may feel neglected and lose the sense of control, which could lead them to feel there is no worthwhile purpose in taking part in the process at all.

All in all, the main constraint on the participation process is power. To make the participation process efficient, the re-distribution of power in the process is vital. The power issue is more evident in developing countries where the majority of people are poor and not well educated. State, business and NGOs are well-organised institutions that are most likely to participate in and influence the planning process. Most public policy and programs are initiated by the state. Therefore, the state takes full charge of the program. The people do not have the power to shape the process or influence the outcome. For this reason, power needs to be decentralised to include the people who have been cut off from the process in order to encourage and facilitate participation. In the next section, decentralisation and a local empowerment approach to planning is discussed.

4.4 Empowerment and Decentralisation

The weakness of the top-down planning approach, a number of commentators argue, is evidenced by its failure to formulate policies or to solve conflicts (Douglass and Friedmann, 1998; Friedmann, 1998) . The process is not fully efficient and has failed to deliver equity and fairness. Public participation is not sustainable if the power

structure is still centralised and the process impedes powerless, or less powerful groups from becoming engaged. As a result, the focus has now been shifted to the process of redistributing power from the state and elite groups to local people at the “grass roots” level. In order to reach this goal, many argue that the power of the state needs to be transferred through a devolution process to local bodies and local institutions. In this model, the capacity of civil society generally needs to be strengthened to participate effectively in planning and decision-making. Many countries have now implemented this approach especially in a range of policy domains, including environmental management (Ribot, 2002). In the environmental management area, the process has been adapted to solve planning problems in many fields such as land use, pollution, and natural resource management (Ribot, 1999).

Since the 1970s, this thinking has motivated many countries around the world to implement some form of decentralisation (Diamond, 1999). More than 60 countries have implemented decentralisation programs in natural resource management (Ribot, 2002). The emergence of decentralisation processes have also been advanced by the international conference on sustainable development that was held by the United Nations in 1992 in Rio de Janeiro to inspire the states around the globe to look at a more sustainable approach to managing the environment. The international conference resulted in the adoption of Agenda 21. The main principles of the meeting focused on sustainable growth and development. Agenda 21 emphasises the role of public participation and involvement in the decision-making process. Additionally, decentralisation was raised as an alternative approach toward good and sustainable governance.

Principle 10 of the Rio Declaration states. “Environment issues are best handled with the participation of all concerned citizens, at the relevant level” (UNCED, 1992). Principles 20, 21 and 22 placed emphasis on the roles of women, youth, and indigenous people in environmental management and planning and stated that their participation needs to be strengthened (UNCED, 1992). Every participating country was encouraged to adopt Agenda 21. In response to the conference, Thailand adopted Agenda 21 at the national level in 1993, and there are various aspects of Agenda 21 that have been emphasised at a national level such as solid waste management, and local involvement (Jarayabhand, 2002). The decentralisation process has been adopted

in the areas of social and environmental processes to deliver a more sustainable form of management.

The next section attempts to clarify the definitions and principles of decentralisation and the local empowerment process. Next it focuses on the implications of participatory planning. Lastly, some impediments to implementation are identified.

4.4.1 What does the Decentralisation entail?

Decentralisation is a means used to correct a centralised power structure and to encourage public participation in local affairs and deliver local democracy. The core principle of decentralisation is to transfer decision-making power and resources from a centralised state authority to a representative and accountable local institution. The process has a promise of local democracy, self-governance, and the use of local knowledge that would enable local people to become self-reliant and to manage to serve their own local needs (Jain, 2001; Lane, 2003b; Ribot, 2002; Watts, 1992). In addition, the process promotes equity and fairness through public participation. The decentralisation process can be defined in several way based on the degree of power devolution to be achieved. According to Ribot (2002), there are three forms of decentralisation: political or democratic decentralisation, deconcentration or administrative decentralisation, and privatisation.

Political or democratic decentralisation is the most efficient form of decentralisation. The process involves the devolution of power and resources from the central government to representative local authority or local people. This decentralisation process promotes public participation in the decision-making process.

Deconcentration or administrative decentralisation entails partial decentralisation. The devolution of power only takes place between the central government and their local authority offices. The local authority does not represent local people but is accountable to the central government. The decision-making power is still largely under its control.

Privatisation is the weakest form of decentralisation. Power is transferred to individual or private groups. The process does not embrace the core principle of social rationality in which it only benefits certain individuals or private groups (Ribot, 2002).

For this reason, democratic decentralisation is the strongest form of decentralisation as it fully transfers power to the local level and offers greater benefits in terms of democracy, fairness, and efficiency. It is particularly important in developing countries due to the political and social situations. Implementing the process has many other implications. In the next section, the benefits and implications of decentralisation are discussed.

4.4.2 Why Decentralisation? What are Its Implications?

As the failure of policy implementation was due to ignorance of public involvement in the planning process, it is believed that decentralisation will increase transparency and accountability of the decision-making process, and therefore encourage public participation (Lane *et al.*, 2004). Decentralisation entails putting into practice the philosophy of self-governance. The process is used as a means of delivering decision-making and planning power to local residents. Governance and management in this area are best handled by local people. One of the arguments favouring decentralisation is that it produces equity and efficiency in both policy-making and policy implementation. Local governance is more appropriate to manage and respond to local activities and needs (Ribot, 2002; Lane, 2004 *et al.*). There are various arguments in favour of decentralisation in terms of improving efficiency and producing an equitable outcome. Ribot claims that welfare benefits are distributed more equitably through decentralisation since decision-making power is handed to local people and direct participation from various stakeholders is both encouraged and accessible. In addition, the process is more efficient because it is localised. Knowledge, resources, skill, and labour from local communities are mobilised by these most affected and in response to local needs. This in itself tends to reduce administration costs.

However, implementing effective decentralisation is not as simple as it promises to be. Many countries have tried and failed to implement decentralisation policies. There are various impediments that inhibit the success of the devolution process. The failure to fully empower the devolution process is one of its main drawbacks. There are many cases where the central government is reluctant to let go of its power due to the fear of losing benefits and authority (Kapoor, 2001). For example, in Mali and Uganda, the forestry laws gave the right of natural resources management to elected local government, yet the planning and management decisions needed to be approved by the central government (Ribot, 2002). In this case, the authority for decision-making and planning was not in fact transferred to local institutions and therefore decentralisation was incomplete since power was still centralised. Local government did not have sufficient real power to work effectively.

The devolution of power and resources is not the only impediment to decentralisation. To whom the power and resources are given is another important matter. Local institutions play a crucial role in implementing decentralisation. These institutions need to be representative and accountable to the local people if they are to gain their trust. Transferring power to the wrong groups is merely to create another bureaucratic system. In many cases, decentralisation seems to be only deconcentration in which power and resources are apparently transferred to the designated local authority but the real power over decisions still rests with the central government. As Ribot argues:

....these powers are often transferred to a variety of local institutions and authorities that are not systematically accountable to local population, and are instead often upwardly accountable to central authority. In this manner, many reforms in the name of decentralization are being structured in ways unlikely to deliver the presumed benefits of decentralization and public participation in natural resource management (Ribot, 2002: 7).

Therefore, decentralisation is meaningless since the real power lies in the over-centralised system.

For this reason, accountability, sufficient power transfers and the means of power transfer are significant. All of these elements need to be in place in order to accomplish effective decentralisation. In the next section, the issue of accountability, power transfer and the means of power transfer are discussed.

4.4.3 Ensuring Decentralisation Works

To make decentralisation work, it needs both sides - giver and receiver - to work together. In this context, there are three main actors in the field, which are the central government, local government and civil society. First, the central government needs to genuinely implement decentralisation by transferring emphasis authority and resources to the local body. This does not mean that central government needs to cede all authority to local government. Local government needs support from the central government in terms of technical expertise and resources in order to ensure its capability to provide and carry on local services. Tandler (1997) pointed out the apparent paradox of decentralisation that effective decentralisation will not be successful if there is no strong central government to give its support to the local institution. For example, in the case of the health prevention program in Crera city, Brazil, during the first period of program implementation, the central government took control over hiring and training staff to ensure that the local bodies has the capability to carry out the program independently in the later stages. In this approach, the central government does not initially transfer all resources and authority to local government but uses its power to strengthen the capacity of the local government.

Second, the capacity of local government needs building and strengthening in terms of accountability and representativeness. In the power transfer from central to local government as part of the decentralisation process, the issue of accountability and representativeness is crucial because it could create many opportunities for powerful groups to 'capture' power and may seek to take advantage of local institutions. The empowering of local institutions needs to be done carefully and honestly to ensure transparency and accountability to the local community. Elected local institutions could be a means of conducting the selection process. However, that method would need to ensure open participation from local people in selecting their representatives. Once there is in place an accountable system of local government that truly represents

the local people, a connection is established between local people and government, which must lead to better governance.

Third, civil society plays an important role in assessing and checking on government performance. It needs to be active and demanding if it is to obtain good service. In order to achieve that end civil society needs to act collectively. The social capital of the local community is a key requirement to carrying on collaborative actions (Lall *et al.*, 2004). In this respect, the case study by Putnum (1993) has shown the important role of social capital in constructing regional government in Italy. He argues that good government is only achieved where the civil society is strong and robust. The decentralisation program regarding regional government in Italy was established in both the northern and southern regions. The result of the study showed that in northern Italy it was quite successful. This success largely resulted from the high stock of social capital in the northern region community, which was lacking in the southern region. People in the northern region had strong horizontal bonds that strengthened their capacity for acting collectively and effectively in managing and carrying out actions. Collective action comes about when people in a community have trust in the organisation and share reciprocal norms.

Another example is the environmental management program that was initiated by the residents of Wat Chonglom, a low-income community in Bangkok. That program showed the success of collective action taken by residents in order to improve their environmental conditions in the community (Ard-am and Soonthornahada, 1994). The program was carried out by members of the local community with minimal support from the state. Some of the participants had been living in the community for more than ten years and had formed a relationship with their neighbours and community. The horizontal bond between community members was well established. Each member felt responsible for the conditions of their community and how those conditions would impact on their lives in social and economic terms. This connection was an important factor that contributed to the success of the program.

On the other hand, consider the case of the recycling program of Bangkok that was initiated by the BMA aiming to solve its solid waste management dilemma and to improve the environmental quality of Bangkok. The policy had been adopted in 50 districts and the program launched in each district by encouraging residents to separate recyclable material from their household waste. However, the participation rate was low and the process itself not sufficient. It demonstrated the gap between government and civil society in policy and service delivery and the lack of vertical connection. This issue will be discussed in detail in a later chapter.

4.5 Conclusion

This chapter examined urban planning discourse from the early practice and considered the most recent trends. Planning practice has developed from highly centralised and scientifically oriented to being decentralised and grassroots-oriented. From the beginning, planning was monopolised by the state using scientific tools to solve problems. However, as society becomes more sophisticated, conflicts and unbalanced power is imminent. Planning practice has been expanded to attempt to solve conflicts. In order to address all aspects of the issue, every stakeholder's perceptions and needs are included. The role of the state changed to one of advocacy and assisting the public on information or technical aspects.

Public participation, in this discourse has become a crucial component in the planning process. It promised fairness, openness, and equity of the process and therefore promotes democracy. Through the process, various stakeholders express and exchange their concerns and needs. Information is gathered and integrated into the decision-making process. However, power is the main constraint that precludes powerless groups from the process. Therefore, power needs to be transferred from the central to the local level to encourage local people to participate. Decentralisation entails local governance in which knowledge, resources and power are localised. To implement decentralisation, the central government needs to genuinely transfer sufficient power and resources to local government in order to make it effective.

Likewise, local institutions and civil society need to be strengthened in order to participate effectively in planning and decision-making processes. Social capital plays a crucial role in civil institutions. It is a requirement for carrying out collaborative actions. A community with a high level of social capital can be mobilised and can act collectively. In the participatory environmental management approach, the role of public participation from the civil society is vital. People's perceptions and wanting to participate need to be embraced in planning and decision-making processes.

The literature review in this chapter will be used to identify and answer the research questions on how policy-making process sought to facilitate participation by examining the design of planning and policy-making process particularly in the recycling program. In addition, it will be used to examine the role of civil society in planning and decision-making process concerning waste management in Bangkok.

In the next chapter, the perceptions of residents regarding participatory behaviour in the recycling program are discussed. The influences of sociological factors on recycling behaviours are used to obtain data on public perceptions of the recycling program.

Chapter Five

Sociological factors and Recycling Behaviours

5.1 Introduction

Chapter Four discussed issues of policy-making and planning processes. The state dominated governance activities whereas citizens had only a limited opportunity to become involved. However, recent planning theory has embraced public participation in policy-making and planning processes in order to promote democracy and accountability. Decentralisation has been proposed as a means to deliver good governance. Its core principle was to transfer state power to the local level to empower people to participate more effectively. Public participation and perceptions need to be recognised and taken into account in policy-making and planning processes in order to make them more committed to these processes.

One of the research question deals with sociological factors that influence public perceptions and a willingness of residents to participate in the recycling program. In this study, public perceptions of the recycling program and their recycling behaviour are explored in order to gain an understanding of how Bangkok's residents respond to public policy and the recycling program. Therefore, this chapter will first review literature on the influences of various sociological factors on residents' decisions to recycling and recycling behaviours. According to the literature there are five key variables, which are environmental concerns, socio-economic status, personal convenience, education campaign, and economic inducement. These sociological factors will be included in the questionnaires to obtain Bangkok residents' perceptions and their recycling behaviours.

5.2 Influences of Sociological Factors on Participatory Behaviour in a Recycling Program

As stated above, the fundamental component of a recycling program was public participation. Therefore, to set up and design an effective recycling program, public perceptions and the participatory behaviour of people in a community need to be reviewed, identified and taken into account in the planning process. To gain more understanding of public perception and their willingness to participate in the recycling program, this study will review sociological factors that influence recycling behaviour. There have been studies that explored sociological factors that intensify the public's participation level. Importantly, public perceptions and participatory behaviour vary according to the characteristics of this particular case study. For this reason, this study investigates sociological factors that have had an effect on residents' willingness to participate and their participatory behaviour, and furthermore, explores any barriers that may discourage them from participating in the recycling program. The next section, relevant past studies of five keys sociological factors will be reviewed.

5.2.1 Environmental Concerns on Solid Waste Management

Many studies about recycling behaviour have investigated influences or barriers on public participation in a recycling program. Public perceptions and participatory behaviour in recycling are somewhat new in the sense of general environmental concerns. The reality of a solid waste crisis is not evident in most people's daily lives, nor do they seem to think that it does directly impact on most social groups and/or classes. Most people are more concerned about more obvious environmental crises such as air and water pollution and energy conservation, than recycling. This is especially so in the case of Bangkok where the recycling program has only been recently introduced.

Sociological factors in relation to environmental concern play a crucial part in recycling behaviour. As stated above, recycling has not been long introduced to the wider public and therefore it needs people to participate. It has been demonstrated that environmental concern has a significant relationship to recycling behaviour. Many studies have illustrated that having some level of general environmental concern can influence recycling behaviour (Oskamp *et al.*, 1991). According to Deniere and Takahashi (1999), their study showed that people who are concerned about the environment tend to do things that protect it or prevent pollution. People who voluntarily sort their household waste have declared that even though sorting waste takes extra time they would do it for environmentally beneficial purposes (Bruvoll *et al.*, 2002). Furthermore, such environmentally responsible people tend to participate in a recycling program more than people who are not concerned. Recycling behaviour requires some form of environmental concern before it will be practised. This concept complies with Schwartz's altruism model, which shows that social norms influence personal norms and when people are concerned about the impact of their behaviour on the environment, recycling behaviour will ensue (Hopper and Nielsen, 1991). Moreover, Margai (1993) claims that the foremost reason for low participation intensity in the recycling program is the lack of environmental awareness.

Some studies, however, have rejected this idea. For example, Tucker (1999) asserts that some level of participation needs to be present before a normative factor will influence recycling behaviour. Bratt (1999) states that environmental concerns cannot be a predictor of recycling behaviour. However, strong evidence for the effect of environmental concern on recycling behaviour has been shown in other studies. For example Schultz and Oskamp (1996) claim that there is a significant positive relationship between environmental concern and recycling behaviour. Similarly, recyclers tend to have strong general environmental and recycling concerns. This point is supported by the study of Vining and Ebreo (1992), who found a close connection between an increase in recycling behaviour and strong environmental concern. However, there is one study conducted in Thailand on the influence of environmental concerns on recycling or environmental protection behaviour. This study took place in Pataya city (Puangbunplovk, 1996) and it concerned public opinion on solid waste management. It demonstrated that the attitude of sampled residents on the environment was significantly linked to their solid waste management

practices. Additionally, Mungmeesri (2000) conducted a study in the Bangbua community of Bangkok on residents' waste separation behaviour; the result showed that environmental concern has a relationship with waste separation behaviour to a significant level. Nevertheless, there has been no precise study on environmental awareness of Bangkok's solid waste management problems. Clearly, it is very necessary to determine the level of environmental concern of Bangkok's residents in order to investigate their recycling behaviour.

5.2.2 Socio-economic Status and Educational Level

The willingness of residents to recycle can be reflected through individuals' beliefs such as their level of environmental concern. In addition, the socio-economic status and educational level of a person has a significant effect on recycling behaviour. Bangkok is a fast growing city. Rapid economic development has markedly changed Bangkok society and culture. The income of some groups living in the city has increased and their lifestyles have changed radically. Urbanisation has caused many jobless people to migrate from rural areas to Bangkok. Most migrants are poor people with low educational levels and are seeking work. These factors result in a variety of socio-economic statuses and big income gaps between people. However, the majority of Bangkok residents are low and middle-income people. Taking all these factors into account, it is very important to look at the effect of socio-economic status differences on recycling behaviour.

There is intense research on this topic. For example, people who enjoy high economic and educational status participate more in the recycling program than people who are poor and less educated (Gamba and Oskamp, 1994). Additionally, Vining *et al.* (1992) have indicated a strong connection between socio-economic status, education level and recycling behaviour. Oskamp *et al.* (1991), in their study suggested that residents who owned a house occupied by a single family tend to participate in the recycling program. In the same way, as socio-economic status is increasing, the participation rate is also increasing (Jacob *et al.*, 1984). However, this is not always the case, Deniere and Takahashi (1999) conducted an interesting study on the environmental concerns of slum people in Bangkok. They explored the environmental concerns and community participation behaviour of slum people. The results show

that education and economic status significantly impact on practising environmentally responsible behaviour such as boiling water before drinking, or dumping waste in public bins. Likewise, residents in low-income communities have shown a significant level of environmental awareness and their behaviour and participation in waste reduction programs is relatively high (Margai, 1997).

Several studies have been conducted in Thailand on solid waste management systems in communities with different socio-economic status. For example, the study conducted by Pakpibul (1992) on solid waste disposal behaviour of housewives in Bangkok, illustrates that housewives who have higher education dispose of their waste more appropriately. Likewise, another similar study that investigated the solid waste disposal practice of housewives who live next to Sansab Canal in Bangkok, showed that the educational level and socio-economic status of residents have a significant impact on their waste disposal practice (Tungaun, 1991). Furthermore, a study conducted on the solid waste disposal knowledge and practices of residents who lived next to Ongang Canal in Bangkok illustrated that education level closely correlated with practice significantly (Yenjai, 1992). Additionally, Jeasakul (1993) conducted research on solid waste disposal behaviour of residents who live in an inner section of Bangkok; it clearly demonstrated that higher educated residents display better solid waste disposal behaviour than those who are less educated. Likewise, income plays an important role in the waste reduction behaviour of residents (Weerasoonthon, 1998). Other similar studies were also undertaken in other regions of Thailand. According to Pannakoob (1995), the results from her study on household waste management behaviour of residents of Thailand's Pattanee Province revealed a significant relationship between education level and waste sorting behaviour.

In contrast, various research studies have shown that socio-economic status and education level may have no influence on recycling behaviour. For instance, the study of waste disposal behaviour of housewives in Bangkok shows that income has no influence on their behaviour (Pukpibul, 1992). In addition, the outcome of a study of household solid waste disposal behaviour of residents living in Bangkok's Huarodjuktukdeang community showed that income and education level do not trigger better solid waste management behaviour (Issariyakul, 2001). There have also been other studies conducted elsewhere in Thailand showing this contradiction: for

example, see Laksameesej (2000) on waste discard behaviour of Pataya residents; and Narakorn's (1998) research in Thamai municipality, Chantaburi Province.

Even though there are several studies disagreeing about the influence of socio-economic status and educational level on recycling behaviour, they were mostly conducted in provinces other than Bangkok. Therefore, it is very necessary to look at the effect of this motive on recycling behaviour of Bangkok residents due to the variations within this one city. All in all, the influences of socio-economic status and educational level of stakeholders on recycling behaviour are crucial. In addition to this, the convenience of the recycling scheme affects recycling behaviour. Therefore the personal convenience aspect needs to be explored.

5.2.3 Personal Convenience

There have been studies on how personal convenience has affected recycling behaviour. Personal convenience includes container provision, travel distance to drop-off point, day of recyclable waste collection, level of segregation, and frequency of collection. A recycling program that requires residents to put much effort into participation does not attract a high participation rate. For instance, a recycling program designed for residents to take their recyclable materials to a drop-off point or requires residents to pre-clean their recyclable material would not experience much participation. On the other hand, a simple and convenient recycling scheme has more participation. For example, a co-mingled recycling program, which is simple and does not require much effort for residents to get involved, has more participation intensity than other recycling schemes that are more complicated and need more effort (Gamba and Oskamp, 1994; Schultz and Oskamp, 1996). Another study also illustrated that having convenient accessibility to a recycling facility encourages residents to participate in a recycling program (Berger, 1997).

Waste container provision is one of the key convenience factors that have influenced recycling behaviour. For example, the participation rate obviously increases when the local authority provides a container. According to Williams and Kelly (2003), the waste container provided by a local authority is one of the most important factors that lead to a high participation intensity and a successful recycling program. This idea is

also supported in by Everett and Peirce (1993). Their data clearly demonstrated that waste container provision is effective in stimulating participation intensity of a recycling program. Placing recycling containers at accessible locations for public use also encourage participation and recycling behaviour (Nyamwange, 1996). Moreover, greater frequency of collection and same day general waste collection will lead to more participation intensity (Jacobs *et al.*, 1984; Noehammer and Byer, 1997; Everett and Pierce (1993). A greater frequency of collection would help the residents by requiring them to have less collection space in their homes. If the recycling waste were collected on the same day as general waste, it would prevent any confusion for residents in preparing their waste for collection. Other personal convenience issues are segregation level, pre-cleaning, and transporting recycling materials. A recycling program that requires residents to sort their recyclable material into many sub-categories or to pre-clean recyclable materials often has low participation rates. In addition, transporting recyclable material to a drop-off site is claimed to be time-consuming. According to Bruvoll *et al.* (2002) residents asserted that sorting, cleaning, and transporting recyclable material consume extra time and effort.

