

An Inquiry of Changes in Environmental Governance by Community-driven Process



A Bottom-up Approach on Solid Waste Management
in Agglomerated Locality of Bangkok

Nattawut Usavagovitwong

Die Untersuchung des Wandels in Umweltplanung und der Rolle der Kommunen

Ein Bottom-up Ansatz zum Abfallmanagement
im Agglomerationsraum, Bangkok

Dissertation zur Erlangung des akademischen Grades eines
Doktors der Wirtschafts- und Sozialwissenschaften (Dr. rer. pol)
im Fachbereich Architektur, Stadtplanung, Landschaftsplanung
der Universität Kassel

Vorgelegt von
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ZUSAMMENFASSUNG

Städtische Umweltabbau ist ein kritisches Problem unter industrialisiert umgestalteten Gesellschaften geworden, besonders im lokalen Bereich, wo die Kapazität von Verwaltungsbehörden hinter den Änderungen zurückbleibt. Abgeleitet aus dem Verwaltungskonzept wird die Idee der Zivilgesellschaftseinschließung hervorgehoben. Mit dem Fokus auf einer angehäuften Fallstudie, Bang Plee Gemeinde in Thailand, untersucht diese Forschung einen nicht-staatlichen Sektor, die Organization der 201-Kommune als einen Agenten für Änderungen, in städtischen Umgebungen die solide Müllsammlung zu verbessern. Um zwei Rollen wird gekämpft: Als ein Agent für die Nachbarschaft für interne Änderung und als ein Vermittler in der staatlich-zivilgesellschaftlichen Interaktion gegenüber den Verwaltungsänderungen. Durch Längsanalyse über eine Projektintervention als Forschungsexperiment werden die Ergebnisse von beiden Rollen porträtiert in drei Bereichen herausgefunden: Staat, Staat-Zivilgesellschaft-Wechselwirkung und Zivilgesellschaftsbereich.

Es wurde in der Forschung bezüglich des angehäuften Zusammenhangs herausgefunden, dass als innere Änderungen für die Umweltverbesserung die Operation bei der Müllverminderung nur ein minimales Niveau erreicht. Die gemeindenbasierte Organisation als ein Agent für Änderungen - trotz der Kapazität gab es noch Einschränkung in der Leistungsfähigkeit und Wirksamkeit - kann fruchtbar nur Personen und das Netzwerkniveau von Zivilgesellschaftssektoren mobilisieren, während sie im organisatorischen Niveau keinen Erfolg hat. Die positiven Ergebnisse resultieren durch den überflüssigen Wirtschaftsansporn, der mit einer beschränkten verpfändeten Gruppe, aber nicht mit dem Anstieg des Bewusstseins vereinigt ist. Als ein intermediärer Agent für die Verwaltungsbeteiligung kann die Organization der 201-Kommune den gegenseitigen Dialog mit dem Staat nicht aufbauen, ebenso kann sie die Operationsarena des Staates vom Abfallsmanagement nicht ändern. Die Ergebnisse schränken das Konzept der Verwaltungsbeteiligung ein, dass es nicht anwendbar im Ballungsraum als ein wirksames Ergebnis ist, sowohl in Bezug auf Instrumentalisierung zur Zivilgesellschaftseinschließung als auch Herausforderung zur inneren Änderung. Die Beteiligung an der Umweltverwaltung, wie in dieser Forschung zusammengefasst, kann lediglich eine Gemeinschaftsentwicklungshandlung sein. Es ist von der Zivilgesellschaftseinschließung

und Bevollmächtigung entfernt. Jedoch schlägt die Forschung vor, dass das gemeindenbasierte Umweltmanagement und die Beteiligung an der Umweltverwaltung mit Zivilgesellschaftseinschließung in der städtischen Umweltverbesserung noch eine erwartungsvolle Ansicht und erreichbar sind, wenn ihre Faktoren und Bedingungen des Schlüsselerfolgs und Misserfolgs mit einem besonderen Zusammenhang zusammenkommen werden. Weitere Studien verlangen mehr Präzision bezogen auf der Skala, dem Spielraum, und den Thesenfaktoren der Umweltverwaltungsakte, die von Zivilgesellschaftssektoren durchgeführt werden.

ABSTRACT

Urban environmental depletion has been a critical problem among industrialized-transformed societies, especially at the local level where administrative authorities' capacity lags behind changes. Derived from governance concept, the idea of civil society inclusion is highlighted. Focusing on an agglomerated case study, Bang Plee Community in Thailand, this research investigates on a non-state sector, *201-Community organization*, as an agent for changes to improve urban environments on solid waste collection. Two roles are contested: as an agent for neighborhood internal change and as an intermediary toward governance changes in state-civil society interaction. By employing longitudinal analysis via a project intervention as research experiment, the outcomes of both roles are detected portrayed in three spheres: state, state-civil society interaction, and civil society sphere.

It discovers in the research regarding agglomerated context that as an internal changes for environmental betterment, *201-Community organization* operation brings on waste reduction at the minimal level. Community-based organization as an agent for changes - despite capacity input it still limited in efficiency and effectiveness - can mobilize fruitfully only at the individual and network level of civil society sectors, while fails managing at the organizational level. The positive outcomes result by economic waste incentive associated with a limited-bonded group rather than the rise of awareness at large. As an intermediary agent for shared governance, the community-based organization cannot bring on mutual dialogue with state as much as cannot change the state's operation arena of solid waste management. The findings confine the shared governance concept that it does not applicable in agglomerated locality as an effective outcome, both in terms of being instrumental toward civil society inclusion and being provocative of internal change. Shared environmental governance as summarized in this research can last merely a community development action. It distances significantly from civil society inclusion and empowerment. However, the research proposes that community-based environmental management and shared governance toward civil society inclusion in urban environmental improvement are still an expectable option and reachable if their factors and conditions of key success and failure are intersected with a particular context. Further studies demand more precise on scale, scope, and theses factors of environmental management operation operated by civil society sectors.

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ABBREVIATIONS AND ACRONYMS

BSTM	Bang Sao Thong Municipality
CBO	Community-Based Organization
CBSWM	Community-Based Solid Waste Management
CODI	Community Organization Development Institute
CIDA-AIT	Canadian International Development Agency - Asian Institute of Technology Partnership
CTF	Chumchonchai Foundation
CWTE	Community Working Team for Environment
EBMR	Extended Bangkok Metropolitan Region
IEAT	Industrial Estate Authority of Thailand
MSWM	Municipal Solid Waste Management
NGO	Non-Government Organization
NHA	National Housing Authority
NPM	New Public Management
PPP	Public-Private Partnership
SEA-UEMA	Southeast Asia Urban Environmental Management Applications Project
SMCE	Small and Medium Community Enterprise
SPACO	Samut Prakarn Agricultural and Cooperatives Office
SWM	Solid Waste Management
THB	Thai Baht (currency)
UNDP	United Nations for Development Programme
UNEP	United Nations for Environmental Programme
USD	US Dollar (currency)

CHAPTER 1

INTRODUCTION

One of the pressing tasks for rapidly urbanized societies is environmental development. This has complicated ties to other social, economic, political and ecological dimensions. Despite a proactive focus on urban environmental problem, including prediction, precaution, and prevention, blueprint-based implementations have been insufficient and have failed overtime as political, legal, institutional, and management mechanisms lag behind rapid urban change. Urban sprawl and the insufficiency of urban infrastructures and services have generated a number of environmental problems; untreated wastewater discharge, poor drainage and sanitation systems, air pollution, and poor solid waste management.

No single approach is sufficient to tackle such complex urban development problems, particularly environmental issues resulting from external development embraced by certain urban political movements. Therefore, this research study aims to explore and contribute to an understanding of urban environmental operation. This includes not only state-led management, but also other stakeholders, specifically civil society's role in implementing better environmental planning, management and mechanisms.¹ In this chapter, the general ideas of the research will be discussed - background and rationale, research questions and hypotheses, theoretical assumptions and research methodology - respectively.

1-1: Background and rationale

Urban environmental planning and management as an issue has been widely discussed at every scale: internationally, continentally, nationally, regionally, provincially and locally. It has been linked not only to health and ecosystem problems, but also urban and economic development. Looking at these issues upon each other, The World Bank (2007) and United Nations Development Programme - (UNDP, 2007) determined that rapid urbanization is one of the salient causes of urban environmental depletion. At the current rate of agglomeration, it is expected that by 2020, half of the world population will live in urban areas (UNDP, 2007). Rapid urbanization, the rural-urban transformation pattern, has been labeled as a development curse of industrialization which very few localities

¹ One study focuses on a particular locality in Thailand via a grounded operation over a certain time span.

effectively manage without immense institutional supports.² Urban agglomeration by economic push- and pull-effect³ has emerged as a result of imbalances in development policy. High-speed urban agglomeration is phenomenon in many transforming-urbanized societies in Southeast Asia (Thailand, Indonesia, The Philippines, Vietnam), in South Asia (Bangladesh, India), and even in highly developed countries, Japan for instance. Urban migration, a pattern of demographic change, has generated urban disparity and informal sectors which are a part of urban environmental problems. This is due to the inability of current infrastructure and services – such as housing, urban transport, solid waste management (SWM) – provided by public and private sectors to absorb the influx of migrants. This has strained not only mega-cities' inner areas where administrative capacity and resources are relatively high, but also to the urban-periphery/fringe where local administrative capacity and resources are limited. Urban fringes confront accelerating unsolved problems as their settings transform from suburban areas into rapidly urbanized areas. Local administrative authorities have been slow to change and have lagged behind in capacity, knowledge, and resources.

The researcher explores this environmentally problematic phenomenon of the rapidly urbanized locality via a case of Thailand. In this particular context, since national, regional and provincial environmental policy and planning has been equivocal and unreliable, local governments have been expected to encounter these complex environmental problems on an ad-hoc basis. From this point of departure, it is necessary to understand at least four interrelated issues in Thailand's urban-periphery context. First, from a physical point of view, is the change of urban settings with regard to rapid migration resulting in environmental problems. Second, from a sociological point of view, is the absorption of domestic migrants by the original inhabitants which transforms and reconfigures the prior neighborliness relationship. Third, from a political point of view, is the limit of local administrative authorities to counter urban difficulties due to decentralized national policy. Forth, from a social development point of view is the rise of the civil society movement, civic empowerment and direct democratic participation in urban affairs (Friedmann 1992; Boonmee 2004), particularly in urban environmental problems. The following is a detailed

² Rapid urbanization has been a problem both among developing countries and also for many developed countries.

³ Pull-effect and push-effect refer to the economic force where an urban area 'pulls' labors from the agricultural sector where national development policy prefers to highlight industrial development rather than agricultural development. Push-effect is the movement of the labor force out of farms because of resource scarcity.

discussion encapsulating these four aspects where urban environmental problems have intersected in Thailand.

Patterns of settlement and migration in Thailand

During the past three decades, economic development in Thailand has focused on industrial sector development indicated in the first seven *National Economic and Social Development Plans* (NESDP in 1964, 1967, 1972, 1977, 1982, 1987, and 1992). Industrial sectors were promoted in order to underpin national economic growth and concentrate on exportation in order to enhance the level of international market competition. Since its first National Economic and Social Development Plans in 1964, the level of urbanization has increased from 13.3% in 1970 to 21.6% in 2001. It is expected to be 26.2% in 2010 (Population Division of the United Nations Secretariat, 2002). A demographic consequence of this national economic and social development policy to promote industrialization has been urban agglomeration by locating new industrial estates in existing communities.

Since the 1970s, industrialization had transformed Thai economic structure from agricultural-based to industrial-based productivity. Industrialization has been one of the causes accelerating urban agglomeration and rapid urbanization. This development pattern pulls labor forces from the countryside through rural-urban labor wage disparity. Many urbanized communities have emerged and transformed previously rural settings into suburban and urban settings. Communities around industrial estates have changed from rural and semi-rural neighborliness to agglomerated communities which contain cultural diversity and diversity of economic status. Neighborhoods can be clearly seen as composed of two groups - the original group and the labor migrants. Environmental management in these communities has been challenged, especially in domestic environmental management.

Administratively, provincial or local government is mandated to maintain social welfare in the urban environment. With regard to rapid urbanization, despite many urban planners proposing cautious long-term plans parallel to the decentralized policies of administrative system, Thai local government has been unable to operate independently of the deep-rooted centralized bureaucratic and political system. The impact from migration

has been overlooked as an integrated aspect of regional development planning. Therefore, it has always been the burden of local administrative authority to deal with the impact of crime, pollution, unemployment, and environmental degradation because of resource scarcity, limitations of knowledge, manpower, and authority (legislation, political power, etc.). Particularly, many urbanized regions can no longer maintain environmental well-being. Improving the environmental conditions of settlements in rapidly urbanized areas where the local administrative authority's capacity is lagging is the challenge the researcher presents with the city of Bangkok and its periphery as an example.



Figure 1.1: Thailand and its big cities

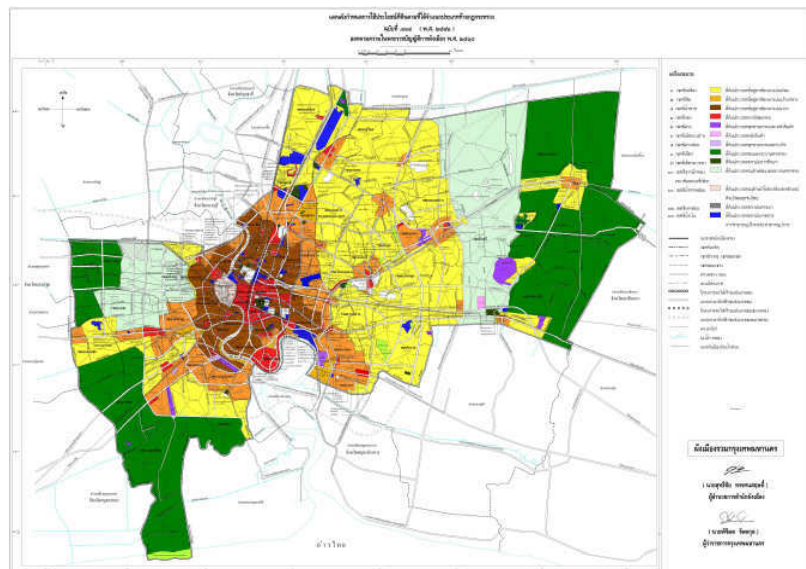


Figure 1.2: Bangkok and the integrated four provinces as so called 'Extended Bangkok Metropolitan Region'

Source: Bangkok Metropolitan Authority, 2004

For Bangkok, the capital of Thailand (Figure 1.1), migration obviously pertains in the urbanization process. In the early stage of industrialization, the migration pattern was considered temporary for employment during the dry season. However, this has changed since industrialization and transformed Bangkok to one of the world's most rapidly urbanizing cities, attracting factories and industrial estates to its urban fringe (Korff 1986: 46, 66) and accordingly accumulating settlements. Its provincial-bound periphery, including Samut Prakarn, Nonthaburi, Pathumthani, and Nakorn Pathom provinces, quickly transformed and urbanized. These provinces were integrated as a part of the *Extended Bangkok Metropolitan Region (EBMR)*. Nevertheless, each province still has its own provincial and municipal administrative body independent from Bangkok Metropolitan Authority

(BMA). Figure 1.2 presents the border of Bangkok and the extended areas, which economically and demographically interrelate to Bangkok.

The number of labor migrants from both rural and suburban regions accumulates into the many industrial estates.⁴ This accelerated demographic change has generated a number of immediate communities and residential areas. However, the transformation has been too rapid for the current public administrative platforms; urban infrastructures and services, and local administrative/institutional mechanisms (urban and land use planning provisions/legislations) to handle. Environmental problems include littering waste, improper wastewater discharge and poor sanitary systems. Even though some residential projects/areas had initially been designed to absorb this forecasted phenomenon, environmental depletion has continued since political unrest brought on several unpredictable developments and changes.

The urbanized area at the agglomerated urban fringe is one of the classical patterns of urbanization where migrants diversely integrate and become the major mechanism of economic activities. The demographic characteristic and human settlement of the extended Bangkok has been critically changed by this diversification. Thus, the community demands re-conceptualization since they are a critical part of environmental problems as both a polluter and a vulnerable group.

A sociological characteristic of agglomerated neighborhood

Although many concepts of neighborhood are envisaged, in the research context, herein neighborhood implies the place-based civil society community as a unit of representation, related to a particular form of political entity. Thereby, it refers to the municipality mandated to administer to urban affairs. The place-based neighborhood has also transformed its characteristic since the migration-based settlement had rapidly surrounded and superimposed a new set of living conditions on the residential area (Korff 1986: 47). Many studies define migrants' characteristics using various analogies. According to Everett S. Lee (1969), migration is defined by the change of permanent or semi-permanent

⁴ By concentrating economic development in industrial sectors, Industrial Estate Authority of Thailand (IEAT) was founded in 1972 to facilitate industrial investment in Thailand. There are now 29 industrial estates operated publicly and privately regulated by the Industrial Estate Authority in every region of Thailand. Most are located in the central region, especially in the extended Bangkok. The Industrial Estate Authority developed and operated 10 industrial estates, while the other 19 have been privately developed and regulated by the Industrial Estate Authority (IEAT, 2003).

residences due to economic instability and opportunity⁵. Jansen (1969: 67-68) discovered that migrants are not concentrated in political economic and cultural spheres. Additionally, Fitzpatrick found that one of the driving forces of migration is *chain migration*, where relatives and friends who priori settle and play an important role for new migrants.⁶ Eisenstadt, in his book; *The Absorption of Migrants*, stresses primary groups, distinguishing several types of migrants, specifically studying migration in Israel ranging from high capacity absorption to disintegration⁷ (Price, 1969: 231 and Jansen, 1969:67).

By the given analogies on the migrants merging in the prior placed-based community, it could initially be assumed that there are various clusters of community relationship which are not homogenous groups, but heterogeneous with regard to types of relationships, neighborliness, friendship, kinship, conflict of interest, class struggles, and social exclusion. In general, the lifestyle and behavior of migrants' communities in Thailand resemble other rapid-capitalism urban developments, which gradually increase and modernize. Anthony H. Richmond (1969: 272) presented that there are some societal characteristic changes in this transition. Bangkok's urban fringe society in Thailand has become industrialized society, if referring to Richmond, with a migrant society therein.⁸ In communities in agglomerated neighborhoods, loose social bonds arise via organized social agents (associations). Therefore, the community relationship tends to shift from friendship/kinship based as a traditional social tie to *associated and constructed communities* founded on economic relationships and benefits of interest. Migrants have gradually constructed their own new

⁵ He mentions that one of the factors which make people migrate is the level of fluctuation in the economy (Lee, 1969:289-290).

⁶ This situation relates closely to life cycle by ages, marital status, the number of children, opinion on dwelling adequacy and interest in home ownership. Moreover, it includes career pattern variables such as social status, income, and terminal education age. All those elements influence migrants' decisions (Jansen, op.cit.: 70-73).

⁷ The level of absorbing capability is classified into six types. They are - 1) The isolated apathetic: breaks down the primary group, has little social participation and a negative attitude to the new society; 2) Isolated stable family: close-knit family, little contact with others, little interest in work or society, ambitious for children; 3) Isolated active family: close-knit family, very interested in work and institutions, but not primary group of new society; 4) Cohesive traditional group: small close-knit ethnic group, maintain ethnic values, also interested in work for new society, initial conflict of values, gradual increase in understanding both by group and by host society; 5) Self-transforming cohesive group: close-knit ethnic group with strong leadership and readiness to change roles and attitude to contribute to primary group of host society; and 6) Instrumental cohesive group: strong family group with no strong ethnic affiliation, join at the early stages.

⁸ Richmond highlighted that industrialized society should contain particular societal representation. Five qualifications are postulated; 1) the form of organization is considered a societal form rather than either closed-community or network society; 2) typical locus of interaction tends to be associations rather than either groups or networks institutions; 3) system of stratification is class rather than either quasi-feudal or meritocracy; 4) the type of migrants results from economic pull effect rather than push or transilient effects; and 5) Population movement is rural-urban (Four out of five is matched to urban fringe in Thai context of the extended Bangkok).

sub-societies and networks⁹ where they live and work (Evers and Korff, 2000), while not totally disconnecting themselves from their families in their regions. From this understanding, representing the civil society interests of the inhabitants means creating civic groups that can be configured as civic or community organizations/associations (CBO) acting as agents of change in urban affairs, fundamentally associated with societal demand and response. Other forms of association may be dedicated to collectively working for particular causes or demands.

Thailand local politics: A political context and administration in urban environmental management

Municipality has become more significant in Thai political discourse since the national policy of state decentralization in 1997.¹⁰ As an autonomous level, municipalities have expanded their exercise of authority in urban affairs, i.e. tax collection, local election, and urban service delivery. Conversely in their capacity to deliver urban service, after the instigation of decentralization policy, many municipalities struggled as municipal budgets were withheld, especially among the small municipalities (Suwanmala 1999). Not only budgets, but also administrative capacity – skills, knowledge, and administrative systems – evolved slower than the rapid, complex change of agglomerated society. This circumstance increasingly led to a gap in administrating urban affairs and exacerbated the problems by limiting administrative capacity to solve them.

In the communities located at the metropolitan fringe – for example in Samut Prakarn province – environmental services is cited as the top complaint (Samut Prakarn 2003c; Usavagovitwong and Jongpukdee 2004; TEI 2005; ONEP 2005). Ungoverned and unaccountable, fringe communities pollute to the commons (Ostrom 1990), causing solid waste and wastewater problems far beyond what municipalities can address, leaving the natural environment gradually depleted.

Previous studies have found in the Thai local political context, especially at the municipal level that municipality and community relationships are based on *patron-client* pattern and vertical interaction where the municipality exercises one-way domination of the

⁹ However, non-family workers remain independent from each other if not participating in any association.

¹⁰ In the previous time, local politics had been dominated by regional and provincial government. At the local level, it was limited by central administrative hegemony. For instance, the provincial governor employs the power to ratify the major as well as the direct voting culture had never been implemented.

tamed civil society group (Kokpol 1998; Usavagovitwong and Jongpukdee 2004; Charuvichaipong and Sajor 2006). Some studies point out that the electoral bodies of Thai local politics are made up of former local power groups whose leaders exercise vertical power relationship to those they governs¹¹ (Shatkin 2004: 11-26; Charuvichaipong and Sajor 2006: 590-1). Based on these findings, it can be illustrated that Thai local politics operate in this fashion. This embedded relationship ensures the political status quo regarding poor environmental services. Nonetheless, many community groups have developed through grassroots efforts outside this patron-clientism in order to deliberate for alternative environmental solutions. The trend of alternative development outlined by development studies scholars on shared governance, civic participation, civil society mobilization, and democratic style of governing has given rise to community-based organization and association movements.

Civil society mobilization and grassroots movement: The rise of civic participation and empowerment

In the political realm, civil society is defined as the arena outside government, which includes individual citizens, civic organizations, the media, voluntary groups, social movement groups, community groups, academics and private sectors (Kokpol 1998: 13). Early in the development of Thai politics (from 1930-72), civil society and non-state groups played a sparing role. Later, it was dominated by the private sector and business associations (Kokpol 1998: 14). As a result, civil society is more closely associated with the government in terms of beneficial interchange, for instance as the sub-contractors for urban services. It is also grounded in the deep-rooted patron-client relationship in which the mutual benefits are shared among political elites. The importance of the civil society sector in Thai local politics and public administrative context can be seen in the work of some national non-government/non-profit organizations and academics in a controversial sense who work toward genuine citizen empowerment. Marginalized by many non-participatory government development policies and programmes, the local/regional/national civil society community has coalesced and networked (Pra Maha Sutit Aphagaro 2005). The civil society community, prominently featuring community-based organizations, plays the leading role

¹¹ It resembles the former governing system in Thai rural villages.

toward social betterment. It is supported by external non-profit agencies, such as international agencies - Danish/DANIDA, Canadian/CIDA or German/GTZ - through academic institutes and local/national non-government organizations. Many programmes and projects are undertaken focusing on occupation, education, housing, environment, and social development issues. The rise of a grassroots movement in Thailand and Asia dates to the heavy economic drawback in 1997, which resulted in millions of unemployed workers. At that time, the national economic improvement programme promoted communal economic initiatives and self-sufficiency. Civil society groups, such as charity-based foundations and non-government organizations, by funding these programmes greatly enhanced community organization capacity.

Nevertheless, grassroots development activity with regard to environmental service deficiency was limited to place-based community arena, although the non-government organizations, as intermediary agents, attempted to embrace different communities which confronted similar difficulties. Accordingly, many previous researches highlighted the urgency of collaboration and cooperation from the stakeholders on the civil society side for environmental management¹² (Satheanthai 2002; TEI 2005; Kelly 2004; Ahmed and Ali 2006; Nas and Jaffe 2004). Therefore, shared governance in environmental planning and management is viewed as a way to manage or, at best, alleviate the environmental dilemma because it is more inclusive, more socially responsive, and allows dialoguing for well-rounded solutions.

From the aforementioned background, a bottom-up approach could be among the salient alternatives to the realignment of shared governance through state-civil society interaction. At the municipal level, the private sector is absent, unresponsive and unaccountable. Meanwhile, the non-government organization (NGO) is experienced at playing an adversarial role to the state rather than a collaborative role. Community organization could be expected to perform as a facilitating agent bridging state and civil society because it is familiar with local authority structures - *ruler/ruled* or the *patron-client* relationship - in the Thai local political context.

¹² They indicate that there are three requirements; 1) Establishing partnership, 2) Formalizing the informal sector, and 3) Raising awareness.

1-2: Research questions and hypotheses

Given current urban environmental management difficulties, alternatives in urban environmental service delivery are crucial. This is most needed where conventional services in the locality have been scarce and inefficient in responding to neighborhood needs. Drawing on a list of studies in governance and alternative development, the researcher postulates that the civil society community should be involved. Therefore, a set of research questions and hypotheses will be developed starting from that premise.

Research questions

The research posits four main questions to be addressed at different stages of research: from the situation prior to research to the research period. The three principal premises of research conveyed correspond to the agents of the operational mechanism: the municipality, civil society, and the interaction of state with civil society.

First, *what are the current practices, potentials and limitations of the state agent (local administrative authority) and civil society agents (community organization) in delivering environmental service?* The research explores on both current practices and particularly focuses on solid waste collection that the local authority has mandated. Also, the research investigates the status of civil society sector as well as the interaction with state.

Second, *could the community-based organization be a supplemental instrument for better environmental development in agglomerated localities?* To respond on this question, the researcher conducts a community-based environmental management project experiment in a selected locality. Operational outcome are gathered and analyzed by comparing prior and current performance of the project with other studies. The research also revisits the notions of development studies in environmental development on which the findings could further contribute.

Third, *could civil society institutions/groups participate and collaborate in the planning, policy- and decision-making of environmental service delivery using a bottom-up model? If so, how?* This question is posited based on the antecedent alternative development strands: collaborative planning (Innes et. al 1994; Healey 1997; Innes 2004) and radical planning schools emphasizing planning of community practices toward change (Friedmann 1992; Sandercock 1998; Hamdi and Goethert 1997; Hamdi 2004). By applying a quasi-

experimental project, the researcher initiates community-based solid waste management action at the local level in an agglomerated neighborhood, and anticipates Community-based solid waste management as a supporter of environmental development in conjunction with current municipal waste management.

Fourth, *how can shared governance between the state and the civil society sector emerge as an alternative approach to the state-led approach? And is it better?* This question draws on operational and participatory observation methodology that this research exercises.

Hypotheses

Two hypotheses are posited related to the research questions. Those are;

Hypothesis 1: If the civil society sector is encouraged, capacitated, aware and able to be a part of environmental service delivery, rather than environmental service delivery being exclusively state-led, this can bring environmental improvement of particular services in the focus area. This hypothesis is predicated on the effort of antecedent case studies and research as well as the current good governance and participation concepts (i.e. UNDP 1997, World Bank 1999, ADB 2004¹³) that increased public involvement and shared governance leads to more alternatives for solutions/betterment. An assumption is made that the current ineffective and inefficient service is due to the resource constraints of the state, complicated by the reluctance of the state to empower civil society groups to be part of solutions. This assumes that civil society institutions/groups could somehow share environmental service delivery with the state, either through capacity building or by increasing awareness of better environmental practices. Testing this assumption requires a capacity building intervention.

Hypothesis 2: If civil society institutions/groups address environmental improvement, this can change the state toward civic participation, collaboration, and shared governance in environmental service delivery policy and practice. This will be evaluated after the quasi-experimental intervention to judge whether it can be accomplished. Founded in democratic ideology, the collaboration between state and civil society is the social learning and reciprocal process (Friedmann 1992; Innes 1996, 2004; Healey 1996, 1997) which could help facilitate urban environmental service delivery. The researcher shares this expectation.

¹³ In some senses, it involves private sector and privatization.

1-3: Research framework and methodology

Urban environmental planning and management is recognized as one of the principle urban affairs for human well-being. By its interdisciplinary nature, it is impossible to study it, disintegrated from other spheres (i.e. economic, politic, and social). Thus, the researcher begins from the broadest planning theory in order to encapsulate the relevant fields of study and dimensions incorporated in environmental planning and management of local contexts. As such, it is founded on a state-civil society premise of governance. Social, political, and managerial dimensions are contained in the analysis. Using validated theories, the researcher investigates in the operational field for initial data gathering and also constructs groups of parameters, variables and elements based on participatory operation and observation (Potter 1996).

A review of the literature provides three aspects on which the structural system of local urban environmental management service might possibly operate. First is the local administrative structure where environmental service policies/plans/programmes/projects are generated. The bureaucratic system is regarded as the political hardware used as the apparatus of political tasks and competencies, from policy-making to programme and project implementation. It herein orients on how local administrative authority exercises its environmental policy based on governance concept, environmental management style, and existing constraints. The second aspect focuses on the civil society group; particularly neighborhood capacity based on the notion of community-based development concept in order to determine to what extent a community can manage, organize, and integrate environmental management action and programme-initiation into a municipal policy/programme. The third aspect concerns how the former and the latter interweave together and what appropriate solutions/alternatives may be found for the betterment of local environmental service delivery. Deductive methodology is employed as a main premise from what previous theories have been postulated on municipal environmental management (domestic waste management as a research focus), including the tools and applications practiced worldwide, particularly in rapidly urbanized contexts. The research tested the hypothesis that shared governance works, so the findings might contribute to better strengthening environmental governance theory. The research initially drew upon the notion and application of planning practice. The fact findings were analyzed from the

ground to connect the postulated theory to pertinent criteria derived from previous studies and analyses. This research may provide new solutions to problems of environmental management in urban agglomerated locality. Finally, further recommendations are posited and discussed.

Conceptual framework of research

Figure 1.3 illustrates the conceptual framework of the research. It attempts significantly to identify the level of capacity building that would improve environmental service delivery as well as the performance of civil society institutions/groups after the operation of the quasi-experimental project by addressing performance on pre- and post-intervention as the core procedural methodology. By demanding better capacity and performance of municipalities in service delivery, numerous literatures from international institutes – World Bank, Asian Development Bank (ADB), United Nations Environmental Programme (UNEP), or United Nations Development Programme (UNDP) – indicate what is recognized as good governance. But in practice, this has rarely been addressed in local contexts where the resources and skills of the authority are limited (Burns 2000). Many unsolved urban affairs remain intractable unless getting support from external agents. That helps to explain why academics are discussing urban governance much more than urban management (Kearns and Paddison 2000: 845), where civil society groups are no longer ignored. The research, therefore, is premised on civil society's capacity building, by chronologically observing an environmental project intervention to gauge whether it results in better service delivery, policy and programme change, or greater civil society inclusion. Internal changes in a civil society group, changes of state-civil society interaction, and changes of state domain regarding environmental programmes/projects are studied by comparing various aspects of the pre- and the post-intervention periods.

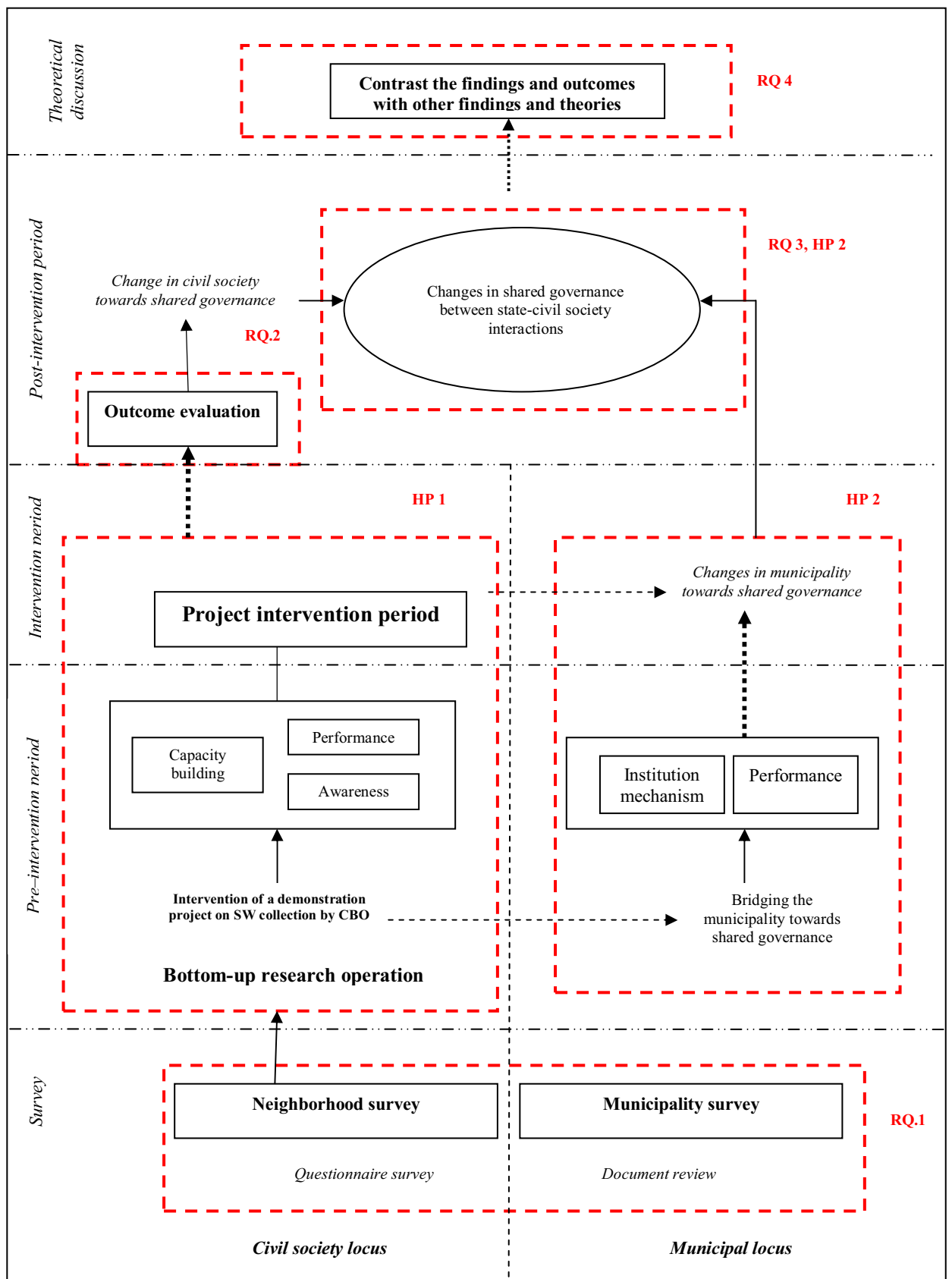


Figure 1.3: Research framework and design

Note: RQ= Research question; HP= Hypothesis

Carried on the longitudinal bottom-up approach, the researcher worked through a civil society agent. Community organization was targeted as the central agent by instituting operational intervention, while being supplemented by other civil society institutions (e.g. the non-government organization, the external development institute, or/and the press). Therefore, the researcher plays two roles simultaneously. The first role is as a conducting practitioner, undertaking the initiating community-based solid waste management collection project in the targeted neighborhood. By this approach, the capacity building input to civil society is identified as well as the empirical outcomes from the project in terms of environmental betterment and civil society's strengthening role to the state domain. Another role is to evaluate and conceptualize the findings and outcomes with regard to pre- and post-intervention comparison to three areas of agent-based observation and analysis - state (local authority), civil society (civic association/community group) and state-civil society interaction in urban environmental service delivery.

Methodology

The research methodology herein draws on the combination of bottom-up and pragmatic premises (Moulaert and Nussbaumer 2005: 2085). Using qualitative and quantitative analysis based on participatory empirical action and observation as a core process of data gathering, a community-based solid waste management project¹⁴ is the input agent carried in the case study over a pre-determined time span. The three periods are identified; from December 2005 to June 2006 (pre- intervention period), from July 2006 to March 2007 (the project intervention period), and from April to June 2007 (post-intervention period); to explore internal changes and changes in shared governance caused by a bottom-up injection and operation input. Each period addresses data gathering method as well as parameters, variables, elements, and indicators for the substantive analysis.

Therefore, the research is based on an analysis from empirical evidence whenever possible, though it is qualitative-based research. Before the project operation, some key elements to benchmark the status of pre-intervention period are identified and clarified detailing which data types¹⁵ are derived by which gathering method. Methodology can be

¹⁴ The activity mainly involves the local solid waste collection and disposal.

¹⁵ This also concerns the limitations of evidence finding which are not completely reliable because the objects of study are human so sometimes it becomes subjective and evolves dynamically over time. Therefore for some data, the researcher is

categorized into four phases; first is how the research issues are classified into physical, institutional and social dimension, regarding urban environmental service delivery. Second is to defining the pertaining variables, elements, and indicators in each parameter (locus). Third is identifying the data gathering techniques for which the research conducts, and fourth is analyzing tools and techniques as well as interpretation. All issues contain the background reason supporting the researcher's choice in methodology.

- **A selected case study and its environmental problem**

There are several industrial estate communities in contemporary Thailand, but few of these developed proactively. Being one of the clearest urban agglomeration patterns caused by rapid urbanization,¹⁶ a case study from industrial estate community is portrayed to represent a general typology of the agglomerated neighborhood in Thailand. The researcher selects Bang Plee Newtown Community as a representative community because it has absorbed labor migrants since its inception. Among the eight neighborhoods in Bang Plee Newtown Community, one neighborhood had been targeted for empirical operation, observing the change of environmental governance and planning orientation as well as top-down versus bottom-up planning and governance dichotomies.

Bang Plee industrial estate community is the pilot housing project which National Housing Authority (NHA) planned and designed to be a new town for industrial workers. The project was founded in the late 1970s; its environmental problems are one among many problems. It well represents the malfunction of rational housing planning which can no longer adapt to social and economic change. Furthermore, Bang Plee industrial estate community is fully governed by a local administrative authority: Bang Sao Thong Municipality (BSTM). Bang Sao Thong Municipality fully authorizes and mandates for community well-being. The large population of agglomerated inhabitants has generated a volume of residual waste from domestic daily consumption, contributing to major environmental degradation.

required to be actively involved as a participant rather than as a passive observer. Some non-verbal or non-written information is expressed through gestures which inevitably are misinterpreted.

¹⁶ Rapid urbanization and urban agglomeration in Thailand is caused by two economic factors; industrial economic activity (i.e. industrial estate) and educational activity (i.e. universities).

Regarding the environmental management issue, the research is operated via *solid waste management*¹⁷ framework, which may represent the best opportunity for policy dialogue of urban environmental governance and management. This civil society mobilization process would potentially be the best shared partnership compared to e.g. air pollution, sanitary, wastewater or drainage system¹⁸. Urban environmental degradation is largely predicated on solid waste management. Solid waste collection is an ideal scenario for the study for four supportive reasons. First, some previous researches and studies have highlighted that solid waste problem is among three most severe environmental problems (Usavagovitwong and Jongpukdee 2004: BSTM 2003a). Second, solid waste collection could be a good representative for bottom-up methodology and agent of study because it may be initiated and operate on a small scale compared to other environmental problems, which are more technical-oriented and non-participatory. Third, it could be effectively and clearly monitored for tentative change, which those findings could empirically be implied to analytical causal links and be given the concrete explanation and analysis. And fourth, solid waste collection is persuasive regarding its economic incentives. Given these rationales, the researcher focuses on solid waste collection as a fundamental agent of the research approach.

- **Data gathering methods**

The sets of data gathering methodology appropriated to be conducted in the research are divided into three phases based on research approach¹⁹- 1) pre-intervention period; to identify the current situation of solid waste management practice by Bang Sao Thong Municipality and civil society, 2) project operational period and, 3) post-intervention period; to identify the change in shared governance afterwards.

The pre-intervention period includes *document review*, when written forms of data are considered the most substantive; especially through authorized documents. Environmental policies/programmes/plans as well as tasks and competencies are the data which help to

¹⁷ Solid waste management by this research implies particularly for solid waste collection practice in the selected case study, therefore it is casually reshuffled in this research.

¹⁸ The researcher focuses on the ability of civil society organizations to share in environmental planning at the local level where solid waste management is the most appropriate option for conducting a research project.

¹⁹ Research approach mainly concentrates on field operation and action as the methodology via the demonstration project supported by the international-academic partnership during July 2006 - March 2007 to time-crossing monitor whether this operation changes and formulates the new form of shared governance - state and civil society in environmental management.

understand the direction the municipality is headed. Documents from related authorities are collected and analyzed. Documents from National Housing Authority (NHA) and Bang Sao Thong Municipality are analyzed to understand the common residential characteristics in nearby industrial estates (maps and drawings: neighborhood and settlement characteristics) and current solid waste collection practice (plans, operational actions, budgets, and expenditures). Previous research works in the study area are also explored. The researcher also uses *key informant* techniques to determine both state and civil society institutions' attitude in solid waste issue. These may be incorporated in the project. Municipal bureaucrats/politicians and community representatives are targeted as key informants. Electoral politicians are defined as policy-making level representatives (mayor and municipal council members) who direct and decide on local urban affairs. High-ranking bureaucrats and implementation officers (e.g. municipal clerk, head of Health and Environmental Division, and the operational officers) are defined as planning/implementation level. These officers confront limitations in undertaking these plans/programmes. They provide grounded information crucial for evaluating the difficulties between policy and practice. Other informants include civil society group representatives - for instance, community leaders, community activists, community organization representatives and local non-government/non-profit organizations, who operate on local political structure. It can theoretically be assumed that on a certain level, community representatives translate what the neighborhood wants into local administrative decision-making and policy delivery.

Questionnaires are conducted to identify the synopsis of the dwellers on solid waste management disposal practice, attitude, and relevant perception before the project intervention. The intervention uses the household level rather than individual level as a unit of analysis. The questionnaire addresses three topics: general socio-economic background, data associated with household's waste generation and disposal practice, and data associated with community-based solid waste management initiation (See Appendix A). Four hundred and ninety three questionnaires (P=840) were conducted in March, April 2006 in 201-Neighborhood. Finally, *participatory observation* of pre-intervention period is employed to gauge how civil society group has changed and transformed within the allocated resources. Changes at the operational level are recorded anecdotally.

By project operational period, the methodology for the civil society sector is the project itself. Therein, it includes some significant activities such as group discussion among the community-based solid waste management members. *Participatory observation* therefore is the core data gathering technique. In addition, the researcher conducts in-depth interviews of the project leader and associated project staff. Non-structural group interviews, meeting discussions, and operational records are an important source of data to determine community capacity building and change. In *focus group interview and discussion*, some evidence gathering requires more than one-way communication, for instance those of cooperation and coordination. Focus group research in this study addresses stakeholders for two groups: local administrative officers in both policy-making and implementation level and a group of neighborhood leaders. Providing forums for similar stakeholders to discuss environmental issues allows for significant response from participants in terms of their opinions regarding their environmental problems. Focus groups are conducted in two groups: one for administrators and one for neighborhood leaders. Furthermore, group interrelation, including how issues of power are exercised between groups, will be studied. Activity from this interaction might uncover some hidden information such as conflicts among stakeholders, capacity of bargaining power, accessibility level of community to state, stakeholder's creativity, etc. In the next stage, public forums/events are set in cooperation with community network and the non-government organizations. These activities give the envisaged atmosphere to evaluate the response and reaction of both the municipality and the community organization. Furthermore, the power relationship, especially the communicating characteristics between the municipality and the community, will be more clearly reflected and identified.

In the post-intervention period, the researcher employs empirical evaluation over the posited elements. For civil society domain, questionnaires are revisited to gauge whether and how the civil society group has internally changed. For state-civil society interaction and for state domain, *observation* is conducted to determine the extent of state-civil society interaction or shared governance, as well as state domain transformation (if any). In this research, observation is launched concurrently with in-depth interviews as a way to minimize observatory limitations (Potter 1996: 98-99). *Longitudinal comparison and analysis* provides a substantive result in the existence and degree change of (whether or not/how

much) of environmental betterment, of civil society's capacity building and of shared governance's reshaping.

1.4: Validating theoretical assumptions

The findings and outcomes from the quasi-experiment/intervention are validated with the antecedently postulated theories and practices of governance and environmental service delivery. Drawn on a case study of agglomerated neighborhood in Thailand, the two assumptions, that civil society can be a part of bringing better service delivery and that shared governance between state and civil society can emerge for possibly better change, are herein contested.

Through better environmental service delivery, decentralization of environmental services becomes a more viable option. Many research studies emphasize service privatization, public-private partnership (PPP), and state's managerial reform toward downsizing the operation unit. In as much, they contribute to the co-management of both state and civil society institutions as the solution. Also, some research posits community-based environmental planning (CBEP) as an option of environmental management mechanism when the local administrative authority is economically incapable or has a dearth of resources/skills and knowledge. This research advocates the latter. If this research's field quasi-experiment shows the positive, efficient and effective outcomes of domestic waste management by community organization, it will verify that community-based environmental planning can be an option for municipal waste management. If it fails to work efficiently, it shows limitations for implementation in rapidly agglomerated context.

By focusing on shared governance in environmental service delivery, many research studies emphasize the importance of civic participation, civil society inclusion, and empowerment as an admirable aim in managing urban affairs. This scenario has four possible outcomes. First, the findings contest the scenario that if the solid waste collection and management by civil society agent is proved efficient, it should bring on the change in environmental policy making - for instance, the emergence of new programmes, promoting community-based action or the dialogue between state and civil society for partnership at local level. In this case, the civil society agent shares resources with the state that could shed further light on local environmental service delivery options/alternatives.

Second, if not being shared, it implies a disempowering status quo in the locality. Community-based environmental planning entails as an either un- or successfully isolated project, not as a sustainable waste management alternative for agglomerated neighborhood, which the state then discards. Third, the civil society agent inefficiently tackles waste management, but still emerges sharing dialogue with the state and results in environmental policy/programme change. This implies that civil society movement can open toward shared governance/dialogue, and that the state is receptive to participation and inclusion for opportunities towards change. Fourth, if civil society fails to affect change and that consequently brings on the failure of shared governance, it shows the constraint of community-based environmental planning and of bottom-up planning process by civil society institution.

Whether and how the agglomerated neighborhood can sustain effective environmental service delivery (either by the same approach from different methods or by the totally different approach), it remains a significant challenge for further study. This research is intended as another attempt to envisage a local agglomerated context for bottom-up approach based on civil society mobilization and improvement as an alternative for affecting environmental betterment, whether or not it succeeds toward effective environmental management and shared governance. From this point of departure, the next chapter discusses the theoretical apparatus pertaining to this research.

CHAPTER 2

LITERATURE REVIEW AND RESEARCH FRAMEWORK

This chapter will elaborate on the related theories, frameworks, case studies and approaches upon which the research will be drawn. The theories associated with this research direction will be discussed in relation to three elements of environmental management. The first is the general paradigm and orientation of planning theories, specifically environmental planning, which includes ideas from rational planning to social learning models, especially their potentials and limitations in various contexts where they may be adopted and explained. Hence, these theories extrapolate mainly on classical *top-down* versus *bottom-up* planning dichotomy in which the environmental and solid waste issues play out. The second theoretical approach focuses on urban governance theory. Environmental planning and management issues are frequently discussed in regime contexts; whereby governments are often the main actors for maintaining urban environmental well-being and betterment, but they have been deficient and ineffective in the Thai local political context. Many shared governance concepts arise as alternatives for the betterment of environmental conditions which include other civil society-based actors such as waste management by informal sector, community-based waste entrepreneurs, public-private partnerships, and etc. These concepts are often offered as the ideal environmentally-sounded instruments supported by democratic ideology. From the above-mentioned, several case studies highlight potentials and limitations of civil society inclusion, particularly community-based environmental management contributing to both ideological ends. The third part of this chapter addresses neighborhood and community development concepts as the mobilizing entities, supported by related theories on democratization and participation, to connect state and civil society interaction. Capacity building, environmental management capability, civil society networks and social capital, and environmental awareness are identified as elements of the research framework.

2-1: Planning theory and urban environmental management

Environmental management has never been an independent science but, one that intersects many disciplines including public administration and politics, technical management, and social science and human behavior. Therefore, this chapter begins at the

broadest framework of discussion: planning theory, of which environmental management is a critical member. A number of studies on planning theory provide various perspectives and paradigms for environmental issues. Planning is considered the largest umbrella of urban studies connecting social, economic, political, physical and environmental aspects (Friedmann 1987, Fainstein 2000, Healey 1997, Roo 2003, Sandercock 1998, Vigar et al 2000). Planning discourses have been studied and critiqued for five decades (Friedmann 1998a: 245). It is an inter- and transdisciplinary approach that may be defined from different agents who initiate different applications and course of action.²⁰ John Friedmann (1987, 1998a) and Leonie Sandercock (1998: 87-103) systematically portrayed the conceptualization that planning dramatically changes because of social environment. They depicted the role and practice in planning gradually as transforming from a bureaucratic procedural mechanism to a participatory action; from very top-down policy and planning strategy to an inclusively integrated strategy with civil society sector, developing from technical instrument to political inclusion. Planning can also be modeled as the relationship between knowledge and action²¹ (Friedman, 1998a) linked to institutional and political contexts. Moreover, it can evolve into different approaches²² which each produce different outcomes (Friedmann 1998a).

Planning thoughts and its development

The planning theories that emerged from the academic world can be viewed as products of economic development theory in western society. The concept of *welfare state*²³ originated

²⁰ Planning can be defined as Paul Davidoff and Thomas A. Reiner (1973: 11- “Planning is a set of procedures. The theory we present rests on this belief. We will analyze the implication of this assertion and then identify the steps comprising these procedures. Further, we will show the bearing of these steps on behavior in fields where planning, as we define it, is practiced. What we have to say applies equally well to such diverse endeavors as urban land use planning, national economic planning, business planning, and others, for the same steps are followed no matter what the substantives or geographic focus”.

²¹ Planning such indeed is not a theory for theory’s sake any longer. Rather, it has been interpreted in several ways depending on its interpreters; architects, economists, sociologists, geographers, politicians, etc (Friedmann 1998a). Planning became systematized by the work of Andrea Faludi (1973a) based on rational process production (objective-goal planning process) as well as Roo (2003) who elaborates that planning requires the answer three questions. Those are; what has to be achieved, how can it be achieved, and whom will this involve? He visualizes each question, respectively, through three different action models goal-oriented action, decision-oriented action, and institutional-oriented action.

²²Such as – applied rationality, societal guidance, behavioral (positivist) approaches, communicative practice, social learning, and radical planning

²³ Economic planning became a fountainhead planning model which aims to sustain full employment condition and market and be known as ‘Fordism period’ (See Harvey 1990). After the economic crisis, Keynesian’s economic model faced ‘stagnation flow of capital’ and bureaucracy was also not able to maintain full employment condition so it requires being major actor to circulate employment. Along with economic planning, government had parallel encouraged investment through space i.e. transportation, land use in order to maintain the growth of economic development, so physical

from the economic development concepts of Marx and Keynes²⁴. However, in a welfare state, the main actors address bureaucracy and administrative systems. Hence, this conventional planning of public administration/policy analysis is used as one of the concrete units of study in urban studies today. Planning has changed its emphasis from the planner functioning in a bureaucratic system to view planning as tightly connected to the public administrative sphere. Gert de Roo (2003: 99) writes that '*planning-oriented action is taken to be any action performed by individuals, groups, or organizations, designing to achieve goals in systematic way by making and implementing choices and decisions.*' So, planning is split into two forms: adaptive planning and development planning. The former addresses lower level administrative contexts, such as municipalities or planning authorities which are limited in degree of autonomy, while the latter focuses on the role and function of political institution (Friedmann 1973b). From this break, planning is split into two spheres in administrative systems; *the planning/implementation level* pertaining to bureaucrats/civil servants, and *the policy-decision making level* pertaining to the politicians. Questions important to planning behavior include what is the role of political institutions in goal formulation, policy making and conflict resolution: what is the relation of planning institutions and process of their planning context; what are the dynamic relations between developmental and adaptive planning; and what are the relation of policy makers and experts under different planning systems?²⁵ From this classification, planning can be summarily analyzed from two perspectives: top-down and bottom-up.

planning becomes crucial, which its aim is to subordinate economic development, health, convenient and beauty²³. Town planning and land use planning such new town project emerges to redesign how people or community will live together and effectively serves economy and market. Residential, commercial and industrial zoning of land use are the results of this. Town is systematically planned where the flow of resource will be the most efficient allocated. This second dominating planning cooperates well with economic planning.