The recycling program of Bangkok is a co-mingled system, which is a most convenient one. The system does require minimal effort from residents to segregate waste into categories or pre-clean it. All types of recyclable materials can be put into the same container and then the collection crews will sort them into sub-categories. Recyclable materials are collected from the front door at the same time as general waste. Yet the public participation level is very low. However, the local authority does not provide recycling waste containers. Residents need to find their own container and space to store recyclable materials. There has been little study of this aspect of recycling. For this reason, it is very appropriate to investigate this aspect in order to understand recycling behaviour. It is also important to consider the knowledge of residents about the recycling program. Therefore, the impact of the education program and public campaigns on recycling behaviour will be explored next.

5.2.4 Education Program and Public Campaigns

To increase participation in recycling, an education program is vital. Education and promotion programs play an important part in encouraging people to become involved especially during the first stage of a program's implementation. The content of the program is crucial and there has been some research conducted to investigate its effects. Most research results show that education programs have a substantial effect on recycling behaviour. For example, Ebreo and Vinning (2000) found in their study that people want to know more about how to recycle in order to participate in the program. The better the recycling program is understood, the greater the intensity of participation (Thomas, 2001). Moreover, some studies show that recycling knowledge can predict recycling behaviour (Gamba and Oskamp, 1994). Not only providing information about recycling, but also updating and continually improving information is vital to maintain the participation rate (Evison and Read, 2001). Additionally, information has to be transferred efficiently using an effective channel to reach a target group (Nyamwange, 1996). In contrast, lack of knowledge and misunderstanding of recycling programs can lead to low recycling participation intensity (Perrin and Barton, 2001).

Education and program campaigns are crucial in recycling participation. The BMA has heavily invested in education and promotional programs on recycling. Pamphlets, street advertising boards, and television advertisements have been used to educate and promote the campaign. However, the response in Bangkok has been unsatisfactory since the participation rate and quantity of collected recyclable waste still do not reach the desired target. In Thailand, there have been a few studies on the effects of education programs and public campaigns on residents' recycling knowledge and their recycling behaviour. For example, Pukpibul (1992) conducted a study on factors that have an impact on the solid waste disposal behaviour of housewives in Bangkok areas, and the results suggested that housewives who have been educated about waste disposal manage their waste correctly. Another study was conducted to investigate the waste disposal practices of Bangkok residents who live next to the canal, and this confirmed a significant relationship between knowledge about waste disposal and their waste management behaviour.

People who have access to information and have been told about the waste disposal procedure tend to dispose their waste in an appropriate way (Yenjai, 1992). Moreover, the domestic waste collection behaviour of the residents in BonKai community in Bangkok has been explored to correlate knowledge on the issue. The results indicated that waste residents' collection behaviour depends on their knowledge of the issue (Kanjana Wong, 1997). Likewise, Weerasoonthorn (1998) states in her research that the accessibility to information and knowledge on waste issues has a significant impact on the waste reduction behaviour. Thepkunhanimitta (1998) claimed that residents in Prawete district, Bangkok lacked information about how to recycle and this led to low or non-existent recycling activity. In Petchburi and Ratchaburi provinces, entrepreneurs who have access to the garbage disposal campaign and have knowledge of the issues involved practice waste disposal correctly (Choosri, 1994; Keawiam, 1995). In addition, two other studies have been conducted in Chonburi province exploring the impact of knowledge and information accessibility on residents' waste disposal activities (Laksameesej, 2000; Puangbunplovk, 1996).

On the other hand, some studies show no relationship between knowledge and waste disposal behaviour. According to Mungmeesri (2000), the study of factors that have a relationship to waste separation behaviour of residents of Bangbua community in Bangkok revealed no significant link between knowledge, information accessibility and waste separation behaviour. In addition, the study of waste management behaviour of residents in an inner area of Bangkok demonstrated that there is no difference in waste management behaviour between residents who have knowledge about waste disposal and those who do not (Jeasakul, 1993). Obviously, knowledge from education and promotion programs is contradictory but influential. For this reason, it is essential to investigate this aspect of the problem. Additionally, to ensure participation intensity, a financial incentive is necessary. Therefore, the influences of economic inducement on recycling practice will be investigated below.

5.2.5 Economic Inducement

During the initial stages of implementing a recycling program, many forms of inducement were used to get residents to participate. There are many forms of economic inducement that will encourage waste separation and waste minimisation, such as selling recyclable material to a wholesaler or reducing the collection fee for people who separate their own waste. The impact of economic inducement on recycling behaviour is fascinating in terms of behavioural changes. Some studies have shown the effectiveness of monetary inducement to increase recycling participation intensity. For example, Scott (1999) found that the quantity-based garbage collection fee strategy works very well in order to increase favourable recycling behaviour since people try to separate recyclable material from general waste to reduce their waste quantity. Likewise, Chung and Poon (1998) on China's recycling system show that recyclable waste separation is widely practised there as a business. The benefit of being a business is that it increases the rate of resource recovery and solid waste reduction. Moreover, Chung and Poon (1998) state that low-income people tend to participate in waste separation and sell recyclable materials to a wholesaler more often than high-income people do.

In Bangkok, the informal waste recovery system is operated on a business basis. Residents sell recyclable materials to a waste picker who rides a tricycle or a pushcart. The waste pickers ride around residential areas on tricycles and ask residents door-to-door if they have any recyclable materials to sell. The price of each type of materials is different. The values of materials are priced by their weight. Newspapers, plastic bottles, and aluminium cans are the most common materials that residents collect and sell to the tricyclists. However, the informal waste recovery system is not legal and therefore the system is not well organized and does not lead to a fully effective scheme. However, it seems that Bangkok residents prefer to collect recyclable materials and sell them informally for a small profit rather than give them to the formal waste collection system. Clearly, the economic inducement approach works well. Thus it would fit the Bangkok situation since existing informal waste separation in that city is now being practised. Therefore, it will be very valuable to investigate its influences on Bangkok residents' recycling behaviour.

5.3 Conclusion

In conclusion, investigating sociological factors has been undertaken to ascertain Bangkok residents' attitudes about recycling. Relevant past studies on each variable are reviewed to explore their influences on residents' recycling behaviour. Environmental concerns are basically a recognition about residents' solid waste problems and how they respond to them in their own way. Undoubtedly, residents' socio-economic status influences and helps to explain how residents respond to the problem of recycling. Personal convenience determines how significant the program design impacts on residents' recycling behaviours. The education program examines the effectiveness of information delivery mode on recycling behaviour. Lastly, the influence of economic inducement on recycling behaviour is explored to demonstrate the effectiveness of the informal recycling waste system.

Sociological factors are important and they are included in the questionnaires about Bangkok residents' perceptions and participation in the recycling program. The effect of sociological factors on recycling behaviour will indicate any barrier to or encouragement of recycling practice in order to understand the reason behind public participation intensity in the recycling program. It also can provide information on how to deliver strategies that increase public participation. The next chapter will present the fieldwork results on perception and recycling behaviours of Bangkok's residents.

Chapter Six

Case Study Results: Recycling Behaviours of Bangkok's Residents

6.1 Introduction

Chapter Five reviewed the literature on sociological factors' impact on individuals' recycling behaviour and their perceptions. Individual participation in a recycling program is crucial and is a major contributor to the effectiveness of recycling efforts. Sociological factors are important to understanding the pattern of participation. The selected sociological factors are used as variables to obtain data on public perceptions and recycling behaviours of Bangkok's residents.

The study used questionnaires survey to acquire data from Bangkok residents. The questionnaires consisted of nine sections (Appendix C). Each section contained a set of questions concerning selected sociological factors. In addition to selected sociological factors, the questionnaires were also designed to gather information regarding solid waste collection service, practice of informal waste system, waste separation behaviour, and community participation so current solid waste management practice of Bangkok's residents could be understood. Respondents were asked to select an answer that most responded to their perceptions and recycling behaviours. Both closed and open-ended questions were used to facilitate respondents to make further comments.

In addition, one personal interview with a district officer was conducted to obtain information regarding the state organizations' structure, planning and implementation of the recycling program, and local community. The interview was unstructured and flexible. The fieldwork was conducted during March-May 2003 in three selected Bangkok districts: Bang Sue, Bangkhuntean and Don Muang. The respondents were randomly selected using quota-sampling methods. The interviewer used the random method to find respondents. The interview was conducted in two ways, the first whereby respondents preferred to answer the question themselves. The other method was the respondents asking the interviewer to read the questions to them. The

interviews took approximately 15-20 minutes per respondent. After the fieldwork, the results from the questionnaires were processed and analysed using the Statistical Package for Social Science (SPSS) computer software program. The frequency tables and correlation test were used to interpret the data.

6.2 Results and Discussion

6.2.1 Socio-Economic Status

In this section, the questions were designed to show the socio-economic status of the sample groups. There were a total of 588 respondents. The profiles of respondents are shown in Table 6.1 to Table 6.6.

Table 6.1 Number and Gender of Respondents

Gender	Frequency	Percent
Female	340	57.8
Male	248	42.2
Total	588	100

Normally the fieldwork was conducted during the daytime or early evening. Therefore most of the respondents were either housewives or people who worked at home. The fact that this sample group is mainly in charge of household waste management might bias the result in which other occupations are excluded or minimised.

Table 6.2 Age Group

Age (year old)	Frequency	Percent
Under 21	19	3.2
21-30	171	29.2
31-40	140	23.8
41-50	150	25.5
Over 50	96	16.3
Not Available	12	2.0

The majority of the respondents were in the working age group. The reason we choose this age group was because they were more familiar with managing household waste than children or elderly people. In some cases that the interviewed could not be conducted due to there was no appropriate respondent at home at the time; the interview was rearranged to the weekend. The average age of respondents was 38.15 years.

Table 6.3 Income

Income level	Frequency	Percent
Low	236	40.1
Middle	207	35.2
High	145	24.7

The income ranges were classified into three values based on a monthly income:

- Low income is less than 8,000 Thai baht per month
- Middle income is between 8,000-30,000 Thai baht per month
- High income is more than 30,000 Thai baht per month

Table 6.4 Highest Education Level

Highest Education obtained	Frequency	Percent
Uneducated	6	1.0
Primary school	115	19.6
Secondary school	72	12.2
High school	79	13.4
Certificate	68	11.6
Bachelor	196	33.3
Postgraduate	45	7.7
Not Available	7	1.2

It emerged that 46.2 % of the respondents did not have a university degree, while 32.8% did not complete high school.

Table 6.5 Occupations

Occupation	Frequency	Percent
Labourer	84	14.3
Salesperson	122	20.7
Government employee	105	17.9
Private company employee	170	28.9
Business owner	87	14.8
Other	18	3.1
Not Available	2	0.3

Table 6.6 Size of Household

Number of household members (persons)	Frequency	Percent
Less than 4	101	17.2
4	149	25.3
5	110	18.7
6	85	14.5
More than 6	99	16.8
Not Available	44	7.5

The average size of the household samples was 4.93 people.

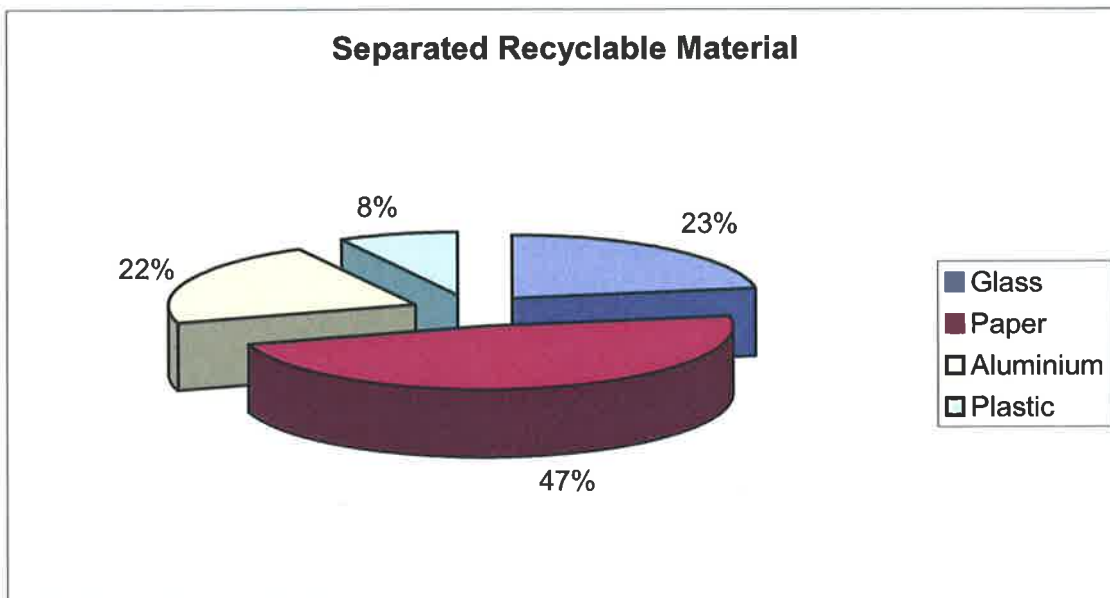
6.2.2 Recycling Behaviour

In this section, the recycling behaviour of the respondents was investigated. Respondents were asked to rate the frequency with which they recycled, either through a formal or an informal waste system. Also, types of recyclable material that they recycle were recorded. The frequency of recycling behaviour and types of recyclable material that have been separated by households are shown in Figure 6.1 and Figure 6.2 below.

Figure 6.1 Frequency of Recycling Behaviour



Figure 6.2 Frequency of Types of Recyclable Materials that have been Separated



According to Figure 6.1, more than half of respondents claimed that they recycled some of the time. Only 16% of respondents recycle frequently or “often”. Paper was the most recyclable material that had been separated (44%) from the waste stream, according to Figure 6.2.

6.2.3 Environmental Awareness and Solid Waste Management

Questions were designed to explore both the general environmental awareness of individuals and in particular their knowledge of solid waste problems. The general environmental concern and a particular concern over solid waste management were investigated. The result is shown in Table 6.7 and 6.8.

Table 6.7 The Frequency of Bangkok's Residents Response to General Environmental Concern

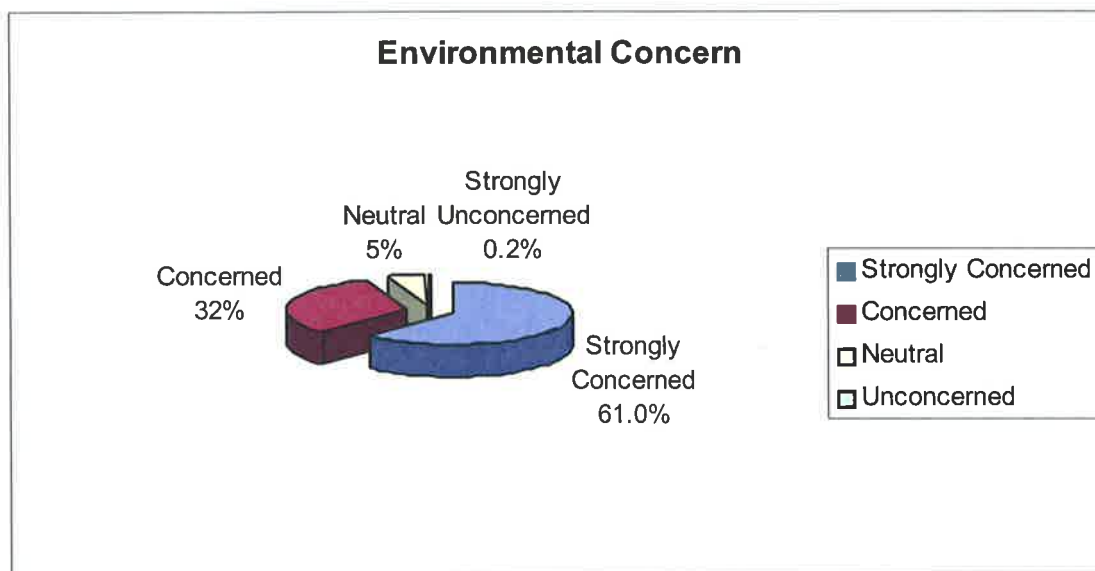
General Environmental Concern	Strongly agree (Percent)	Agree (Percent)	Neutral (Percent)	Disagree (Percent)	Strongly disagree (Percent)
Q1. Environmental dependent	56.0	39.1	4.6	0	0.2
Q2. Sustainability	56.5	37.8	5.6	0	0.2
Q3. Resource utilisation	55.8	35.9	7.7	0.2	0.3
Q4. Environmental impact on daily life	44.4	41.7	12.6	0.3	0.3
Q5. Public responsibility over environment	50.3	41.0	7.8	0.2	0.3
Q6. Collective action required to protect environment	55.7	40.0	6.1	0	0.2

Table 6.8 The Frequency of Bangkok's Resident Response to Environmental Concern over Solid Waste Management

General Environmental Concern	Strongly agree (Percent)	Agree (Percent)	Neutral (Percent)	Disagree (Percent)	Strongly disagree (Percent)
Q7. Solid waste problem is critical	51.7	38.3	9.2	0.2	0.3
Q8. Shortage of landfill	49.8	38.8	9.9	0.9	0.5
Q9. Recycling is an alternative	47.6	41.0	10.2	0.5	0.3
Q10. Cooperation between civil and government to solve solid waste problem	49.8	40.0	9.5	0.3	0
Q11. Separate waste to solve problem	44.2	43.7	10.7	1.0	0.2

According to Table 6.7 and 6.8, the frequency of environmental concern over general issues and solid waste management issue was high. In addition, the overall environmental concern level was calculated using frequency method. There were five levels of answers concerning awareness and those answers were: strongly agree; agree; neutral; disagree; and strongly disagree. The frequency of participants' responses is shown in Figure 6.3.

Figure 6.3 Level of Environmental Concern of Bangkok's Residents



According to Figure 6.3, 93.1% of Bangkok's residents were concerned about solid waste management problems; 61.1 % were strongly concerned. Only 0.2% of the respondents indicated that they were unaware of the solid waste problems.

The study also looked at the relationship between environmental awareness of solid waste problems and other indicators. Those indicators were recycling behaviour, socio-economic status, and education level. The study chose to conduct the correlation test to explore any relationship between variables. Pearson correlation coefficient (Correlation Value) indicated whether there was positive, negative or no linear relationship between variables. The value of correlation coefficient range from -1 to +1 where;

- If there is no relationship between variable, the value is 0
- If there is a perfect positive relationship, the value is +1
- If there is a perfect negative relationship, the value is -1

The results are shown in Table 6.9.

Table 6.9 The Correlation Value of Environmental Awareness and other Variables

Variable	Correlation Value	Significance Level
Recycling behaviour	0.019	0.654
Socio-economic status	0.231	0.000*
Education level	0.348	0.000*

* Correlation is significant at the 0.01 level

** Correlation is significant at the 0.05 level

*** Correlation is significant at the 0.1 level

According to the correlation test, environmental awareness was closely and positively associated with socio-economic status and education campaign at a significant level. In other words, the higher the level of environmental awareness, the higher the socio-economic status of the residents. However, there was no significant relationship between environmental concern and recycling behaviour. Even though Bangkok's residents were concerned about solid waste management problems, this was not reflected in their recycling behaviour.

6.2.4 Solid Waste Service

Residents were asked to prioritise the composition of their household wastes. The results showed that food waste (77%) comprises the largest proportion of household wastes. Plastic (17.2%), paper (4.3%), glass (4.3%), sundry metal (0.9%) and aluminium (0.7%) were ranked in that order to show most to least, respectively.

Of the respondents, 94% use the BMA's solid waste service and 88.2 % of them were satisfied with the service. The BMA solid waste service covered 88.5% of respondent's household. There was 67.9% of respondents claimed that the waste collection vehicle regularly comes to pick up waste. While 65% of respondents indicated that the waste collection vehicle can collect all waste. Only 11.2 % complained about the service. The Most of the complaints were about the consistency of the service in terms of the day and time of the waste collection service.

The correlation test between solid waste service and other variables was conducted to explore any relationship between them. The results are shown in Table 6.10.

Table 6.10 The Correlation Value of Solid Waste Service and other Variables

Variable	Correlation Value	Significance Level
Socio-economic status	-0.048	0.245
Education Level	0.059	0.157
Recycling Behaviour	-0.141	0.001*

* Correlation is significant at the 0.01 level

** Correlation is significant at the 0.05 level

*** Correlation is significant at the 0.1 level

According to the above data, satisfaction with the solid waste service was significantly but negatively connected to the residents' recycling behaviours. Even though residents were satisfied with the solid waste service, it did not affect their recycling behaviour.

6.2.5 Recycling Education Campaign

The respondents were asked about the recycling procedure such as the types of recycling wastes, colour of recycling bins, and available information on recycling. The respondents were then asked to give an opinion on the recycling campaign launched by the BMA.

When the respondents were asked if they have heard about the recycling program of Bangkok, 85.2% of respondents answered yes. However, when they were asked about the recycling procedure (Q4.2-Q4.4), only 12.7% of respondents answered every question correctly which demonstrated the correct procedure of the waste separation. The results are shown in Figure 6.4 and Figure 6.5.