²⁴ Karl Marx and John M. Keynes both want to resist and correct extreme social and economic development because of extreme capitalism, which was flourishing. Marx perceived the problem of capitalism as class struggle and social inequity form economic mode of production between capitalists and labors and this production relationship needs to be revolved, whereas Keynes perceived capitalism more positive than Marx. He thought that capitalism is not perfectly functioning and it can be corrected through full employment. This concept becomes the concept of 'welfare state' and be fashionable and adopted by all capitalism-based states around the world.

²⁵ Friedmann (1973a) classifies planning thought into four different styles, namely; command planning, policies planning, corporate planning, and participant planning, with each style suited to a specific administrative environment. Command planning is appropriate to strong centralizing administrative system with strict goal. By the way its weak point is that it needs accurate information and overall control variables are covered. Policies' planning is more flexible than the first type, but however, it still links with centralized system. The method is to induce appropriate action through guidelines and aims to make some allocative choice. Corporate planning emphasizes on planning process rather than targets and outcomes are not predetermined, but it requires equal power distribution among concerned parties. And participant planning occurs under condition where power is in community form of social organization. Participants are more important than results.

From top-down planning to bottom-up approach

Planning methodology adopted by bureaucratic-led systems is frequently criticized for being too limited when applied to the complexities of the real world. This application requires a rich pattern of connections within and across organizations/networks and among sub-systems²⁶ (Taylor 2000: 1032). It is namely *proactive planning*, the long-term planning provision which attempts to cope with forecasted-tentative social change. On the public administrative side, policies and action plans proceed through a well-divided administrative function which departments and divisions like accounting, environment, construction, health and education are separated to handle each task under a hierarchically organized system (Healey 1997). This structure employs rationality²⁷ as the root of planning because through it, decisions will be made (Friedmann 1987: 97). Planning theorists from Faludi (1987) to Roo (2003) have amended their views of planning from objective-based causality toward dynamics, non-partisanism and complexity²⁸.

As aforementioned, policy analysis/public administration is one of the urban studies domains grounded on objective-based management approaches. It works with rational planning process by identifying clear developmental and implementation means, or in Friedmann's - *rational relation of means to end*. However, it is criticized as being unrealistic because it attempts to reach grand goals without consideration of political constraints and the flow of power relations where the state and civil society demand mutual communication for effective responsiveness (Friedmann 1973a, 1987, Fainstein 2000: 458). Planning theories based on *Friedmann's transactive planning* work from the idea that local citizens and communities should be involved in planning processes because they are direct clients of this government policy.²⁹ Critics of elite-led public administrative policy promote

²⁶ Top-down planning approach was fashionable since 1960s influenced by rational-based planning which strongly believe in cause-effect relationship. In term of physical planning, leading by architects and urban planners, urban built environment has been previously planned to respond urban activities (Healey 1991). Infrastructure, like roads, drainage system, land use planning has been defined, accessed, and predicted according to scientific methodology within a set of control variables. In term of economic planning, several plans and programmes relating to physical pre-determined land use and zoning are designed and expected to serve their functions. For examples, well-planned commercial and residential zoning relating to economic activities are linked by each other with transportation system and infrastructure.

²⁷ Mannheim (1940, 1949) identifies two forms of rationality; 'functional rationality' which is logical process and 'substantive rationality' which explains why action is desirable and necessary to intervene in social reality as the same of Faludi (1987) elaboration; theory of planning (functional rationality) and theory in planning (substantive rationality).

²⁸ Always, rational-function (cause-effect model) is presumed that all other elements are unchanged, so they can only functioning for short period and in limited context (Roo 2003). As well as goodness, truth, and justice, rationality is relevant.

²⁹ Having been argued by Davidoff, policy analysis is too innocent to proclaim that planner or implementer will be value-free, whereas one makes inevitably concise in decision (Davidoff and Reiner 1973).

on citizen participation and involvement, and become crucial to the ideology of bottom-up planning thought. Notwithstanding, top-down planning is still the core operating platform in most contemporary societies where the political/administrative system is inseparable from the real world, where Gert de Roo (2003: 95) notes that '*planning is science with a spatial and administrative orientation*'.

While top-down planning is still the dominant approach, it has been deemphasized somewhat in favor of alternative modes of planning, such as *communicative model*³⁰, where the planners play the negotiating and intermediary role among stakeholders. Several studies³¹ highlight failures in comprehensive implementation of rational planning at the community level. Planning thought has proactively engaged civil society institution in last two decades and has been a provocative contest. The notion of civil society participation acting via groups and institutions³² emerged because the market economy was failing to solve urban problems, such as environmental degradation. Because of the ineffectiveness of top-down planning, '*having been for use, not for people*' (Hoernig et. al. 2005: 35), bottom-up planning emerged during 1960s-70s. Many prominent scholars who developed theories extrapolated from communicative planning model, such as *Transactive planning* (Friedmann 1973a), *Collaborative planning* (Healey³³ 1997), *Deliberative planning* (Forester 1999), *Just city*³⁴ (Fainstein 2000: 454), or *Consensus planning* (Innes 2004), advocate for social inclusion and participation in planning process. Bottom-up planning theory argues that hierarchical decision making and policy development from rational planning are no longer enough to resolve urban problems. Some urban theorists argue the significance of the change in

³⁰ The main idea of it derived from theory of communicative action developed by Jürgen Habermas that planning discourse attempts to reposition itself from technocratic top-down planning by experts to listen more from people, collaborate, and make consensus from different point of views.

³¹ For instance from the study of Lower East Side community in USA, local authority attempted to re-image old building from experts' point of view in order to gear economy from real estate sector, while community did not accept that and to them image and community symbol are more esteemed and valued (Mele 2000).

³² John Friedmann (1998b: 23) identified two different types of civil society group: organized and mobilized civil society group. Organized civil society includes for instance, churches, associations, or formal institutes/organizations, while mobilized civil society includes social movement, protest groups, or other sectors of civil society with collective aims. However, civil society institution cannot be seen as homogenous sphere but in opposite, it is diversified – social class, gender, ethnicity, etc, which bring about conflict within society and wider political terrain.

³³ Healey uses the term collaborative planning as communicative action and means that it is the process by which participants arrive at agreement on action that expresses their mutual interests. However, she believes that a particular political structure does not automatically produce a particular policy position (Fainstein 2000: 452).

³⁴ Accordingly with the 'just city' concept provided by Fainstein (2000: 467); radical democrats and political economists go beyond the involvement of stakeholders to governance by civil society³⁴. Attempting to mobilize participation in decision making process, urban development vision relies on a more pluralistic, cooperative, and decentralized form of welfare provision than the state-centered model of bureaucratic welfare state (Sandercock 1998, Fainstein 2000: 473).

planning paradigm. To them, rational planning is an insufficient tool to efficiently handle urban activities (Castells 1983, 1996; Abbott 1996; Healey 1997; Sandercock 1998; Douglass 1998; Friedmann 1987, 1998b; Fainstein 2000; Peterman 2000, Roo 2003). Planning thought demands more diversified approaches through which any stakeholder is able to determine their needs³⁵. Participation, civil society mobilization and inclusion, community network, grassroots action, consensus building, and etc., emerged in opposition to the extreme of rational planning as a way for conflicts in development direction to be openly discussed. This process, on one hand, presents the study of power as one of the core elements of planning practice (Forester, 1989) and, on the other hand, branches as a collaborative planning model which is central to planning theoretical discussion.

The communicative practices are imperfect in each particular context. Brand and Gaffikin (2007) criticized dilemmas of collaborative planning on two issues; first, its movement purposes to search for mutual understanding, common issue, reciprocity, and empathy; simultaneously, the uncollaborative condition is likely to be emerged at the periphery of chaos (Innes and Booher 1999). Secondly, the interests could be hidden in the interactive processes; besides, *it might seem to be negotiated routinely in the public arenas*. Sandercock (2000) supported this view that power inequality cannot be eliminated by the ways of logical collaboration because such mechanisms are normally driven on the basis of emotions, passions, and importantly, interests. Although, this bottom-up approach based on communicative planning model remains problematic, mainly in its gap between rhetoric and practice³⁶, it is still a core discursive challenge of planning studies and this research partially aims to elucidate for further insights.

Planning and environmental management: The thorough solid waste issue

In the aforementioned planning background, this section focuses planning thought on environmental management where top-down and bottom-up dichotomies are shared. In managerial terms, the waste management cycle involves collection, transport and disposal

³⁵ A frequently shortcoming of rational top-down planning is that decision making is in a hand of a limited group of people, frequently planners, mayors, local administrative authority staffs, politicians, and elite groups of the society, whereas these impacted by development projects/programmes may be anyone.

³⁶ For example, Fainstein (2000) points out three concerns. The first is that *power* is held by public administrative authority. Even though there are agreements, implementation is not ensured. The second is that it is *time consuming* because diversity of plans and ideas from stakeholders and planners may lead to protracted decision making processes. Third, *inequity* frequently enters the decision-making process. For instance, minorities may not invite to a round table to decide projects or programmes affecting them.

(Snel and Ali 1999:5; Nas and Jaffe 2004: 343). Municipal solid waste management demands a proportionate share from municipal budgets of about 10-50% of municipalities' expenditures in developing countries (Anjum and Deshazo 1996; Barton 1997: 1; Snel and Ali 1999: 5, Ahmed and Ali 2004: 468). Domestic waste management is increasingly a problem in many big cities, especially on the local level. United Nations Environmental Programme (UNEP) has promoted the concept of local capacity building known as Local Agenda 21 (LA 21), which aims to minimize environmental depletion generated by urban activities. Since the Local Agenda 21, many cities have undertaken action planning strategies and environmental programmes both through local administrative authorities and communities (see examples in Hadallu undated; UNDP 1997). These programme, including training courses for enhancing environmental management capacity of local administrative staff, governance concepts, community building, and the interrelation of economics and environment, cover a wide-range of concerned stakeholders.

Many studies have been conducted towards sustainable solid waste management mainly from two perspectives. The first perspective is an institutional/technical approach,³⁷ such as the comparative study of solid waste management undertaken by public and private sector (Massoud et al. 2003), the need for restructuring of bureaucratic systems (Dedehouanou 1998; Davoudi 2000), lessons learn from privatization of solid waste collection in developing countries (Post et al 2003; Obirih-Opareh and Post 2002; Colon and Fawcett 2006), the success and concerns of privatization and public-private partnership (Kaseva and Mbulidwe 2005; Ahmed and Ali 2004, 2006), and the integration of the informal sector in solid waste management (Wilson et.al. 2006; Afon 2007; Nas and Jaffe 2004). These have shown household and community-based waste management as one solid waste management option, where waste collection as available resource for community development (Mosley et.al. 2005: 849,861; IIED 2001; Witten 2003). The second perspective views waste management focusing more on participation, civil society inclusion, and stakeholder analysis approaches such as decentralizing waste management in developing countries (Parkinson and Taylor 2003), community-based waste management (Mongkolnchaiarunya 2005, Colon and Fawcett 2006), household waste management at source (Kaseva and Gupta 1996; Mosler et. al. 2005), social capital in waste project (Luckin

³⁷ The herein solid waste management background excludes, in this instance, those of public capacity building and managerial, technical, and financial improvements (such as the study by Miranda and Aldy 1998; Hong 1999).

and Sharp 2005), participatory environmental management (Kapoor 2001), micro enterprise promotion and involvement in waste management (Vincentian Missionaries 1998).

Table 2.1 Arenas of solid waste management modes in planning domain

Planning locus	Forms of management	Approaches	Researches
State	Municipal solid waste management	Bureaucratic, technical and instrumental management	Dedehouanou 1998; Davoudi 2000
State-civil society coordination	Public-Private Partnership (PPP)	Privatization of public service	Post et al 2003; Obirih-Opareh and Post 2002; Colon and Fawcett 2006
Civil society	Community-based waste management and micro enterprise	Community-waste entrepreneurs (this research is emphasized and contests)	Mongkolnchaiarunya 2005; Colon and Fawcett 2006; Vincentian Missionaries 1998
	Household waste management	Minimizing at source	Kaseva and Gupta 1996; Mosler et. al. 2005
	Informal sector	Informal waste management (such as scavengers)	Wilson et.al. 2006; Afon 2007; Nas and Jaffe 2004
	Environmental awareness	Environmental education	Dudick 1999; Hiyama and Keen 2004; Huckle 1993; Sterling 1993

Source: Summarized by the author. Rendered cell is the research focus.

From the reviewed theory and practice, Table 2.1 portrays the overview study and approach in solid waste management concept and practice with regard to the planning entity. It shows the planning locus from institutional-technical approach to civil society inclusion and shared governance. This can be classified in three different levels - the state-led occupancy, civil society practice and shared governance for coordination between state and civil society sector. First, state-led solid waste management refers to municipal solid waste management as conventional environmental management. The previous research in this area emphasized public capacity and technical instrument building. Second, solid waste management by civil society and civic groups as an aspect of a larger notion of democratization and empowerment concentrates on grassroots approaches and practices, for instance informal waste management, community-based organization waste management, and environmental awareness. These two approaches are limited by some difficulties: the former demands resource input by returning unproductive output; the latter is a non-institutionalized programme, so measuring success, failure, effectiveness, and efficiency are difficult. Therefore, co-governance on solid waste management has emerged as a milestone for shared responsibility between the state and civil society sector. Public-

private partnership, public-community partnership, and even support of the informal sector to gain legitimacy under state authority are among the prominent alternative research theories in solid waste management, especially in development planning practice. This development of planning background mirrors two perspectives: with planning serving as an equipped strategy for exercising urban affairs, or with planning serving as a means toward inclusion and collaboration. To bring further understanding, the research utilizes another neighboring concept, *the governance* that critically details the state-civil society relationship from political point of view.

2-2: Theory of urban governance

The bureaucracy is a circle from which one cannot escape. Its hierarchy is a hierarchy of knowledge. The top entrusts the understanding of detail to the lower levels, whilst the lower levels credit the top with understanding of the general, and so all are mutually deceived.

...Karl Marx...

Definition of governance

Persistent questions about the efficiency and effectiveness of the welfare state to handle urban service delivery have given rise to theories that parties outside the government sphere should be involved in the process of policy making and planning. In this case, the concept of governance pertains to the exercise of economic, political and administrative authority in managing urban affairs at all levels. It comprises the mechanisms, processes and institutions through which citizens and groups articulate their interests, exercise their legal rights, meet their obligations and mediate their differences (UNDP 1997). Although encompassed by the state, it includes the private sector and civil society institutions/groups as significant elements. Good governance is comprised of accountability, transparency, participation, effectiveness and efficiency under the rule of law and equity (UNDP 1997, ADB 2004), cooperative points of view and empowerment (UNCHS 1999). Therefore governance means more than government; rather, it takes other stakeholders into account. Jan Kooiman (2002: 73) defines governance as “...all those interactive arrangements in which public as well as private actors participate aimed at solving societal problems, or creating societal opportunities, attending to the institutions within which these governing activities take place and the stimulation of normative debates on the principles underlying all

governance activities.” Philippe Schmitter writes (2002: 53), “Governance is a method/mechanism for dealing with a broad range of problems/conflicts in which actors regularly arrive at mutually satisfactory and binding decisions by negotiating with each other and cooperating in the implementation of these decisions.”

Although governance opens new delivery alternatives of public administrative management and urban service, it is also a regenerative process. Bob Jessop (2002) contrasts that governance, as a dynamic discourse,³⁸ is a third form of societal coordination along with markets and organizational hierarchies. Since Jessop, various studies have focused on governance as the core mechanism in urban affairs driven by formal institutions, such as states, councils, or municipalities: in other words, top-down models. Some also view citizenship and participation as important elements of good governance. Roth (2002: 79) indicates the significance of citizenship, a bottom-up view of participation and governance; as “...full citizenship, though it will never be reached, always remains the goal.”

In summary, governance can be perceived in different ways, depending on desired outcomes. From a bureaucratic point of view, governance means government cooperating with other actors to make urban service delivery efficient and transparent. From civil society point of view, governance focuses on equity. In this study, urban governance framework will be drawn from both views, which are interdependent.

Thoughts in urban governance: Civil society inclusion

Urban governance has become one of the central research focuses in urban political science studies over the last two decades. Championed by western democratic countries, the dominant public administration system was attacked in many cases for being unable to deliver efficient and effective urban services. Some research has highlighted this weakness, recommending that it urgently required reengineering, and purposed the reformation of governmental administrative style (Osborne 1992). For instance, some research prescribes democratization; some recommend government-market oriented reform (Osborne 1999; Corner and Dovers 2004), public-private partnership (Lowndes and Skelcher 1998), participation (Abbott 1996), etc. These concepts shed light on urban service improvement

³⁸ He argues that governance has become meta-governance, where the governance cycle attempts to modulate the form and function of governance. This tends to fail because the cycle always demands new governance in light of growing social complexity (Jessop 2002: 34).

such as healthcare, education, infrastructure, transportation, local economy social development, and urban environmental conditions.

Governance can be conceived in various scales: from international to local levels. The core governance concept is that it vertically and horizontally engages participation from different actors by being a multi-level interaction (Eckerberg and Joas 2004: 411). Particularly in local governance, the classical framework established at Earth Summit in 1997 (LA21's concept) has been globally adopted by many local administration authorities. On one hand, "*governance should be understood as a process and coordinating public and private interests and refers to the process through which local authorities, in concert with private interests, seek to enhance collective goals*" while on the other hand, governance essentially centralizes the role of local government organizations in understanding its capabilities and the local political context, considered the most powerful factors, within which governance is embedded (Pierre 1999: 374-5).

Paradigmatically, urban governance based on government's characteristics can be classified into four general models from Pierre's analysis, in which each distinguished by its particular political environment, value systems and norms, beliefs, practices, and degree of inclusion of organized interests in urban governance (Pierre 1999). They are 1) managerial governance: efficiency in public administrative management³⁹, 2) corporatist governance: advocating participation⁴⁰, 3) progrowth governance: position in political power⁴¹, and 4) welfare governance: dependency on the state's hierarchy⁴². Urban affairs function by these different kinds of institutions/models of governance by enabling multi-organizational

³⁹ This approach is based on administrative management and may try to involve public administration be more competitive or be private and market-oriented under its name; 'New Public Management' (NPM). Having limit resources and capacity, some local governments adopt managerial governance model with private sectors to flourish economic development and minimize social and environmental problems, which can not efficiently and effectively be handled. There are some attempts to insert environmental practice as part of local economic development (Gibbs et al. 2002) by integrating with private sectors, for instance in many case studies of multi-scalar environmental governance between local and state government in UK.

⁴⁰ The model based on highly involved stakeholders and parties aims to satisfy all groups of people affected by development policies. It is the most shared governance form; sometimes considered time-consuming in policy formulation and decision-making processes which can lead to impasse or dispute instead of satisfying every group. This model fits when local government opens and decentralizes power, has an obligation to other stakeholders, and contains high degree of democracy.

⁴¹ This approach is based on taking urban political choice and the power relations of different stakeholder into account. Elite groups whether local officials, developers, or entrepreneurs, dominate power over any decisions on development activity. This model aims to regenerate local economies through elite and developer investment in poor or declining local economies with many urban problems such as unemployment, crime, degraded physical environment.

⁴² This form of governance depends on the superior government or public authority to provide its budget. Local government tends to avoid dealing with private sectors to fund development. This model of governance is based on an extreme welfare state notion and functions when it can attach to regional and national government through local government dominance of major urban facilities, infrastructure, and urban service delivery.

structures to develop. This does not mean that local government can exhibit different modes of governance at the same time (Pierre 1999: 388-9). Key evaluation criteria correspond to implied notions of each mode of emphasis. For instance managerial, corporatist, progrowth, and welfare governance criteria correspond to efficiency, participation, growth, and equity, respectively. With regard to the research questions and hypotheses, managerial and progrowth types of governance⁴³ are not part of scenario since they do not directly correspond to participation and bottom-up processes. Managerial and progrowth governance undermine civic association to participate since they assume for-profit protagonists. Welfare governance is also part of more complicated bureaucratic systems from local to national administrative levels. Therefore corporatist governance appears more sound for its elementary coherence to the concept of civic inclusion in urban affairs. It may be contested to the extent it is suitable as an environmental management synopsis in rapid urbanization of local contexts. From this point of departure, Table 2.2 draws some key elements and characteristics of corporatist governance.

Table 2.2 General characteristic of particular style of governance

<i>Elements</i>	<i>Model of Urban Governance</i>
	Corporatist
Participants	Mass participation is interorganizational rather than strictly political and top organizational leadership is involved in the political process.
Objectives	Ensures that the interests of organizations' membership shape urban services and policy. Serves to coordinate program and action by local government and organized interests.
Instruments	Creates high degree of civil society acceptance of urban political choices. Corporate governance is the system of the involved organizations themselves
Outcomes	Reduces fiscal discipline, Frequently creates inequalities between member of favored organized interests and social groups
Shortcomings ⁴⁴	Time consuming and long process

Source: Summarized from Pierre 1999

The aforementioned mode of governance by Pierre (1999) is comparable to the mode of governance by Kooiman (2003). He classified governance into three endeavors based on degree of decentralization in urban service management: self governance, co-governance and hierarchical governance. This resembles, even superimposes itself upon, corporatist governance models. Therein, regarding degrees of shared governance, the

⁴³ Managerial and progrowth governance is supported as being effective and equal when it results in market competition. This has not been the results in Thai local politics as much of the Southeast Asian region is rooted in patron-clientism (Shatkin 2000, 2004).

⁴⁴ This part is added by the author's collective analysis.

emphasis of different modes of governance depends on the given circumstance of a particular urban context. Self-governance is the strongest relation with societal dynamics, co-governance with societal diversity and hierarchical governance with societal complexity, respectively (Kooiman 2003: 207). Table 2.3 presents the broadest governance concept to the most particular operation proclaimed by some theorists ranging from a high degree to a slight degree of control by the state.

Table 2.3 Defining governance concept from generality to particularity

Governance from broadest to the most particular form	Theorists	Degree of state-led (highly controlled)	Degree of shared governance (moderate controlled)	Degree of civil society-led (slightly controlled)	Emphasis
	Kooiman 2003; Jessop 2002	Hierarchical governance	Co-governance	Self-governance	Range from state to civil society control
	Pierre 1999	Welfare Managerial, Progrowth	Corporatist, Managerial	Corporatist	Style of governance
	Lowndes and Skelcher 1998	Hierarchy	Network	Market	Element of partnership

Source: Summarized by the author. The rendered cells are the research focus

Urban management via governance concept increasingly tends to include combination of people-based orientations (Healey 1997; Kearns and Paddison 2000; Jessop 2002), and is not an attempt to retain control so much as to manage and regulate difference and to be creative in urban arenas that are experiencing considerable change.⁴⁵ These arenas empower themselves by sharing resources, skills and purposes with others (Kearns and Paddison 2000: 847). Urban management can also be illustrated as a multi-level activity within the relational webs connecting higher government with lower levels like community and neighborhood. In as much, contemporary urban government forms alliances and cooperates with other institutions, whereas its political and administrative processes value decision-making and action as much as outcome. The question of how to improve the quality of effective and efficient public administration under the rapid change of urban contexts remains. Another challenge is citizen empowerment to a degree that self-generating and self-perpetuating social and economic solutions becomes possible (Kearns and Paddison 2000).

⁴⁵ Jessop (quoted in Kearns and Paddison 2000: 847) described that mode and manner of governing have changed from those of hierarchies and bureaucracy to self organizing networks or 'heteroarchy'.

Though the top-down system seems to be out of fashion among academics (Eckerberg and Joas 2004: 405), the core discussion of urban governance inevitably centers on public administrative authority as the central mobilizing actor (Pierre 2001). The public management model has been challenged overtime on how it can equitably and efficiently deliver urban services. Difficulties emerge from these conflicts – development opportunities versus disadvantaged localities, time limits and speedy programmes versus building up self-sustaining capacity, and promoting economic competition versus establishing collaborative networks (Davoudi 1995). Regarding environmental issues, some efforts include economic incentives in local environmental planning (Gibbs *et al* 2002) because efforts based only on regime functionalism perspectives to maintain environmental conditions have been tried and failed. A wide range of alternatives for public reform – e.g. *New Public Management* (Osborne and Gaebler 1992; Wiekeraad 2004; Wakely 2000; Jessop 1997; Ruhil 1999; Metcalfe and Richards 1990), partnership – e.g. state-business cooperation (Lowndes and Skelcher 1998; Morgan 2000; Simmons 2003; Atkinson 1999; Kettl 1993; Mitchell 2005), privatization (Ahmed and Ali 2004: 4725; Bartone; Metcalfe and Richards 1990) and grassroots and community building (Wacker *et al* 1999; Taylor 2000; Gonzalez III 2000; Luckin and Sharp 2004), investigate which kind of local administrative environments fit which kind of alternatives. Based on the research focus represented in Thai local political context, the civil society inclusion type of governance is promoted (See the case study's background in Chapter 3).

Shared governance: A bottom-up synopsis

Governance has not only been viewed from an institutional lens, as in the public administrative sphere, but also by other agents who are affected by its exercise. Many studies focus on the role of other parties in governance mechanism, how they operate and correspond, and what the methods are when deployed in a local context (Wacker *et al.* 1999; Vigar *et al.* 2000; Schmitter 2002; Roth 2002; Kooiman 2002; Kapoor 2001). These literatures emphasize the significance of participation where government is the key actor and in dialogue/partnership building between state and civil society. Some other research highlights the crucial role of third sector, non-government organizations (NGOs) in mobilizing public participation in local environmental policy and planning (e.g. Camin

2003). Some literature identifies governance based on community/neighborhood as self-governance (Kooiman 2002; Glasze 2005). This assumes that neighborhood/civil society carries on self-sustaining urban services – customarily being provided by government – for instance community-based solid waste management. Or likewise, the government delegates the authority to civic associations (community-based organizations/ private companies) to operate urban services that are likely more effective and efficient than by government.

State-civil society partnership: Strengthening community capacity

State-civil society partnership is an option presented as a way to work through difficulties in urban affairs where government alone neither efficiently/effectively mandates urban services nor responds exactly to the community's satisfaction. Shared governance with community and the nonprofit sector is highlighted. Having the potential to cooperate with the civil society sector, local government partially delegates and decentralizes urban services to civic associations. Unlike promoting the private sector, shared governance between state and civic associations in partnership does not emphasize only financial resources but also takes into account human/social development and capital (Wacker et al. 1999, Taylor 2000). So, the concentration of state-civil society partnership toward better urban service delivery therefore depends on two conditions: *sharing the power and civil society capacity building*. *Sharing the power* implies collaboration between state authority and community in a partnership where power is always unevenly distributed, where the community is only partner at the implementation stage, while the decisions have already made by the authority (Atkinson 1999: 66). *Sharing the power*, according to a study from Hula and Jackson-Elmoore (2001) portrays the significant role of community non-profit organizations in urban service delivery by coalition with a local government in the USA as the example of policy initiative and formulation. The study notes that its success requires collaboration with public authorities through familiarity, good will and, ground-work at the community level. *Civil society capacity building*, at community level refers to a civil society agent's abilities and resources. Often the capacity limitation for civil society institutions is financial resources that depend on donation-based collection. To increase resources for better capacity building, one course of action implemented among development practitioners and non-profit organizations emphasizes creating *community entrepreneurial organizations/groups*, and

initiating development programmes to enhance local skills, knowledge, human and social capital.

Nevertheless, state-civil society partnerships have always been problematic with democratic accountability. Choices between bottom-up and top-down require mediators whose roles are horizontal rather than vertical (Taylor 2000: 1031). Many case studies identify the crucial roles for third sector organizations (non-profit and non-government organization). These roles include 1) *Stimulating exchange of knowledge across community geographical boundaries*, 2) *Making connections between potential allies across boundaries*, 3) *Stimulating community-based audit, focusing on community needs, assets, resources, and interests of all stakeholders*, and 4) *Encouraging joint learning*. These roles demand the civil society group be represented as an institutionalized cluster and community/civil societal capacity to be strengthened. They require developing new knowledge and skill as well as establishing working a platform/structure. New knowledge and inherited skills have a reliable capacity to bring on the betterment of the urban service delivery they serve. Working platform/structure refers to the complex system existing within and across place-based boundaries. It serves to integrate civil society advancement into the state sphere via policy generation and the inclusion of civil society institutions. By developing parallel structures of both formal and informal involvement, it loosens formal governance structures (Taylor 2000: 1033). Since urban governance works within an institutional-based process, at the earliest stage, the legitimate power of shared governance originates from the government. Before decentralization/delegation of urban service to civil society institution, the government still absolutely and rightfully exercises control over decisions and courses of action. It delegates power whenever consensus in any direction is reached. This bottom-up process can be the state option/alternative whether it is inclusive or exclusive.

Partnership in urban environmental governance and management: Case studies and phenomena

What other options exist where state-led instruments for urban environmental well-being, for instance the polluter-pay principle,⁴⁶ waste deposit systems, penalties and charges, have

⁴⁶ Polluter-Pay Principal has been another tapped solution, where logically sounds – *the dumper, the payer*, but it has been proved efficiently in Asian city based on only a group of higher environmental literacy and education (Chung and Lo 2004: 709). The effectiveness and efficiency of solid waste collection is relevant to ability to pay (Obirih-Opareh and Post 2002). This statement is causally true under market world. In developing world where the income disparity is relatively high, local government is expected to play the crucial role to mitigate the issues that how urban environmental service

been inefficient? Six case studies conducted by Wacker and others (1999) indicate that minimizing environmental degradation requires addressing economic needs as well as training and incentivizing local authorities. Core impediments to this are a lack of urban development mechanism for collaborating civil society institutions and a lack of explicit link between environmental problems and economic well-being issues. The role of the research community is to suggest innovative partnerships between authorities and civic groups as well as recommending capacity building, training of civil servants and civil society agents. The role of civic group is to foster legislative and economic policy initiatives and promote citizen empowerment. This is done through communication and prioritization of decision-making with non-government organizations. Hence, one of the main purposes of research has been to show how key actors may contribute assistance in community capacity building.

Considering solid waste management in particular, some recent research highlights the bottom-up form of governance in rapidly urbanized contexts where non-state sectors could be a focal point for alternatives; by community organization (Kironde and Yhdego 1997; Monkolnchaiarunya 2005), by household (Mosler et. al. 2006), by informal sector (Kaseva and Gupta 1996; Wilson et. al. 2006; Afon 2007; Nas and Jeffe 2004), by Public-Private Partnership (PPP)⁴⁷ (Ahmed and Ali 2006), and by hybrid approach (Colon and Fawcett 2006; Ahmed and Ali 2004; Bolaane 2006). Although some studies indicate success in privatization projects in municipal solid waste management (Kaseva and Mbuligwe 2003, 2005; Ahmed and Ali 2004), others highlight solid waste management in some contexts where not only municipality but also civil society institutions plays a crucial role in which solid waste becomes a generator of income. Stakeholders such as waste-pickers and buyers, small scale industry, community organizations, non-government organizations, and community micro-enterprises share impact in the change of environmental policies and programmes.

deliveries would maintain different groups with equity and how to recover the cost especially for the poorer group where service is inappropriate to commercialize. Analytically, it requires government intervention to mechanize (Dedehuoanou 1998).

⁴⁷ Adopting Public-Private Partnership (PPP) in developing countries, there are three concerns. First the regulatory framework in developing countries is weak. Second elite or superior interest groups who both discover this benefit will exercise their power over the partnership and try to prevail. Thirdly, there is the gap between public and private sector in term of capacity, especially in public sector where the management style changes to be business-oriented. And fourth it is the ambiguity about transparency and accountability which may lead to corruption and inefficiency (Ahmed and Ali 2004: 476).

Particularly, in a general synopsis of Thailand, the state has been very strong and civil society groups have been weaker (Bunbongkarn 2001: 67, Kokpol 1998: 337-40). Most associations and organizations were created at the impetus of bureaucracy and all serve to extend the reach of that bureaucracy (Bunbongkarn 2001: 73). For example, Charuvichaipong and Sajor (2006: 592) highlight in their findings a dearth in civic participation culture in active environmental service. In particular, solid waste separation is undermined by three factors: dearth of autonomous community organization, traditional top-down style of public administration, and deep rooted patron-client relationship.

However, some researchers have concluded that formulating expected governance structure requires not only versatile civil society capacity – particularly at the community level from the community leader’s ability to the strengthening of community associations/groups – but also flexibility in the nature of local government to allow the community access to political power (Coaffee and Healey 2003; Hula and Jackson-Elmoore 2001). Those formations are polemically derived either from top (institution) or from bottom (grassroots). Nonetheless, most of them conceive governance as an integrated compound wherein government and civil society are inseparable, interacting structures.

Shared governance between state and civil society⁴⁸ has emerged as the main alternative of management and planning for better environmental well-being. Abbot highlights this direction toward change in governance which community-based organizations could mirror (1996: 117). It is essential to re-contest either the view that the community organization’s environmental practice results in a community development project or that it may move toward inclusion, empowerment and negotiated development.

⁴⁸ Particularly it orients on community group and non-profit-based organization rather than private sector.

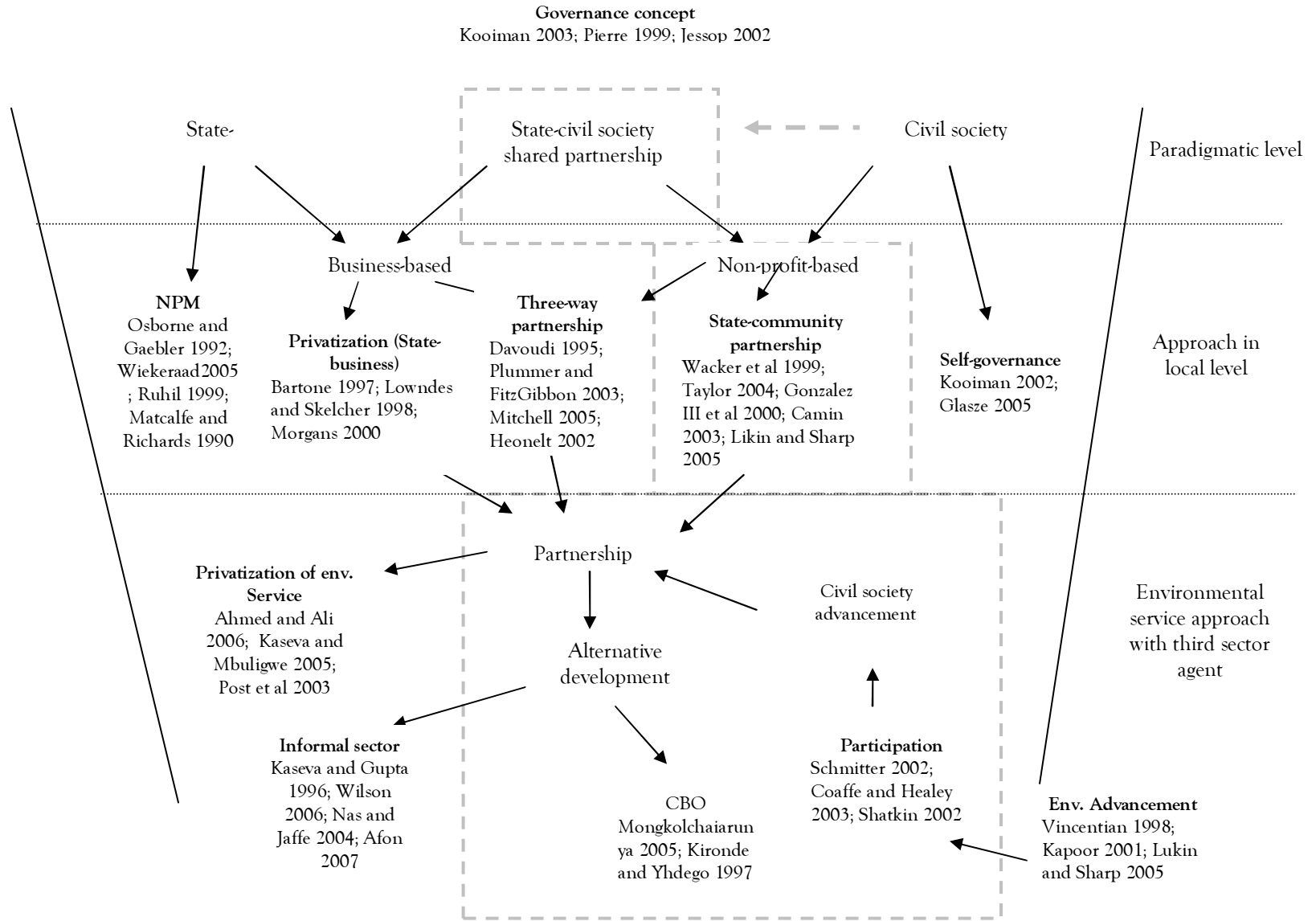


Figure 2.1 Genealogy of governance in associative with grassroots environmental management

Figure 2.1 summarizes the research emphasis. Challenges on a paradigmatic level of governance are divided on the basis of who is in control (from state to civil society domination), to the approach at local level based on real world alternatives. At the operating level, the research addresses the alternative where the environmental management approach acts as the civil society counterpart to solve the dilemma of municipal solid waste management's efficiency in achieving environmental welfare. The next theoretical discussion elaborates on the notion that community/neighborhood is a vital civil society agent and a good microscope to view internal processes toward shared governance in action.

2-3: Neighborhood and community development studies

The life that no longer trusts another human being and no longer forms ties to the political community is not a human life any longer.

...Martha Nussbaum...

Shared governance requires knowledge of how civil society is comprised, especially in a particular locality. An understanding of community - character of urban agglomeration, neighborliness, neighborhood capital, and community-based organizations' capacities - is therefore critical. In industrialized society, community characteristics have transformed as a result of mode of production and division of labor in society (Durkheim 1965). Although many intensive definitions - for instance *community of identity* and *community of interest* (Lane and Geoff 2005: 715 quoted from Duane 1997) - have been offered, place-based is still considered the best working definition of the local context at which environmental problems are addressed. The transformation of communities by economic development policy and local administrative systems affects how communities transform with regard to urbanization. By emphasizing urbanized societal change, this aspect of the theoretical framework addresses characteristics of urbanized settlement due to urban agglomeration.

Neighborhood concept

Neighborhood concept herein is seen in two scenarios. The first is as a quasi-institutional member of society. The second views the internality of a neighborhood as an agglomeration working as an organized representative group/unit in the political sphere.

The construction of community and social institution

Several previous studies have given explanations on social form and relation as to how society and community are constructed and perceived. Ferdinand Tönnies (1957) separated society from community in his famous jargon *Gemeinschaft und Gesellschaft* (Community and Society).⁴⁹ Gradually, community and neighborhood are differentiated from each other.⁵⁰ It originated from community defined as *agglomeration of family unit* (Merton 1968) to *locality* rather than of *kinship* where *Gesellschaft* is the accumulation of *Gemeinschaft* (Meller 1977). Modern society had changed the community relationship from family bond to agreed contract among individuals. These contracts form the collective mass population in what is called the model of civic associations⁵¹ (Peterman 2000: 15). In this model, community is not a homogenous social unit, but is in itself comprised of factions in groups. Therefore to express these groups' demand, community representatives/groups emerge since society is seen as a big community (Abbott 1996, Peterman 2000).

Anthony Giddens (1984) advanced his structuration theory, drawn from the deep-rooted belief that social form is constructed by institutions⁵² which have always exercised control over the micro-social practices of everyday life and its power relations. Patsy Healey (Vigar et al. 2000) transcends this notion in her studies of planning, seeking explicitly to link institutionalist development in urban and regional planning to communicative planning theory⁵³. According to Giddens this means that the social relation⁵⁴ is dynamic, emphasizing relational character through *the cultural community* of governance, economic

⁴⁹ By their relationship character, community identified from blood (family), place (neighborhood), and mind (religious and friendship) differed from society identified by trade/ commercial relation and political control through jurisdictional institute.

⁵⁰ Several notions about community and neighborhood become the main arguments, seducing scholars to misunderstand "what it actually is?" and "what it should be?" or, in other words, from empirical descriptive and normative prescription (Merton 1968).

⁵¹ Arguing by Emile Durkheim (1965), he noted that this can lead to prejudice that society is non-normative. To him, it seemed to be more structured by economic relationship represented as division of labor and became organic solidarity, in which social bonds are based on the interdependence of specialized elements and are heterogenous rather than homogenous.

⁵² Giddens (1984) highlighted that we live in structured society. Our effort of working, our individuals, identities and social relation are constructed. It is made and returns by us such as 'traffic light', social system, money, financial institute, country territory. We make history but it is not in circumstance of our choosing as well as we create structural forces in the same time that we are shaped by them.

⁵³ Developed by Jürgen Habermas, Theory of communicative action emphasizes two-way communication as well as Habermas's 'abstract system' identifying the structure of economic order (market) and political order (bureaucracy) playing roles in planning practice.

⁵⁴ By this term, it does not mean only structural organization relations but also other parties.

and civil society. In accordance, Healey (1997) proposed the concept of *new institution*⁵⁵ that social relation is the matter of change which does not only focus on rigid social structure, but also on social learning processes. Previous studies on community relation⁵⁶ shed some light on power issues and what internal and external elements affect creation, transformation, or reformulation of social relationships.

What is called neighborhood?: Construction of community and the migrants

Neighborhood concept is a spatial- and time-bonded concept, despite there being no single definition of neighborhood; we might still propose that neighborhood exists on three different scales: home area, locality, and urban district/region (Kearns and Parkinson 2001: 2103). Although neighborhood studies using political economic analysis are central and provide the most appropriate representation of neighborhood characteristics and contexts, balancing these with other neighborhood theories⁵⁷(e.g. from ecological and sub-cultural approach) can give clearer view (Pitkin 2001). Neighborhood concept was introduced into the urban context by planners, for instance from Lewis Mumford's geographical notion of *urban village*, or by Magnaghi's theory (2005) that neighborhood inherently embeds the character of self-sufficiency.⁵⁸ Though people juxtaposed in a place-based boundary may not automatically constitute a neighborhood, somehow, proximity can bring about neighborliness by entailing face-to-face contact and reciprocal relationships⁵⁹ (Kearns and Parkinson 2001: 2104). Despite this, a place-based neighborhood concept is rejected in

⁵⁵ The concepts are; 1) It is founded on dynamic and relative and the focused process rather than analyzing particular its patterns, 2) People are the active agents and they are the key of inventing process of change, which each has its own network of change, 3) From *cultural communities*, the policy is not just about legislation and resource allocating system, but the other aspect, which make policy effective, and 4) It is required to empirically monitor that how the power of external forces is made.

⁵⁶ For example, Wellman and Leighton (quoted in Guest and Wierzbicki 1999: 94) proposed three forms of community which exist in metropolitan society by their degree of social tie: the lost community, the liberated community, and the saved community. The lost community refers to community where individuals have few social ties at the locality (such as neighborhood). The liberated community refers to community in which individuals have primarily non-neighborhood social ties. And the saved community refers to community in which individuals primarily relate to others in their immediate neighborhood.

⁵⁷ Those are 1) ecological, leading by Burgees and Hoyt based on presenting neighborhood through explanation of rational and economic choice, 2) Subcultural, leading by Firey emphasizing on perceive neighborhood by sentimental value such as social bond, and 3) Political economy, influenced by Marxist analysis and perceive neighborhood in two different directions - urban growth machine by Molotch and globalization or urban restructuring by Soja and Castells.

⁵⁸ Until the alternative model of neighborhood model was raised by Jane Jacobs (1961) who disagreed with the meaning of neighborhood was only geographically limited. In spite of this disagreement, the research would emphasize the significance of place-based neighborhood being likely more responsive to the addressed environmental problems.

⁵⁹ Harmonically to Peterman's concept, neighborhood must be measured by how the people relate among each other, spend time together, rely on each other celebrate together, mourn together and simply talk to each other (Peterman 2000: 20).

Guest and Wierzbicki's study (1999). Through analysis of age, education, number of children, and work status, Guest and Wierzbicki's study describes the rise of interest neighborhood and social groups.⁶⁰ Neighborhood ties are important functions for a variety of interest groups rather than being based only on geographical proximity (Guest and Wierzbicki 1999: 109). Hence, the neighborhood of interest emerges within the place-based neighborhood. From these prior studies, neighborhood implies and represents specific interest groups living within the neighborhood concept of proximity. Thus, the definition of neighborhood in this research context is conveyed as representing groups via their organizations and associations within neighborhood proximities as a core unit of analysis. The environmental aspect embraces interest groups neighborhood.

Community capacity building and neighborhood capital: An internal scenario

Many prominent scholars emphasize community as an agent for development and the well-being of urban affairs (Johnson Jr 2002; Mentz 1997; Nyden 1997; Chaskin 2001; Shirlow and Murtagh 2004; Wakely 2000; Castells 1978, 1983, 1990; Fraser et al 2003; Kirk and Shutte 2004; Atkinson 1999). Community-based development focuses on community-owned management in urban activities and services: environmental self-management, local economic development, local healthcare and education, local financial institutions, and other service deliveries. The main goal of community-based development is twofold: first, to encourage its members to enhance community relationships via development activities; second, to capacitate the members in order to minimize state dependence and promote self-reliance. Commonly, community-based development activity is operated by community organization on a *not-for-profit* basis, "...to focus at the community level (usually place-based) and emphasize the involvement of local people in defining their needs, shaping programmes and controlling the development of organizations" (Young 2000: 191). Having been promoted by the United Nations, this movement is now being implemented in several local governments. Not all community-based planning or self-sustaining programmes succeed because one of the key factors, community capacity background, differs from one community to another. Exploring the elements of community capacity which influence

⁶⁰ They discovered that the young group has the least social ties in neighborhood level and in contrast they have greater socialized outside home, while the elderly and the off-labor force group have the greatest social tie and resist that declination.

success or failure of community-based development programmes is crucial. The further step is to define what is meant by community capacity.

Capacity building: Framework and concept

“Community capacity is the interaction of human capital, organizational resources and social capital existing within a giving community that can be leveraged to solve the collective problems and improve or maintain the well-being of a giving community. It may operate through informal social processes and/or organized effort” (Chaskin 2001: 295)

Community capacity building is a broad concept. However some elements are shared among diverse definitions. The capacity of a particular community is comprised of three elements: human capital, organizational resources, and social capital⁶¹. Fundamental characteristics of community capacity include a sense of community and a level of responsibility. Sense of community is a level of values, norms, and visions that can be instrumental values or recognition of shared circumstance based on investment or use. Level of responsibility is a commitment among members essential to the existence of community members concerning the well-being of the neighborhood and the willingness of those members to participate in problem solving, translating commitment to action, and accessing resources by economic, human, physical and political means (Chaskin 2001).

Local Agenda 21 (Chapter 37, UNCED 1992) defines capacity building as *“the capacity that encompasses the country’s human, scientific, technological, organizational, and institutional and resource capabilities. A fundamental goal of capacity building is to enhance the ability to evaluate and address the crucial questions related to policy choices and modes of implementation among development options, based on an understanding of environment potentials and limits and of needs perceived by the people of the country concerned”* (Srinivas 2002).

Some studies highlight the factors affecting community capacity building capability.⁶² The structural dimension of community capacity building can be divided into

⁶¹ *Human capital* means ability of individuals in activities to bring about community development and improvement. It can be knowledge and skills which one would like to contribute to community targeting for community betterment. *Organizational resources* imply assets or resources generated by a community in organizational form such as manpower, collective community financial resources, community facilities, etc. *Organizational resource* can be material as well as non-material resources. Both contribute to community capacity. *Social capital* relates to more about community networks and how communities transform abstract values into resources through shared trust and networking.

⁶² For instance, existence of resources – skills of individuals to the strength organizations assessing financial capital, networks or relationship – stressing on effective and instrumental terms, leadership, and support for some kinds of mechanism for participatory process by community members in collective action and problem solving (Chaskin 2001: 292-3).

three levels of social agency: *individual level*, *organizational level*, and *network level*. *Individual level* means human capital and leadership: skills, knowledge and resources of individuals, including people participation/engagement in community groups to improve activities. *Organizational level* refers to instances where community organization as a development organization, along with local branches of larger organizations or institutes is the effective and an efficient service provider. *Network level* refers to operation by social structure: patterns of relation among individuals and organizations, trust and support of associational groups to become formal organizations, and an infrastructure of instrumental relations among organizations giving each organization greater access to resources (Chaskin 2001: 292-3). Community capacity building, in the aforementioned framework uses social interaction as a strategy for building community capacity by addressing four major elements of empowerment: leadership development, organizational group development, organizing of community, and fostering collaborative relation among organizations.⁶³

Capacity building not only generates a high communicative dimension for people awareness, but also generates mechanism through which identification translates into wider participation rates (Shirlow and Murtagh 2004). On a macro level, interfering circumstances, regional economic structures and migration, can constrain a community's ability to enhance its capacity. Outcomes result either from existing community capacity or through capacity building initiatives. Therefore the connection between capacity building and rates of participation is reinforced. In some cases, this connection transforms to empowerment that can be viewed as "*a process, through which individuals as well as local groups and communities enhance their capacity to initiate action to improve their wellbeing by gaining decision-making power*" (Hiyama and Keen 2004: 5).

In a globalized context, community building has extended from the neighborhood level to broader stakeholders in civil society. It is expected to fill the dichotomy gap between civil society and welfare state governance in urban affairs (Friedmann 1998b; Fischer and Kling 1993; Sandercock 1998; Fraser et al. 2003). Thus, it accentuates the significance of network creation - private sector, social groups, non-profit organizations - which is the arena where knowledge and solutions of urban problems are shared,

⁶³They may operate to number of means; for instances, by informal social process - voluntary selfhelp networks, by organizing community-based process - work of community organizations and association, and by formal targeted efforts - catalyzed community-building initiatives.

exchanged and interlinked, not only on an intimate scale but regionally and nationally (Fraser et al 2003: 437). Meanwhile, on an operational level, capacity building for community leadership development⁶⁴ has been defined as process rather than personality (Kirk and Shutte 2004). By emphasizing *learning* and *helping* processes, mutual self-recognition of each member's role and shared goals can be reciprocal in community companionship⁶⁵ (p. 238), whereas collaboration has to rely on: clarity about a common task, clarity about the different roles of partners, and commitment from all partners to a joint-dependent enterprise that seeks to develop, empower and reduce dependency (p. 244).

Capacity building is often criticized as only a technical solution. Many scholars emphasize genuine empowerment as the real community building. Training and capacity building are still unproven as a means to create genuine empowerment and not as part of an attempt to manage a community by public authority (Atkinson 1999: 68).

This research may be summarized as concluding that capacity building associates three issues: 1) enhancing individual and organizational development capability, 2) acting to embed neighborhood capital both individually and organizationally, and 3) acting as a development tool for participation, inclusion and empowerment. The first and the second issues provide the research elements of analysis addressing community group/association via civil society agent; while the third influences the research design and experiment (see section 2.4). To build community capacity, one of the central investigative focuses is the reciprocal relationship in neighborhood capital: leadership, trust and social capital. These are considered a cutting-edge emphasis in community-based development and the recent capacity building study, and their elements are discussed.

Neighborhood resources and social capital

As elements in community capacity building⁶⁶, neighborhood resources and social capital determine how extensive a community role civil society agents play in urban affairs. Neighborhood capital refers not only to collective resource, but also to social capital at

⁶⁴ From their framework, it contains three elements: leading change through dialogue, connective leadership and collective empowerment.

⁶⁵ It is therefore about to ground 'collective empowerment' which helping individual to find their place, role, identity, and voice in the system (p. 242),

⁶⁶ Capacity building is linked to social capital by what Johnson (2002: 736) called *community capital* which is comprised of six assets - polity, physical, financial, human, cultural, and social - which can enhance community competitiveness in the market economy.

neighborhood level. Neighborhood capital refers to human, physical, and financial resources embedded as common property at neighborhood level and employed by its members conventionally via community-based organizations. Social capital is a base potential for better social and economic opportunities, especially in communities with limited economic and political resources. So, social capital is like other resources, human, financial and physical (Lin 2001). Unlike other forms of capital, social capital inherently addresses particular social relations/structures, is hardly exchanged like other forms of capital, and works as subsidiary to other forms of capital, especially human capital (Coleman 1990). Two common qualities of social capital are identifiable; it consists of some aspects of social structure and it is productive (p. 302).

What are the elements of social capital? Two are posited. First, it is elementally comprised of *social norm, trust and network*⁶⁷ (Lelieveldt 2004: 534; Lin 2001). Second, defined at the neighborhood level, it is a resource available to individuals that emanates from group interaction because of *trust, social networks, reciprocity, and co-operation* (Carpenter et al. 2004: 855; Putnam 2000). Often, it is recognized more as networks and relations providing material benefits as well as mutual assistance and emotional support to individuals. Social capital consists of resources gained from individual relations and is the product of social obligations and connections of group members within social networks through connections among the members (Lin 2001; Bourdieu and Coleman 1991).⁶⁸ It also consists of resources embedded in social relations, networks and structures, and is accessed by actors for actions. So, social capital is inherent in social relations rather than individuals, although its accessible resources reside with its actors. The common elements of social capital with regard to community groups as agents of civil society institution may be defined as *trust and sympathy* at the organizational level and *network connection* at the network level.⁶⁹ From this scenario, social capital can be viewed as having two

⁶⁷ Social norm and trust, the attitudinal element, refer to personal and social trust, while network as a structural dimension of social capital refers to the extent to which citizens are engaged in all kinds of informal and formal networks that connect them to their neighborhood through membership in all kinds of associations (Lelieveldt 2004: 535).

⁶⁸ Capital can generally be divided to three categories - economic, cultural and social capital (Bourdieu 1985), when focusing on neighborhood capital, although Bourdieu concludes that both cultural capital and social capital will transform economic capital. This research explore the literature of the following prominent scholars - Lelieveldt 2004; Lin 2001; Raco 2002; Taylor 2000; Turner 1988; Carpenter et al 2004; Castells 1996; Eulau 1986; Forrest and Kearns 2001; Putnam 2000; Putnam and Feldstein 2003; Coleman 1990.