Figure 6.4 The Recycling Campaign

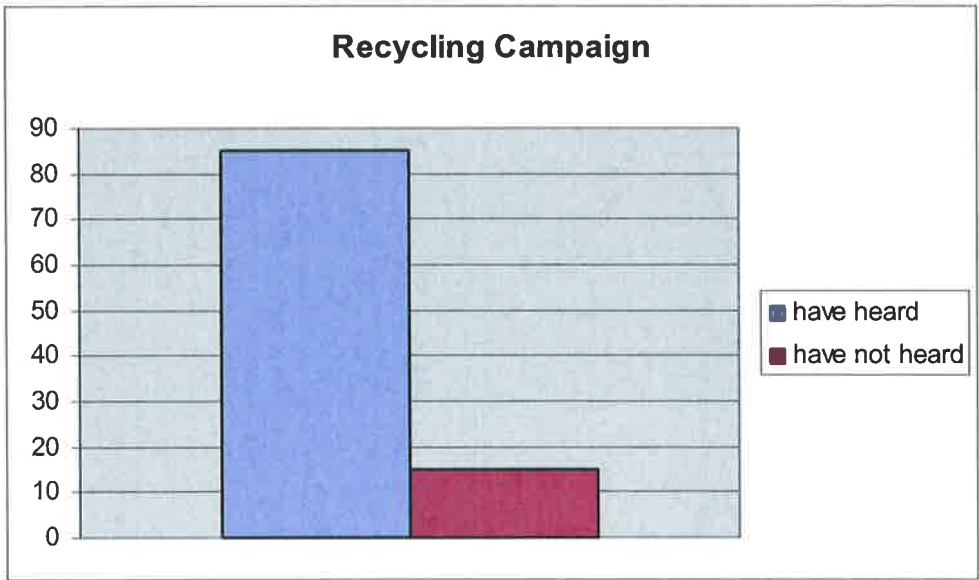
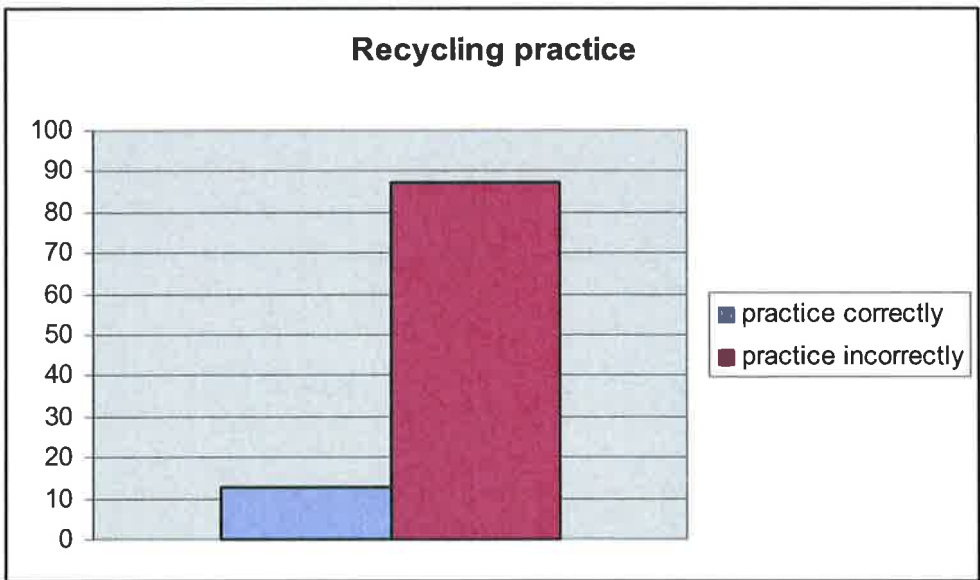


Figure 6.5 Recycling Practice



The results demonstrated that the majority of respondents did not have a good understanding of the recycling procedure even though most of them have heard about the campaign. The education campaign was not considered to be very efficient in regard to influencing recycling practice.

In addition, 95.7% of the respondents agreed that the BMA should provide more information on how to separate recyclable materials. There were many comments on which materials can be recycled and there was confusion about matching the colour of the bin with the types of waste. As a result, the recycling rate was low and not efficient and all types of waste continued to be mixed. The respondents were also asked where they obtained the information about the recycling program. The results are shown in Table 6.11.

Table 6.11 Sources of Information about the Recycling Program

Information source	Percent
The BMA's officers	9.5
Pamphlets	19.1
Radio	21.9
Television	49.5

According to the frequency table, television was the information source that reached most residents. It is noteworthy that the residents obtained the least information from the government officers in their areas. This indicated a weak relationship between the residents and the state in implementing the recycling program.

A correlation test was conducted in order to find the relationship between the education campaign and other variables. The results are shown in Table 6.12.

Table 6.12 The Correlation Value of the Education Campaign and other Variables

Variables	Correlation Value	Significance Level
Socio-economic status	0.104	0.013**
Education Level	0.188	0.000*
Recycling Behaviour	0.043	0.276

* Correlation is significant at the 0.01 level

** Correlation is significant at the 0.05 level

*** Correlation is significant at the 0.1 level

According to the correlation test, the education campaign had a positive significant relationship with residents' socio-economic status and educational level. Residents who were socio-economically better off and well educated had more access to information about the recycling campaign than poorer residents. The results pointed to the problem of inequality in different social groups accessing information due to their socio-economic status. According to the results, even though the education campaign had a significant relationship with residents' socio-economic status, it did not indicate the level of their participation in the recycling program.

6.2.6 Personal Convenience

The respondents were asked about their perceptions of the convenience of the recycling program. Questions were asked about personal convenience in separating waste in terms of time consumption, the complexity of the process and provisions of containers. The response on questions concerning the convenience of the recycling scheme is shown in Table 6.13.

Table 6.13 The Frequency of Bangkok's Resident Response on the Convenience of the Recycling Scheme

Personal Convenience of the Recycling Scheme	Yes (Percent)	No (Percent)
Q1. Separate waste is not worth your time	57.8	42.2
Q2. Don't have time to separate waste	52.0	47.8
Q3. Waste separating is too complicated	61.7	37.9
Q4. Waste separating is dirty and disgusting	67.2	32.8
Q.5 Separate waste will require extra bin and cost more	40.8	59.2

According to Table 6.13, the data was recoded and transformed into three categories in order to determine the level of concern. There were three levels of personal convenience concern: strongly concerned; neutral; and not concerned. The frequency of the responses from the participants is shown in Figure 6.6.

Figure 6.6 Level of Concern for Personal Convenience in the Recycling Program

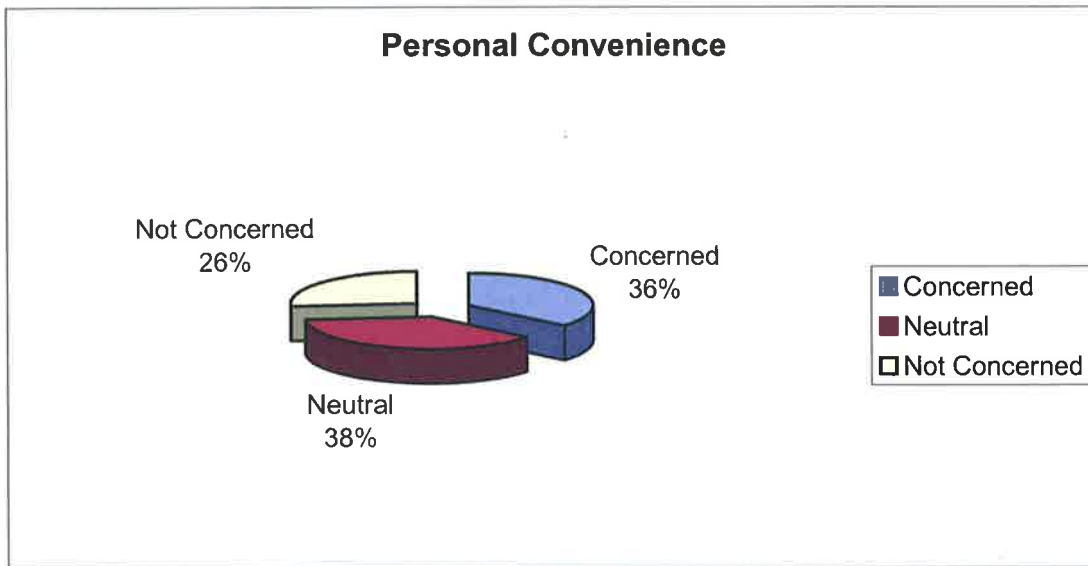


Figure 6.5 shows that only one third of the respondents were concerned about the personal convenience of the recycling program. The rest were either neutral or were not concerned about this convenience. The correlation test was conducted to find the relationship between personal convenience and other variables. The results are shown in Table 6.14.

Table 6.14 The Correlation Value of Personal Convenience and other Variables

Variables	Correlation Value	Significance Level
Socio-economic Status	-0.016	0.693
Education level	-0.116	0.005*
Recycling behaviour	-0.269	0.000*

* Correlation is significant at the 0.01 level

** Correlation is significant at the 0.05 level

*** Correlation is significant at the 0.1 level

According to the above table, there was a significant but negative relationship between personal convenience and the respondents' education levels. The higher the education level of a resident, the lower the level of concern for personal convenience in the recycling program. Well-educated people were not concerned about the

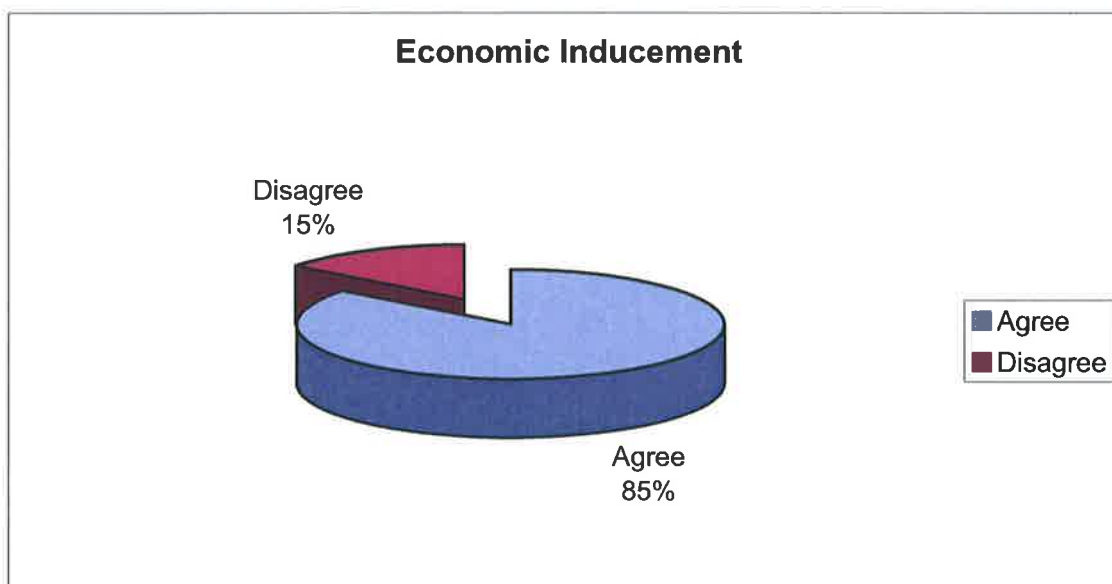
convenience of the recycling scheme. On the other hand, respondents with a low level of education were concerned about the convenience. Some of them made comments on the provision of recycling bins, and the space in the house claiming that there was not enough space in which to keep the recyclable materials.

Additionally, personal convenience had a significant impact on recycling behaviour in a negative way. Personal convenience was a precondition of recycling behaviour for the residents who were concerned about it. On the other hand, residents who were not concerned about the convenience of the scheme would freely participate in the program.

6.2.7 Economic Inducements

This section discussed the impact of an economic inducement on the respondents' recycling behaviour. The respondents were asked about their participation in the program if the BMA introduced a recyclable material buy-back scheme. The impact of an economic inducement was, according to the answers of respondents, a positive one. The frequency of the response is shown in Figure 6.7.

Figure 6.7 Opinions of Respondents about Economic Inducement



According to Figure 6.6, the majority of respondents (85.5%) tended to agree that they would participate in the scheme if an economic inducement were available.

A correlation test was conducted to explore any relationship between economic inducement and other variables. The results are shown in Table 6.15

Table 6.15 The Correlation Value of Economic Inducements and other Variables

Variable	Correlation Value	Significance Level
Socio-economic status	-0.111	0.007*
Education level	0.01	0.977
Recycling behaviour	0.291	0.000*

* Correlation is significant at the 0.01 level

** Correlation is significant at the 0.05 level

*** Correlation is significant at the 0.1 level

The correlation test indicated that an economic inducement had a significant impact on respondents' recycling behaviour. The residents would participate in the scheme if they were economically motivated to. Moreover, an economic motive had a significant negative relationship with the respondents' socio-economic status. It emerged that poorer residents were more motivated by an economic inducement than wealthier residents.

6.2.8 Informal Waste System Practice

Besides the formal waste system implemented by the BMA, an informal waste system was practiced widely in Bangkok's suburban communities. Three-wheel waste pickers and buy-back shops symbolize how the informal waste system works. In this section, respondents were asked about their opinions on the practice of the informal waste system. The frequency data from the survey was recoded and transform into five categories in order to determine the level of respondent's opinion toward the informal waste system practice. There were five levels of opinion answers: strongly agree; agree; neutral; disagree; and strongly disagree. The frequency of the responses is shown in Figure. 6.8.

Figure 6.8 Opinion of Respondents on the Informal Waste System Practice



According to Figure 6.8, the opinions on the informal waste practice varied greatly. An equal percentage of respondents strongly agreed and strongly disagreed on the practice of the informal waste system. Those who strongly disagreed made some comments on practices that caused untidiness and smells when waste pickers picked the recyclable material from garbage bins but did not tidy up afterwards.

Those who strongly agreed provided positive comments on the benefits of the system that helped to reduce the quantity of waste and also saved some space to store recyclable materials in their homes. Also, they benefited from selling recyclable materials. However, those with neutral opinions about the practice accounted for one third of all responses. Therefore, the respondents' perceptions of this aspect were ambiguous. The correlation test was conducted to search for any relationship between the informal waste system practice and other variables. The results are shown in Table 6.16.

Table 6.16 The Correlation Value of the Informal Waste System Practice and other Variables

Variable	Correlation Value	Significance Level
Socio-economic status	-0.081	0.05**
Education level	-0.110	0.008*
Recycling behaviour	-0.072	0.084

* Correlation is significant at the 0.01 level

** Correlation is significant at the 0.05 level

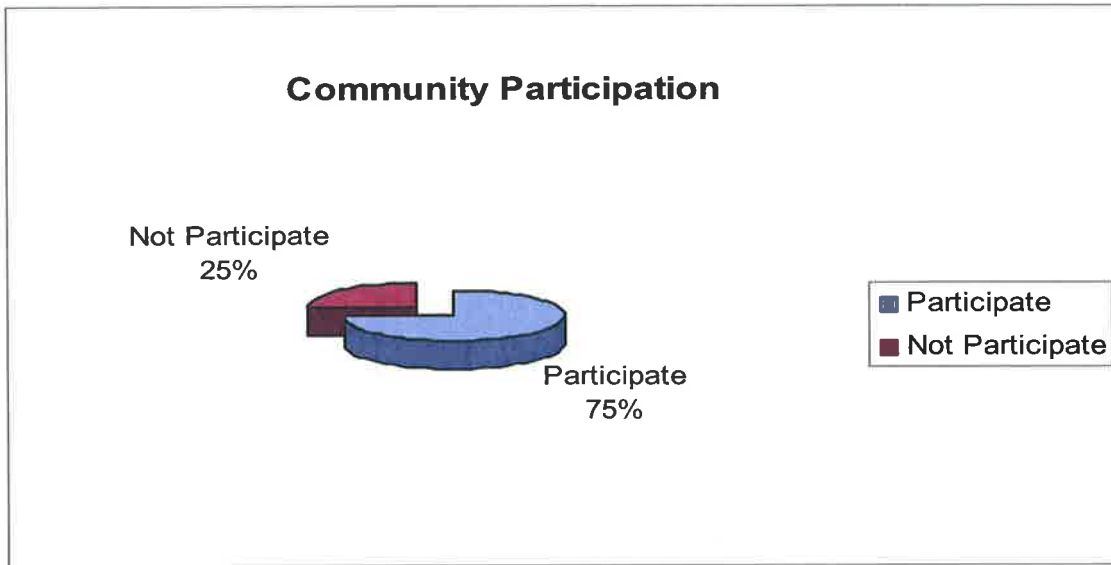
*** Correlation is significant at the 0.1 level

The correlation test showed that the informal waste system practice was significantly but negatively connected to respondents' socio-economic status and education level. The respondents with low incomes and not much education were more in favour of the informal practice than those who were better off.

6.2.9 Community Participation

In this section the questions were designed to explore residents' participation in community programs. In addition, they investigated any information networks that existed in the community. Respondents were asked if they received information about their community and if they had participated in any kind of community activities. The frequency data of community participation of residents is shown in Figure 6.9.

Figure 6.9 The Frequency of Community Participation of Respondents



The frequency data from the response was recoded and transformed. The correlation test was conducted to investigate a relationship between community participation and other variables, and the results are shown in Table 6.17.

Table 6.17 The Correlation Value of Community Participation and other Variables

Variable	Correlation Value	Significance Level
Socio-economic status	-0.131	0.002*
Education level	-0.068	0.103
Recycling behaviour	0.055	0.182

* Correlation is significant at the 0.01 level

** Correlation is significant at the 0.05 level

*** Correlation is significant at the 0.1 level

The correlation test showed that community participation was significantly but negatively connected to residents' socio-economic status. Residents with low incomes tended to participate in community activities more than those in higher income groups.

6.2.10 Personal Interview with Bangkhumtean District Officer

The interview was conducted on June 16, 2004 in order to gain an inside perspective from the local government office that works closely with residents. The interview covered several aspects of the recycling program such as the implementation plan, organizational management and local communities.

6.2.10.1 The BMA's Recycling Program

The BMA's policy on waste separation was passed on to each district to establish their local program by providing an implementation cost of 15,000 Thai baht. The main goal was to educate community leaders about the recycling program in the district. The program was set to call for interested residents to come to the workshop. The workshop provided information about how the objectives and goals of the program would be met. In addition, residents were educated on how to manage their waste and to separate it. It needs to be noted that the program was a one-day workshop and there was no evaluation program to follow up its effectiveness.

6.2.10.2 The Bureaucratic System

The officer who was interviewed stated that that the bureaucracy was very hierarchical. The BMA was very much centralized in terms of power, authority and management. Policies and plans were initiated by the BMA and passed on to the district level. The BMA in this case symbolises the state while the district office was a local body. The recycling policy and plan has been devised by the Department of Cleanliness and authorized by the governor of Bangkok. The district level received the policy and put it into action. However, the authority in organising the implementation plan was limited as the plan had already been established by the BMA head office. In addition, resources were limited and this led to environmental management being ineffective. This officer further mentioned that the implementation that was set by the head office did not apply to the district due to the large presence of small industries in the area. He himself thought that the education program should give first priority to small industries instead of households because most of the

recyclable materials came from small industries. However, the district level did not have the authority to produce its own plan. Instead it had to follow orders from the head office.

6.2.10.3 Different Types of Communities

Another factor that had an impact on environmental management at the community level were the great differences in residents' socio-economic status. The officer told us that in Bangkhuntean district there were three different types of settlements. These were as follows:

- The old Bangkhuntean community that had lived in the area for many generations. The relationships and connections between community members were very strong. They had a strong tie to the land and community and felt responsible for the environment. The officer mentioned that this community group was the most active in participating in programs run by the district.
- The middle to high-income community who moved there from central Bangkok. This type of settlement has been in the area for less time than the first group. Houses were built with much land and were surrounded by fences. Most people in this group were working class who moved to the city for work. Therefore they did not spend much time socialising with others. For this reason, the connection between community members was not very strong. However, the officer mentioned that this group can be considered to be moderate participants in environmental programs due to their socio-economic status and education level. They were concerned about the environment as it did affect their quality of life.
- The migrants from rural areas who lived there for purposes of employment. This group consisted mostly of renters. The connection between community members was minimal. The relationship was limited to small groups, which consisted mainly of migrants from the same village. A sense of community hardly existed within this type of community since most of them were

temporary migrants. They came to the city only when it was not rice growing season. Therefore, they had much stronger ties to their rural homeland than to the city community in which they lived. This type of settlement was considered to be a passive participant in any kind of public activities.

6.3 Conclusion

This chapter analysed and presented the results from the fieldwork. The results were very enlightening about the public perceptions toward the recycling program. It was clear that the majority of respondents (61%) were very concerned about the environment and the solid waste problem. However, there was a contradiction between perception and practice. The correlation test indicated that the level of environmental concern did not influence or indicate consistent recycling behaviour. Most respondents (88.2%) were satisfied with the solid waste collection service provided by the BMA. However, there were some complaints (11.2%) about the consistency of service pick-up day and time. The results suggested that solid waste service did not have an impact on residents' recycling behaviours.

The education campaign was not effective in terms of clarity of information and accessibility to the program especially for low-income groups. There was much confusion about recycling procedure. The vast majority of respondents (95.7%) agreed that the BMA should provide more information about how to separate waste. The mode of information raised another concern about the effectiveness of the education campaign. Television was the major source of recycling information while the BMA officer was the least effective in reaching the residents. This indicated the communication gap between the state and residents.

Low-income groups were more concerned about personal convenience and economic inducement of the recycling program than those in higher income groups. Both the convenience of the recycling scheme and economic inducement did influence the participatory behaviour of low-income groups, but it did not trigger the participation of high-income groups.

There were varieties of perceptions toward an informal waste system. Some of them agreed with the benefits of informal wastes system that it helped to reduce waste and generated an extra income. Those who did not agree commented that the informal system is disorganized and caused untidiness and smell. The resulted suggested that the informal waste system was favoured by low-income groups. The study also explored residents' commitment to community participation. The results showed that low-income group tended to participate in community activities more than those in higher income groups.

The personal interview with the district officer showed some of the impedients in planning and implementation of the recycling program. Top-down planning approach and bureaucratic administrative system of the organisation were major drawbacks in the effectiveness of the recycling program. Additionally, community types shaped public participation.

Overall, the survey results demonstrated a variety of public perceptions and their participation in the recycling program was mainly based on socio-economic realities. The results also indicated some weaknesses in the implementation of the scheme that resulted from a flawed policy planning process. In addition, it typified the social context of Bangkok's suburban communities themselves, as well as the relationship between the state and the residents. In the next chapter, the implications of the results in the context of public participation in policy-making and planning are discussed.

Chapter Seven

Discussion: Understanding Recycling Behaviours in Bangkok

7.1 Introduction

This chapter will present a more detailed discussion of the results presented in Chapter Six. The data obtained in the fieldwork and also secondary data will be discussed and interpreted in the context of environmental governance, planning and public participation. The BMA policy-making, planning, and decentralisation practice will be firstly discussed, particularly the recycling program in relation to identifying any weaknesses that might lead to an ineffective recycling program. Additionally, public perception of the recycling program and residents' recycling behaviour will be examined. Due to differences in socio-economic status of Bangkok's residents and their impact on residents' perceptions, the discussion will be divided in two sub-sections based on people's socio-economic status. Lastly, the relationship between the state and Bangkok's residents in implementing the recycling program will be discussed to pinpoint any gaps that might emerge as obstacles to the program's implementation.