⁶⁹ Social capital is therefore trust between social and economic actors defined as networks of obligation for outstanding favor "embodies in the relationship among persons" (Coleman 1990: 304), derived from membership in the group. 'The

characteristics – internal and external social capital. Internal social capital is embodied in accountability and grassroots organizing, while external social capital accesses networks or leverages community integration to widen linkages among individual members (bottom-up development) and superior supporters (funding agencies or local authorities). This illustrates the interplay and manipulation of social capital and community capacity building as a shared element in that both the role of capacity building and community development possesses essential reciprocal relationships within neighborhoods. Robert Putnam (2000) stated that two indicators to measure the extent of social capital in any community are ‘social association’ and ‘degree of participation.’ At neighborhood level, these may be identified by number of participants and scope of participation in voluntary and community organizations, including social groupings (Lin 2001) constructed and expressed through participatory behavior.⁷⁰

Regarding civil society inclusion and shared governance with state, the neighborhood requires neighborhood governance comprised of three elements – *leadership*, *trust*⁷¹, and *social capital*. These elements work in concert with one another. Leadership⁷² is personal ability. It requires focus on social networking. The leader places him or herself as a network builder within a neighborhood and among community networks, acts as a mediator connecting informal communities, and supports the transformation of these communities into more formal organizations/institutions. By connecting to the grassroots on one hand while accessing government elites on the other, the leader aims to enhance and balance community power.⁷³ Acting otherwise may undermine social capital by placing power above results. The transformation from collective goodwill to trust and toward social

more extensively persons call on one another, the greater will be the quantity of social capital generated’ (Coleman 1990: 321).

⁷⁰Participation in this sense is different from participation within the political arena. Participation at neighborhood level can be the initial step to higher participatory level.

⁷¹Trust is classified as having two types: competence trust or trust that an organization has capability to control risk, and good will trust that has emotional acceptance, depends on rational calculation of benefits to the self and others in collaboration, and a shared cognitive understanding of discourse. Both have their outstanding roles based on neighborhood structure. Competency trust limits the personal ability and talent of leader, while providing the system better accountability. Good will trust relies on a leader’s ability to bring about change, innovation, and creativity with less accountability.

⁷²They are “transformation leader” and “transaction leader”. Transformation leader elements, from Max Weber’s concept, are charisma, good will trust and personal ability, while transaction leader addresses accountability and reliability. The roles of these two leaders are different. To achieve social entrepreneurship “transformation leader” should be chosen (Purdue 2001: 2215-6).

⁷³Governmental hierarchy is considered one of the participatory difficulties. For instance, Coaffee and Healey (2003) reflect the detachment between state and community by the middle-man or community representative, who does not represent the voice of community. Although there are the attempts promote social learning and network-building, the development of this intellectual and social capital is difficult to accomplish in mainstream governance processes (p. 1982).

entrepreneurship requires the skill and vision of neighborhood members. On an individual level, trustful relationships between leaders and local residents facilitate a regenerating partnership for collaborative social capital (Purdue 2001). So, leadership, trust and social capital are both the elements of community capacity building in different scales from individual to network, an increment of neighborhood capital, and a path toward civil society inclusion for communities in the political arena.⁷⁴

Community development, environmental action and empowerment

Community development in action is a tool for inclusion and empowerment of civil society. Bringing about positive change within neighborhoods has been a leading strategy to encourage governments to include civil society institutions in new development policies/programmes. Environmental action therefore emerges with the civil society arena as potential government partner where urban problems are unsolved. This partnership/collaboration involves three initiatives; environmental awareness/education, civic participation, and group mobilization as instruments toward shared governance.

Environmental awareness/education

Earth Summit 1992 identified environmental education, along with technical and instrumental environmental management in terms of skill and knowledge, as elements of multidisciplinary integration.⁷⁵ Environmental education for sustainable development has two intertwined thrusts: *developing public awareness* and *understanding of sustainability* (UNESCO 1998). For developing public awareness, environmental campaigns and awareness raising programmes were promoted as long-term provisions. For example, in Thai society, the level of environmental awareness has increased at every level since the national 'Magic eyes' cleanliness campaign promoted programmes of environmental awareness through projects and media initiatives (Sopchokchai 1990: 72).⁷⁶ To understand sustainability, research on local communities conducted in Nepal by Hiyama and Keen

⁷⁴ Although ignoring the significance, social capital may limit neighborhoods depending on only finance, personnel and policies for their problem solving, government action is still a part of crucial long-term platform for encouraging and enriching social capital at neighborhood level (Lelieveldt 2004).

⁷⁵ The orientation of environmental education has gradually changed towards 'green labels'. As an example of the process that O'Riordan (Sterling 1993: 90) calls 'shallow green'. However, Sterling points out also the importance of holistic ideal and value-based environmental education which has to be intrinsically addressed to individual in 'deep green' level. In this research, the focus would not go that far.

⁷⁶ However, the campaign and activity was terminated in Jun 2007.

(2004) found that environmental education is derived from imposing upon the community an economic development scheme. Its keys to success are not only an emphasis on training and skill improvement in community-based environmental project management, but also empowerment on participation in decision-making processes along with the creation of mutual understanding among stakeholders.

Hence, the movement toward a more environmentally-aware society requires its members concentrate on sustainability as a goal. It demands that acquired knowledge and skills be contributed forward. Thus, the development of public awareness and specialized training programmes – to ensure that all sectors have necessary knowledge, skills and understanding to face environmental difficulty – has been identified as a critical component of environmental education and awareness for sustainable environmental development. This can hardly happen without integration with economic development.

Civic participation: Toward civil society inclusion

For state-civil society interaction, a participatory approach starts from the relationship between community and authority (Taylor 2004: 38). Despite the facts that voting is a powerful form of participatory representation in politics and many studies focus on ways to foster citizen voting (Kelleher and Lowery 2004), representatives' awareness of what citizens want is sometimes imprecise.⁷⁷ Therefore, local government as well as citizens seeks communicative dialogues in order to ensure responsiveness between local government and community. Collaboration and cooperation are mutual learning processes among stakeholders – local administrators, civil society, and communities – that may be highlighted as initial steps towards empowerment. In other words, “a style of decision making termed ‘DAD’ (decide, announce, defend) should be replaced by a more consultative and participatory approach” (Mitchell 2005:124). Many scholars identify participation as one of the crucial tasks in achieving desired governance and ensuring social welfare and justice, which may lead to successful urban environmental service delivery (Hapham and Boateng 1997; Shatkin 2002). Participation has been labeled a factor that

⁷⁷ Previous study in Canada about public meeting for local landfill site showed that citizen who likely to participate are the group seemingly affected most on those decisions, while non-participants have less credibility about their authority. Both groups are not well informed by authority (McComas 2001). The evidence reflects, in public meeting that average participants are high income citizens. This research also implicitly represents the limits of citizen participation in which citizen opinion is excluded by inflexible participatory channels as well as skepticism of government's credibility.

helps strengthen community-based organizations' capabilities as well as making local authorities more responsive to community needs. So, the ideal concept of participation consists of informing and consulting with community members and involving them in the decision-making process. To succeed, the core mechanism must be initiated and managed by government because institutional factors can distort or constrain a participatory approach (Taylor 2004: 37-8). The study of participation can be viewed from two sides – state and civil society side – which outline the basic tenants of their relationship and also its hidden power dimension.

Viewed from a state side, several research studies focus on participation as a planning approach and instrument (Schmitter 2002; Coaffee and Healey 2003; Kellerher and Lowery 2004) and other specifically on environmental management issue (Luckin and Sharp 2004; Gonzalez III et al 2000; Haughton 1999; Kapoor 2001; Monkolnchaiarunya 2005; Vincentian Missionaries 1998). This is because despite promoting decentralization, many state actors are still heavily tied to the conventional hierarchical structure (Burns 2000: 963). Notwithstanding, there are the movements in which local government is more open to community and civil society participation in both the policy development process and decision making of urban service delivery through community organizations⁷⁸ that engage local people in development programmes (Luckin and Sharp 2004). This cannot happen without building stronger relationships within the community and emphasizing the involvement of local people. According to Chanan's pyramid of participation,⁷⁹ community organization, as a community group/agent, reduces local community involvement in the governance process. The progression of community participation – from individual action, communal action, community organizing, to policy participation – depends upon feedback from government. This feedback process results in an iterative policy-action continuum.

Civic participation viewed from a civil society side is a development phenomenon often seen as a counter-discourse to state-led governance (Fainstein and Fainstein 1993; Abbott 1996; Peterman 2000; Roth 2002; Allison 1975; Arnstein 1969; Doherty et al

⁷⁸ The definition of community organization can be many facets and diversities – social enterprise, not-for-profit company, or community business.

⁷⁹ Chanan's pyramid of participation (quoted in Luckin and Sharp 2004: 1490) stated the proportion of population involved in participation are from the bottom of the pyramid: people who benefit from development programme, people who are regularly involved in community forum, people who are regularly active in community groups, and the community representatives in partnership with local government, hierarchically. So, the number of people actively involved in the political process will dramatically decrease as in the same token of political representatives in political democratic system.

2000; Hamdi and Goethert 1997). The seminal participation synopsis was posited by Arnstein's ladder of participation gauging the degree of participation from pseudo- to genuine-participation based on how much the citizen is involved in the decision making process (1969: 217). Burns's term also applies 'the stronger the local democratic input coming from the neighborhoods, the greater the tension on the internal matrix within the local community' (Burns 2000: 965). Particularly for sustainable waste management, stakeholder participation is postulated as the key factor (Joseph 2006: 863).

Although some studies emphasize the significance of political institutions as core mechanisms of participation (Pierre 1999; Ruhil et al. 1999), it is not only governed by political force. Rather, efficient participation is emerges also from the inherent norm of a particular community⁸⁰ as well as being built from civil society, not only from political mobilization⁸¹ (Docherty et al. 2001: 2229). Thus, both political institutions and political culture mutually influence participation (Docherty et al. 2001: 2231; Hula and Jackson-Elmoore 2001). Despite the recognition that participation is time-consuming and non-productive, it still necessitates and requires the development of institutional mechanisms to allow groups of people to interact more directly with government (Fainstein and Fainstein 1993: 56). This has never been a neutral process. Diduck (1999; quoted in Mitchell 2005: 139) experienced the difficulties in an environmental assessment process that confronted four constraints; *accessible and complete information, freedom from manipulation and control, openness to diverse perspectives and opportunities to reflect critically on presuppositions*. Because state authorities often discourage genuine participation, especially in weak democratic societies (as reported by some case studies), the task of moving beyond government hierarchical structure requires community mobilization alongside community capacity building (Taylor 2004). Other research furthers the significant role of non-state organizations (non-government/non-profit organizations) to organize and foster local community participation in environmental decision-making process (Carmin 2003; Hula and Jackson-Elmoore 2001). Camin (2003: 542) particularly highlights two factors that are central to the development of civil society and the promotion of public participation: 1)

⁸⁰ The study from Docherty, Goodlad and Paddison (2001), conducting from four neighborhoods in two cities in UK, depicted that civic culture is crucially one of elements of successful citizen participation.

⁸¹ Hula and Jackson-Elmoore (2001) examined on the role of two non-profit organizations in local and regional policy decisions in Detroit, USA and explored how they differently play role in political agenda. The conclusion of the study emphasizes on emergence of relationship among non-profit, for-profit and public sectors on service providing and policy advocating and the essential element is that non-profit organization substantially needs to tie with the public authority.

opportunities provided by policies and institutions and 2) the presence of policies that ensure freedom of associations, of which the latter is central to civil society sector.

Community development and neighborhood environmental movement: Group mobilization as a counterpart and case studies

Community development has been highlighted by many prominent scholars as one of the possible alternatives for civil society empowerment in urban affairs⁸² (Abbott 1996; Peterman 2000; Agyeman 2003; Douglass 1998; Fischer and Kling 1993; Flyvbjerg 1998; Friedmann 1998b; Kirk and Shutte 2004; Hiyama and Keen 2004; Luckin and Sharp 2005; Sandercock 1998). From Abbott (1996), among several approaches and apart from empowerment concept,⁸³ community development is considered as a solution when a neighborhood confronts a problematic dilemma. Some studies define Community development process as government-initiated downward community programmes (Peterman 2000). Derived from the concept of the self-help community, its practical aim is to share with the state decision-making process, resource management and participation as well as the notion that community development is conceptually a method, action and movement toward betterment in urban affairs. However, the role of community development programmes as a vehicle toward shared governance is challenged by how the relationship between community and government is reshaped by community development programmes. Community development has often limited its efforts to finite project-based activities. Community development has been widely criticized for its inability to tackle wider, more complex urban difficulties because of scale limitations and issues with implementation since it needs “to simultaneously harness the energy and knowledge of localities” (Lane and McDonald 2005: 722). However, the evidence from a community waste project by Luckin and Sharp (2005: 71) indicates the ability of project-based community development activity to tentatively enhance social capital in communities; for instance through volunteerism in project works, networking with other social economy

⁸² Empowerment refers to “progress by increasing the capacity for enterprising dialogue in a system where power among member is unequally distribute” (Kirk and Shutte 2004: 235). In the highly-democratic society, the community development model tends to be replaced by the empowerment model. In contrast, community development flourishes among developing/economically dependent countries that need initial support from external agencies. Thus, CD concept is promoted as symbiotic with community empowerment by many urban scholars (For examples: Castells 1983, 1996; Friedmann 1998b, Douglass 1998), where empowerment is a means to shared power (Castells 1983)

⁸³ There are four different approaches to community participation in urban political affairs; community development, political empowerment, community management, and negotiated development.

organizations, criteria for selection of management bodies, and etc. Opportunities for social and cultural interaction within the community emerge from community and local government interaction (Stocker and Barnett 1998: 179-80).

Operationally, there are some studies articulating potentials and constraints of community development and neighborhood environmental movement where learning lessons are posited. For potential in viewing community-based waste management research/projects through their civil society aspects, experiences in solid waste management practice conducted by some case studies (Dahiya 2003; Monkolnchaiarunya 2005; Boonyabancha 1999) echo the significant role and efforts of community-based organizations for self-managing toward waste reduction. In these situations, the local governments have limited ability to handle effective solid waste collection and management. Thus, the community organizes its own voluntary group to reduce waste through its own capacity (i.e. composting and recycling) and can eventually recover the cost of this group activity. This experience highlights that sometimes starting with self-help activity can stimulate local government awareness of and support for waste reduction activities. "The municipality's new policy is to grant official status to as many communities as possible, and it welcomes them to forward their needs, budget proposals, and feedback to the concerned divisions directly" (Monkolnchaiarunya 2005: 36). However, this practice faces difficulties when it must adjust to state's intervention to keep the activity on long-term track. As Monkolnchaiarunya concludes; community-based environmental project *"should be seen as a learning process, not primarily a device for environmental development or an alternative to the traditional solid-waste management system. This participatory problem-solving and empowerment process can bring about gradual cultural, educational, economic, environmental and political changes towards waste, waste-management activities and towards the people's and the local government's roles, given that an appropriate and consistent policy and implementation is assured"* (p. 39). Hiyama and Keen (2004) conduct research which emphasizes the learning process between community and project facilitators in participatory projects for community economic development in Nepal. These emphasize developing capacity building from a micro level, ability to learn from shortcomings, and establishing networks to sustain their group. Major bottom-up planning researchers tend to collectively support these case studies and experiences. Friedmann (1992) theorizes that community-based development activity

can be effective by starting from small scale/micro level projects through non-radical change. Instituting such an alternative development project could create a scenario in which resources and managerial environment are less dependent upon the state.⁸⁴ The aim is not to detach the civil society sector from the state, but to find a more appropriate interaction between state and civil society that could help overcome environmental development deficiencies. Annis (quoted in Friedmann 1992: 142) argued that to sustain alternative development, civil society can no longer avoid the state. Finally, some lessons of experience have been posited, including that instead of avoiding the state, external agents work as catalysts and play an intermediary role in a social learning approach at community to advance civil society sector.⁸⁵

In this overview, community development can be seen as an agent for change. Based on the given literature, this research hereby conceptualizes that community-based environmental advances perform three roles. First, community development and advancement play a *catalytic role* to change toward better environmental awareness and altering the behavior of the community dwellers to minimize waste at the domestic level. Second, as *the waste management operational unit*, these advances serve to alleviate current deficiencies in municipal waste management systems, specifically in waste collection. And third, they serve as *the bridging agent* toward civil society inclusion and shared governance for the directional change of state policy. It is unproven in rapidly urbanized contexts whether or not these community-based environmental management changes could succeed both in the neighborhood internally and in the state-civil society interaction sphere.

2-4 Analysis frameworks: Parameters, elements, and indicators

After the World Summit of Sustainable Development 2002, environmental scientists and researchers shared some necessary key elements in development of quality assurance, science and communication and public policy processes. They found that both institutional and community levels are essential. At the institutional level, new institutions, networks,

⁸⁴ When comparing to the mega-project solid waste management which requires huge resource input and deals with many uncontrollable conditions; politically, economically and socially, the alternative micro-level initiation could bring more tangible outcomes.

⁸⁵ Friedmann (1992: 158-66) has highlights the implementing lessons of alternative development by ten points emphasizing the role of external players such as non-government organizations as the bridging agent between state and civil society. He also emphasizes the important of state as much as civil society's self deliberation.

and policy procedures are required. At the community level, there needs to be a shift in emphasis from one-way technological-based problem solving to participatory learning and capacity building (Strigl 2003; 270). This is central to the author's literature review as a pathway on the research framework and analysis.

Figure 2.2 summarizes theoretical combination from three notions: planning, governance and community development. It provides a synopsis from the given literatures on bottom-up process toward shared governance. The research orientation moves from the synoptic planning theory employed by top-down versus bottom-up dichotomy. In environmental service delivery, governance concept is globally regarded as a classical framework. Although the public-private partnership, new public management, and privatization are successful mainstream approaches in some urbanized contexts, it has been unsuccessful in rapidly urbanized contexts where local administrative platform is not equipped to adapt quickly. The advancement of civil society and community-based development sheds further light on alternative development in addressing the environmental issue. This can be progressed in two levels: the first level as internal community development for its sake and the second level as mobilization for inclusion/shared governance. Therefore, from the broad framework of planning via the lens of governance, civil society advances provides a significant opportunity for shared governance at the local level. Whereas state welfare and management based on market economy has proven only moderately functional, civil society inclusion, especially in community-based environmental management, is currently a viable alternative.

Since it has been argued and contested that it is limited by its scale and scope, many conditions and factors influencing its success or failure are required to be identified. The theories and concepts of civil society mobilization and advancement, community development, and participation are therefore addressed as environmental development flagship. This research contests whether this approach could possibly anticipate environmental service betterment based on empirical quasi-experiment drawing on the underpinning theoretical frameworks.

The aforementioned descriptive literature attempts to depict the framework of analysis in this research. In short, it aims to contest those theories contained therein and contest the role of local government-civil society cooperation and shared governance in

tackling environmental problems at the community level. The analytical framework draws on an assumption that the social process can be represented as an operational structure. The researcher narrows down to a set of selective agents so that the phenomena may be explainable as a structural model. The investigated parameter groups are identified based on agents influencing existing solid waste collection service, limiting the study area by identifying agents as representatives of each group: civil society (community-based organization), state (municipality), and state-civil society interaction (interaction of municipality and community-based organization).

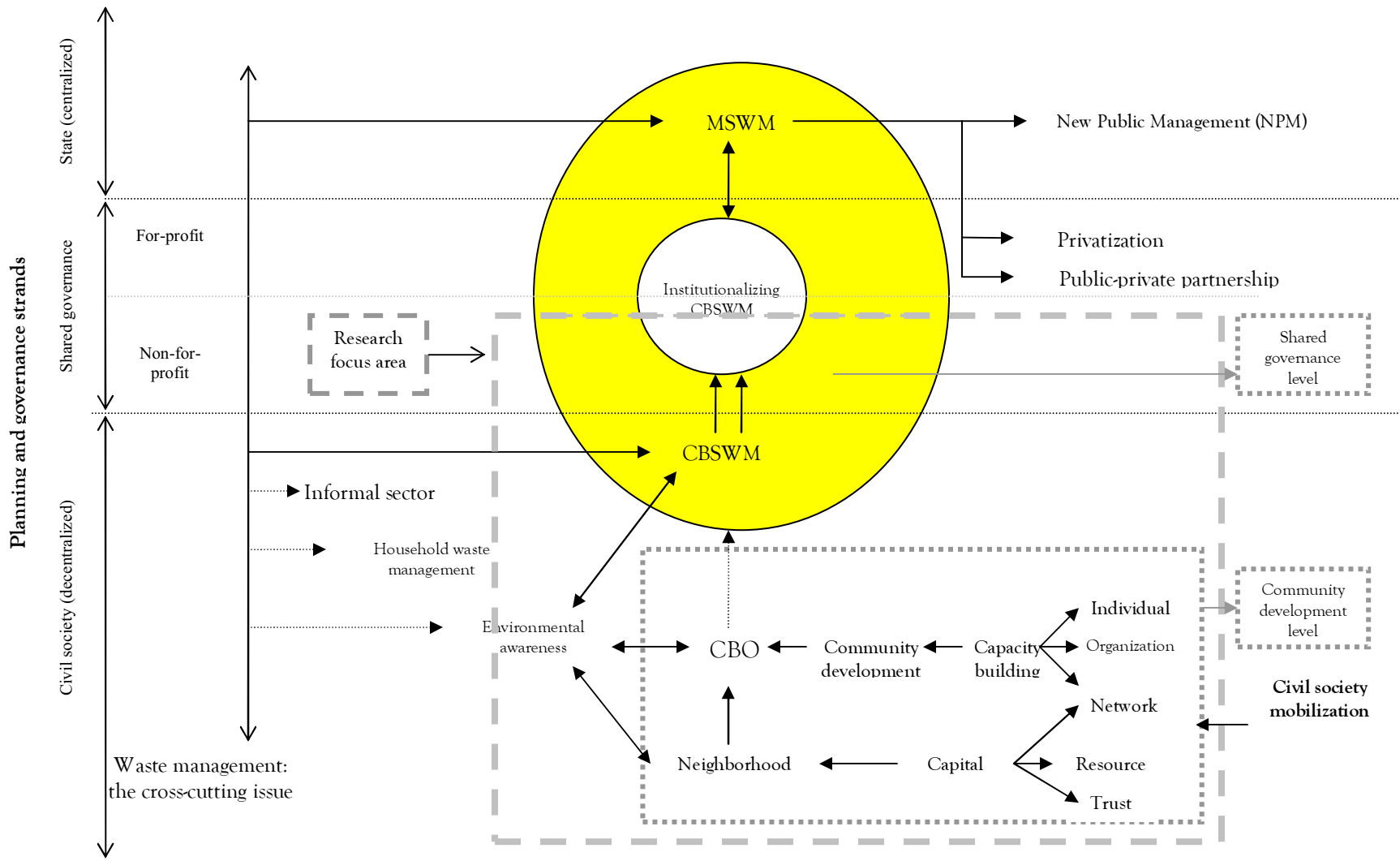


Figure 2.2 Research focus area in theoretical settings

Parameters, elements and indicators in civil society locus

Derived from community development concept, in Table 2.4, internal changes to the civil society agent are classified and evaluated via community-based organization in the selected neighborhood.

Table 2.4 Analysis framework of civil society (community-based organization)

Locus (parameter)	Variables	Elements	Indicators	Measurements	Remarks
Civil society	Performance	Efficiency of solid waste activity	Solid waste collection practice output	Amount and percentage of waste reduction	Monkolchaia-runya 2005; Lane and McDonald 2005
			Capacity building	Individual level	Personal income generation
	Leadership	Appearance and role in public forum			Lane and McDonald 2005
	Knowledge and skills	Degree of efficacy in project management			Nyden 1997; Lin 2001;
	Organizational level		Organizational resources	Organizational financial surpluses	Coleman 1991; Douglas 1998; Forrest and Kearns 2001;
			Trust and sympathy	Degree of companionship in community-based activity	Ostrom 2003; Lelieveldt 2004; Lyons and Snoxell 2005;
			Movement toward becoming formal organization	Change in organizational status of community organization as an institution	Romratamapandhu 2005
			Network level	Supporting network connection	Number of increase network
	Social recognition	Appearance in media and public forums			
	Environmental awareness	Changes in refuting behavioral	Changes in waste separation practice	Change in percentage and number of waste separators, and average weight of waste merchandized with community organization	Sterling 1993; Hiyama and Keen 2004; UNESCO 1998

They are defined by three variables: *performance*, *capacity building*, and *environmental awareness*, supported by community capacity building and development concepts. First, *performance* is the practice output operated by the community-based solid waste management project concurrently to municipal solid waste collection. It detects the operational result that community-based solid waste management conducts in term of waste reduction. Second, *capacity building* consists of the elements that support the civil society agent to continue the activity: the ability of community-based solid waste management and the embedded resource and capital generation. *Capacity building* is categorized by three levels: individual, organizational, and network level. At the individual level, it is gauged by personal income generation, leadership, and knowledge and skills. At the organizational level, it is gauged by organizational resource, trust and sympathy, and movement toward becoming formal organization. At the network level, it is gauged by supporting network connection and social recognition. Thirdly, *environmental awareness* is the change of refuting and disposal behavior. Precisely, it is waste separation behavior that the dwellers change by the community-based solid waste management intervention.

Parameters, elements and indicators in state-civil society interaction

State-civil society interaction studies the changes of functional relationship between state agent (municipality) and civil society agent (community organization) after the research intervention (as quasi-experiment). This involves two elements: degree of *civil society inclusion* and degree of *civil society intensity of self-mobilization*. *Civil society inclusion* refers to the extent a municipality allows civil society institutions/groups (e.g. community organization, non-government organization, media, academia) to be included in environmental practice and decision-making process, as well as the level it currently allows (through which programmes, projects, or activities). This element contains four indicators: plan/programme reorientation, changes in the character of state-civil society communication, participation, and power delegation. *Civil society intensity of self-mobilization* refers to the emergence of autonomous civil society movements in solid waste management to use its influence for sharing political space in environmental service delivery by, for example, dialogue with municipality, emergence of environmental associations, and

upscaling, including civil society advancement. The summary of analysis framework is in Table 2.5.

Table 2.5 Analysis framework of state-civil society interaction

Locus	Elements	Indicators	Measurements	Remarks
State – civil society interaction	Civil society inclusion	Plans/programmes reorientation	Appearance of new civil society-based programmes	ADB 2004; Peterman 2000; Friedmann 1992; Camins 2003
		Change in the character of state-civil society communication	Number and frequency of civil groups allow to attend in state’s arena	
		Participation	Appearance of public dialogue	
		Power delegation	Degree of autonomy to manage the programme	
	Civil society intensity of self-mobilization	Emergence of civil society movement in solid waste management	Number of raising civic organizations and movement in environmental aspect and activities	Castells 1983; Nyden 1997;

Parameters, elements and indicators in state locus

Criteria identifying the status of existing local governance in varying respects are addressed by municipality. Related parameters are categorized as *institutional mechanism* and *performance*, derived from planning functions of administrative system (See Table 2.6).

The *institutional mechanism* has two variables. The first is bureaucratic procedure, which involves internal organizational structures and functions driving current solid waste management practices. Bureaucratic procedure is identified by plan/programme generating process and administrative style of management. The second is the stability of political mandate, which classifies electoral administrative levels as hegemonic/status quo or democratic. This mandate is identified by decision-making leadership and continuity of policy. *Performance* is represented by efficiency of solid waste collection’s service delivery. This can be addressed via the change of municipal resource utilization by budget, expenditure, and manpower input. *Performance* outcomes are identified by the change of expenditure for solid waste collection compared to the practicing outputs.

Table 2.6 Analysis framework of state (municipality)

Locus (Parameter)	Variables	Elements	Indicators	Measurements	Remarks
Municipality	Institution mechanism	Bureaucratic procedure	Plan/program me generating process	Procedural behavior of plan/program me approval	Pierre 1999, Jessop 2002; Chantarasorn 2005
			Administrative style	Degree of hierarchy	
		Stability of political mandate	Decision-making leadership	Appearance of change in municipal solid waste management's mode of administration	Kokpol 1998; Shatkin 2004
			Continuity of policy	Voting popular	
Performance	Efficiency of service delivery	Change of resource input and practice	Change in municipal waste collection behavior and expenditure	Kokpol 1998, Bartone 1999	

This theoretical integration creates the methodological research framework, spheres and elements upon which the quasi-experiment, a bottom-up operation of a civil society agent, is founded. Change is essentially the research focus, detected via longitudinal analysis on the selected case study, where its details are locally extrapolated in the next chapter.

CHAPTER 3

CONTEXT OF STUDY AREA

Rapid urbanization in Thailand has caused significant demographic changes, generating many agglomerated neighborhoods. One of the most apparent cases is the area around Bangkok. In portraying an environmental problem synopsis, it is essential to start with a representative case study. Samut Prakarn province is explored as representative because it is situated near a number of factories and manufacturers and is a part of the Extended Bangkok Metropolitan Region (EBMR). Through this representative province, the circumstances of environmental problems and practices in a locality may be illustrated in relation to the environmental governance. This relationship is central to the research.

This chapter aims to discuss the contextual understanding of the selected case study, Bang Plee Newtown Project illustrated in Figure 3.1. It addresses three aspects. First, general geographical and demographical conditions are portrayed. The discussion draws on the inherent environmental difficulties in solid waste management as projected at the locus of municipality, civil society and state-civil society interaction. Municipality refers to Bang Sao Thong municipality (BSTM), mandated and administered for the residents' well-being and good urban environmental services. The municipality's administrative character and its current practice on solid waste management are investigated. Second, the development of civil society action and association in Bang Plee is illustrated. Thirdly, the relationship between municipality and civil society groups, with regard to solid waste governance structure, is elucidated.

3-1: Profile of the study area

Bang Plee Newtown is located in Samut Prakarn province, about 30 kilometers south-east of central Bangkok. Its local administrative system's history is divided into two periods: as governed by National Housing Authority or NHA (1976-1999) and as governed by Bang Sao Thong municipality (1999-present).⁸⁶ In 1976, National Housing Authority instigated there its first self-contained housing scheme, New Town project, based on western urban development concept (Usavagovitwong and Jongpukdee 2004: 1). The aim of this project

⁸⁶ In 1999, Thai's local administrative system changed substantively by the national decentralization policy from Local Administrative Decentralization Act 1999. This change affected the National Housing Authority in handing over its administrative authority to the municipality.

was twofold. It was aimed to absorb the over-spilled population resultant from Bangkok's transformation into a high-speed urbanized city. Also, economic development policy at that time emphasized the industrial and manufacturing sectors.

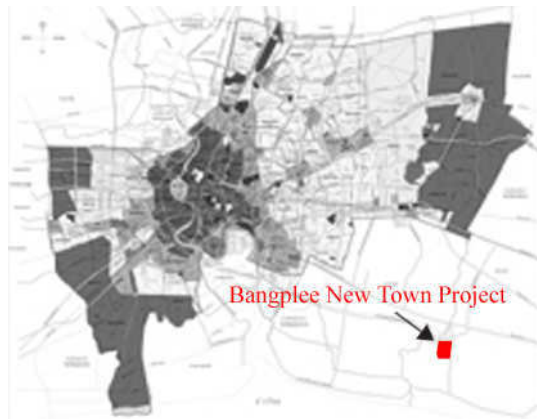


Figure 3.1 Bang Plee New Town project as Extended Bangkok Metropolitan Region
Source: The National Housing Authority, 1997 (Slightly edited)



Figure 3.2 Bang Plee industrial estate and its nearby community and neighborhoods
Source: www.pointasia.com

This rapid industrial development growth resulted in residential scarcity because of agglomerated labor migrants. Hence, Bang Plee Newtown, the first new town project by the National Housing Authority, was cooperatively instigated together with Industrial Estate Authority of Thailand (IEAT) as an ideal modernist housing and town planning concept to supply affordable accommodation for the working class. Designed as the nexus of workplace and residence to minimize transportation impact and provide a good quality for its dwellers, the project contained other facilities and amenities – such as schools, hospital, parks, government administrative offices, and commercial facilities. Bang Plee Newtown and the industrial estate were fully occupied by 1981, and later became a part of the extended Bangkok. These housing schemes – sites and services⁸⁷, row houses, and single houses – were designed to support various demands and dwellers' ability to pay. The masterplan was divided into two phases, the latter of which is not yet fully occupied. However, the first phase, after two decades, has grown in density. Some buildings have

⁸⁷ 'Sites and Services' is one form of housing delivery, which only provides basic facilities such as water supply, electricity, sanitary and dwellers build their own residence according to their available financial resource.

been modified from low-rise buildings to become mid-rise service apartments. Figure 3.2 illustrates the housing of the first phase (rendered area: left/red) located near the industrial estate (render area: right/violet). In this research, Bang Plee Community refers to the community and neighborhoods in its first phase housing.

Geographical and demographic characteristics

In Figure 3.2, Bang Plee Community accounts for 74.47% of the municipal geographical area. The rest of the areas consist of Bang Plee Industrial Estate (16.66%) and antecedent communities outside the new town (0.85%). Covering around 865 hectares, it is comprised of eight neighborhoods as categorized by the National Housing Authority: 201, 202, 203, 203, 40-B, 40-canal, 50-B, and 50-canal neighborhoods. The National Housing Authority identified the neighborhoods according to housing scheme. Four are site and service schemes (201,202, 203, 204), two are row-house schemes (40-B and 40-canal), and two are twin-houses (50-B and 50 canal).⁸⁸ There are officially 7,222 households and 14,761 residents (male= 7,139 and female= 7,622) in Bang Plee Newtown Community. Population density is around 1,538 persons/square kilometer and the size of household is 2.04 persons/ household (BSTM 2003a: 9). Bang Plee Newtown Community has an adequate-infrastructure provision; every household has access to electricity, tap water, drainage, and sanitation system.

Bang Plee Newtown Community is currently governed by Bang Sao Thong municipality. Although the official population seems relatively moderate to its scale, its genuine number of dwellers is estimated at more than 80,000. This disguised population, 4-5 times higher than stated in the municipal document, utilizes municipal facilities without having registered as residents (Bang Sao Thong 2003a: 13; Nanthanawat 1997).

Urban environmental problem: Synopsis of solid waste circumstance

Although Bang Plee Newtown Community was a well-planned and envisaged urban development which accounted for the dynamic change of settlements, the population has

⁸⁸ The names of all neighborhoods represents that its settlement is originated and defined by the National Housing Authority because the neighborhood name comes from the housing scheme's code. For instance '202' derives from the number '20' which refers to the size of land [20 square *wa* (1 square *wa* equal to 4 sqm)] and 2. '50-B' means the neighborhood which its land plot was divided into 50 square *wa* for each house and 'B' identifies that the neighborhood locates by the street 'B' in the same sense of 'canal' that means locating by canal.

grown at a much faster rate than previously forecasted. This settlement is encountering environmental exploitation from the daily consumption and economic activities which include highly waste generating and littering behaviors. The current infrastructure and basic urban environmental services can no longer handle this population density. This has resulted in several urban environmental catastrophes including untreatable wastewater discharges, and failures of drainage and solid waste management systems.

In particular, the solid waste management problem (See Figure 3.3) is critical and has been worsening. Daily relevant consumption facilities such as fresh markets, mini-marts, and supermarkets are operating at high volume and as a result produce high amounts of refuse.⁸⁹ The local administrative authority has limited resources and manpower to effectively tackle this problem. For instance, Samut Prakarn Province (2003) indicated that amount of waste generated daily therein is equal to the waste generated in an urban area of about 40,000 inhabitants⁹⁰, half of the municipality's estimated population. From this capacity-population mismatch, approximately ten tons of solid waste is uncollectible daily, littering streets and drainage systems and contaminating surface water.



Figure 3.3 Uncollected solid waste refuse littering a neighborhood
Source: Usavagovitwong and Jongpukdee 2004

201-Neighborhood: Inquiry and operational case study

To be more concise, a particular neighborhood from the eight neighborhoods in Bang Plee Newtown Community is investigated. 201-Neighborhood is studied by the researcher as a representative neighborhood because its community-based organization and civic involvement are the most vital and rigorous among the identified neighborhoods.⁹¹

⁸⁹ World Bank (1999:37) indicated that Bangkok and its periphery generating solid waste around 1 kg/cap/day

⁹⁰ Such as in Pra-pradaeng District, the nearby district in Samut Prakarn

⁹¹ Data derived from Chumchonhai Foundation (CTF), October 2005

Thereby, its multi-dimensional characteristic pertaining as a civil society agent for the research is sought and analyzed.

Spatial, socio-economic and sociological characteristics

Spatially, 201-Neighborhood is a housing block covering about 35 acres (300X480 sq.m.), surrounded by two-lane roads. Inside, there are approximately 840 housing units separated into six lanes (in Thai called 'Soi'), named by odd numbers (Soi 1, 3,5,7,9, and 11). Each lane is comprised of 120 units (except Soi 1 and 11 which contains 180 units). Thirty-three units have been transformed into the service apartments. Three hundred and fifty-five units have been transformed in the houses for rent. The rest are owner-occupied houses (Figure 3.4). These house approximately 4,000 inhabitants.

Demographically, over half of the dwellers in Bang Plee Newtown Community work in Bang Plee Industrial Estate (53%) which is regulated by the Industrial Estate Authority (BSTM 2003a). The rest are private employees (20%), self-employed (12.7), and civil servants (5%) (BSTM 2003a: 12). The average of 2.04 persons/household (BSTM 2003a: 9) implies the status of small, single family dwellings. The researcher's questionnaire survey of 493 respondents in 201-Neighborhood in March 2006 indicated that most of inhabitants have migrated from Thailand's northeastern region (49.3%), central region (30.3%), and Bangkok (9.9%), while only 1.9% of respondents originated in Samut Prakarn province (See Appendix C). So, Bang Plee Newtown Community is an internally agglomerated community, structured in the last two decades and comprised of a very small percentage of local inhabitants. After two decades, the former migrants have been woven into the internal social web/neighborliness and compose a non-formal organization/group per se.

Figure 3.4 illustrates the character of building cluster and settlement. From the researcher's survey (p=493), the inhabitants of 201-Neighborhood can be classified by three sociological characteristics drawn from *housing class* concept⁹² of Davis (1991).

⁹² Davis (1991) portrays the social system from previous left-wing urban housing theorists in this type of neighborhood in certain geographical boundary. It is observed that there are three groups of residents who hold different class status and relate among one another through rental relationships. The first group is *the proponents*, property capitalists who use their property for accumulation. The second group is *the owner-occupiers*, who are both dwellers and rent-seekers. The third group is *the tenants*, who are non-owners who use the property for their accommodation. These three groups live in one neighborhood boundary and interact as well as cluster into urban communities. The author borrows this prescription and represents as groups based on degree of intimacy and isolation to sense of belonging. So, groups are classified based on length time span of settlement in the study area.

- *The original group* or most owner-occupiers (40.0% of the respondents) are the group of former migrants embedded in Bang Plee Newtown Community since the National Housing Authority had built the new town. The clear characteristic of this group is that they own their dwellings. Some of them supply the accommodations by renting units out to migrant-workers.
- *The assimilated group* (32.6% of respondents) are the most current group of migrant-workers, living in Bang Plee Newtown Community for a moderate period (5-10 years), assimilating with the first group by participating in some social activities. This group has always consisted of renters, though they may tend to permanently settle here. Nonetheless, they are not official residents and most do not own accommodations.
- *The circulated group* (27.4% of respondents) have lived in Bang Plee Newtown Community are mostly temporary workers who leave when they find better employment elsewhere.



Figure 3.4 Settlement and spatial cluster of 201-Neighborhood
 Note: the author's survey

Ever and Korff's (2000) similar classification identified the original and assimilated groups - the groups that permanently settle down and associate with one another and with other social institutions such as municipality, schools, community organizations, etc - as

the active civil society agents.⁹³ Based on this assumption, it implies that almost three-fourth of dwellers (72.6% of respondents) are in groups without any form of social engagement or connection to the civil society sector.

Inhabitant's behavior, awareness, and attitude on solid waste aspect: The portrayal survey

Identifying changes in behavior demands knowing behavior at the outset. Current waste disposing/refuting behavior, awareness, and attitudes are identified as derived from the empirical survey during March and April 2006 at 201-Neighborhood. The researcher employs 493 completed survey questionnaires, with each representing a household as the unit of analysis. In order to identify the current backdrop of solid waste practice and civic perception regarding environmentally-friendly alternatives, the survey gauges the level of solid waste separation practice and knowledge of proper waste management at household level, plus general socio-demographic background, and attitudes on waste disposal.

Table 3.1 Household waste refuting behavior and practice

Criteria	Yes		No		Total	
	N (hhs)	%	N (hhs)	%	N (hhs)	%
Have you and your family are permanent residents	137	39.1	217	60.9	354	100
Have your household separated waste before refuting?	204	46.7	233	53.3	437	100
Do you know that waste is value and tradable?	378	89.2	46	10.8	424	100

Source: Author's survey, March 2006; Missing value is excluded, hhs = households

Table 3.2 Frequency of waste separation practice

Frequency of household waste separation	N (households)	%
Often (more than 3 times/month)	52	11.4
Sometimes (2-3times/month)	29	6.4
Rarely (Less than 2 times/month)	140	30.9
Never	233	51.3
Total	454	100

Source: Author's survey, March 2006; Missing value is excluded

Knowing that waste separation at source is one of the means to help make waste collection easier and shorten the waste cycle⁹⁴, promoting waste separation can mitigate the disposal burden to municipal solid waste management. With regard to waste

⁹³ Meanwhile, the other is the 'migrants' which so called group of 'established' and group of 'outsider'.

⁹⁴ Because solid waste, especially recyclable waste, can be collected directly by other waste collecting agents: informal waste scavengers and junk shops.

disposing/refuting behavior and attitudes, the questionnaire survey discovered that 89.2% of respondents already know the benefit of waste separation and that waste is a valuable commodity for which one could trade, although the benefits of current waste separation do not stimulate dwellers to practice. Only 46.7% of respondents practice solid waste separation (Table 3.1).

Only 11.4% of respondents often practice waste separation which is identified by as habitual separators, separating more than three times per month (See Table 3.2 and Appendix C), and another two groups identified as occasional separators includes 6.4% of respondents practice sometimes (2-3 times/month) and 30.9% of respondents practice rarely (less than twice per month). In other words, 37.3% of respondents occasionally practice separating behavior, even though most dwellers recognize that waste is valuable and tradable. To identify changes in behavior and heightened awareness, the research engages not only habitual waste separators, but seeks to change non-separators.⁹⁵ Based on the findings reflected among non-separators, it implies an economic disincentive in itself. The findings (see Appendix C) mirror major reasons why waste separation fails at its source; it is time consuming (26.4%), people are too lazy to practice (17.8%), and it is not worth doing (7.6%), respectively. These findings – both the proportion of waste separators to non-separators and the reasons given why the latter group does not separate waste – imply that environmental awareness among dwellers is low. More likely, dwellers know the benefits of waste separation, but the economic incentive of waste separation is not sufficient to result in a change in behavior.

Exploring current waste disposing/refuting behavior and awareness of the dwellers is one thrust of the research. Another is the attitude toward managing organizations that may lead to behavioral changes toward waste separation. Since no single authority is responsible for solid waste management, most respondents (79.6%, Table 3.3) advocated and believed that cooperation among stakeholders is the best solution for more efficient solid waste collection. For solid waste management improvement in 201-Neighborhood, the respondents advocated some solutions: 34.9% of respondents sited coordination to external organizations and stakeholders (Table 3.4), while 42.2% of respondents sited

⁹⁵ By this basis, the researcher draws an operational community-based solid waste management via 201-Community organization as a mobilizing agent for change and 201-Neighborhood dwellers as the area of study to explore whether succeed or fail (Chapter 5).

raising environmental awareness (Table 3.4). As for the supportive direction stated in Table 3.5, 24.3% of respondents would separate the waste if community organization initiates the waste separation activity and 35.4% of respondents feel this should be a cooperative initiation between municipality and community. Another significant group, 27.9% of respondents, sited better economic incentive. Altogether, these respondents represent dwellers' anticipation of civil society inclusion in solid waste management as alternatives⁹⁶ initiated beyond the technical-centralized municipal solid waste management. However, the initiatives should match the dwellers' behavior and encouragement (Table 3.5). For instance (See Appendix C), the dwellers tend to prefer trading at their doorstep (73% of the respondents) to trading at junkshops (7% of respondents) or other methods (17.9% of respondents).

Table 3.3 Attitude for efficient solid waste management's organization

Stakeholder	N (households)	%
Bang Sao Thong Municipality	44	10,6
National Housing Authority	13	3,1
Community organization	26	6,3
Bang Sao Thong Municipality and community organization	56	13,5
All the stakeholders' cooperation	275	66,1
Total	416	100

Source: Author's survey, March 2006; Missing value is excluded

Table 3.4 Suggestions from the dwellers toward the solutions in solid waste management

The proposed solution	N (households)	%
Only Bang Sao Thong Municipality is the solution	28	7.1
Environmental awareness program, such as waste reduction at source	166	42.2
Other organization should have participated	137	34.9
Others	62	15.8
Total	393	100

Source: Author's survey, March 2006; Missing value is excluded

The findings on the waste disposal/refuting behavior, awareness, and attitude of the dwellers in 201-Neighborhood can be identified as follows:

- Most respondents know the benefits of waste separation but this does not encourage them enough to practice it. A minority regularly practices (17.8% of respondents).

⁹⁶ 87.1% of respondents tentatively site for management direction apart from singular municipal solid waste management approach for instance, the raising of environmental awareness (42.2%) and stakeholder participation in solid waste management (34.9%).

- Most respondents will change their waste refuting habits by separating waste if there is a waste separation initiation either through community-based activity or community organization and municipality's activity with sound economic incentives.
- Most respondents (85.5%; Table 3.5) understand that municipal solid waste management alone is insufficient to bring on environmental betterment. Other stakeholders should be involved as well as other actions, e.g. raising environmental awareness (42.2%) and stakeholder participation (34.9%), reported in Table 3.4.
- This implies that although most respondents are keen for waste management alternatives, they prefer being passive participants.

Table 3.5 Causes of encouragement for waste separation

Incentives	N (households)	%
Not for any reason	10	4.5
If it is profiteer	69	27.9
Bang Sao Thong Municipality steers waste separation promotion and inserts some incentives	21	8.5
community organization steers waste separation promotion and inserts some incentives	60	24.3
Bang Sao Thong Municipality and community organization coordinate with each other for waste separation	87	35.2
Total	247	100

Source: Author's survey, March 2006; Missing value is excluded

The given portrayal findings support the initiation of waste separation activity promotion in the locality as a means to effect behavioral change in its dwellers. But the purpose is to promote environmental awareness. The dwellers' demand for activity initiated by community organization which can be economically viable for civic contribution and engagement leads the researcher to instigate a small community-based solid waste management project as a longitudinally methodological pathway (see Chapter 4). This involves understanding the characteristic and evolution of state agent (Bang Sao Thong Municipality) and civil society (201-Community organization and Neighborhood) which requires political, organizational, managerial, and procedural elucidation.

3-2: The municipality and local governance structure

The state agent operates in the municipal locus (Bang Sao Thong Municipality). For further insight, the role and practice of the municipality on maintaining environmental well-being

is explored. The elaboration emphasizes the institutional mechanisms/characteristics of current modes of planning and governance: the bureaucratic procedural, including the administrative style and plan/programme generating process. It also emphasizes stability of the political mandate involving the leadership at decision making level and the continuity of policy. Performance includes efficiency in coping with municipal solid waste collection and dweller's satisfaction with solid waste management. The profile of the municipality is discussed.

Institutional mechanism

Institutional mechanisms comprise two elements: the bureaucratic procedural and the stability of political mandates regarded as the core administrative platform for the exercise of plan/programme directions and courses of action. The administrative functions are undertaken by two different domains: the bureaucratic domain (civil servants responsible for planning and implementation of mandatory programmes) and the political domain (electoral positions). These two domains operate in concert to systemize the works of urban environmental affairs. The former refers to the mode of administration at the municipal planning and implementation level; how environmental plans/programmes are generated and function. The latter refers to the stability of elected body at the decision-making level to carry out substantive environmental policy direction regarding solid waste management issue. This includes interim background and transformation of local politics at the decision-making level.

The bureaucratic procedure and administrative style

The study area has been governed by Bang Sao Thong Municipality since 1999.⁹⁷ Within, it is divided into three levels based on the local administrative system - the policy/decision-making, the planning level, and the implementation level (See Figure 3.5). At the policy/decision-making level, the municipality is composed of both elected municipal council (council committees) who act as legislative authority, and the executive body (mayor and deputy mayors). In the most powerful executive body, a mayor, his/her deputies, and

⁹⁷ Previously, the municipality was known as 'sanitary division' after 1999; it was transformed into a municipality according to the national administrative decentralization policy. This caused the municipality to become a local administrative authority, authorized and mandated to maintain local affairs by being subsidized from national government as well as its own revenue generation.

twelve municipal committees are elected to four-year terms. In the political sphere, the executive body functions to provide development direction via plans/programmes. The planning level, administered by high-ranking permanent civil servants, is comprised of six divisions; office of the municipal clerk, division of planning and research, division of finance, division of health and environment, division of construction, and division of education. Their functions are to design the policy framework and plans of action pertaining to particular urban affairs. The implementation level is comprised of both permanent civil servants and temporary employees. The role of this level is to implement the programmes/projects as well as to respond, to reconfigure and to reimplement the newly-readjusted programmes/projects when they are not well functioning and propose changes to the planning level in the next administrative cycle (depending on the timeframe of each plan/programme, which is normally 1-3 years).

All divisions work under *the municipal clerk*, the highest civil servant position in the municipality. Each unit from each division works at the implementation level. The conventional administrative and management systems involved in municipal development planning⁹⁸ assume that each division by implementation level configures, prioritizes and deploys the plan/programme/project. Then, the planning level screens those projects and summarizes them in 'a tentative municipal annual/tri-annual development plan'.⁹⁹ The Health and Environmental Division (Cleansing and Waste Collection Unit), tasked to municipal waste management, functions similarly.

Figure 3.5 shows the vertical-pyramid system embedded in the municipal mode of administration and how the chain of command among the inside divisions is central to each head division. This cross-coordination provides more comprehensive networking on the planning level, but is absent at the implementation level where some coordinating policies and tasks are shared. This bureaucratic style expresses the rigidity of an administrative system that discourages responsiveness and adaptation to the demands of changing environments involving the municipality. A clear example of this is the introduction of civil society institution in the system.

⁹⁸ Every municipality in Thailand is regulated by Department of Local Administration (DOLA) to compile its own three-year development plan, and to implement, review those plans annually.

⁹⁹ The plan contains a list of programmes, projects, with duration and budget formulated by each division.

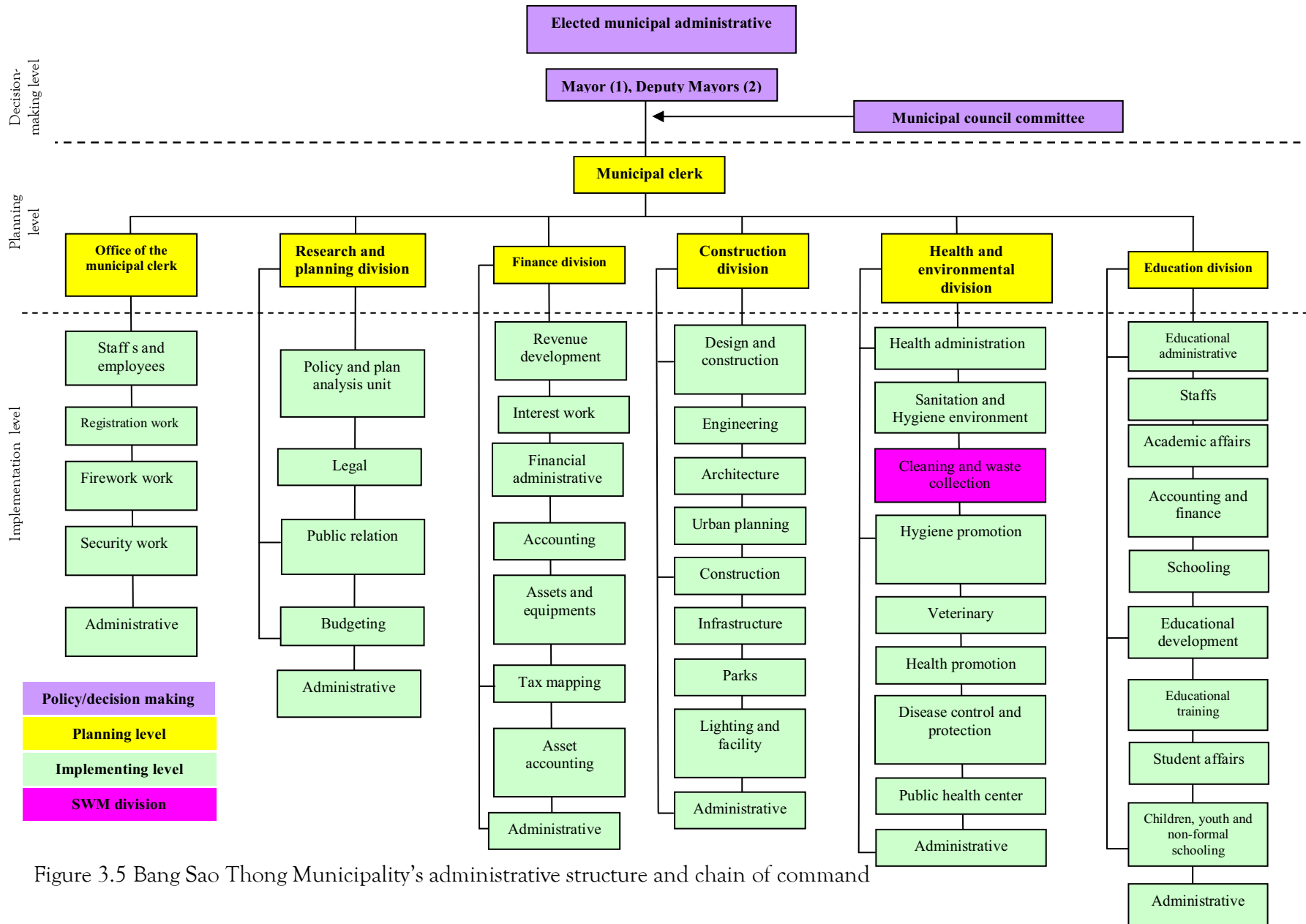


Figure 3.5 Bang Sao Thong Municipality's administrative structure and chain of command

Viewed on a structural-obligatory basis, Figure 3.6 elucidates how the plans/programmes/projects have been generated on this hierarchical administrative platform. It shows that the mechanism for launching plans and subsequent courses of action, once implemented, require a lengthy timeframe to evaluate toward the readjustment/regeneration of policy, plan, and action because the municipality's cumbersome bureaucratic organization hardly welcomes adaptation. The municipality mainly mechanizes its action by drawing on annual/triennial plans. The process starts from the implementation level, where a set of programmes/projects for each particular strategy are generated. Then, the action plan is encapsulated at the planning level, is corrected-approved, and is proposed to the policy/decision making level. The executive level, the mayor and his deputy mayors¹⁰⁰, finalize the municipal development plan before it is approved or rejected by the municipal council. The municipality then only undertakes these approved programmes/plans as its agenda. Figure 3.6 summarizes the process of local administration as the reiterative process/cycle.