Chapter Six showed that there were three major issues that contributed to the efficacy of the recycling program in Bangkok. Firstly, the results emphasised that the policy-making and implementation processes exhibited a number of weaknesses. Specifically, the "top-down" planning approach failed to solve how to deal with waste management. In particular, the process allowed only limited and perfunctory input from the public. Local knowledge and public perceptions concerning solid waste problems were not considered as a primary source of planning information (Suwarnarat and Luanratana, 1993; Personal Interview June 16, 2004). Therefore, the recycling program does not respond to local needs and problems. In addition, the BMA's centralised bureaucratic system and the district offices' lack of resources and authority to implement environmental management programs led to some obstructions impeding the program's effectiveness. Even though decentralisation has been implemented to improve the performance of local government in carrying

environmental management programs the political culture has been the major impediment in the process.

Secondly, the results presented in Chapter 6 showed that sociological factors influenced individuals' perceptions of the recycling program. This tends to confirm other research (see Vining *et al.*, 1992; Yenjai, 1992; Gamba and Oskamp, 1994; Daniere and Takahashi, 1999a). Bangkok is a fast growing city where urbanisation is intense. The economic growth has widened the gap between urban rich and urban poor. The city consists of diverse community types. Each community group or social class had different levels of understanding and knowledge about the recycling program. Additionally, civil society was constructed differently in each community and therefore it had impact on community participation in the recycling program. Therefore, the analysis suggested that such an approach to environmental management should be considered so that the needs and character of Bangkok's communities can be accounted for.

Thirdly, the lack of communication between Bangkok residents and state officials in working together was apparent. The results revealed that there was a very real communication gap between the society and the state. The information about the program on how to recycle waste was unclear. There was much confusion among residents as to how to separate the different types of waste. The messages that people receive were unclear or ambiguous and the delivery mode largely relied on media sources, which low-income communities had difficulty accessing. The education program provided by the state was largely ineffective. It did not reach every community in Bangkok. Finally, there was no monitoring program to assess its effectiveness. In summary the result suggested that the public policy and planning approach of the BMA was ineffective, in three main ways.

This chapter is divided into three major sections. Each section is dedicated to addressing significant issues that emerged from the results of this study. The next section (6.2) addresses the role of the state and planners in policy-making, planning and implementation. Section 6.3 examines the role of civil society in the context of public participation in environmental management. Lastly, section 6.4 examines the level of cooperation between civil society and the state in the public program. It is

important to critique the policy-making and implementation in order to improve to the system's efficiency and to gain a greater understanding of how the public views environmental management and their participation in the program.

The next section will discuss the role of the state in policy-making and planning process, particularly in regards to the solid waste management program. The section will firstly provide a background of Thailand's political structure to gain more understanding of how these processes have been constructed. Furthermore, the decentralisation process will be discussed in terms of its progress and impediments.

7.2 Role of the State and Planners in the Policy-making, Planning and Implementation of the Environmental Management Program

In Thailand, the state is very powerful in terms of its authority and responsibility in the decision-making process. Thailand had an absolute monarchy for several centuries and therefore hierarchy, deference to authority and elitism have deep roots throughout Thai culture and society (Baker and Phongpaichit, 1995; Klein, 1998). Even though Thailand is now a 'democracy', elitism and an entrenched bureaucracy continue to play an important role. Moreover, corruption continues to be widespread in government.

Over the past two decades, Thailand has experienced dramatic political challenges and reforms. In 1997, Thailand faced an economic crisis that was general throughout the South-East Asian region, and in Thailand's case the result was a failure of the national political system. Corruption is widely practised among politicians and business groups who want to retain their power and profits at the expense of others. The economic crisis is another example of the consequences of an embryonic democratic system. Global economic pressures caused Thailand to restructure the old political regime as part of restoring the national economy (Baker and Phongpaichit, 1995; Ungpakorn, 2002). As a result, Thailand is now at a challenging stage of political reformation. Concepts such as sustainable development, ethical governance, and public participation are relatively new and now influencing public discourse in Thailand. Against this background, the role of the state in the democratisation process needs to be examined, particularly in relation to environmental management.

To understand how the BMA's approach to policy-making and planning is flawed, we first need to briefly revisit the history of Thailand's political organisation. Knowledge of how Thailand's political structure works will help to get more insight on how policy-making and planning processes have been conducted. This section examines the role of government in the environmental decision-making processes. In particular, the planning mechanism and the working relationship between central and local governments is considered. Moreover, this section demonstrates the impact of political changes in Thailand on environmental planning. This helps develop an understanding of the nature and status of the state in governance processes. To achieve these goals, the history of Thailand political system prior to the present transition stage must briefly be reviewed.

7.2.1 The History of Thailand's Political System

Before 1932, Thailand was ruled by an absolute monarchy. The route to democracy in Thailand has been a long, arduous journey. The country has experienced several major political reforms from an absolute monarchy to guided elite or representative democracy, and now a system of participatory democracy (Klein, 1998; Connors, 1999; Pathmanand, 2001). The state is dominated by military or business elites who largely hold the reins of power and authority. Citizens have limited rights in participating in political activities. For this reason, democracy in Thailand does not closely resemble the Western ideal of democratic government.

However, in October 1997, the Thai government initiated a process of reforming the traditional constitution. The main goal was to put an end to inefficient bureaucracy and widespread corruption. Moreover, constitutional change placed great emphasis on maximising citizen rights in public policy formulation through public participation in order to increase transparency and equity in Thai governance. In the next section, the Thai political system is outlined in two stages: before and after the political reforms of 1997.

7.2.1.1 Elitism, bureaucracy, and corruption in Thailand's Guided Democracy (1932-1996)

The first attempted political reform was initiated by King Rama V (1869-1910), who established Thailand's administrative system based on Western models. The central administration comprised of several ministries such as defence, finance, domestic affairs, foreign affairs, agriculture, education and public health, was established and controlled by an elite class. Until June 24, 1932, major political reform was carried out by civil groups such as the "People's Party", which was composed of young scholars who were educated in Europe. Some of them held high positions in the royal government or the military. The 1932 uprising overthrew the absolute monarchy of King Rama VII (UNESCAP, 2003).

Even though there had been many political reforms, a bureaucratic and centralised administration maintained strong roots in the Thai political system. State power remained with a small group of people consisting mostly of politicians, business elites, and the army. It was just a matter of which group was elected to government at the time. Corruption was widely practised in order to gain more power. Additionally, the political rights of citizens were curtailed. The constitution did not promote any public participation in public policy-making. People were basically ruled by the laws written by the elites (Klein, 1998).

Between 1932 and 1997, the national Constitution was reformed on fifteen occasions. During this period, there were several attempts to promote a greater role for citizens in the policy formulation process. However, those attempts were opposed by the military. For example, the 1946 Constitution tried to promote a publicly elected Senate and public input into the policy-making process, in the hope that army officers and elite politicians would be excluded from the Senate and the House of Representatives. This political reform was quickly followed by a military rebellion and subsequent abrogation of the 1946 Constitution. There were several uprisings conducted to overthrow the government by groups of university students and other civilians. Many lives were sacrificed in these efforts to democratize government in Thailand. Within the next 50 years, no constitutional reforms ever proposed

introducing a public-elected Senate and House Representatives (Klein, 1998; UNESCAP, 2003).

The principle features of Thailand's government are high levels of administration, centralisation, an extensive bureaucracy, and endemic corruption (Damrongchai, 2003). It was recognized that Thailand had been governed by elites who are either army officers or highly educated and wealthy people. Under this political system, citizens' rights were suppressed and this made it relatively easy for Thai politicians to manipulate the laws in their favour, thus enabling corruption to occur. According to the Transparency International Corruption Perception Index, corruption in Thailand is widely practised and scored 3.3 on a 10 point scale (where 10 points represented no corruption and 0 was a high state of corruption) (Transparency International, 2003). There were no means for citizens to investigate or judge the government. Thai citizens did not have the right to access any public information, or the right to participate in any decision-making process. Furthermore, business leaders could become politicians or the financial backers of the politicians in order to gain benefits from the state (Baker and Phongpaichit, 1996; Bunbongkan, 2001).

Politics was even more intense during the economic boom period (1985-1996). Corruption in the bureaucracy and the state was extreme. During the economic boom period in 1991, the government led by Chatichai Choonhavan was overthrown by a military coup on the grounds that intense corruption existed in the government. However, the next government was equally if not more corrupt. Business elites and wealthy groups were among the politicians in the parliament. All these led to the recent political reform, resulting in the 1997 constitution that concentrated on demolishing money politics and embracing public participation to create good and ethical governance.

7.2.1.2 Participatory Democracy (1997- present day)

After the overthrow of the government in 1991 by the military who claimed themselves to be a 'national peace-keeping council', that government lasted only two years (Bunbongkan, 2001). It was challenged by the civil uprising that demanded an end to military rule and the democratisation of politics in which government would be

transparent and accountable. The efforts by civilians to bring in democracy ended in bloodshed during the uprising of 1992. Since this incident, three governments have tried to reform Thai politics and abolish corruption.

The economic crisis of 1997 proved the urgent need for political reform in restoring economic, political and social stability. As a result, the drafting process of the 1997 constitution was more considered. The attempt to foster political reform resulted in the 1992 constitution being amended and the formulation of a Constitution Drafting Assembly (CDA). Assembly members were elected by popular vote in order to represent various groups from broad sections of the society (Klein, 1998). During the drafting process, governments changed and the drafting process never progressed.

On October 11, 1997, the new Thai constitution was passed, emphasising public participation, accountability, transparency and the decentralisation of state power as its core principles. The main goal was to promote human rights, equality, and freedom from corruption (Connors, 1999). Under the new constitution, decentralisation would be the primary means to ensure democratic governance by devolving state power to the local level. In addition, civilians were encouraged to participate in governance activities at the grass-roots level. Suwanmala (2002) has summarised the core principles of decentralisation as articulated in the new constitution as follows:

Section 283 provides localities the right to formulate their own self-governing bodies. It also mandates that the state control and supervision imposed on local authorities should not threaten the principle of local self-government.

Section 284 and 285 provides key principles of local autonomy. First, it is clearly stated that local authorities shall have autonomous power in policy formulation, administration, finance, and personal management. Second, the section mandates to have a decentralization act, which articulates a delineation of functions and responsibilities, and tax between the state and local authorities, as well as among local authorities themselves. Third, it mandates to have a decentralization committee established.

Sections 286 and 287 provide the right of local residents to recall votes when local elected officials are not trustworthy.

Section 288 provides that a local civil service shall be established.

Section 289 and 290 enable local authorities to carry out additional functions, including the preservation of local arts, heritages, and culture, providing education and training, preservation and managing natural resources, environment, sanitation, and the promotion of lovable communities (Suwanmala, 2002: 9-10).

Under the new constitution, decentralisation has been put in place and been implemented at every government level. From the central government down to the provincial and municipality levels, power and resources have been devolved to promote local democracy and self-governance and to ensure accountability, honesty and integrity. Organisational responsibilities and power structures are to be reorganised to prevent any confusion between or within organisations. At the same time, civil institutions and their rights are recognised in the decentralisation process. Public participation is crucial and also encouraged in planning and decision-making processes. It is used as a means to ensure equity and fairness.

Decentralisation processes are easier to promise than they are to deliver. Thailand's conservative political culture and yet having to engage in the devolution of power are the significant impediments that impede the success of decentralisation. As a local government body, the BMA is also affected by this policy in that decentralisation has been practised (Khunnavuthi, 2001). The following section provides a critique of the decentralisation process in Thailand (and particularly the BMA) against this background.

7.2.2 Impediments to Decentralisation: Rational Planning and Political Culture

Even though the new Constitution promotes participatory democracy by using decentralisation as a means to deliver local democracy and self-governance, the deep roots of hierarchy and conservative political culture in Thailand's political system cannot be changed overnight. The country's political culture has been the main impediment in power devolution processes. The central government has been

reluctant to transfer power and resources to local government. In addition, policy-making and planning processes has been dominated by the state; therefore it systemically discourages the public to become involved in these processes. This section discusses planning and policy-making practice in Thailand, both in the context of the history we have reviewed and the case study. In addition, it reviews some impediments to decentralisation in Thailand.

Planning practice in Thailand has tended to emphasise scientific or comprehensive planning. Due to the centralised nature of Thai government, planning processes have been top-down. Planners and technical specialists in those specific areas have been the main people who draft and propose plans and policies. These planners and specialists, who are well educated, are delegated to perform the task. This is typical as Sandercock (1998a) has reminded us of rational planning: “faith in the planner’s ability to know what is good for people generally, ‘the public interest’” (Sandercock, 1998a: 170).

In contrast, residents have been regarded as mere passive receivers of the planners’ wisdom, and have had no voice in the process. Therefore, public involvement has been limited. There has been neither a tool nor a mechanism for the citizen to participate, object to, or modify government proposals. This domination by the bureaucracy and the lack of transparency has created opportunities for the politicians and bureaucrats to manipulate and corrupt policy-making processes. As Lee and So (1999) have stated, the dominant policy goal of Thailand is ‘a set of growth-first policies’. According to these authors, in the area of natural resources management, the main policy aims were to intensify production with minimal consideration of local people’s needs. During the economic boom period, natural resources were heavily exploited. Deforestation, mining, and the loss of land to the industrial sites have degraded environmental quality and created much pollution such as wastewater and air pollution in the surrounding areas. Since public participation in the policy-making process has been minimal, the distance between national level policy and local needs and priorities has become great.

The central problem is that the hierarchical character of Thai society and politics as stated earlier has been reflected in the decision-making system. All the conflicts between the state and citizens and those tensions between different organisational levels have been settled at the central level. This makes it harder for people to gain an understanding of the process. As a result, people lack interest in participating or cooperating with the state. These problems also occurred in Bangkok's recycling program. The centralised state power of the BMA, a "rational" planning mode, and a hierarchical political culture acted as the impediments to the failure of decentralised governance and policy implementation process associated with waste management program.

The BMA is a special form of local government - an example of administrative decentralisation. It is regarded as the most autonomous local government in Thailand (Suwanmala, 2002). The organisational structure of the large bureaucracy consists of thirteen departments and fifty district administrative units. In this context, the BMA itself could be considered a centralised authority and the district level function as the local units, which has been working with and directly serving the residents. The BMA has been responsible for formulating policies and allocating resources to the district offices in relation to the mission plans and programs. Planners and technical specialists in the BMA head office have undertaken policy-making processes.

The recycling program of Bangkok was an example of comprehensive yet centralised planning (Hudson, 1979; Friedmann, 1987; Dryzek, 1997). The program was formulated by the BMA planners and passed on to the district levels to be implemented. Limited opportunities for public involvement in policy formulation were provided. The implementation plan focused on educating residents about how to separate their household wastes (prior to discarding them) and to encourage them to participate in the recycling. The main aim of the program was to increase the volume of recyclable materials separated from general waste by getting residents to recycle. The public were neither involved, nor their perceptions about the issue considered, in the planning or drafting process. Instead they were included in the implementation process and were asked to take full responsibility to make the program a success.

This case study showed that the comprehensive planning process undertaken largely by the BMA failed in solving the recycling problem. This study suggested that a major factor was the failure to incorporate the views of citizens by involving them in the design of the program. The issue was complicated and a sophisticated approach is required. The weakness of the comprehensive planning mode was manifold. The lack of meaningful information has impacted on the effectiveness of the program. The BMA overlooked the significance of information gathered from residents regarding waste problems. As a result, that information was not included in planning processes. In the case of the recycling program, the nature of Bangkok communities, local knowledge, and the differences in residents' socio-economic status were crucial attributes that were not been taken into account in the design of the policy and its implementation. Since the policy-making process has been done by planners who did not work directly with residents, it was difficult for them to obtain any accurate information or facts from residents. Hence, the policy did not accurately represent or respond to the precise nature of the problem.

Furthermore, the recycling program has been in place since 1996. However, no monitoring program has been conducted to evaluate its efficiency. Neither have the problems nor obstacles of implementation been identified. This weakness of the program management and planning model was clearly confirmed and illustrated by the results of the fieldwork. Residents stated that they received the least information (9.5%) about the recycling program through the government officer compared to other sources. The educational campaign provided to residents by the BMA was inefficient. Only 12.7% of residents separate their household waste correctly. There was much confusion on how to separate household waste. Hence, it was obvious from these comments that the recycling procedure was complicated and confused. If there was any evaluation program to follow up the effectiveness of the recycling scheme, the complicating waste separating procedure would have been identified and corrected.

The case study illustrated the weakness of the centralised planning process in having only limited public participation in this and the decision-making process. Residents did not become involved because they did not feel responsible for or able to engage with the program. As Pennington and Rydin (2000) noted, participation enables stakeholders to share their perceptions through the communication and negotiation

processes. Thus it would build a sense of commitment and responsiveness among the participants for a positive outcome (Pennington and Ryding, 2000). In other words, the structure of governance and the political culture in Thailand tended to discourage citizen participation; a sense of isolation from government has been thus developed which reinforces the disincentive to participate.

Another crucial point that needs to be made relates to the centralised governance and the long-standing political culture. Even though the new Constitution has clearly stated the need for the central government to decentralise power and resources to local authorities so that the latter can truly serve and respond to local needs, existing power structures proved resistant to change. Power continues to be centralised. The central head office established the implementation or strategic plan. Decision-making powers and resource allocation authority, for example, continue to be concentrated in the central government. The political culture was therefore the main impediment in implementing decentralisation. This is similar to other experiments with decentralisation (Watts, 1992; Kapoor, 2001; Ribot, 2002). The decentralisation processes in Mali and Uganda, for instance, failed due to the unwillingness of the state to transfer *sufficient* power to local authorities. Another example is Mongolia where a similar process remained unfinished due to the lack of financial resources allocated (Ribot, 2002).

This was a case in which quasi-decentralisation was pursued rather than complete decentralisation. In administrative decentralisation, the devolution of power takes place only between the central government and the local authorities. Essentially, decision-making and resources allocation authority still largely remained under the control of the central government (Ribot, 2002). The district level acted as a remote office for the BMA head office. Its authority in planning and decision-making was limited. An interview with the district officer showed that the hierarchical system and deference to it remained strong (Personal Interview June 16, 2004). The flexibility in working with the residents at the district level was limited due to insufficient resources and delegation of authority (Suwarnarat and Luanratana, 1993; Setchell, 1995). To initiate something new or more radical was not easy to do. Therefore, decentralisation of the BMA to district level was only a form of deconcentration, not decentralisation in the democratic sense of the word (Ribot, 1999; Kapoor, 2001).

Effective decentralisation cannot be successful unless there is genuine devolution of power and resources from central to local government.

In conclusion, according to Thai political history, the hierarchical system and political culture have influenced the country's centralised governance. Policy-making and planning have been dominated by the central government. Centralised governance has also been adopted in the BMA, whose centralised planning approach failed to solve recycling problem. The program did not respond to the problem as a result of a lack of information from residents concerning local knowledge and local needs in the planning process. With minimal public involvement in planning processes, residents did not have a sense of commitment. Therefore, participation in the recycling program was relatively low. Additionally, the centralised power structure impeded the efficiency of the district level in working with the community in implementing the program. Only quasi-decentralisation has been implemented in the BMA. Policy and decision-making authority was still largely remaining at the central level. Therefore, it allowed minimal input from local government and public participation in policy-making and planning processes.

To increase public involvement in the planning and decision-making process, the relationship between the state and the civil society needs to be constructed carefully. In summary, good governance does not depend entirely on the state. Strong civil institutions are also vital to achieving this goal. As Putnum (1993) has argued, good government is only attained where civil institutions are well organised and robust. However, a robust civil society does not happen overnight. It is a long process of intense social interactions among community members through which social networks and social capital are created and maintained. This will strengthen local capacity in carrying out collective actions and also creating a participatory civil society. Therefore, to achieve political reform, social pressure and movement from civil society are needed to foster the process (Ungpakom, 2002). In the next section, civil society and its role in environmental management are examined in regard to the question of public perceptions of the implementation of public policy.

7.3 The Participation of Civil Society in Environmental Management

Due to a competitive business environment and the demands of capitalism, society is sharply divided into groups based on power and ownership of economic capital. Powerful and influential groups such as the state, business, and the wealthy largely maintain control over resources and the economic 'levers' that have an impact on people generally. Capitalism operates in such a way that the powerless groups in society are taken advantage of because they are denied certain economic, political and social rights. This is apparent in the case of environmental management.

Public policy-making and planning regarding environmental management is mainly done by the state with a minimum of public involvement. Essentially, where the state is highly centralised and in control, civil institutions tend to have only a passive role. Due to the issues of environmental management in which stakeholders will have something to lose, conflicts of interest occur. Without a strong civil society, public involvement in environmental management is limited and diffused. This section addresses issues concerning the role of civil society in environmental management. Social capital as a foundation of civil society is identified.

Civil society refers to social associations that do not represent the state or private interests (Lane and Morrison, 2005). It consists of non-state actors or citizens who share common interests and act collectively to address their concerns and demands to the state. The main goal of civil society is to represent public diverse collective interests rather than individual interests or that of the state. The institution seeks only to negotiate with the state in terms of demanding and correcting perceived abuses; it does not seek to take control of the state. Diamond (1999) defined civil society as involving "citizens acting collectively in a public sphere to express their interests, passions, preferences, and ideas, to exchange information, to achieve collective goals, to make demand on the state, to improve the structure and functioning of the state, and to hold state officials accountable" (Diamond, 1999). However, in the Thai context, civil society is defined differently.

The term 'civil society' in the Thai context is used to describe non-state institutions or groups of people such as students, NGOs, the media, academics, religious followers, gender, and labour groups. Civil society in Thailand plays a crucial part in shaping and reinforcing the nation's democracy. Civil society in Thailand has only evolved over the past three decades. There are several factors that have strengthened civil society. Those factors are: opposition to military government which really started in the 1980s; the development of the state in which the state's power was eased and links emerged between the state and civil organisation; and the economic crisis of the late 1990s that highlighted corruption and other state weaknesses (Pathmanand, 2001).

It can be said that there were two major occasions when strong and successful civil society demonstrations in Thailand led to significant political reforms. The first incident occurred when university students rose against the military government that lasted from 1973-1976. Even though the uprising failed to dislodge the military government, it was the first time that people challenged state power. Another example of civil society activity was the revolt to end the corruption and money politics that dominated government. This began in 1992 and led to the 1997 constitution and reformation of state power structure. This uprising involved many groups, including the middle class, white-collar workers, professionals and students (Baker and Phongpaichit, 1995; Bunbongkan, 2001).