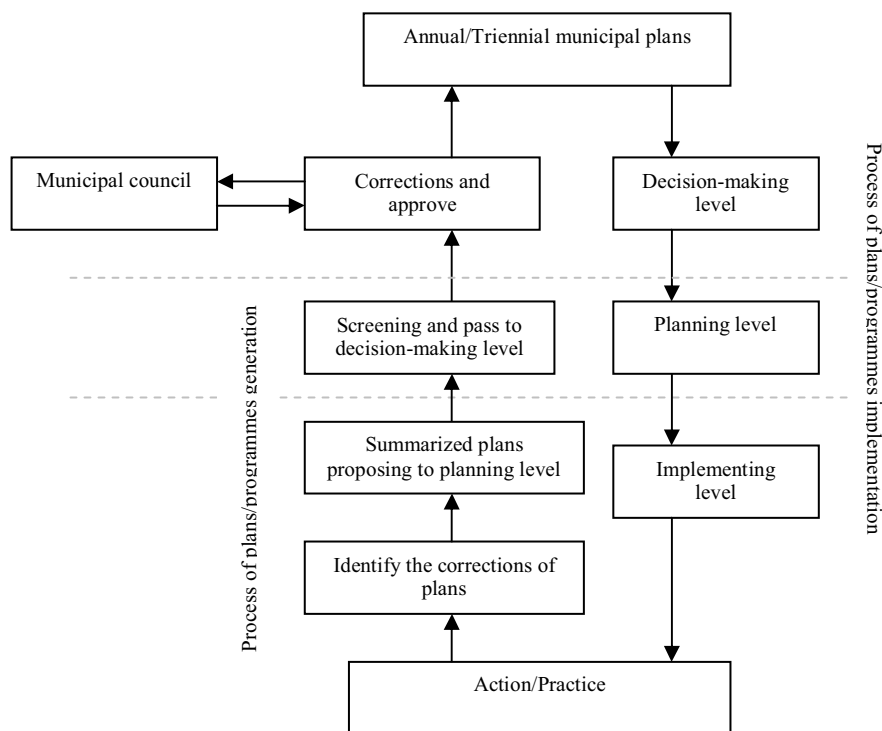


Figure 3.6 Process of administration and the production of plans/programmes/projects

From this portrayed governmental system of policy generation, some qualifications hereby are configured on the basis of the given synopsis that;

¹⁰⁰ The former system was a cabinet system, but electoral body now employs two deputy mayors instead.

- Band Sao Thong Municipality is governed based on conventional-vertical bureaucratic system and administrative style by chain-based command which centralizes decision-making power and is inflexible to immediate change and;
- This mode of administration is slow, inflexible, and has difficulty adapting to change.

Political mandate

On one hand, the political administrative level is the top level of municipal organizing structure and is central the whole policy and course of action. On the other hand, it is the civil society/neighborhood - wherefrom its power is legitimated - that guides the bureaucratic structure. Two developments, the change of administrative system and the rise of local political groups, are explicated based on the consideration that policy ultimately results in a course of action through political support. Therefore, the stability of political mandate requires investigation as to how policy/decision-making power is exercised, and from which cultural/social characteristics.

Bang Sao Thong Municipality was formerly the sanitary district office¹⁰¹ and had transformed to be the municipality in 1999. At that time Bang Plee Newtown Community was governed by the National Housing Authority, tasked with community welfare and services focused mainly on built-environment issues: housing finance, street cleanliness, tap water, building regulation, etc. However, some issues were handled by the sanitary district office (the current municipality) such as residency and local interior affairs. Along with the National Housing Authority, the sanitary district office partnered with the local political group: *Kamnan*¹⁰², since, as a branch of the central government, the sanitary district office had little contact to the community. *Kamnan* group, a quasi-political party, instead had better contact with the community, and had continuously maintained local political power. By this function, it gathered political popularity from the community. Since the decentralization policy, *Kamnan* group no longer exists as a branch of local administration after the decentralization policy, but its members have assumed local political power. Thus,

¹⁰¹ One form of local administration before the national decentralizing policy of local administration

¹⁰² During the sanitary district office era, the locality had not fully been industrialized and, it needed a 'middle-man' to communicate between local citizen and government. *Kamnan* was the person that the local people select their representatives for communicate with the government and, *Kamnan* is usually the most powerful person/group in particular locality.

former *Kamnan* members¹⁰³, their families, and their interest groups, have controlled the leadership of the municipality at the executive position both in legislative and executive bodies, for the last three local general elections, the most recent being in January 2007.¹⁰⁴ Former *Kamnan* group is currently the only local political group in Bang Plee Newtown Community, so they run without organized political opposition. Since 1999, this local political group has been governing Bang Plee Newtown Community.¹⁰⁵ The majority of officials at the decision-making level belong to this group. Based on this continuity of *Kamnan* political popularity, the research finds no significant changes of political policy at the decision-making level of the municipality, comprised of members of this group. Therefore there is stability of political policy on the solid waste management issue as a result of control by this deep-rooted decision-making group.

Current practice in municipal solid waste management: The investigation to its performance

Bang Sao Thong Municipality controls municipal solid waste management. Expenditure for solid waste management has increased over time. Unlike the previous solid waste manager, National Housing Authority, which was heavily subsidized by national policy, the municipality is self-sustaining by depending solely on local taxation and partial subsidy from the Department of Local Administration. The instigation of national decentralization policy affects some municipalities' administrative ability since local subsidization from central government is shrinking annually and funds for the municipality are based on formal numbers of population. This hurts the municipality subsidization rates because of its tremendous disguised population. To maintain urban cleanliness, the expenditure for municipal solid waste management has increased from 20% in 2002 to 22% in 2004 to 25% of total municipal expenditure¹⁰⁶ in 2006 (BSTM 2006c; 2007c, Figure 3.6). Sixty percent of the expenditure is fuel and labor costs. Fuel costs as a percentage increase annually. The municipality currently employs 172 staff, 38 civil servants, 26 permanent

¹⁰³ Currently, *Kamnan* group no longer exists since it has transformed to local political group.

¹⁰⁴ The sanitary district office was governing under central government. At that time, it communicates with "Kamnan" the sub-district representative who is the middleman between the sanitary district and the local people. Therefore, Kamnan is local political group.

¹⁰⁵ For instance, the former mayor is the father of current mayors while, his wife and relatives are the municipal council committees.

¹⁰⁶ It has been counted as 7.7 million THB/year in 2003 and dramatically raised up to 13.4 million THB/year in 2006.

employees and 108 temporary employees in six divisions, functioning for municipal affairs and local well-being (2006a: 22). Of this number, with regard to solid waste management, the Health and Environmental Division employs 70 staff (BSTM 2008), or 40.7% of total municipal manpower, the highest in the municipal manpower distribution.

Municipal solid waste management addresses all waste management cycles: collecting, transporting, and disposing solid waste. For solid waste collection by research focus, the municipality equips 31 of the staff with solid waste management resources including seven six-wheeled trucks (full capacity=ten cubic meters) and five four-wheeled trucks (full capacity=five cubic meters) (BSTM 2006a). The task of municipal waste collection consists of collecting waste at communal disposal points located at both ends of the neighborhood's lanes. The littering waste on the street is collected by private waste companies contracted out¹⁰⁷ because the municipal waste collection has met the threshold of municipal employee capacity according to municipal employment regulations (BSTM 2004b), so the municipality could no longer increase manpower. However, at the communal disposal point, waste remains at overflow levels since the collection rate is less than the refuting rate. Meanwhile, from the littering waste on the street, it appears the private collection companies cannot efficiently meet the refuting rate either.

The current frequency of collection is daily and each vehicle collects 2-3 times per day (BSTM 2007c). Full collection capacity from eight neighborhoods in the Bang Plee Newtown Community, six neighborhoods in another Bang Plee Newtown's phase and waste from factories inside the industrial estate (BSTM 2006b; 2007c) averages 190 cubic meters per day, or is counted as 142 tons/day.¹⁰⁸ Solid waste generation in Bang Plee Newtown averages about 98-100 tons/day (BSTM 2003a; BSTM 2008; Samut Prakarn Province 2003c); while 60 tons/day has been generated by the eight neighborhoods in Bang Plee Newtown Community (BSTM 2006b). In actuality, only about 85 tons of solid waste is collected daily while about 15 tons goes uncollected (BSTM 2008). Based on this data, the researcher analyzes that although the municipality theoretically has the capacity for effective waste collection, practically, there is always waste left over several nights before being

¹⁰⁷ The private company is run by the mayor's relatives. Although, there was transparency in contracting method, competitors were absent since they knew who they were competing against.

¹⁰⁸ 1 liter of waste weights 0.75 kg.

collected.¹⁰⁹ Based on the research survey and interviews with implementation staff¹¹⁰, two reasons are given for this uncollected waste; transportation/disposal limitations (these will be discussed later), and that the collection operation has never been run to its full capacity.¹¹¹ Solid waste management depends not only collection, but also transportation and disposal, so ineffectiveness in one part of the system can fail the whole. Bang Sao Thong Municipality's management deficiency results from these interconnected reasons. For waste transportation, the municipality employs its own collection vehicles to transport waste to a dumping site¹¹² 20 kilometers away from the municipal area. Collected waste is transported daily to the private dump site 2-3 times per day by each vehicle.¹¹³ The transportation distance diminishes the capacity both by the number of collection rounds and the relatively increasing fuel cost. This is one reason why the municipality waste collection cannot be exercised at its full capacity. Furthermore, for waste disposal, the municipality has contracted out to a private landfill site company¹¹⁴ by lump sum method at a fixed cost of 150,000 THB¹¹⁵ per month (BSTM 2005b; 2006b). However, limited dumping hours and queuing¹¹⁶ further limit the municipal actual capacity for waste collection. Therefore, the sources of waste problem - waste littering and over-generation - can be defined as 1) the managerial factor: difficulty of waste transportation and disposal, and 2) the high-speed waste generation factor: accumulatively uncollected waste.

From 2003-2006, the expenses for municipal solid waste management have almost doubled in nearly all segments of collection and disposal¹¹⁷ for items such as labor, fuel, lump-sum outsourcing, and maintenance (Fig. 3.7). Labor costs and fuel costs have been the most problematic rises for the municipality, deepening their solid waste management dilemma. The researcher stresses that even though managerial waste management via a state-led technical approach could alleviate this impact, at this stage it is too inflexible to

¹⁰⁹ One vehicle is mandated to cover more than one neighborhood. Therefore, it has always been the case that some neighborhoods have to wait 2-3 days for the next collection round.

¹¹⁰ Interview Ms. Tuk, the bureaucrat in the Health and Environmental Division of the municipality, November 2006

¹¹¹ Sometimes, a vehicle has to transport the waste, albeit 'not-yet-full', to the dump site because of some technical limitation- for instances the opening period of dump site.

¹¹² The municipality has encountered technically manpower limitation, the NIMBY dilemma and has been not able to operate its own landfill site. Therefore it delegates littering waste collection and elimination task to private waste collection and landfill companies.

¹¹³ The municipality is limited to disposing up to 24 rounds/day (maximum).

¹¹⁴ This company also allocates the landfill site to other nearby municipality and sub-district administrative authority.

¹¹⁵ 1 Euro = 47.34 THB

¹¹⁶ The site is shared with other nearby municipalities too

¹¹⁷ The total the municipality's expenditure had also increased since 2003 to 2005 from 36, 45 to 76 million THB respectively.

handle dynamic change. The findings show that it demands increasing resource input to spend more on vehicles, dumping site, or manpower when facing a change of population. Minimizing waste at the household level means minimizing it at its source, which assuages the municipal burden. This is more essential to the research, where the municipality could be a by-product beneficiary.

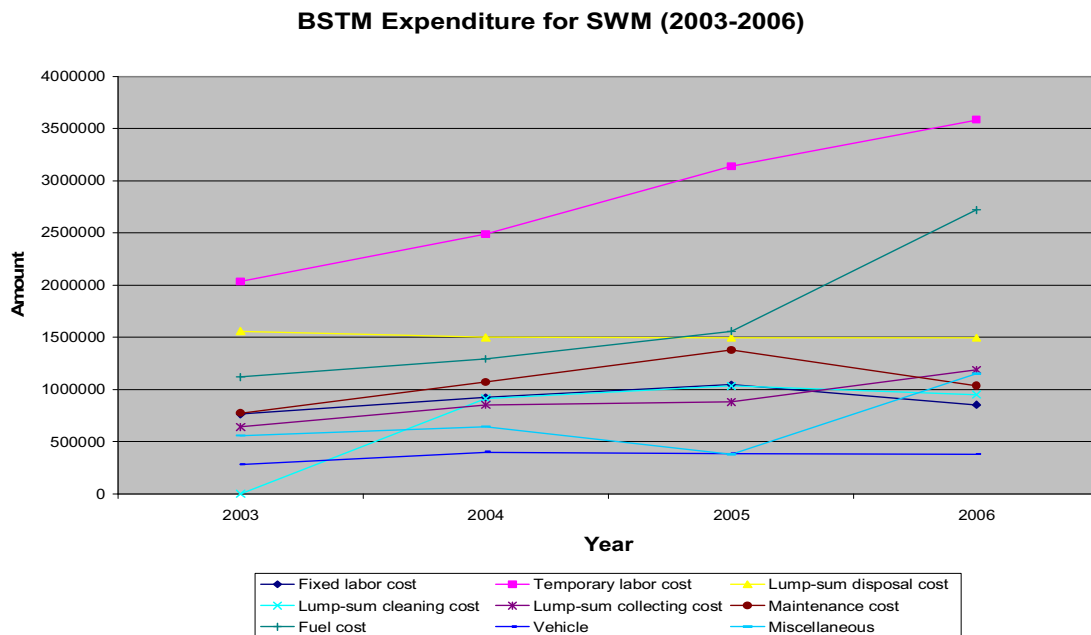


Figure 3.7 Bang Sao Thong Municipality’s expenditure in solid waste management during 2003-2006

Source: Summarized from BSTM 2005b; 2006b

Programme, operation, and efficiency of municipal solid waste management

Programme and operation can be categorized as *active* and *passive* waste management. Active solid waste management refers to the tendency to tackle the solid waste management emphasizing collection efficiency/effectiveness. Conversely, passive solid waste management refers to waste minimization at source and environmental awareness. For municipal solid waste management, both active and passive solid waste management have been undertaken by various associated plans and programmes operating concurrently with the regular programme.

Table 3.6 highlights the municipal solid waste management’s tracking of these assertive programmes. The table illustrates that from 2002 to 2007 most municipal solid waste management programmes and operations have been undertaken using an active

approach (96.74% of total expenses) rather than a passive civil society-based approach (3.26% of total expenses). Of the total active operations, first priority has been given to facilities/instruments (85.03% of total expenses). During the prior period from 2003-2006, spending was primarily on solid waste facility and instrument purchase and improvement, such as equipment, truck, and storage facilities. At the same time, funding was utilized for civic-passive programmes and operations sparingly.

Table 3.6 Comparison of projects and programmes on solid waste management from 2002 to 2007¹¹⁸

Projects and programmes of municipal solid waste management concentrating to Bang Sao Thong Municipality from 2002 to 2007 (Excluding regular expenditure, e.g. manpower, fuel cost)							
Activity description		Number of projects and budgets					Average
For municipal-based (Active)		2002	2004	2005	2006	2007	(%)
		NoP, (%) (THB)	NoP, (%) (THB)	NoP, (%) (THB)	NoP, (%) (THB)	NoP, (%) (THB)	
Programmes							
Capacity building	e.g. municipal staff training and field visit	0 (0)	1 (0.04) (10,000)	0 (0)	1 (0.39) (70,000)	1 (1.09) (300,000)	0.31
Cleaning operation	e.g. waste collection turnkey	1 (25.42) (600,000)	1 (1.80) (500,000)	2 (14.63) (1,450,000)	2 (7.84) (1,400,000)	4 (7.22) (1,980,000)	11.40
Solid waste facility and instrumental improvement	e.g. equipments, waste transportation, storing, disposal	3 (67.80) (1,600,000)	3 (97.23) (27,005,000)	3 (82.04) (8,130,000)	4 (87.93) (15,700,000)	2 (89.29) (24,500,000)	85.03
Total		4 (93.22) (2,200,000)	5 (99.06) (27,515,000)	5 (96.67) (9,480,000)	7 (96.16) (17,170,000)	7 (97.59) (26,780,000)	96.74
Projects and programmes of municipal solid waste management concentrating to Bang Plee's civil society from 2002 to 2007 (Excluding regular expenditure)							
Activity description		Number of projects and budgets					Average
For community-based (Passive)		2002	2004	2005	2006	2007	(%)
		(THB)	(THB)	(THB)	(THB)	(THB)	
Programmes							
Capacity building	e.g. youth and community leader training	1 (0.85) (20,000)	2 (0.36) (100,000)	2 (0.71) (70,000)	2 (0.50) (90,000)	2 (0.33) (90,000)	0.55
Campaigning and environmental awareness raising	e.g. Advertisement	4 (3.81) (90,000)	4 (0.58) (160,000)	4 (2.52) (250,000)	2 (1.57) (280,000)	3 (1.10) (300,000)	1.92
Occasional leaning operation	e.g. Cleaning days	1 (2.12) (50,000)	0 (0)	0 (0)	2 (0.26) (46,000)	-0 (0)	0.48
Civil societal-based waste operation	e.g. school- and community-based waste separation	0 (0)	0 (0)	1 (0.10) (10,000)	4 (1.51) (270,000)	0 (0)	0.32
Total		6 (6.78) (160,000)	6 (0.94) (260,000)	7 (3.33) (330,000)	10 (3.84) (686,000)	5 (1.44) (390,000)	3.26

Source: Summarized from BSTM 2002a; 2002b; 2003b; 2004a; 2005a; 2006a; 2006b; 2007b; 2007c

Figure 3.8 depicts active solid waste management showing that investments on waste facilities are central to the total expenses, which requires reiteration. The

¹¹⁸ This amount has excluded regular municipal solid waste management operational expenditure such as, labor, maintenance and fuel cost.

municipality has delegated some tasks to a civil society agent (a private waste collection company) and has supported passive encouragement of the neighborhood organization and environmental campaign. Considering municipal solid waste management's proportional expenses, Figure 3.8 shows active-based programme expenses grew between 2002 (93.22%) and 2007 (97.59%). Conversely, Figure 3.9 shows support for passive-based programmes resulting in reduction, environmental awareness campaign, and community capacity building programmes accounted for a small part compared to active programmes.

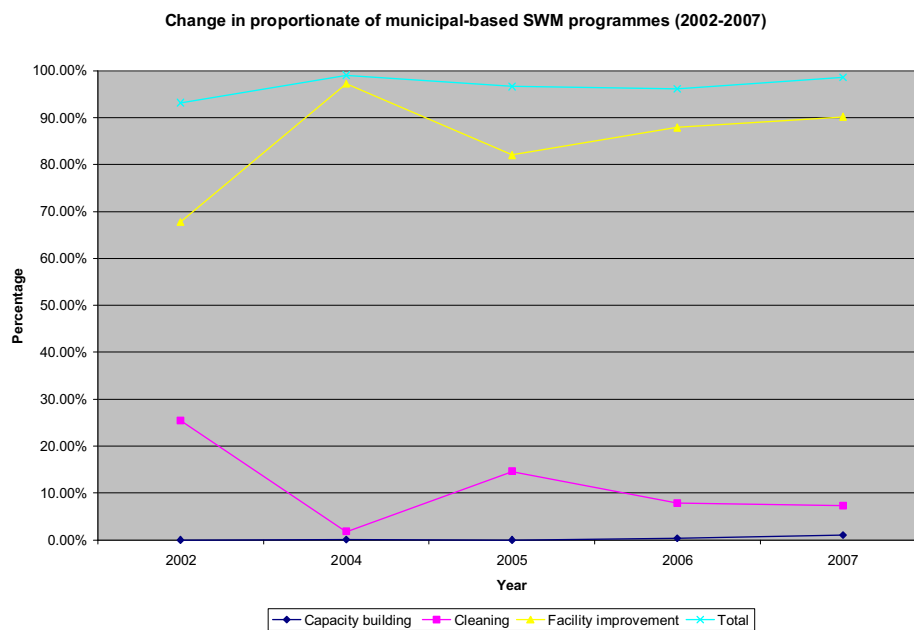


Figure 3.8 Change in active programmes/projects input on technical-based municipal solid waste management (2002-2007)

Regarding both programmes as elements of municipal solid waste management, it shows that the municipality stresses active rather than passive operations. From the civil society perspective in particular, it shows that there has been almost no effort to initiate solid waste management programmes/operations via civil society involvement. Passive programmes/projects of civil society-based initiation on average accounted for only 0.32% of total solid waste management expenses (Table 3.6). After reviewing plans, programmes and policies from the last six years, it may be postulated that the municipality has focused strongly on technical-active waste management; while other alternatives such as promoting community-based solid waste management, raising awareness, waste minimization at source, waste separation, and environmental education have been discarded. In other words, the municipality has operated in more of a centrally state-led, active management and non-

participatory mode than by stakeholder inclusion. Openness to creative options and alternatives has been limited, and as a result the tendency reflects the status quo.

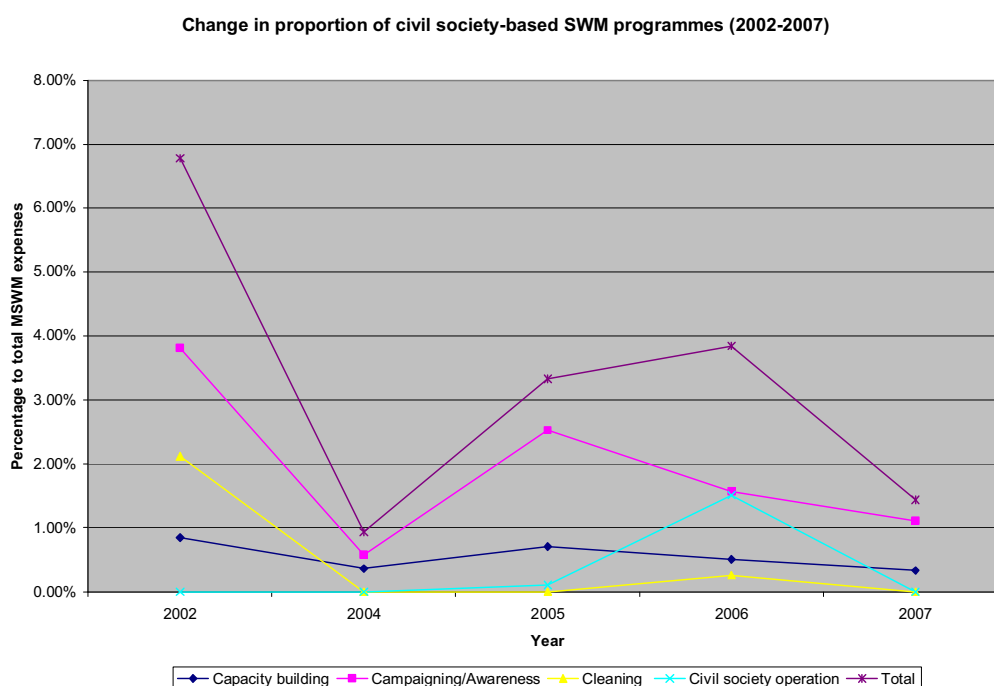


Figure 3.9 Change in passive programmes/projects input on civil action for waste management (2002-2007)

Table 3.7 Expenditure of operation and maintenance cost for municipal solid waste management during 2002-2005

Year	Amount of expenditure for operating and maintenance cost in average (THB/Month)	Cost per unit (THB/ton)
2002	644,527	238.71
2003	715,543	265.02
2004	859,377	318.29
2005	1,113,384	412.36
Average	833,210	308.60 (approximately 6.5 Euros)

Source: BSTM 2006c

Note: 1 Euro = 47.34 THB

Efficiency of solid waste collection service delivery is discussed by the unit cost of waste management, which combines operation and maintenance costs.¹¹⁹ Table 3.7 states the expenditure of waste collection averaged 308.06 THB/ton in the last four years and increased from 238.71 THB/ton in 2002 to 412.36 THB/ton in 2005. The data shows that

¹¹⁹ Such as labor, contracting services, monthly landfill contract, fuel, vehicle maintenance, and staff services/benefits. This excludes the fixed cost: facility investing cost and annual programme's expenditure.

by investing mainly in technical-instrumental capacity building programmes, unit costs of solid waste management operation and maintenance that increase over time. Meanwhile, littering and residual waste problems remain intractable. The municipality is confronting the fact that municipal solid waste management issues place an increasing burden on the input programmes and operations. The programmes seem unable to surmount this. In other words, the municipality has been unsuccessful in effectively achieving a satisfactory cleanliness situation or, efficiently managing its own municipal solid waste management expenditure.