It should be noted that Thai civil society has grown and strengthened over time (Bunbongkan, 2001). The first uprising only included small groups of university students but after that the second revolt include a broader social base and wider support. This could be considered the result of Thai society's growth and development, particularly the opportunities arising in employment and education in urban areas. The economic boom contributed in terms of increasing the numbers of middle class people who became more politically aware. Most of the people in this class pursued an education at the university level. This analysis is supported by the result of the case study in which there was a strong correlation between socio-economic status, educational level and public participation. Middle and high-income residents who were mostly well educated tended to participate more than low-income residents (Jeasakul, 1993; Gamba and Oskamp, 1994).

It also led to a widening gap between the rich urban group and the poor urban group as more poor peasants from the countryside moved to the cities in search of employment. The urban middle class group became much more active and interested in the political issues and state activities that affected their lives. For instance, the 1992 uprising to overthrow the corrupt government was mainly supported by the urban middle class group. They also supported the 1997 constitution amendments, which enhanced the strength of Thai civil society. In the case of the recycling program, the middle and high income groups were concerned that the solid waste problem was having an affect on the standard of living and conditions generally.

However, the middle class was neither particularly united nor well organised. Their support depended on particular issues that affected their lives (Maisrikrod, 1999; Bunbongkan, 2001). On the other hand, civil society was strong among the rural poor, which was often taken advantage of by powerful groups. Grass-roots groups were formed to protect their rights and confront the power of the state. The results of the case study and literature on social capital strongly supported this point (Roseland, 2000). The level of social networks and social capital in a poor community was higher than those in middle or high-income communities. This was due to the lifestyle and character of a community. In low-income communities, residents relied on each other and therefore there were many social exchanges, and thus social networks and social capital were built. In contrast, middle and high-income groups were more independent and social exchange was rarely practised.

The next section discusses the role of civil society in environmental management. Additionally, the impact of differences in socio-economic status in civil society and how this influences the approach to environmental issues is examined. Lastly, the role of local knowledge, practice and its application in environmental management matters is considered.

7.3.1 Civil Society in Environmental Management

Natural resource management is typically both a controversial and a contested issue because of the involvement of diverse stakeholders and interests. As growth and changes in the mode of production intensify output, resource degradation has also intensified. People are competing to consume and control as many resources as possible. As a result, conflicts often occur among the stakeholders (Kalland and Persoon, 1998). Environmental politics is a term used to describe the process by which natural resources are allocated among competing social groups and how they are managed. Powerless and unorganised groups are normally and easily disadvantaged in the process. In Thailand, all natural resources are the property of the state. Resource distribution and management completely depend on state policies and decision-making. During the industrialisation period, the main national policy was to increase economic growth. The state privatised the business sector to manage the natural resources in order to maximise growth and in the process, benefit from it.

This management system led to rapid resource degradation (Nicro, 2000). Many cases of conflict of interests emerged, involving rural villagers and the state in the management of natural resources. Many state-funded works such as dams, gas pipelines, change of land-use, and logging were initiated to satisfy increasing demand and assist growth. The main outcomes of these projects in effect assisted private interests to benefit Thailand's elite groups. Industrial plants gradually took over agricultural land. Local people were taken advantage of and forced to sell their lands cheaply to private companies and vacate their traditional lands. As a result, local people who all their lives had relied on farming and agriculture lost their land and jobs (Ross and Pongsomlee, 1995; Baker and Phongpaichit, 1996). During this period, social movements and diverse social groups developed to resist what they saw as an unjust development process.

Consider, for example, the first case in which Thai civil society become prominent in environmental management issue. The incident that sparked this was the Nam Choan Dam project in 1982 in Kanchanaburi province. The proposed project was to construct a dam that produced electricity for the city. The project would cause deforestation over a vast area of the national park, which local people relied upon for their

livelihoods. The project would also cause 2,000 villagers to move out of the area (Baker and Phongpaichit, 1995). Local people experienced poor outcomes from the previous dam project and the way that it had adversely impacted on the environment and people's lives. Those effects included the change in local climate, deforestation, decreased rainfall, and wildlife disturbance (Baker and Phongpaichit, 1996). Local people argued that the state policy concentrated on delivering benefits to urban centres by taking advantage of rural resources. The protest was organised by local people, university students and environmental organisations. As a result, the state postponed the project but revived it again in 1986. Civil society still strongly opposed the project. Finally, the state cancelled the project altogether. This was the first victory of civil society in defending its rights against the state (Baker and Phongpaichit, 1996; Lee and So, 1999).

From the mid-1980s, another popular case was the eucalyptus plantation project, which the state claimed as a reforestation policy to restore national forests after a long period of logging in the northeastern region of Thailand. Due to the rapid depletion of national forests as a result of illegal logging, the state initiated the reforestation policy to restore forest areas. However, this project had objectives other than reforestation. This project produced economic growth by using eucalyptus trees as wood chips to supply the paper-pulp industry. This industry was a joint venture between large local companies and international firms from Taiwan, Japan and Europe. In order to pursue this project, national forests needed to be cut down to clear the land for new plantations. In addition, eucalyptus consumes large volumes of water from the soil, which in turn lowers the level of the water table. Moreover, it does not provide any amenities for local people such as shade, firewood, grazing, or herbs. The project necessitated many local people having to move out of the areas subject to development. Therefore, local people banded together to stand up against the state's decision. Many forms of protest - both non-violent and violent - such as rallies, blockading roads, marching to government offices, burning and chopping down eucalyptus trees, resulted.

However, in 1991, six million local villagers were forced by the military to move out from the area. This incident led to a confrontation between the local villagers and environmental organisations on one hand, and the military and the state on the other. At the time, the military government was overthrown by a strong civil society aiming to reform Thai politics. It was a good opportunity to bring the issue to an end. As a result, a group of 4,500 villagers marched from their villages to Bangkok. This march resulted in this reforestation project being cancelled (Baker and Phongpaichit, 1995). These two cases illustrate the common dynamic in Thai environmental politics in which the centralised state and economic-driven policy impact on local people. We can see how civil society was beginning to play an important role in governance and politics.

The Enhancement and Conservation of National Environment Quality Act was passed in 1992. The act recognised the rights of citizens to protect their environment. It also encouraged NGOs to register and collaborate with the state. In a subsequent development, Thailand's 8th National Plan (1997-2001) was the first national plan to include the concept of civil society in a decision-making process at the local level (Harashima, 2000). These developments, which reflect global trends in governance, suggest that the state now realises the importance of civil society in balancing power and governance. However, robust civil society does not exist everywhere. An important issue is the need to create an institutional structure, which support civil society. Social capital is also a crucial component of civil society and the performance of collective action. In the next section, social capital and its impact on civil society are discussed.

7.3.2 Social Capital: The Foundation of Civil Society

As discussed above, an active civil society is vital in environmental management and other aspects of governance. However, not every community or social unit can make a strong or active civil society (Putnam, 1993; Roseland, 2000; Daniere *et al.*, 2002; Carpenter *et al.*, 2004). The core foundation of civil society is social capital. Social capital is used to describe a relationship or social network among members in an organisation, who share common knowledge, understanding, and values. It can be built through the process of personal interactions, communications, participating in

group activities and a commitment to reciprocity. The process creates social trust, norms and networks among participants (Putnam, 1993; Roseland, 2000). Once social capital is developed, it helps to strengthen the sense of public responsibility, to increase group productivity, solidarity, and information networks. Putnam (1993) has stated that social trust is the main component of social capital. Social trust can be built through the continual process of norms of reciprocity and networks of civil engagement.

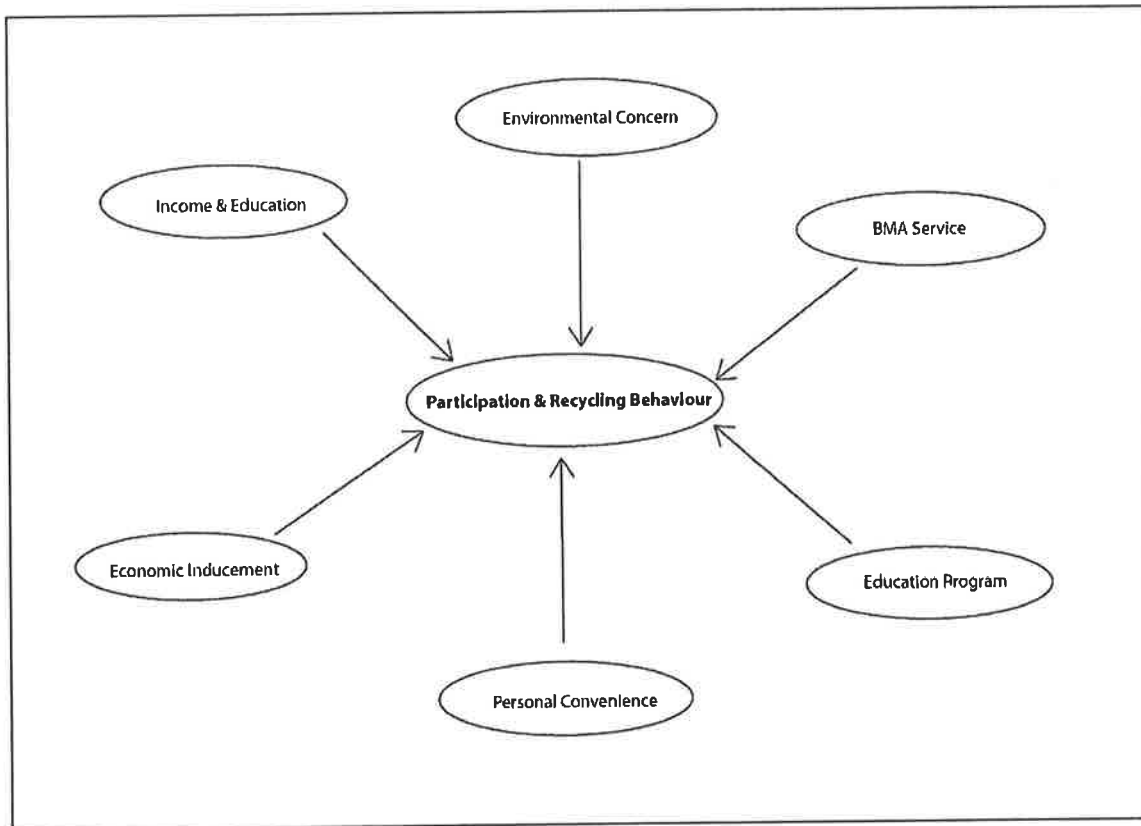
Norms of reciprocity are derived from the intense personal exchanges over long periods of time where trust develops among members of an organisation. This reciprocity is usually built in a horizontal network where people have the same level of status and power. Therefore, there is no power issue that might trigger their trust. For instance, farmers in the same village help each other during the cultivation period. Another crucial form of social capital is a network of civil engagement. Networks of civil engagement include religious groups, sport associations, environmental groups, etc. Members might not have the same status but they share common interest or value. Social interaction and networking are crucial in producing a collaborative activity. The stronger the network, the more likely people are to collaborate for the public good (Douglass and Zoghlin, 1994; Pennington and Ryding, 2000; Roseland, 2000; Doyle, 2001; Lall *et al.*, 2004).

Social capital produces the “glue” which enables people to perform collective action. In the case of a successful civil society in Thailand both the Nam Choan Dam Project and the eucalyptus plantation project illustrated the impact of social capital on collective action. The bond of community and habitat of rural villagers betrayed a significant stock of social capital. The fact that villagers have lived in their community for generations and that their lives relied on the forest have created trust, norms, and social and information networks that provided bonds of reciprocity which were crucial in enabling them to act collectively. Without this reciprocity, civil society would be weak and diffuse. One important thing to emerge from this case was that horizontal networks were intense. Villagers had the same status and power; therefore there was no power issue involved that might shake their trust in each other.

On the other hand, people in Bangkok's suburban communities differed greatly in terms of socio-economic status, livelihoods, and lifestyles. These differences had a marked impact on a civil society. It created social distance between people living in different social-economic circumstances. The modern competitive lifestyle had a significant impact on Bangkok residents. This was particularly the case with the middle and high-income groups, in which people were becoming more independent and losing their sense of community spirit. This was a crucial component of civil society. Additionally, being economically and socially more well off than low-income groups, there was not much incentive for middle and high-income group to mobilise. Yet, civil society in low-income groups tended to be stronger due to limited resources that fostered them to mobilise in order to protect their interests. From the recycling program case study, urban collective action in terms of participating in the program was minimal. There were many variables that explain this low level of participation. Great differences in socio-economic status, community type, and the labour migration from rural were some of the causes.

Perceptions among different socio-economic groups toward community participation effort in the recycling program were different. According to the questionnaire of this study designed to investigate public perceptions, correlation tests were conducted to determine the link between residents' recycling behaviour and their perceptions of the program. The results illustrated some significant connections between residents' motives and recycling behaviour, and their overall participatory behaviour. The connection between sociological factors and participatory behaviour is shown in Figure 7.1.

Figure 7.1 The Connection between Sociological Factors and Participatory Behaviour of Bangkok's Residents regarding the Recycling Program



Source: The Author

Figure 7.1 shows that various sociological attributes were employed to determine Bangkok residents' perceptions and participatory behaviour in the recycling program. However, only two variables - the scheme's personal convenience and economic inducement - had a significant impact on residents' participatory behaviour (see Tables 6.13 and 6.14). Low-income groups tended to favour those factors rather than middle to high-income groups. In addition, the education program did not work effectively. The majority of residents (87.3%) remained confused about how to recycle. Most residents (95.7%) claimed that the BMA should provide more information about the recycling program. Even though residents' socio-economic status did not have a significant relationship with participatory behaviours, it did indicate having a relatively high impact on public perceptions in other areas. For instance, it showed that certain service inequities and deficiencies in state-provided information exist. Further, it indicated the level of social networking in Bangkok's communities.

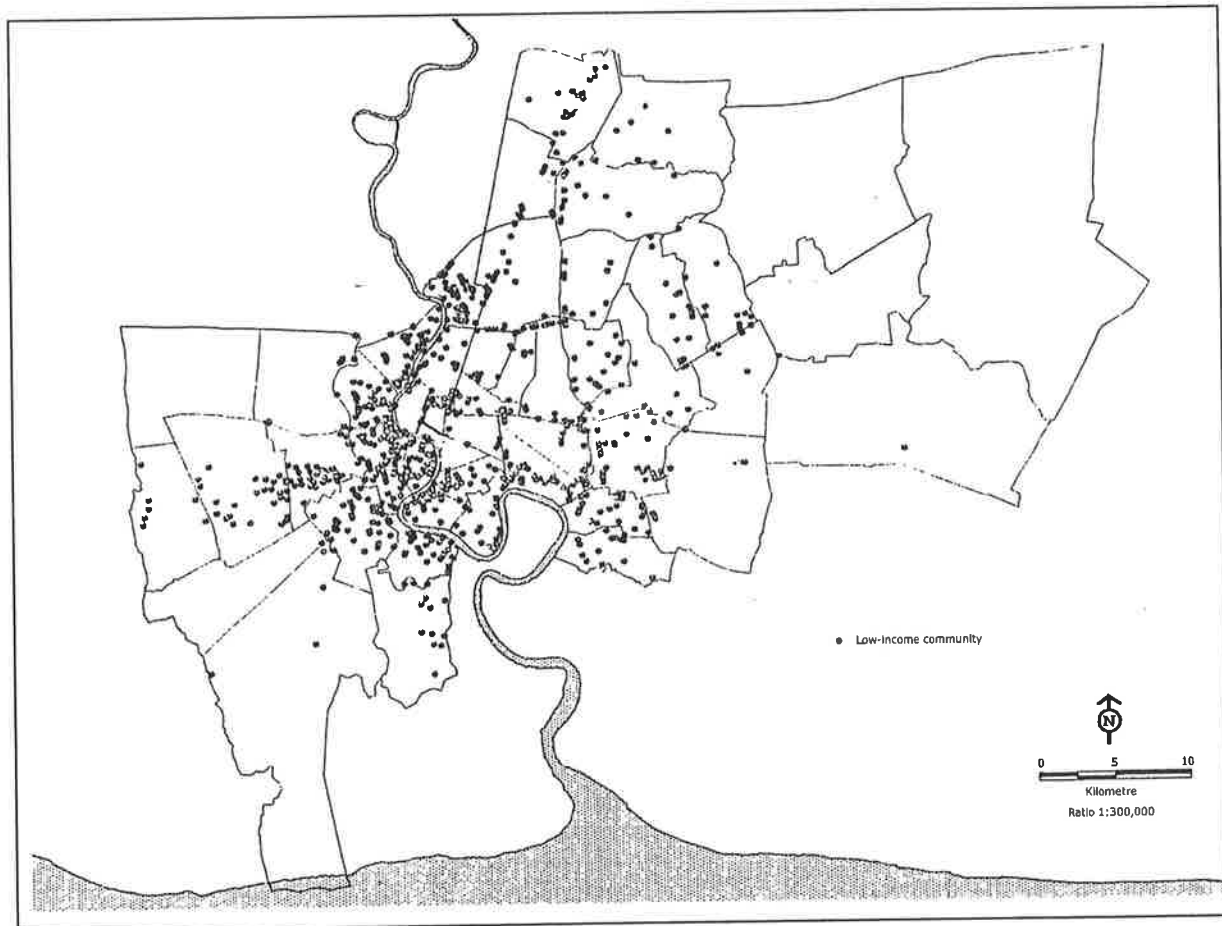
The next section discusses the nature of civil society and public participation of Bangkok residents. The impact of difference in residents' socio-economic status was analysed in the context of social capital and the civil society. It also examines local knowledge of people and their issues in the context of managing the environment.

7.3.3 The Impact of Differences in Socio-economic Status

Bangkok is a fast growing city. Its population has been continually increasing for the past two decades due to the expanding economy. This economic growth has selectively benefited some groups of people and is mainly evident in the growing middle class. It also widened the gap between the urban rich and urban poor. Rural migration contributed to the increasing number of urban concentrations of people. Villagers are migrating to the urban centres seeking employment and opportunities to improve their standard of living. Most of them are poorly educated. As a result, they mostly work in low-paying jobs. Such uncontrolled population growth is exceeding the capacity of the city to manage its infrastructure, provide housing, and cope with a changing environment. Environmental degradation, pollution, and slums are the common consequences of growth in this fast growing city.

As the increasing population exceeds housing supply, housing prices increase dramatically. The urban poor have no choice but to live in slums or squatter settlements. In 1992, there were 1,400 slum communities in the metropolitan area with a total population of 1.7 million people (Daniere and Takahashi, 1999b). Figure 7.2 shows the low-income communities in Bangkok.

Figure 7.2 The Map of Low-income Communities in Bangkok



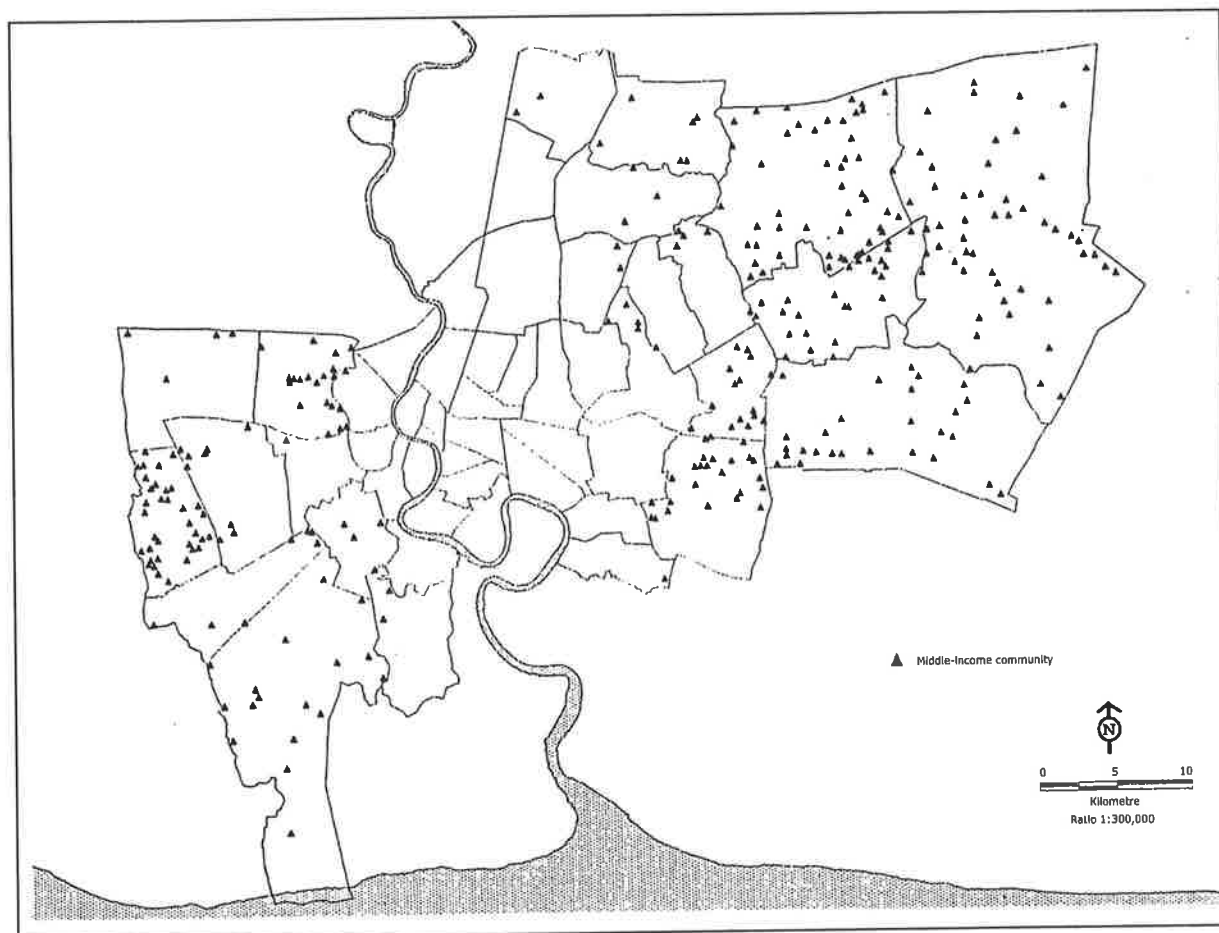
Source: Adapted from the Department of City Planning, the BMA

Most of the slum communities are located in the centre of the city and on illegal land where they do not pay rent. The issue of land tenure security is crucial and is one reason why the disadvantaged have little hope of accessing public services. The slum communities experience poor sanitary conditions. Any public services access, such as water supply, solid waste disposal, wastewater treatment, and electricity, is minimal (Crane *et al.*, 1997; Daniere and Takahashi, 1999a; Daniere and Takahashi, 1999b).

Middle and high-income communities are expanding to middle and outer areas of the city due to the very high housing price in the centre of Bangkok and limited space as shown in Figure 7.3 and 7.4 respectively. Housing and property in the middle and outer areas is mostly owned by middle and high-income people who can afford to have a house with land and able to buy their own transport into the city. For those

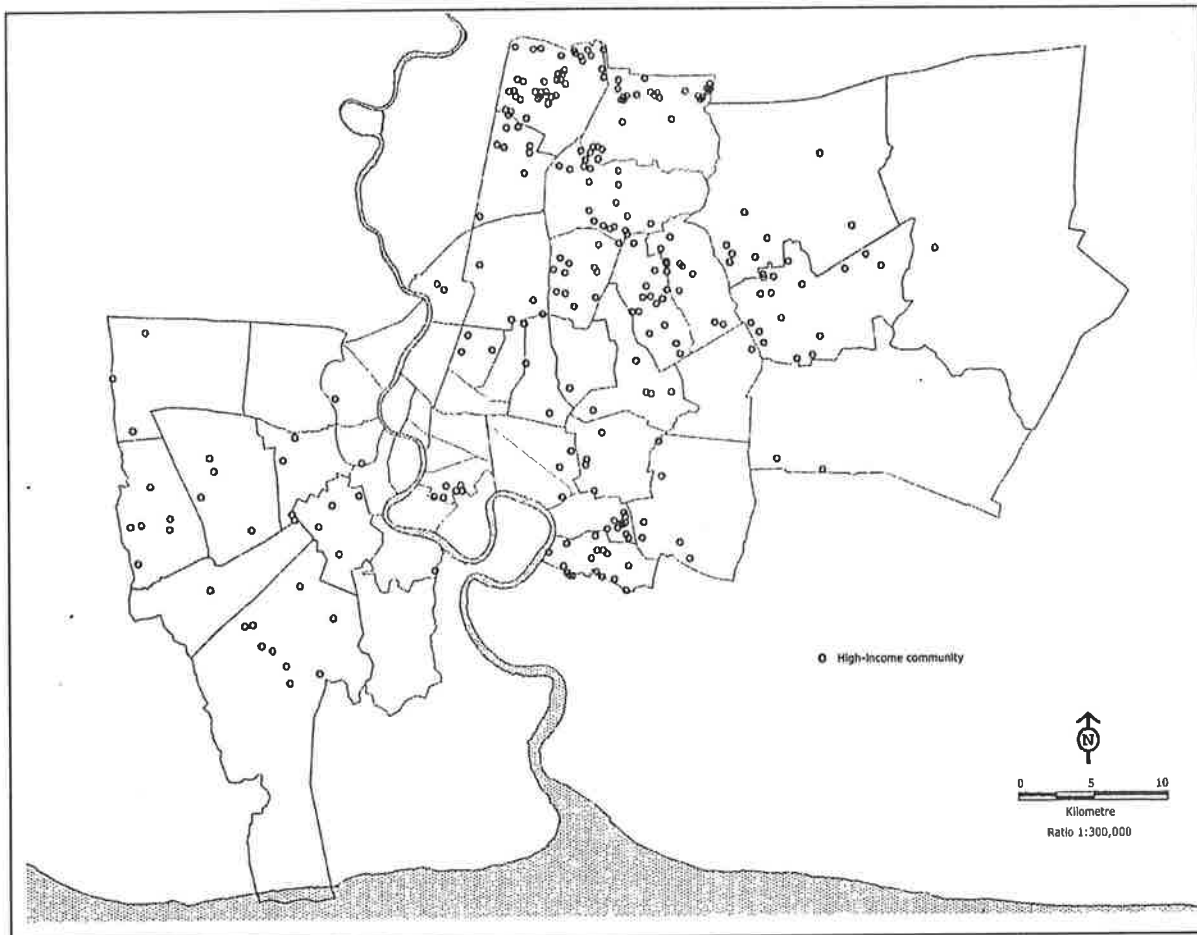
low-income groups who cannot afford a house, they are forced to stay in the slums that are mainly located in the city centre and thereby avoid any transportation costs.

Figure 7.3 The Map of Middle-income Communities in Bangkok



Source: Adapted from the Department of City Planning, the BMA

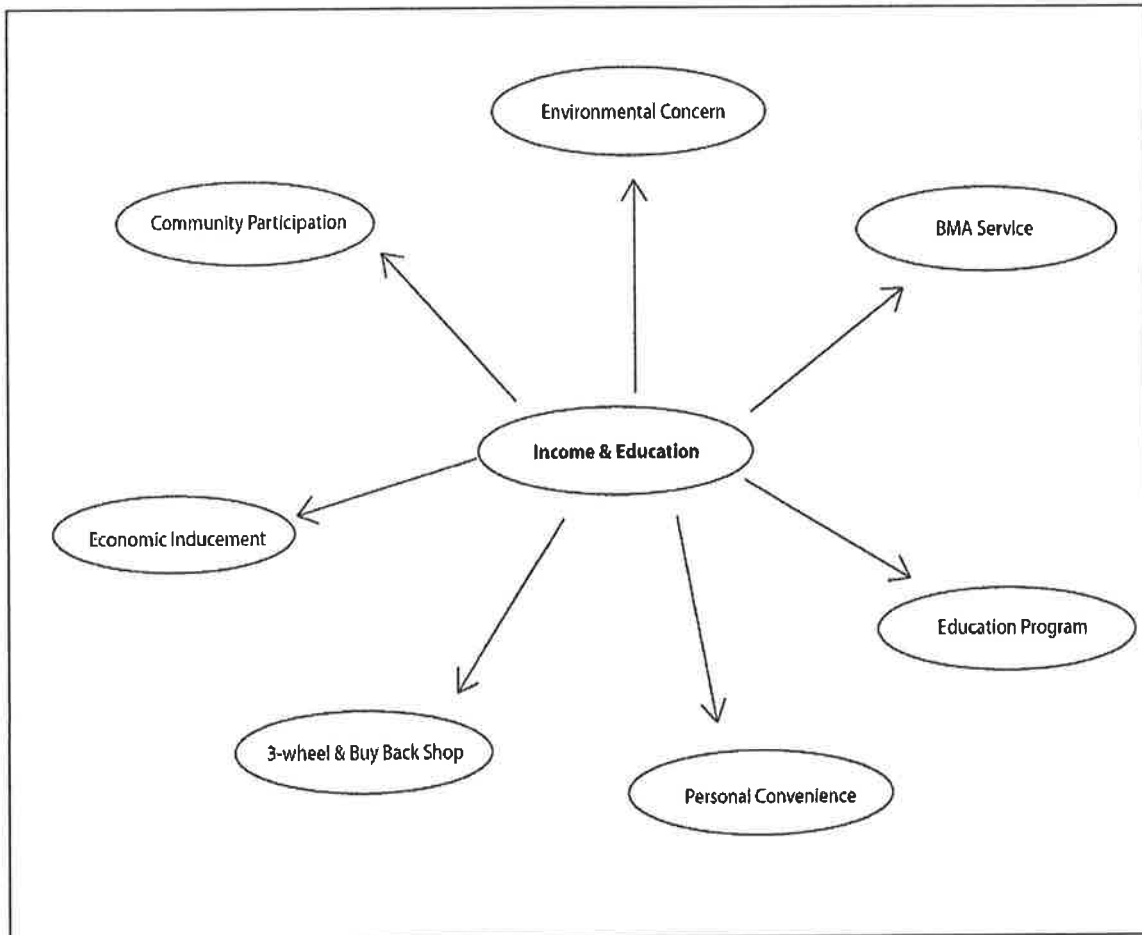
Figure 7.4 The Map of High-income Communities in Bangkok



Source: Adapted from the Department of City Planning, the BMA

The difference in the socio-economic status of Bangkok's residents was evident as Figures 7.2-7.4 showed the geographical distribution of each type of community. Low-income communities were crowded and located in the centre of the city, while middle and high-income communities existed in the outer areas of the city. The social dynamics and networks of the residents were complicated and vary according to the type of community they lived in. In this context, the socio-economic status of residents and its impact on participation and civil society practice in environmental management, particularly in the recycling program of Bangkok, was emphasised. From the fieldwork, the results indicated some significant impacts of the socio-economic status of residents on various attributes that contribute to their participation as shown in Figure 7.5.

Figure 7.5 Relationships between Socio-economic Status of Resident and Various Attributes



Source: The Author

Figure 7.5 illustrated the links between socio-economic status and educational level of residents and their perceptions about several issues such as the environment, community participation, an informal waste system, economic inducements, and convenience of the recycling scheme. According to the fieldwork results, the middle-high income and low-income groups had clearly different public perceptions. For instance, concern for the environment was higher when one had a comfortable economic status and level of education. Furthermore, low-income groups were more concerned with the sociological factors that had impact on their daily lives such as economic inducement and convenience of the recycling scheme, and the practice of the informal waste system (see Tables 6.13, 6.14, 6.15). In contrast, the middle to high-income groups were not concerned with these factors. Another issue was information access. Middle to high-income groups gained more access to information

about the recycling program (see Table 6.12) due to the fact that they could afford to have access to media sources. Television proved to be the most effective medium for delivering recycling information (see Table 6.11). However, not every low-income household had access to it. The results also suggested that middle to high-income groups had a low level of community participation compared to the low-income groups (see Table 6.16).

Thus due to great differences of public perceptions between socio-economic groups, residents' participation in environmental management will be discussed in two types of community, which are a middle-high income group and low-income group. In order to gain an in-depth issues that raise from different perspectives.

7.3.3.1 Civil Society and Public Participation in the Middle and High-income Group

The number of middle and high-income groups in Bangkok is growing as a result of the expansion of Thailand's economy. An educated, professional and skilled work force is in demand in an era of rapid development. Most of them are well educated and hold some type of university degree. The work force includes a broad range of occupations such as white collar workers, self-employed, private company employees, business owners and professionals (Askew, 1999). In this study, the term middle to high-income group was defined according to economic status. Middle-income groups were those who earned 8,000-30,000 Thai baht per month (approximately AUD\$ 266-1000), which consisted of 35.2% of total respondents. High-income groups were those who earned more than 30,000 Thai baht per month (approximately AUD\$ 1000), amounting to 24.7% of total respondents.

These groups were active participants in the political processes and have influenced the current national constitution. Their perceptions about the recycling program suggested significant issues that could be used to describe urban characteristics and civil society among the middle and high-income groups. There were three main issues involved in concern about the environment: the problem of solid waste; disinterest in economic inducements and personal convenience; and the level of community participation.

Firstly, in regard to participating in the recycling program, middle and high-income groups were more aware of environmental concerns in relation to the problem of solid waste. However, this did not indicate any linkage between their concerns and participation in the recycling program. Even though they were concerned about and recognised the solid waste problem and its impact, they did not necessarily respond in a way that helps to solve the problem. Residents' opinions and their actions could be contradictory. This contradiction could be explained in the Thai context. Keeping face is an important issue in Thai culture. To tell people about what might make them lose their face, for instance not participating in environmental protection activities, is not considered to be good behaviour. Therefore, Thai people tend to say what people want to hear, which in some cases might not be truthful. For example, according to the fieldwork results, the environmental concern level and recycling behaviours were contradictory. Most residents (93.1%) had a medium to high level of environmental concern but this was not reflected in their recycling behaviour (see Table 6.9). Another example was when residents were asked if they knew how to separate their waste, the majority of residents (85.2%) said they knew. However, when they were asked to demonstrate this most of them (87.3%) were incorrect. This issue was obvious in the middle and high-income groups who were well educated and economically privileged enough to have access to various kinds of information resources. In this situation, it was important for them to keep face and not to admit that they did not know how to separate waste or did not participate in the public program.

Secondly, the study also indicated that middle and high-income group were not concerned about personal inconvenience or cost of the participation. They did not think sorting recyclable materials from household waste was a time-consuming process or a waste of their time. They were also willing to get an extra rubbish bin for recyclable waste in their household. In addition, the data showed that middle- and high-income groups gained more access to information, such as television, radio, and local government officers, than lower income groups. In addition, these groups were not mobilised by economic inducement. The data showed that they would participate even if no money were involved (see Table 6.14). They were similarly uninterested in the informal waste system. Some of residents in this group commented that the informal waste system causes rubbish and traffic problems.

In this context, middle and high-income groups responded to the state policy that serves to improve their living conditions. They tended to justify their participation based on how their actions would benefit them and not society as whole. People's self-satisfaction and private interest were the main reasons why they were willing to participate. As Bungbonkan (2001) stated, civil society and the participation of the middle class depends on the nature of the issue (Bunbongkan, 2001). This idea is strongly supported by the case study's findings on the sense of community in this group; the middle and high-income group had a low participation in community activities.

Lastly, when these groups were asked about community participation, the data showed that community participation was minimal (see Table 6.16). This was typical of a rich, urban community. People tended to be socially independent and isolated since they had enough resources and money for themselves and did not need assistance from others (Daniere *et al.*, 2002). They could easily gain access to information and services from the state. The results confirmed that economic inducement and personal convenience did not concern the middle and high-income groups. Therefore, there was no motive for them to mobilise collectively to protect their interests since they are already economically secure. For this reason, the idea of a civil society in the middle and high-income groups was low. In contrast, civil society in low-income groups was stronger due to their need to work together to protect their interests and in fact, just survive.

7.3.3.2 Civil Society and Social Capital in the Low-income Group

In this study, low-income groups were defined by their monthly income, which means those people who earned less than 8,000 Thai baht per month (approximately less than AUD\$226). This group constituted 40.1% of the total respondents. As a result of its economic growth, Bangkok has grown uncontrollably in size. Slum and squatter settlements can be seen in the city centre and expanding to include the outside ring of the city as a result of the influx of migrants both temporary and permanent. Most of the new settlers come from rural areas seeking for employment. The shortage of infrastructure and basic services has left the urban poor community in a highly deteriorated environment. Solid waste is a crucial environmental problem. Unsanitary

waste disposal and uncollected garbage have led to severe and increasing environmental and health problems. Efforts to improve and to manage these environmental conditions are examined by focusing on the perceptions of participants involved in the recycling program. The results suggested that there were three main issues that had a significant impact on their participation: inequity in accessing information and public services; economic inducement and local practice of an informal waste system; and a diffuse social capital among those in communities.

Firstly, the respondents from the low-income group claimed that they had less access information than the higher income group. This was due to the lack of resources and connections with the local government. For instance, the education program mainly relied on media sources which low-income communities might not have access to (see Table 6.11). On the other hand, only 9.5% of residents claimed that they received information from state-employed officials. This indicated a minimal relationship between the state and its citizens. In addition, low-income communities did not receive public services equitably. This was confirmed by their expressions of concern about personal convenience and accessibility to the facility provided by the local government (see Table 6.13). Some respondents claimed that insufficient container provision was a concern that affects their participation. Moreover, limited space in the house to keep recyclable waste was another concern.

Secondly, economic inducement and an informal waste system were favoured among the low-income group since the informal waste system already existed in the community (see Table 6.14). The system suited their lifestyle and needs. Residents earned a small amount of money from selling recyclable waste material. The system could reach those in a community that did not receive state services. The system increased the standard of living for those who sell and buy recyclable waste and also improved environmental conditions within a community.

Lastly, low-income residents tended to participate in community activities more than those in the higher income group. By focusing on these perceptions, it could be seen that their participation depends on existing social institutions, environment and setting. The low-income community in Bangkok mainly consisted of villagers from outside the city. They came from different provinces and settled in the urban

community. The origins and length of tenure had a significant impact on social networks and therefore on their participation in the community (Daniere *et al.*, 2002; Lall *et al.*, 2004). According to the interview with a district officer, people were more likely to participate in the program if they were members of the middle to high-income community, and have lived in community for a long time (Personal Interview June 16, 2004). Residents in this group had a strong sense of community and a robust social network. They felt responsible for the community as a whole because the conditions affected their lives. On the other hand, the low-income community, which, mainly consisted of temporary residents, had a fragile community bond as a whole. Nonetheless, the social network among those who have come from the same village was stronger. Thus, the period of stay and residents' origins had an impact on social capital and therefore reflected their participation. The social capital in the community was diffuse so therefore it was difficult for the community as a whole to perform collective action and work towards change.

Since the social capital of Bangkok's community was attenuated due to differences in socio-economic status, social environment and setting, it represented an obstacle to acting collectively for the community to improve the environmental and living conditions. While the literature reports that civil society is potentially a powerful institution (Putnam, 1993; Daniere *et al.*, 2002; Carpenter *et al.*, 2004), when social networking and capital are compromised, the potential for effective collective action is very much reduced (Wolfe, 2002). In order to help solve environmental management problems, a sense of community, networks, and social capital are needed and must be strengthened. The state has a role in stimulating social capital and strengthening local capacity by assisting and mobilising the public to participate in planning and decision-making programs (Douglass, 1999). The processes promote self-governance that entails sustainable environmental management.

Sustainable environmental management requires both a strong civil society and effective state policy and planning to work together to achieve this goal (Douglass, 1999; Singleton, 2000; Dahiya, 2003). A strong civil society is one that is robust and mobilised in order to pursue collective actions effectively. However, without a relationship with the state, civil institutions will not be able to sustain their ability to

collaborate effectively in environmental planning processes. In the next section the relationship between the state and community is discussed.

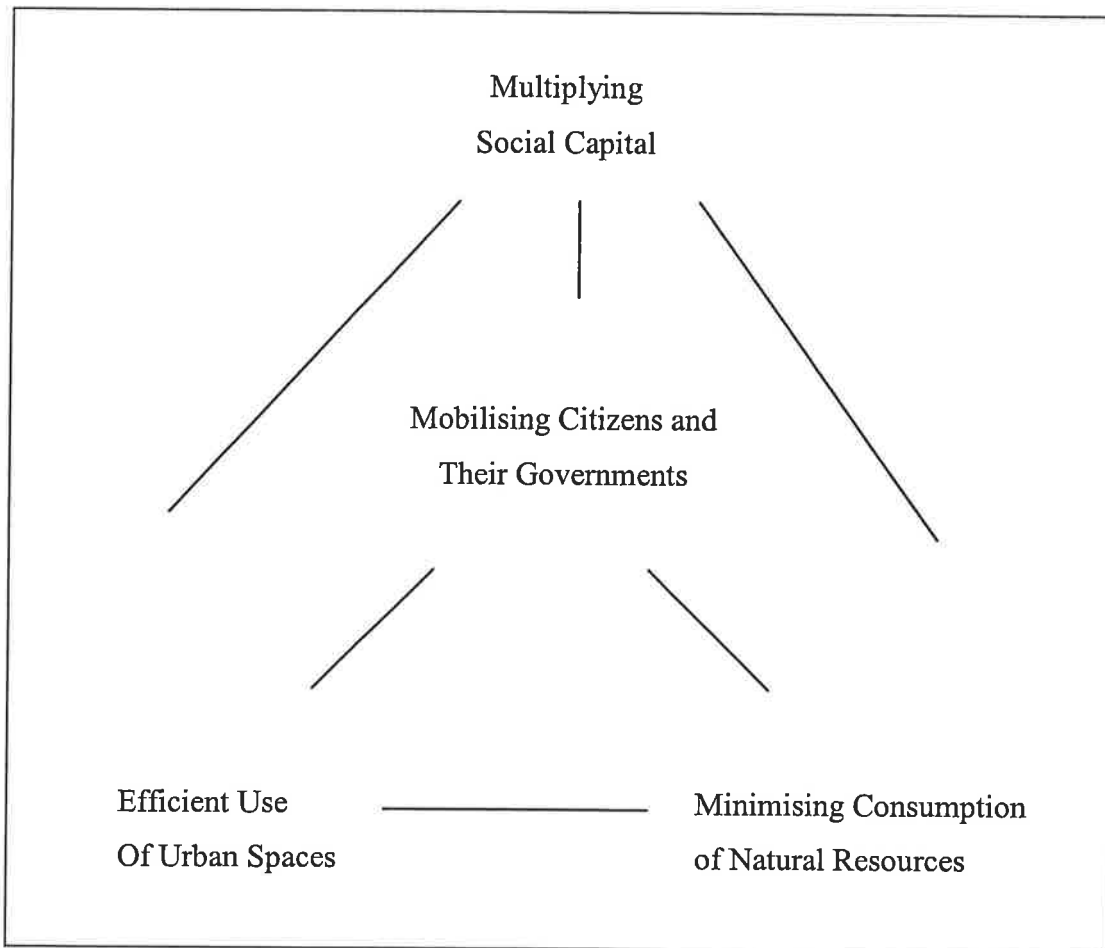
7.4 Sustainable Environmental Management

Sections 7.2 and 7.3 discussed the state's role and that of civil society in environmental management in Thailand, particularly the recycling program in Bangkok. The centralised state had a major role in policy and decision-making processes. Top-down planning, with limited public participation in the processes, was the major planning approach employed by the state. The process did not mobilise citizens to become involved but treated citizens as merely passive recipients. At the same time, urban lifestyle, differences in socio-economic status of residents, and inequity in accessing resources contributed to a low stock of social capital and therefore diffuse rather than strong civil society. Unorganised civil institutions impeded the ability to mobilise and act collectively in solving environmental problems or effectively participate in environmental management processes. For this reason, the lack of vertical collaboration between the centralised state and civil society had widened the gap between state and citizenry.

The following section emphasises the link between the state and civil society in terms of the process of planning, implementation, and power relationships in the environmental management program. The core components of any environmental management program are an effective policy and implementation of a plan that mobilises everyone involved in the program. Therefore, the relationship and linkage between these institutions is the key in implementing public policy and planning effectively.

Sustainable environmental management requires collective action. The state and citizens are the main institutions that need to work closely together to develop plans and implement solutions. The concept of sustainable development acknowledges the significance of public participation and local governance in which every institution in society works together to manage local resources and the environment. The model of sustainable environmental management created by Roseland (2000) as shown in Figure 7.6 reveals the crucial components of a sustainable development framework.

Figure 7.6 Model of Sustainable Development



Source: Roseland 2000

This model is based on the situation where the problem of economic growth and environmental degradation has led to inevitable and severe environmental problems. In a capitalist economy, economic growth is the ultimate goal that needs to be achieved by any means. This includes exploiting natural resources. After a long period of intensive misuse of natural resources, the consequences are natural disasters, environmental pollution, and social tensions that have a serious impact on human life and living standards. As Roseland has stated:

The best predictions available indicate potentially severe economic and social dislocation for present and future generations which will worsen international tensions and increase risk of conflicts between and within nations (Roseland, 2000: 76).

The state of the environment along with conflicts about it has fostered the urgent need for the global community to take environmental problems seriously. Continued economic growth without considering the effect it has on the environment is no longer sustainable. The global community has slowly come to realise the significance of protecting the environment and the need to balance economic growth and environmental concerns. Consequently, the concept of sustainable development has been introduced as a framework for the search of the solutions.

Many environmental problems are global issues that concern everyone. The problem needs to be taken seriously at all levels - local, regional and global. The concept of sustainable development is one in which all units of society need to work together to protect the environment. Countries around the world are gradually adopting policies and plans to restore and to improve the state of the natural environment. However, without engaging all units of society, such plans cannot be achieved. Action needs to be taken at the grass-roots level and in horizontal and vertical social relations (Kapoor, 2001).

According to Bangkok's recycling program, it was evident that there was a limited collaborative relationship between the state and citizens in working to manage the solid waste problem. It was a significant impediment contributing to an ineffective implementation of policy. The following section discusses those impediments that widen the gap between the state and citizens.

7.4.1 Working Together: The State and Civil Society

Public policy and planning have been a focus of intense research in environmental management. Planning approaches have been developed in response to the changes in the social, economic, and political contexts of society. Capitalism benefits certain groups of people in society. Wealth is not equally distributed but concentrated instead in small elite groups. Power, inequity and poverty are evident problems in many countries around the world. As society is increasingly pluralistic and conflicts take place in every social sector, it is no longer effective for the state to use 'command and control' planning as a tool in legitimising its policies or solving problems (Friedmann, 1998).

To resolve a multifaceted problem, planning theory has gradually changed to focus on a decentered, democratic, and pluralist strategy to improve the planning and decision-making processes. Planning is no longer the sole domain of the state. Contemporary approaches also welcome the participation of civic institutions. The communicative, advocacy and empowerment models of planning emphasis increased participation of affected stakeholders so that their voices are heard and their concerns considered in any solutions developed (Hudson, 1979; Healey, 1992).

The role of planner has changed from being a centralised and technocratic planner to a advocate, facilitator, and supporter who works closely with local people and assists them with technical knowledge and information (Forester, 1989; Healey, 1992). Through an open communication process, participants are allowed to express their views and opinions on any issue. Negotiation, debate, reasoning, and argument are encouraged among the participants in the planning process to come up with collective decisions (Healey, 1992; Sandercock, 1998b). Also, in the interactive planning model, local knowledge that has existed in everyday experience is considered a major source of planning knowledge (Hudson, 1979; Friedmann, 1987; Huhtala, 1999). To get people involved in this process, the state needs to put more effort into strengthening the capacity of civil society by working more closely with local people. Public participation is crucial.

Participation is concerned with ensuring the planning processes are fair and effective. Through participation, stakeholders may develop trust, social networks and commitment to an agreed outcome (Buchy and Race, 2001). However, public participation will not be sustained if power structure remains centralised and not accountable and opportunities to influence outcomes are not available. Corruption and an unfair hierarchical system are other impediments to effective public involvement. People who hold power can manipulate the process and easily exclude powerless groups from it. Therefore, to gain trust from the public and have accountability and openness, many have assured that it is necessary for the state to devolve power to the local authorities (Ribot, 1999).

Decentralisation is said to enable the state to work closely with local people through the local authorities. Local authorities are more flexible in terms of managing, mobilising, and responding to local people's needs. It helps to close the gap between the state and civilians (Doyle, 2001; Ribot, 2002; Lane *et al.*, 2004). Additionally, by continuing to work closely it will create social capital in both vertical and horizontal social networks, which therefore strengthens local governance (Putnam, 1993; Roseland, 2000; Daniere *et al.*, 2002). However, putting this principle into practice requires decentralisation of power arrangements and compromises between political and social institutions.

In Bangkok's recycling program, the combination of centralised state, top-down planning, and the weakness of Thai civil society, and the absence of institutional linkages, were the main impediments to good environmental management in the city. The next section determines the implications of policy planning for Bangkok's recycling program. The lack of coordination between the state and the citizenry in managing solid waste is examined.

7.4.2 What is Missing: The Recycling Program of Bangkok

As discussed previously, deference to hierarchy and bureaucracy had deep roots in Thai culture. The political culture has influenced how society responds to issues in everyday life. It was evident particularly in the relationship between the state and citizens regarding politics (Douglass and Zoghlin, 1994; Daniere, 1999c). Citizens, as noted previously, were considered to be merely passive recipients of state policy. The centralised, top-down policy and decision-making system has impeded the development of a robust civil society and has ensured low level of citizen participation. The Thai state has relied heavily on a mode of planning in which hierarchy based on the expertise of a planner was the core of the process. Technical knowledge was largely considered to be the main source of planning knowledge and was used as a means for decision-making. Public participation in planning and their local knowledge were considered irrelevant. For instance, Bangkok's recycling program was designed to decrease the amount of recyclable material from the current waste stream by encouraging residents to separate their waste before discarding it. The plan was developed and applied to every community in Bangkok without any

initial study being conducted on existing waste management situations in various suburban communities. In effect, public perceptions and opinions about household waste management and the existing informal waste system were left out of planning and decision-making. The next section discusses crucial factors that have contributed to the failure of the policy - planning mode, centralised governance and diffused civil institutions.

7.4.2.1 Planning Mode

The case study illustrated the drawbacks in the planning undertaken. By using the assumption that Bangkok was a harmonious society working as one unit, the state concluded that a single plan would work in every community. However, the recycling program has failed to deliver the policy due to the nature of Bangkok in which there was great variation in people's socio-economic status. Slums and squatter settlements were located in and near the centre of the city among high-rise buildings. The conflicts in environmental management between and within different institutions were therefore evident. In many low-income communities, the infrastructure was inefficient, so that piped water and solid waste services were creating environmental and health problems. People's perceptions of the issue were influenced by their economic circumstances. For example, according to the fieldwork results, economic inducement tended to motivate the low-income group to participate in the program. On the other hand, it did not trigger many responses in the high-income group.

The scientific-oriented mode of planning led to a failure in responding to and dealing with complicated problems. Solid waste management was not only technical problem in which scientific tools could be used to solve it. As this study has shown, it involved a number of social, political and economic variables. Therefore local knowledge and the everyday experiences of the citizens as well as their needs, priorities, beliefs, and values were equally important and needed to be taken into account in the planning process.

According to the fieldwork data presented, low-income residents tended to participate in an informal system that existed in the community, rather than be involved in the recycling program. The informal waste system was not only an environmentally sound alternative; it also financially benefited the residents. However, the central planners gave insufficient attention to local knowledge and this led to low participation rates in the program. The absence or minimal public participation in the planning process led to it not being very well accepted and thus minimal commitment to it resulted (Pennington and Ryding, 2000; Buchy and Race, 2001). The case study is a good illustration of some of the pitfalls of this approach to planning. Since the planning and decision-making power was dominated by the state, the citizens did not get to express their perceptions or opinions during the planning process. However, citizens were encouraged to participate in the implementation stage. In this case, the citizens were treated as passive receivers who did as the state directs. This top-down planning practice not only suppressed public participation, but also widened the gap between the state and the citizens. Local people did not feel connected to the state especially the low-income groups who did not have any resources to access services. The fieldwork for this study has shown that the state's education program has failed to disseminate the correct information adequately. Citizens were confused about how to separate their waste. The fact that power in Thailand was concentrated in the state created an impediment in developing an effective and meaningful bottom-up approach. The next section discusses the state's centralised governance approach and the implications for planning.

7.4.2.2 Centralised Governance

The BMA was a large bureaucratic organisation where the policy and decision-making powers were concentrated and centralised. Policies and plans were produced by the BMA's responsible departments and passed on to the district offices, which acted merely to carry out the policies. Under the 1997 constitution, the central government needs to transfer its powers and resources to the local level in order to make local governance work. However, in practice, the entrenched political culture and rigid hierarchy have continued to be malign influences, and those in power were reluctant to let go of that power (Kapoor, 2001).

The devolution of the BMA's power could not be considered to be real decentralisation, but rather an example of administrative decentralisation. It means in effect that some power and decision-making were transferred to local government departments such as district offices, but the real authority remains in the hands of the central government (Ribot, 2002). In this situation, the district office did not have enough power or resources to mobilise and respond to local needs but only acted according to the wishes of the central government. Due to the realities of centralised government, public participation was not welcomed by the elites. Governance activities were monopolised by the state. The system itself excluded the public from engaging in the process. The relationship of the state and the country's citizens was in the form of patron and client. The vertical context of the network was also minimal in that when the state seeks public participation in the program, the citizens did not feel responsible or committed to it. Genuine decentralisation is essential in order to enhance the whole waste management issue, and to make this a reality the civil institution arrangement is crucial.

7.4.2.3 Diffuse Urban Civil Society

In a mega-city like Bangkok, the environmental concerns of different urban groups focus on those issues that particularly affect their everyday lives, such as air pollution, traffic congestion and solid waste problems. However, efforts of Bangkok's residents to restore or prevent environment pollution are contradictory.

It needs to be noted that an environmental movement in Thailand was far more active among the rural grass-roots group, not the urban group. Urban people generally took the view that environmental issues were the responsibility of the central government (Suwarnarat and Luanratana, 1993; Panya and Sirisai, 2003). It can be stated that the major differences reside in the degree of social capital and the community spirit that has developed within each income group. In a city, people tended to be more independent and perhaps relied less on other since they had sufficient resources and a competitive lifestyle. Therefore social exchanges and networks were less important. Thus when social capital was diffused, a community's capacity to mobilise and act collectively was weakened. Therefore, getting an urban community to act in unison in the name of environmental protection remains an important challenge.

7.5 Conclusion

This chapter firstly addressed the role of the state in policy-making, planning and implementing environmental management. Thailand has long had a centralised and bureaucratic state, with deep cultural roots and political practices and traditions. Under the new Constitution (1997), public participation was recognised and decentralisation was assumed to deliver good governance. The processes, however, involved transferring power and resources from central to local government. Even though the new political arrangement has been put in place, Thailand's political culture was the main impediment to decentralisation.

The Thai administrative system was very centralised. In the case of Bangkok's recycling program, the centralised administration dominated policy-making and planning processes. A centralised, rational approach to planning failed to solve the solid waste problem. It overlooked local knowledge and differences in resident's economic status in which were crucial information in planning. Public participation was limited and therefore residents did not feel responsible for or were able to engage with the program. Residents were considered to be mere recipients of policy implementation. The structure of governance tended to discourage citizens participation. Another significant issue was that the political culture and system of hierarchy were impediments to devolution. The BMA was a large local government bureaucracy. Decentralisation was pursued to embrace the effectiveness of policy delivery. However, administrative decentralisation was pursued rather than complete decentralisation. The district level acted as a remote office still under the control of a central office. Decision-making and resources and allocation of authority largely remained under centralised control. Thus, the flexibility in working with residents at the district level was limited.

Since current thinking in planning emphasises the role of civil society, section 7.3 examined the role of civil society in the context of public participation in environmental management. Civil society in Thailand has grown over time. It has an important role in political reforms and also in environmental management. Civil institutions were formed to protect their interests and confront the power of the state. However, it needed to be noted that civil society was more robust in rural areas where

members were homogeneous in terms of social and financial status. Their stock of social capital was high due to an intense personal exchange and social networks. On the other hand, in the case of Bangkok, civil society was diffuse due to differences in socio-economic status, livelihood and lifestyles. Bangkok is the centre of economic, political and social dynamism in the country. Rural migration was a major cause of rapid urbanisation. Most migrants were poor and worked in low-paying jobs. As a result of uncontrolled population growth, environmental degradation, short of infrastructure, and slums were common. It also increased the gap between urban rich and urban poor and thus had a marked impact on social dynamics and network among residents. Middle to high-income groups was more secure about their financial and social status, and they tended to be more independent. There was not much motivation for them to mobilise to protect their interests. Therefore, their sense of civil society was not strong. In contrast, low-income groups had a stronger sense of community due to their limited resources and inequity in accessing information and public services. Community members stucked together to protect their interests and pursue their needs. Social capital was built up through intense social exchange. However, strong civil society did not exist in every community. Low-income communities consisted of temporary migrants who came from different provinces. Their period of stay and their origins influenced the development of social capital and therefore reflected their participation.

Environmental management program requires collaboration between the state and citizen to work together therefore section 7.4 examined the significance of the collaborative relationship between the state and civil institutions in working together to develop an environmental management plan. Due to the Thai state's political and administrative structure, public participation was limited. There was in effect a communicative gap between the state and citizens. In addition, the civil institution was not well organised and diffused. As a result it was difficult to act collectively or to participate in the process effectively.

To sum up, the top-down planning approach in which it was assumed that society was harmonious and local knowledge was not necessary and was no longer sufficient to solve environmental problems. These problems were not only scientific or technical ones but also involved economic, political and social variables. A planning approach

that recognised the multifaceted nature of environmental problems is needed. The public involvement of various stakeholders must be addressed at every step of the process. Planners need to act as advocates and facilitators to assist and shape the policy-making process and to ensure fairness and equity.

The power of the state needs to be transferred from the centre to the localities so that local officials can act efficiently and productively, and in the interests of the citizens they are supposed to represent. Through this process, transparency and accountability will improve and democracy will be enhanced. Local institutions need to be strengthened through the building of social capital. Community programs and education programs can help to encourage and reinforce Bangkok's social networks, as well as improve the links between the civil society and the state.

The next chapter concludes this study, makes recommendations on policy-making and outlines possible planning actions. Topics for future research are also proposed.

Chapter Eight

Conclusion and Recommendations

8.1 Introduction

This chapter will conclude with a discussion of the significance of the findings in this study, and answer the research questions outlined in Chapter One. Solid waste was a major problem in an urban area such as Bangkok areas where the population is increasing and changing lifestyles are leading to an increasing volume of recyclable materials as waste. A recycling program has been implemented in Bangkok areas to minimise the volume of solid waste. Public participation in recycling was a crucial component of the program's effectiveness. However, the level of participation of Bangkok's residents in recycling was relatively low. Solid waste management was not only a technical problem but it also a phenomenon involving economic, political and social issues. This study concerned itself with the effectiveness of the recycling policy in order to improve Bangkok's solid waste management system.

The study looked at public participation as a means to achieving better policy delivery from two different perspectives. Firstly, the study examined how policy-making and planning processes shape the way the public becomes involved and how that affects the pattern of public participation as a whole. The principles of public participation and decentralisation were examined and employed in order to appraise the planning practice of the case study. Secondly, this study explored Bangkok residents' public perceptions of the recycling program, in order to better understand how they respond to the solid waste problem and the recycling policy. The study investigated the impacts of various sociological factors that Bangkok residents had when they engaged in recycling behaviour. The results were then used to explain public perceptions and participation patterns regarding the recycling program.

The study employed both quantitative and qualitative research methods to enable an interpretation of the problem to be established. An analysis of documents and a literature review were employed to dissect public policy and the BMA's planning practices regarding solid waste management and the recycling program. Other sources of data such as government/departmental reports, statistics, records and related past studies were examined and triangulated. Additionally, the study conducted one in-depth interview with Bangkhuntean district's local officer concerning the recycling program and BMA's administrative system. The questionnaire surveys were conducted using sociological factors as variables to obtain data from Bangkok's residents regarding their recycling behaviour and their perceptions of the recycling program. The raw data from the questionnaire were analysed using the Statistical Package for Social Science (SPSS) software. Correlation tests and frequency tables were used to present this data.

This chapter will first present a summary of the key findings. Then, recommendations about environmental planning practice and decentralisation will be made with a view to improving policy effectiveness and decision-making processes. Furthermore, public participation and local empowerment in planning are encouraged to promote local governance and democracy. Lastly, future study will be recommended to pursue the issues and other aspects of the problem in more detail.

8.2 Summary of the Key Findings

According to the results of this study, it was clear that the effectiveness of the recycling program was constrained by various factors. There were three main issues that explained the weaknesses of the recycling program and the public participation pattern of Bangkok's residents in the solid waste management program. Firstly, the BMA's centralised administration and rational planning approach only allowed a limited amount of public involvement. Furthermore, the hard-to-break tradition of centralised governance in Thailand worked against the decentralisation process and thus compromised local government's ability to work with citizens. Secondly, differences in Bangkok residents' socio-economic status significantly contributed to their recycling behaviours. It also explained how civil society was constructed in various types of community. Thirdly and lastly, there was a lack of communication

between the state and citizens when it came to collaborating to make the recycling program work. The next sub-sections will summarise the findings of these three issues.

8.2.1 Centralised State and Rational Planning

The result of the study revealed significant issues that explain some of the constraints to the effectiveness of Bangkok's recycling policy. The recycling program was another public policy that resulted from centralised Bangkok planning. This was a result of Thai political culture in which bureaucracy and hierarchy have deep roots. Citizens were considered to be merely on the receiving end of government directives and policies, etc., and therefore had only a passive role to play in governance activities. The process systemically discouraged public participation in both planning and decision-making processes. It influenced the way citizens respond to policy. Citizens did not have a sense of commitment to policy because they did not become involved in the processes. Thus, the recycling policy failed to respond to the nature of the problem, and due to the variance in the socio-economic circumstances of Bangkok's residents, did not suit all the citizens' needs and lifestyles.

Firstly, the program was designed and planned by the BMA planners at the head office and passed on to the district level. The district level, with no decision-making or planning power, acted as a remote office of the BMA, and implemented the plan accordingly. It played a minimal role in the planning process. There was no initial study on the current community waste management strategies in place in various Bangkok communities. The same plan and strategy were applied to every community and ignored the differences between the communities and their waste management needs. More importantly, no assessment program after implementing the plan was carried out to assess its effectiveness.

Scientific data were considered to be the major sources of information and knowledge in planning. With minimal considering local knowledge, practices, and resources existing in the community, the plan that was enacted omitted significant information. The informal waste system consisted of local knowledge and practices that existed in many communities. It meant buying back recyclable materials from households.

Through this practice the local residents benefited by being paid a small amount of money by selling recyclable waste, and also improving their environment. Moreover, the practice itself built up the social connections and networks between residents and waste buyers. However, the informal waste system was considered illegal and did not receive official recognition or financial support.

Overlooking public perceptions of the recycling program in the planning stage also resulted in resident's lack of commitment to participate in the program. The planning process did not have any space for the public to get involved, neither as informants nor as taking part in the decision-making process. The residents did not have the opportunity to express their opinions. Instead, they were viewed as recipients of state edicts. Therefore, the sense of community responsibility and commitment to the program was minimal and participation was relatively low.

Even though the Thai government has implemented a decentralisation approach to promote public participation, it is still, however, at an early stage. The Thai government needs to dismantle the old political culture and genuinely embrace the principles of decentralisation and develop sufficient means to transfer efficient power and resource to the local level. The issue of insufficient power and resources being transferred was still evident in the BMA; they were important impediments that negate the effectiveness of policy implementation.

With no public involvement in the planning process or preliminary study of local communities, the variety of responses from different resident groups varied greatly. The influences of sociological factors on participatory behaviour also varied according to individual characteristics such as education level, social, political and economic status. In the next section, the influences of sociological factors on public perceptions toward recycling are summarised.

8.2.2 Sociological Factors and its Impact on Recycling Behaviour

This study explored Bangkok residents' perceptions of the recycling program, in order to better understand how they respond to the solid waste problem and public policy. Bangkok's residents vary greatly according to socio-economic status. The gap between rich and poor was evident and it led to an inequity between groups in terms of receiving public services, access to information and people's relationship with the state. Individuals therefore viewed the problem differently according to their circumstances. The results showed that there were two sociological factors that had an impact on residents' recycling behaviours, which were economic inducement and personal convenience. Economic inducement and scheme convenience were not a major concern for high and middle-income groups in relation to recycling. It was due to their economic status in a society enable them to have sufficient resources to access public services. Therefore they felt no inclination to become involved in or mobilised for recycling action. Residents in these groups were socially independent because they lived a busy and competitive lifestyle. Thus social networks were diffused. It can be concluded that high-income groups did not become involved in collective or community recycling to any great extent.

On the other hand, low-income groups were concerned about economic aspects and the convenience of the recycling program. Due to limited resources and accessibility to public services, low-income groups did not respond to a formal recycling program that did not suit their lifestyle. Instead, they preferred to recycle through an informal waste system. Low-income groups tended to participate in community activities more so than higher income groups. However, not every low-income community had strong social bonds; they depended to a large extent on existing social institutions and the setting or environment in which they existed. Low-income communities in Bangkok mainly consisted of rural migrants. Therefore newly arrived residents' length of stay and their origins significantly influenced social capital and therefore their participation rate.

There was much confusion among the majority of residents on how to recycle waste. The definition of waste was unclear as was misunderstanding the reason for different coloured containers. The BMA's education program did not cover every Bangkok community. The main source of information for most residents was television, to which some low-income residents did not have access. The residents felt the need for clear information on recycling procedures. Direct contact from state officers to explain the program was the preferred information method in order to clarify any misunderstandings. It was clear that the low-income group had less access to the state resources. For instance, they did not have access to the information and education campaigns from the state about the recycling program. This was an important issue that highlighted the insufficient connection between the state and the residents in working together to solve the environmental problem. The state's top-down approach has widened the gap between the government and the people, and the insufficient nature of the education program was a good example of this.

8.2.3 Gap between the State and Citizens: Communicative Distortion

The recycling scheme encouraged residents to voluntarily separate recyclable materials from other household wastes. The information about the recycling program was delivered through various sources, both directly and indirectly, by the state officers, such as door-to-door, television, radio and pamphlets. However, there were many cases of misinformation and misunderstanding about the scheme. In addition, the information provided directly by state officers to the citizens was significantly less than other sources. Therefore, misunderstandings and confusion about the scheme occurred easily. More importantly, there was no formal assessment program of the education campaign to evaluate its effectiveness.

This illustrated the gap between the state (as symbolised by the BMA) and the residents, which was caused by the "top-down" planning approach and centralised state power. The lack of any horizontal connections between the state and the residents discouraged public participation in the planning and implementing process. The process automatically minimised public involvement. Therefore, the residents did not feel responsible for the plan. Instead, residents expected the state to take full responsibility in providing the services and solving the environmental problems.

Moreover, the civil institutions of Bangkok were weak and social capital was diffused due to the sharp differences in resident socio-economic status. High and middle-income residents in Bangkok had an urban lifestyle and did not have a community-minded outlook or related connections. Therefore, social connection was minimal. On the other hand, the low-income group did have stronger social bonds but this did not apply to every low-income community. Social capital was built up by social exchange in forms of reciprocity or communicative actions. The period of residence in a community was an important factor indicating the amount of social capital that existed. The longer the period of stay, the more social exchanges and social capital were built up. Some new low-income communities were made up of residents who migrated from rural areas for temporary employment in the cities live in a community where low social exchanges and few networks existed between people. All in all, the civil institution in an urban area such as Bangkok was considered weak. Therefore, encouraging collective action and mobilising people for participatory activities is still a challenge.

To conclude, Bangkok's recycling program was an example of public policy and planning that employed a "top-down" model, and further consolidated the reality of centralised power. Local government and the general public had a minimal role to play in the planning and decision-making processes. Instead, they were treated passively. Public opinion and local knowledge received only limited consideration in the planning of Bangkok's waste management system. The plan did not take into account the nature of local communities, but was instead a case of 'one model fits all'. Civil society in Bangkok was relatively weak and diffuse due to local residents' differing socio-economic circumstances.

The study illustrated various weaknesses in the planning approach, governance, and civil institutions that led to the recycling program being ineffective. In the next section, the study proposes a community-based waste management model. Additionally, recommendations on the policy-making, planning, decentralisation and community empowerment processes are made in order to improve the program's effectiveness and sustainability.

8.3 Proposed for Improved Waste Management in Bangkok

In conclusion, public participation in planning and decision-making process was minimal and thus was a crucial weakness that led to the failure of the recycling program. Local needs and issues are best handled by local people (UNCED, 1992; Ribot, 2002). This study proposes a more resilient mode of solid waste management program in which each community fully participates and carries out a solid waste management program with some forms of alliance and assistance from outside organisations. A community-based waste management program promotes self-governance sustainable environmental management.

This study demonstrated certain differences in public perceptions toward solid waste management linked to residents' socio-economic status. It is necessary that each community has a direct input in constructing and implementing a solid waste management plan that suits and responds to the needs and lifestyle of the community members. This approach will sustain the program since it is collectively done and agreed by community members. It will benefit local people environmentally, economically and socially. An effective solid waste management will directly benefit the local environment. It will improve livelihood conditions and therefore increase the standard of living in communities.

The results from this study also pointed out the economic potential of selling recyclable materials in an informal waste system. The informal waste system is a local knowledge that many residents practice beside the formal waste system. In many developing countries, an informal waste system has long been practiced and has proved to be an effective approach in solid waste management. It creates employment opportunities and income (Furedy, 1989; Baud *et al.*, 2001; Bentinez *et al.*, 2002; World Bank, 2003). In Bangkok, the informal waste system involved many groups of people - the urban poor such as three-wheelers, waste pickers, and junk shops. The system helps to support many low-income residents. However, it was poorly organised due to lack of support from the state. Therefore, it was not fully effective and sometimes created disturbances such as untidiness, poor hygiene, and traffic. This study proposes that the informal waste system should be formally introduced and supported by the state to communities that prefer economic inducement especially

low-income communities. There are various successful examples of community-based programs that have adopted an informal waste system in order to manage solid waste. For instance, in Phitsanulok province of Thailand, a community garbage bank is organised by local youth to buy back recyclable materials from communities and sell it to a private waste trading company. Another example is a school garbage bank managed by students with support from teachers and parents. Students bring recyclable waste in to receive cash (World Bank, 2003). This scheme can be replicated in any kind of community or organisation. The scheme not only entails economic and environmental benefit but also enhances social bonds among members. This will reinforce social capital of community, which is a crucial component in the civil society.

Not only communities will benefit from a community-based solid waste management approach, but also the state agency in terms of the program's cost-effectiveness. The community-based approach will help the state to save money from handling recyclable waste by reducing waste handling cost such as collection, transportation and disposal cost. In addition, instead of being in total control, the state would only assist the community to enable them to carry on a community program.

This study proposes a community-based waste management approach for Bangkok's community. It is sustainable and cost effective. In order to reach the goal, public policy and planning approach need to be changed to support and enable communities to develop and implement a waste management program. In addition, the community itself needs to strengthen its capacity to carry on the program. The next section provides recommendations on public policy and planning as well as community capacity building.

8.3.1 Recommendations on Public Policy and Planning Process

In a democratic society, policy making and planning are no longer fully controlled by the state. The core principle of the process is that it represents and responds to the interests of the citizens (Petkova *et al.*, 2002). Especially in the field of environmental management, policy-making and planning concern many stakeholders and their participation and actions are crucial in solving and protecting the environment. The

environmental issue is not only a scientific or technical problem, but also involves social, economic and political themes. Everyone in society is affected by the environment and therefore they are responsible for it. Thus, public policy and planning need to take public interest and their willingness to participate into account. The concept of sustainability puts the emphasis on public participation and self-governance in managing the local environment. Environmental issues are best handled by local people who actually deal and live with those issues every day. For this reason public policy and planning need to reflect and respond to local needs. Using an appropriate planning approach is a key component in mobilising and enhancing or improving the process. This section will outline recommendations on public policy making and planning regarding sustainable environmental management.

8.3.1.1 "Bottom-up" Planning Mode

The "bottom-up" planning approach needs to be implemented in Bangkok, especially in regard to environmental planning. Various components are required in order to enhance this process. Firstly, the emphasis on planning needs to shift to the local citizens as the centre of the process. Citizen's local knowledge and practices must be considered as part of planning information. The initial study of the target area or community is needed in order to obtain local information on the characteristics of community members, living conditions, social networks, and knowledge. This information will then be put into a database that will be used as the planning information. The initial community study would include:

- The quantitative and qualitative characteristics of the solid waste from different types of communities,
- A survey of the accessibility of public services offered by the BMA,
- A survey of public opinion on the current solid waste management service provided by the BMA, and
- A description of social and political structure of the target areas/communities.

This process will improve the quality of the information required for the initial planning stage. The quantitative and qualitative characteristics of the solid waste and the survey on public service provide an overview of the problems. These data could be used to improve public services in the needed areas. In addition, the study of public perceptions and community structures present the issue from the local citizens' points of view. Through the process, the citizens can express their opinions and needs directly to the planners. The vertical network between the planners and the citizens is built up through this process. Communicating with citizens will help the planners to identify the social networks within the communities and make the implementation processes easier to carry out.

Secondly, the role of the planners needs to change from a technical and theoretical bias to becoming advocates and facilitators who can work closely with the citizens at the community level. Planners from both the BMA head office and the district offices need to go into the communities and communicate directly with the citizens. This will greatly assist in promoting trust. Communication skills are crucial in getting citizens to understand the information given to them. Information and technical assistance from the planners are needed to strengthen the community's capacity to become involved effectively in the waste management process. In short, the message needs to be clear and easy to understand in order to reach the receivers effectively. A proper mode of information delivery that suits the receivers is important.

Thirdly and finally, working together with Bangkok communities is not a one-time or one-off process. The planners need to continually assist them in other aspects of life as well. Monitoring the communities' waste management activities needs to be put in place to assess its effectiveness in order to continually improve the strategy. The continued operation of the state officers and citizens will reinforce social capital both horizontally and vertically. The state will gain the trust of the citizens and therefore close the gap between these two groups.

8.3.1.2 The Recognition of Public Participation in the Planning and Decision-making Process

According to Thailand's new constitution promulgated in 1997, public participation is promoted and encouraged in protecting the natural environment. However, in practice, public participation is not well addressed in the planning or decision-making processes. The recognition of public participation is crucial to define the problems and develop solutions. The state both at the central and local levels needs to genuinely acknowledge public involvement, not only in the implementation stage but also in the planning and decision-making stages. Therefore, public participation should be included in the planning process as early as possible.

The citizens should be well informed and consulted by the state about waste management problems and how to become involved in constructing the plan. Meanwhile, the planner's role is crucial in mobilising the public to become involved. The community leaders are also the important actors whom planners need to be able to identify and contact in order to work with the communities. Social networking is another crucial component in mobilising and using information channels. Through the community network, members can obtain access to information, to express their needs and to contribute their efforts to the process. The residents are the centres of the process and any effective waste management plan needs to fit into their daily practices. The planners, as the facilitators and advocators, will give support to the community needs in terms of information, and technical and financial aspects. The political and authority structure of the process needs to be clearly stated at the beginning to prevent conflicts over the outcome.

In order to get people to participate in the environmental protection program, public participation needs to be acknowledged in the planning and decision-making processes. A "bottom-up" approach promotes public participation in which a plan is initiated by local communities with the state's assistance. Local knowledge and resources must be utilised to maximise people's capacities to carry out environmental protection activities.

8.3.2 Recommendations on Decentralisation and Community Capacity Building

This section provides recommendations on the decentralisation processes and community capacity building approach in relation to promoting a sustainable environmental management and good governance policy. To recognise public participation in the public policy-making and planning process, a genuine decentralisation of power and responsibility is crucial in making local authorities truly effective. Decentralisation should be used as a means to deliver assistance from the centralised state to the local authorities to ensure they can work well with local communities. This will enable local governments to respond to local needs more effectively. In addition, local institutions need to be reorganised and empowered to strengthen their capacities in order to participate in the waste management process.

8.3.2.1 Genuine Decentralisation

Decentralisation is emphasised in the current Thai constitution as a means to promote good governance and fight corruption. The principle entails democracy by promoting citizen's right to participate in local government. In the case of the Bangkok Metropolitan Administration, as an arm of the central government, it needs to implement the decentralisation process local government institutions, which in this case refers to the district offices. In order to accomplish this goal, the BMA needs genuinely to implement the following policies:

- Transfer sufficient and appropriate authority and resources in terms of financial, human and technical support to the districts level.
- Provide an education program on decentralisation which includes the principles, significance, and procedures for government officers at every level in order to inform the changes.
- Establish clear procedures and practices about the process to guide officers.
- Rearrange and clarify the power structure of the BMA to avoid overlap of authority and resulting conflicts.
- Provide human resource training programs for local officers.

- Develop a monitoring program to evaluate the progress and efficiency of the process continually.

8.3.2.2 Community Capacity Building

In order to make decentralisation work, the civil society needs to be able to take and utilise the power efficiently. Accessing the information is crucial for the public in order to participate in the process. Accessing this information is considered as a powerful tool to negotiate and interact with others in the process. In addition, community collective action is the core component that drives a strong civil society. Therefore, social capital in the community is needed to be built through community interactions and activities. The state can contribute to community empowerment by various means, such as those outlined below:

- Establish different information channels which every member of the public can access regardless of their social status or limited resources.
- Organise an environmental education program to provide information and knowledge to the communities.
- Provide workshop and assistance to enable community in carrying out community activities.
- Facilitate not only environmental protection activities, but also social welfare activities that would improve both the horizontal and vertical social networks.
- Encourage community members to take part in social activities.

8.4 Future Research

There are two major themes that this study has shown to need further detailed research. Firstly, a study of the decentralisation process and its impact on the political culture in Thailand is essential. This can lead to an interesting exploration of how well political culture can adjust to the changes in order to find an appropriate way of initiating decentralisation. Secondly, a study of the community empowerment process needs to be given serious consideration particularly as Thailand encapsulates many different types of urban communities. Their character and the dynamic forms within

them need to be analysed in order to develop effective strategies that will enhance the waste management process, and thereby improve overall environmental setting.

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APPENDICES

Appendices A: The number of Bangkok's low-income, middle-income and high-income communities in each district

Number of communities in the Inner area of Bangkok

No	District	Community Type		
		Low-income	Middle-income	High-income
1	Phra Nakorn	11	-	-
2	Pamprab	14	-	-
3	Sampanthawong	20	-	-
4	Patumwan	11	-	-
5	Rajatawee	21	-	-
6	Bangrak	15	1	-
7	Dusit	40	-	-
8	Payathai	13	-	3
9	Bangplad	37	-	-
10	Bangkok Noi	34	1	1
11	Bangkok Yai	32	-	1
12	Sathorn	18	-	6
13	Yanawa	27	-	-
14	Bangkolam	27	-	-
15	Bangsue	47	-	2
16	Klongsan	44	-	-
17	Thonburi	45	-	-
18	Jatujak	24	-	4
19	Huakwang	21	-	2
20	Dindang	15	-	1
21	Klong teoi	39	-	1
22	Watana	16	-	2
Total		571	2	23

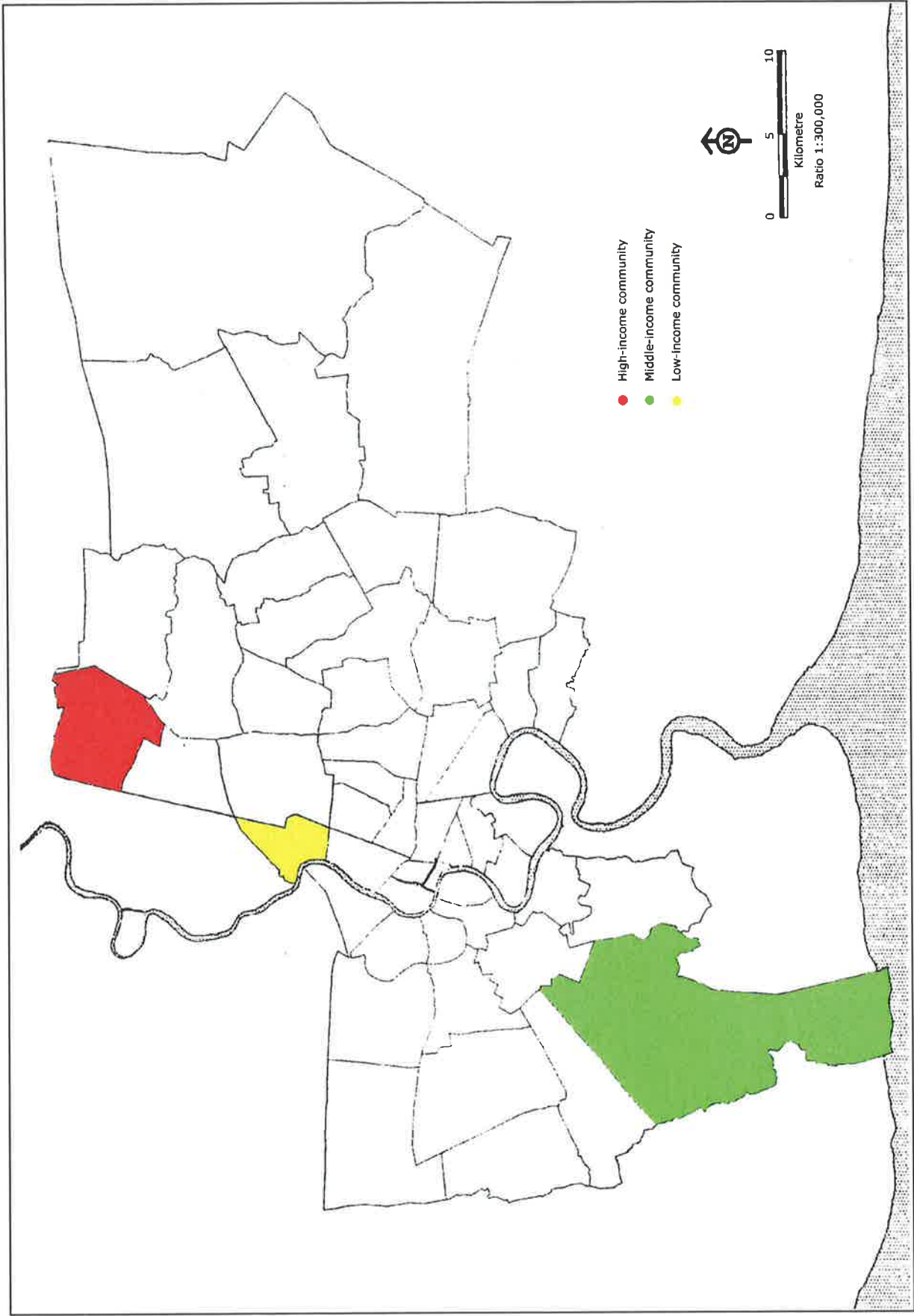
Number of communities in the middle area of Bangkok

No	District	Community Type		
		Low-income	Middle-income	High-income
23	Donmuang	19	2	38
24	Laksri	44	-	8
25	Bangkean	26	3	18
26	Saimai	20	6	29
27	Ladprow	5	2	12
28	Bangkapi	17	4	5
29	Bungkum	18	1	16
30	Wangtonglang	14	-	1
31	Kannayow	10	4	9
32	Sapansung	4	16	1
33	Pakanong	28	-	10
34	Bangna	19	1	16
35	Praveit	4	24	5
36	Suanluang	30	-	5
37	Talingchan	5	20	-
38	Taweewatana	-	4	3
39	Pasrijareon	35	1	4
40	Bangkae	27	9	4
41	Nongkam	8	35	6
42	Rajburana	28	-	4
43	Tungkru	13	2	-
44	Jontong	38	4	4
Total		412	138	195

Number of communities in the outer side of Bangkok

No	District	Community Type		
		Low-income	Middle-income	High-income
45	Meanburi	1	26	17
46	Klongsamwa	-	49	8
47	Ladkabung	17	27	2
48	Nongjok	-	52	1
49	Bangkhuntean	8	17	9
50	Bangbon	-	7	1
Total		26	178	38

Appendix B: Bangkok's Sampling Communities



Part 2 Environmental Concerns

Please put a cross in the appropriate box

No.		Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1	Human beings rely on the environment.					
2	Everyone needs to protect the environment for the next generation.					
3	Natural resources need to be utilized at their highest value.					
4	Environmental problems have an impact on your daily life.					
5	You think everyone has a responsibility to the environment.					
6	You think everyone has to work together to solve environmental problems.					
7	You think solid waste problems are critical and need to be urgently solved.					
8	The shortage of landfill sites needs to be urgently solved.					
9	You think recycling is an alternative that helps to minimize natural resources consumption.					

Part 4 Education program and campaigns

Please put a cross in the appropriate box

Q1. Do you know that the BMA is now implementing a household waste separation program?

Yes No

Q2. Household waste can be separated in how many categories?

1 category 2 categories 3 categories

4 categories Don't know

Q3. What color is a bin for recyclable materials?

Green Yellow Grey

Red Don't know

Q4. Do you know what recyclable materials are?

Yes No Not sure

Don't know

Q5. Do you think the BMA needs to educate residents how to separate household wastes?

Yes No

Q6. Have you been given information from the BMA about household waste separation?

Yes No (Skip to Q.8)

Q7. What are the sources that you got information from? (Can choose more than 1)

BMA officers Pamphlets

Radio Television Other.....

Q8. Do you think lack of information and knowledge about waste separation are obstacles that prevent you from separating waste?

Yes No

Q9. Because you do not know how to separate waste therefore you do not separate waste

Yes No

Part 5 Personal Conveniences

Please put a cross in the appropriate box

No.		Agree	Disagree
1.	You think to separate waste is not worth your time.		
2.	You do not have time to separate waste because you are too busy.		
3.	You think waste separating is too complicated to do.		
4.	You think a waste separation process is dirty and disgusting.		
5.	You think to separate waste will require an extra bin which will cost you more.		
6.	If the BMA gives a bag or a bin for recyclable material to every household, you will separate waste more.		
7.	You think the BMA should increase the number of recyclable material bins in public places in order to maximize the accessibility to public.		

Part 6 Economic Inducements

Please put a cross in the appropriate box

Q1. If recyclable materials can be sold, you will separate waste more

Yes No

Q2. If the BMA has a recyclable material buy-back program, you will participate by separating your waste

Yes No

Q3. If the BMA increases waste collection service fees, you will separate recyclable materials from general waste to decrease the quantity of waste

Yes No

Q4. Have you ever sold recyclable materials?

Yes No

Q5. You think separating waste will help to increase income of the household

() Yes

() No

Part 7 Three-wheel waste picker and buy-back shop

Please put a cross in the appropriate box

No.		Yes	No
1.	There are three-wheel waste pickers come to pick or buy recyclable materials in your community.		
2.	There are buy-back shops in your community.		
3.	You think three-wheel waste pickers and buy-back shops are a suitable way to promote waste separation.		
4.	You think three-wheel waste pickers and buy-back shops should be promoted to increase their numbers to serve the quantity of recyclable materials.		
5.	You think if three-wheel waste pickers and buy-back shops are implementing systematically, you will separate waste more.		

Part 8 Waste separation behaviours

Please put a cross in the appropriate box

No.		Regularly	Seldom	Never
1.	You separate waste before discarding waste it for the local government to collect.			
2.	You sell recyclable materials to three-wheel waste pickers.			
3.	You sell recyclable materials to the buy-back shop			

Q4. Which recyclable materials have you sold (Can choose more than one)

- Glass Paper Aluminum
 Plastic Other.....

Part 9 Community

Please put a cross in the appropriate box

Q1. You regularly receive information from your community

- Yes No

Q2. Your community has been implementing activities or programs to promote the well-being of community members

- Yes No Don't know

Q3. You have participated in your community's activities or programs.

- Yes No

Appendices D: Table 3.9 Economic value of Recyclable Materials Recovered via the Informal System (baht/day)

Type	Product											
	Glass		Plastic		Paper		Aluminum		Metal		Total	
	Quantity (ton)	Value (baht)	Quantity (ton)	Value (baht)	Quantity (ton)	Value (baht)	Quantity (ton)	Value (baht)	Quantity (ton)	Value (baht)	Quantity (ton)	Value (baht)
Waste collection crews	185.56	123,288	94.75	284,250	127.75	357,700	8.04	160,800	-	-	413.10	925,978
Waste scavengers	257.03	173,495	167.13	501,390	395.78	1,108,184	167.33	3,346,600	439.20	570,960	1,426.47	5,700,629
Dumpsite waste pickers	2.91	1,964	3.62	10,860	7.47	20,916	1.63	32,600	3.30	4,290	18.93	70,630

Source: The Feasibility Study of Waste Recovery, Pollution Control Department, Ministry of Technology and Environment (1998)