Dwellers' satisfaction on solid waste management

Despite poor solid waste management, voters have not translated their dissatisfaction into changes in the make up of the local political body. Solid waste management problem is identified as the foremost concern among the dwellers (Sanitwong Na Ayudhaya 1997: iii; Samut Prakarn 2003b, 2003c; Usavagovitwong and Jongpukdee 2004: 78). The previous research in 2003 indicated the satisfaction level from the respondents in eight neighbourhoods (Usavagovitwong and Jongpukdee 2004: 65). It was discovered and reported in Table 3.8 that respectively, 7.5% of respondents feel positively, 36.2% of respondents feel neutrally, and 56.3% of respondents feel negatively. The recent survey in March 2006 discovered that dwellers' satisfaction in 201-Neighbourhood with cleanliness over the previous five years has increased, with 44.7% of respondents responding that the cleanliness condition is better, 40.6% of respondents responding that the cleanliness condition is the same, and 14.7% of respondents responding that the cleanliness condition is worse. The comparison of dwellers' satisfaction between 2003 and 2006 reports the percentage of positive and neutral perception increase; while negative perception decreases.

Table 3.8 Dwellers' satisfaction on cleanliness condition in 2003 and 2006

People's satisfaction cleanliness condition	2003		2006		Remarks
	N	%	N	%	
Good/Positive/(+)	90	7.5	188	44.7	Increase
Neutral/(0)	58	36.2	171	40.6	Increase
Bad/Negative/(-)	12	56.3	62	14.7	Decrease
Total	160	100	421	100	

Source: Usavagovitwong and Jongpukdee 2004: 65 (in2003) and field survey in March 2006

This information infers that since the municipality increased spending on technical equipment and operations to enhance its capability for delivering more effective/efficient

solid waste management, dwellers' level of satisfaction about the municipal solid waste management approach in Bang Plee Newtown Community and 201-Neighborhood has improved. The data shows that the municipal environmental practices have also been dynamically and positively affected. Summarily, in municipal waste collection practice, the municipality focuses intensively on technical-based waste management. Some key points from the researcher's analysis are postulated:

- Inflexibility to change in the bureaucratic system and its hierarchical administrative style limits the municipal implementation to a narrow definition of efficiency, which is purchasing equipment and facilities;
- The municipality focuses on a centrally technical-based, top-down, waste management mode of planning and governance for which costs and proportionate expenses of management have dramatically increased;
- environmental policy and action tends toward a technologically-active approach because political stability at the decision-making level is dominated by a single political group whose the outcomes seem to satisfy the dwellers;
- Bang Sao Thong Municipality operates on a state welfare mode of governance with little or no stakeholder participation;
- dweller's satisfaction over municipal solid waste management has positively changed.

3-3: Status of civil society

Civil society has always been a loosely defined endeavor requiring great contextual sensitivity (Jensen 2006: 39). One definition, '*a wide range of parties: stakeholders outside governmental sphere working for the common interest*' is a sufficient, if generic, definition of civil society in a democratic context. These parties range from individual to organization/institute, from for-profit to non-profit, and from international to local, but they share common stakes and may either be place-based, identity-based, or interest-based communities, the media, academic institutes, non-government organizations, or the private sector. In the study area, civil society has prominently been associated with at least two groups which operate independently of each other: the community organization as primary agent and non-government organizations as supporting agents. Other stakeholders have

made an insignificant impact. Therefore, with the community organization and non-government organization nexus as the targeted stakeholders that will potentially formulate shared environmental governance, facilitating such interplay begins with addressing each civil society agent and its development from the past to the research period.

Non-government organization and grassroots development action: Instigating civil society advancement

Grassroots development action and civil society mobilization, encouraged by non-government organizations and academia, has flourished and played a prominent role since the Thai economic crisis in 1997¹²⁰ (Reynolds 2001: 252). At that time, there were a number of international supporters – from Japanese-Miyazawa Fund and Social Investment Fund (SIF) – to instigate community-based entrepreneurial activity¹²¹. In this regard, some non-government organizations, the agents of fund delivery, initiated grassroots activities based on economic and social development such as promoting savings groups, capacity building programmes, promoting community leaders, etc. This action was undertaken in the short term and terminated mostly by 2000. By understanding the nature of non-government organization's operation, the project termination implies that there has been no more resource input to mobilize grassroots activity, thus it has been discontinued. Notwithstanding, these programmes/projects generated some strong community leaders and community-based organizations, usually focusing on occupational development and job creation. These programme activities principally focused on communal rather than individual income generation via the notion of savings groups and cooperatives.¹²² Though these grassroots movements operated in almost every neighborhood, the programmes were not integrated into the municipal grassroots operations. The non-government organizations' operations were also isolated from each other. Each had its own programmes implemented through different approaches. One prominent national non-government organization, Chumchon Thai Foundation, addressed community development issues such as urban environmental improvement, cooperative system development, cultural identity and human rights. This helped interweave community-based grassroots action and

¹²⁰ An Asian economic drawback affected the manufacturing sector and its consequence was a crisis of middle-class unemployment.

¹²¹ Japanese fund aimed to alleviate economic crisis by promoting community-based savings programmes and entrepreneurship based on the belief that community is a real sector of economic productivity.

¹²² Individual would earn via owning stocks and shares.

networks, not only in Bang Plee Newtown Community, but throughout Samut Prakarn province.¹²³

Profile of neighborhood and the community-based organization

Civil society is represented herein via the neighborhood in Bang Plee Newtown Community. The discussion centrally addresses the community-based organization to represent civil society groups in general and 201-Community organization as a selected agent in particular. Community organization development in terms of collective membership and organizational operation are necessary to reveal how administrative authority influences the developing/transforming process. Therefore, the research highlights the brief evolution and development of 201-Community organization, which can be divided into two periods: the period governed by the National Housing Authority (NHA), and the period governed by Bang Sao Thong Municipality. The previous study states that not only the neighborhood/place-based organization, but also five community-based savings organizations¹²⁴ had been working on community development issues (Senanuch 2001: 21-26). 201-Community organization is one of these organizations and has been the longest continuously-active community organization in Bang Plee Newtown¹²⁵ despite being an informal organization. Most organization members have been dwelling permanently in Bang Plee Newtown Community since the beginning in the National Housing Authority's era.¹²⁶

General profile of community organization under National Housing Authority and Bang Sao Thong Municipality

This section gives a general synopsis of the community organization development and evolution through two different administrative systems. In the period from 1976 to 1999, National Housing Authority had full authority to govern Bang Plee Newtown since it was

¹²³ Interviewed Ms. Poo (November 2006), a former field staff from Chumchonchai Foundation who is now working at Community Organization Development Institute (CODI).

¹²⁴ Those were 1) savings group network of Bang Plee, 2) savings group for laborers, 3) savings group by legal consulting center for construction workers, 4) saving group for the unemployed, and 5) savings group for youth (Senanuch 2001: 22-24).

¹²⁵ Interviewing with Ms. Poo on November 2005, supported by the municipal clerk and the head of Educational Division on February 2006.

¹²⁶ They have lived in Bang Plee Newtown since 1976, the year that Bang Plee Community was originated. Bang Plee Community was maintained by the National Housing Authority until 1999 when became authorized and governed by the municipality.

the housing provider. At this time, Bang Plee Newtown Project was a self-governing community that had been legitimated under the National Housing Authority's Act to exercise and ratify its own rules and regulations, such as building permission, infrastructure, environmental services, and residential fees/charges pertaining to physical-environmental well-being. The local administrative authority at that time, The Sanitary District Office, concurrently functioned with the National Housing Authority's governing affairs, but it was absent and detached from community's social construction process. Even though the National Housing Authority, as the national public housing agency, aimed to allocate low-income housing for the workers therein, it was also involved in community building and supporting social affairs. As a community development programme at that time, the National Housing Authority organized community committees in each neighborhood.¹²⁷

The community organization was founded then and still exists today. The neighborhood committee originally functioned as a communication channel between the neighborhood dwellers and the National Housing Authority. A group of neighborhood representatives is selected based on volunteerism.¹²⁸ Although each neighborhood has its own representatives, these representatives form no formal organization. At best, it operates as a community spokesperson to reflect neighborhood wants and needs and is a conduit to deliver governing messages to dwellers.¹²⁹ Social relation over time resulted in a loosely organized/informal cluster. Since the end of the National Housing Authority's era, Bang Plee Newtown Community has been governed by Bang Sao Thong Municipality.

In the Bang Sao Thong Municipality's era (1999-present), according to the national policy decentralizing administrative authority, aimed at empowering localities through the Local Administrative Decentralization Act, the National Housing Authority's governing of Bang Plee Newtown Community was terminated. This Act, combined with enormous expenditure to maintain Bang Plee Newtown Community's physical well-being by subsidizing it, led to the hand over of Bang Plee Newtown Community to Bang Sao Thong Municipality - at the time a new local administrative authority. Unlike the National

¹²⁷ At that time, it had been merely 1st Phase, 8 neighborhoods

¹²⁸ 201-Community organization today is still comprised of many former community committees since the National Housing Authority era.

¹²⁹ Focus group interviewing among neighborhood leaders carried out October 2005, this information was given by Mr. Vichit (Deputy Leader of 201-Neighborhood) and Ms. Darin (Leader of 203-Neighborhood).

Housing Authority, the municipality is not a welfare/subsidy-based administration; hence it governs by reflecting its own real capability/capacity. For this reason, it cannot easily perform better than the subsidized National Housing Authority did. The municipality has retained *priori* community committees to operate its own community development programme. Therefore, the shift from the National Housing Authority to Bang Sao Thong Municipality led to no structural change of connection from the representative-based relationship between governing authority and community inhabitants. Particularly, 201-Community organization has seen little organizational development from external grassroots support since the municipality's own 1999 obligation to promote community-based organizations (BSTM 2002a; 2002b).

Due to the reluctance of most inhabitants, especially for the unregistered inhabitants, to engage in political and social activity, 201-Community organization (also the other community organizations) can be understood as an ambiguous organization.¹³⁰ It is neither a self-deliberating organization which represents the neighborhoods¹³¹ nor a state-appointed organization.¹³² While the community organization has been conducting people-based development activities without support from the municipality, it is dependent upon patronization, having been accustomed since the National Housing Authority's era to such a vertically-dependent relationship (Senanuch 2002: 20). Institutionally, the community organization holds no legal status and as a volunteer-based group has been non-institutionalized/informal. However, its status has informally been recognized and approved by the municipality as the 201-Neighborhood's representative group since there are no other candidates for community development tasks. From this background, the community organization is a weak representative for the neighborhood since it is not formulated by the electoral process but it instead voluntary. Thus, the municipality dominates and exercises power over the community organization because it on municipal support for initiating community development activities. Hence, the municipality deploys top-down state welfare mode of governance in any urban affairs. Changing the power relationship between the municipality and the community organization has never been addressed. The concept of environmental/waste governance which requires dialogue and

¹³⁰ The inhabitants perceive that political engagement is only these in power.

¹³¹ Because membership is not elected directly by the dwellers but is the volunteer-based.

¹³² Also, the municipality does not elect the neighborhood committee

inclusion for both the municipality and the community organization has never been acknowledged. It can be summarized at this stage that the municipality and the community organization relate to each other in that the community organization performs a state-dependent role and the municipality performs state-central role in urban affairs.

Based on this scenario, changing the administrative authority does not change the function of the community organization that depends upon superior local authorities. The community organization is a group of volunteers who link the external supports, mostly from the municipality, to neighbourhoods, although the benefit of this link is limited to dwellers who associate with the community organization. The community organization also initiates and mobilizes community development activities aimed at community welfares and betterment which the state is incapable of undertaking. So its role is twofold: communicating what is demanded from neighborhoods to superior authorities and vice versa, and mobilizing internal community development activities.

201-Community organization and internal characteristics

By selecting a selected civil society agent in order to discuss 201-Community organization qualifications, some indicators are identified to reflect the research focus. As mentioned in Chapter 2, the research emphasizes two outcomes; the change of internal dynamic of 201-Community organization for which civil society is represented, and the change of shared environmental governance in state-civil society interaction. In responding to the former, 201-Community organization capacity and embedded neighborhood capital are discussed.

Similar to other community organizations, 201-Community organization is structured as a volunteer-based organization drawing its members mostly from the original and assimilated groups in the neighborhood. It is comprised of 15 permanent committee members (ten original dwellers and five assimilated dwellers). Like other organizations, the positions are allotted for diverse functions of community-based activity such as a leader spokesperson, two deputies, treasury, public relations, etc. However, 201-Community organization inherently operates as a non-hierarchical organization without an explicit chain of command. Hence, these positions do not imply any significance in practice. Rather, they are formally represented per the municipal requirement. Activities are informally run on the basis of willingness to contribute among the members. 201-

Community organization represents a channel of downward communication linking the municipality and the neighborhood members so that the municipality needs and demands are conveyed to neighborhood.

Nonetheless, 201-Community organization has undertaken some state-independent activities, previously supported by non-government organizations. Although the original projects are no longer in existence, current project-based activities, including *the mushroom group* and *the group of community savings fund*, have their roots to the initiation of self-organized occupational activities. As a quasi-cooperative, 201-Community organization enrolls members inside and outside the neighborhood as shareholders. Two activities are undertaken to benefit the shareholders; *the mushroom group*, a quasi-small community enterprise, and *the group of community savings fund*, a fund for education, health, and communal loans. The two groups have operated since 2004 and 2002 respectively. However, neither has produced effective outcomes. The mushroom group can claim profit of only 600 Euros/year and cannot repay its shareholders for three years. The savings fund has generated non-performing loans totaling 15% of its credits¹³³. Neither indicates successful performance by 201-Community organization in managing its organization. The cause given is that 201-Community organization is not a formal institution and thus lacks legal status to efficiently penalize free-riders.

Mushroom group involves 60-70 members while community savings fund associates around 200 members. These numbers are counted about 1.5-1.6% and 5% of the total population in 201-Neighborhood (appx. 4,000 inhabitants). From the community organization data, we can infer that 201-Community organization, as a neighborhood representative, engages a limited number of inhabitants from the original and assimilated group, the group related to the municipality, or spatial-neighbors of committee members.

201-Community organization draws on two issues: neighborhood capital and capacity. Based on literature reviews in chapter 2, neighborhood capital is comprised of three elements – finance, social and human capital. Finance refers to how the community organization generates surpluses which make it capable of perpetuating activity. The data shows a very low rate of return in its business and an ineffective savings fund. Social capital refers to trust and network – trust being how much the community organization is trusted

¹³³ Data are derived from the informal documents/records of 201-Community organization.

by the dwellers, and circumstance being the limit to engage a wider group of inhabitants than the present group of community organization committee members and neighbors. Network refers to how intensively 201-Community organization links with other organizations and institutions. Currently, Chumchonchai Foundation is the only external underpinning institution. Although 201-Community organization is currently weak in many ways, it is potentially a navigating agent toward shared governance dialogue with the current state-led management and planning in solid waste management since it is connected to the neighborhood albeit a small group on one hand and to the municipality on the other. Meanwhile, non-government organizations play a role supporting 201-Community organization¹³⁴, but the private sector is absent.¹³⁵ Its organizational structure activity can be summarized as:

- 201-Community organization represents a group of dwellers closely tied to the committees. Since the dwellers have little participation in community-based activity, it is clearly a voluntary group. Thereby, the classification between *permanently-living group* (the original and assimilated groups) and *temporally-living group* (the circulated group) is contrasted;
- 201-Community organization is an informal/volunteer-based organization with poor managerial skills, performance based on trial and error, and limited neighborhood capital and resources;
- 201-Community organization runs voluntary activity based on member goodwill, is nominally supported by the municipality, and is mobilized mainly from the labor contributions of the members, not from its own generated surplus.

3-4: Conclusion

By the research, state and civil society relational characteristics are illustrated in the relationship between the municipality and 201-Community organization. An understanding about both agents' interaction is a benchmark toward shared environmental governance, and can help to identify how it may be changed by the research

¹³⁴ Non-government organizations have been reluctant to confront the municipality due to potential political conflict and undermining community organization development activity, which the municipality is supporting. Therefore its role is to support in absence by being passive rather than active.

¹³⁵ The municipality delegates some tasks to the monopolized contractor which tied by deep-rooted patron-client system to the local political party. Charuvichaipong and Sajor (2006) highlighted how this exists in every local political Thai context.

intervention/quasi-experiment. Thus, the current limitations of the municipality and 201-Community organization in solid waste management issue are highlighted.

Limitations of administrative body and community

Exploring how 201-Community organization is configured is crucial to identifying the limitations and potentials of the community to participate in environmental programs. The previous research shows a superficial neighborhood web that is loosely constructed in terms of its internal interaction via economic activity (Usavagovitwong and Jongpukdee 2004). The neighborhood is comprised of heterogeneous groups which do not associate to the 201-Community organization. The limitations of the municipality and 201-Community organization will be briefly elucidated as follows: first, for the municipality, waste generation from disguised population has overwhelmed municipal solid waste management capacity. The municipality has no choice of waste transportation and disposal,¹³⁶ which hinders its full capacity as much as increasing operational costs; second, there is a significant administrative and political gap in the municipality. In 1999, The Sanitary District Office changed its organizational structure and authority to become a municipality. This circumstance generated a vacuum in capacity and ability of the local administrative authority, including in the area of municipal solid waste management. The municipality was folded into the conventional bureaucratic system, which has vertical-hierarchical chain of command and lengthy procedural demands. This obstructed operations and adaptations to change, as well as revealing a lack of creativity (as emphasized in Osborne and Gaebler 1992). Most of its resources have been invested in technical modes of problem solving, leaving the municipality unable to satisfy dwellers' needs. Third, for 201-Community organization and neighborhood, *the original and assimilated dwellers* and *the tenant/circulated dwellers* are not united in addressing development issues. The latter group has had limited involvement in political and communal aspects. While 201-Community organization is mainly comprised of permanent/original residents, the short-term tenants/circulated group do not bond with the community organization and neighborhood representatives. 201-Community organization therefore merely represents some interest groups rather than the neighborhood as a whole, disenfranchising many in the community development process.

¹³⁶ This landfill site is the inevitable choice because it complicatedly ties with other urban malfunctioning management: the poor transportation system, urban planning and land use planning, etc.

This limits cooperation of dwellers to those who positively associate with the community organization. Fourth, the capacity of the neighborhood is limited in maintaining common neighborhood facilities (road, walkway, drainage system) in good condition. 201-Community organization has no authority to penalize for misuse since it is hindered as non-institutionalized. Moreover the community organization is unreliable due to its being an informal, volunteer-based organization solely mobilized by member donations and labor contributions. It has limited financial and social capital hinder shared governance in solid waste collection issue, especially in a scenario where state-civil society interaction is minimal.

This chapter highlights information pertaining to the research parameters, variables, elements, and indicators identified for internal change in civil society sector and change toward shared governance. The challenge in such an agglomerated neighborhood is gaining the trust of local authorities where there has been little. Overcoming this dilemma does not require only the improvement of technical solid waste management, but more essentially addressing; 1) how to minimize waste rather than effectively dispose/eliminate it to match the municipal existing capacity because active solution at the *end of pipe* has been judged ineffective, inefficient, expensive, and unsustainable, especially for localities with limited resources; 2) how 201-Community organization as a civil society agent can bring on behavioral and waste management change in the neighborhood as a part of waste minimization, or how it may benefit from waste and employ it as resource; and 3) how 201-Community organization drives this action toward civil society institutional inclusion, upscaling and change in state plans/programmes?

The municipality programmes and practices emphasize solid waste management through authorized institutions, legislation, and technical instruments that do not result in expected approaches/alternatives. 201-Community organization is unsuccessful since it is not institutionalized and so confronts many constraints. Anticipated solutions might draw on elements from each vantage point rather than radically changing the methods of coordination and cooperation between state and civil society that demand shared dialogues (Healey 1997, Innes 1995). Based on the assumption presented as a strand of the research focus in chapter 2, shared governance in which 201-Community organization supports the municipality as a coordinate partner for waste reduction is attainable. Investigating and

exploring the structural relationship between the two agents is important. In this regard, the researcher conducts a quasi-experiment by introducing a community-based solid waste management programme as a catalytic agent for change of 201-Community organization capacity itself and of shared environmental governance to see how each agent, and their relationship, changes and transforms.

CHAPTER 4

INTERVENTION AND EXPERIMENT

A community-based solid waste management project is executed as a catalytic tool and plays a role in changing the three aspects of mentioned in Chapter 2. First, it works as a neighborhood level agent for *the instigation of internal change* the on waste refuting/disposing behaviour and awareness of the dwellers. Second, internally, community-based solid waste management project is *an internal waste management operational unit* to judge whether or not it helps minimize waste refuse, the waste management alternative championed by civil society sector. And third, community-based solid waste management project works as an agent - cited by Manor's *Joint Management with Civil Society Organizations of Development Programme* (2007: 17) - toward inclusion and empowerment in shared environmental governance by responding to research purposes and questions.

This chapter chronologically elucidates the input process involving the civil society agent and state-civil society interaction, while the outcomes and analysis will be discussed in the next chapter. The activities took place during the period from December 2005 to June 2006 (15 months). Via participatory action, the researcher, a Chumchonchai Foundation's staff and 201-Neighborhood committees worked toward change in community-based solid waste management's initiatives. This intervention was not only at the grassroots level, but also included attempts to convince the municipality to engage and support the community-based environmental planning and management concept (Lane and McDonald 2005). The salient moment of change in initiating was addressed when 201-Community organization was supported by an international-academic partnership¹³⁷ to initiate a project focusing on household waste separation and integrated solid waste management as a municipal-community cooperation programme.¹³⁸ On the basis of this intervention, the chapter discusses three chronological periods of action/intervention: 1) the pre-demonstration project period (Dec 2005 - June 2006), 2) the demonstration project period (July 2006 -

¹³⁷ The international policy and academic partnership between 'Canadian International Development Agency (CIDA) and Asian Institute of Technology (AIT) conducts the 'Southeast Asia Urban Environmental Management Application Project (SEA-UEMA) in order to mitigate the urban environmental problem in three sub-sectors- air pollution, water and sanitation, and solid waste. One of the programme objectives is to use a small demonstration project to exemplify the research. See more detail in www.sea-uema.ait.ac.th.

¹³⁸ The demonstration project focuses on minimizing waste at source; therefore it attends only community-based waste separation and collection and focuses on how to convert those of waste into community beneficiary by promoting community-based- recyclable waste entrepreneurship and composting activity.

March 2007), and 3) the post-demonstration project period (April – June 2007). Each period is elaborated through each institutional/organizational agent: both the state and civil society. The intervention operates only on waste collection, waste entrepreneurship, waste minimization at source, and raising awareness; while not including waste transport and disposal. Since the investigation for the municipal practice is discussed in chapter 3, this chapter focuses on details of operational input and outcome.

4-1: Pre-demonstration project period (pre-intervention)

201-Neighborhood has been continuously undertaking various community-based development activities in areas such as money savings, education, occupational, health, youth and environment improvement. Its community organization is comprised of eleven committee members and three consultants handling all development activities. One or two committee members are chosen to represent each of the neighborhood's six lanes. Although ad-hoc and emergency activities are undertaken, no regular environmental activities are undertaken, though the neighborhoods encounter adverse environmental conditions such as littering solid waste. 201-Neighborhood had occasionally instigated some environmental activities when conditions reached intolerable levels. For more insight into the overall circumstance, the researcher elaborates on the status of each institutional/organizational stakeholder as well as the interplay among stakeholders over solid waste collection and separation issue. This interplay shows two orientations on solid waste management – civil society operation and state-civil society interaction.

Civil society operation in the pre-demonstration of solid waste management project period

Civil society operation as identified in this stage, a bottom-up operation, is a loosely local neighborhood network central to 201-Community organization and facilitated by the ChumchonThai Foundation. Community-based solid waste management was initiated with a mobilization from the ChumchonThai Foundation for a one-day cleaning activity to promote environmental awareness and waste separation at the household level. This philanthropic activity was promoted as '201 Environmental Day' (Figure 4.1) encouraging inhabitants to separate some tradable/recyclable waste before refuting. The objective was to

reduce the volume of waste at the communal disposal point that could reduce the load on current municipal waste collection. As a community awareness raising activity for the inhabitants, the community organization employed a waste bartering scheme: recyclable waste donations were accepted for household horticultures and personal/home-care products. The ChumchonThai Foundation and 201-Community organization also arranged few training courses on solid waste separation, garbage banking initiatives, and waste business/entrepreneurship initiatives demonstrated by another neighborhood outside Bang Plee Newtown Community.¹³⁹ From this starting point, an informal recyclable waste merchandizing/trading system has grown to supplement the community-based solid waste management's platform and represents a connotative change for dweller waste contributions.



Figure 4.1: “201 Environmental Day” – the activity boosting inhabitants’ awareness on solid waste separation

This activity continued from December 2005, though only mobilizing and operating once or twice a month.¹⁴⁰ 201-Community organization, informally-voluntarily practiced it without making it mandatory or providing wages in return. The activity was programmed by a few community activists: a deputy community leader and a community organization committee member. Such informal activities had limited effect, as they were undertaken only within the network of former savings members. Out of 840 households in 201-Neighborhood, about 30-40 households (counted as 3.5-4.7%) routinely participated. The

¹³⁹ ChumchonThai Foundation supports and mobilizes several community-based environmental management activities nation-wide such as waste separation and garbage banking, domestic self-made grease trap, community-based wastewater treatment. Therefore, its network could engage resourceful persons and communities to support others in term of experiences, skills and knowledge.

¹⁴⁰ Community organization stored the solid waste from the inhabitants’ donations and sold it to entrepreneurial waste buyers once or twice a month, depending on amount of waste.

activity was incapable of enrolling newcomers, continuing as a supplemented/voluntary community-based activity¹⁴¹ without providing effective results.

By May 2006, five months after the instigation of waste donation-based/bartering scheme, the pioneer committee members seriously reconsidered this activity and attempted to include more incentives for the dwellers to participate. The campaign had periodically launched public relations activities such as announcements and flyers to encourage the dwellers' participation (Figure 4.2). This was intended to help enroll new dwellers as clients. There was also an attempt to prevail to the international-academic organization initiating the community-based solid waste management demonstration project to broaden its scale via the existing network of Chumchon Thai Foundation, to vitalize the activity atmosphere, and to formalize the project rather than continue as on amateur activity.



Figure: 4.2: Promotional flyers distributed about community-based solid waste management initiation

¹⁴¹ In parallel to 'the solid waste separation activity', 201-Neighborhood has run another community-based economic development activity - '201-Mushroom group', which is run by the same members.

However, this advertising campaign did not work well. The amount of waste collected by this activity still remained low and there were no new clients. One of the activist members commented that;

*“Because we are so passive and wait for only waste donation, it doesn’t work. People don’t want to carry their waste and walk to us. It is too much work for them. But if we conduct the door-to-door collection, it is too much for us as well”.*¹⁴²

This statement reflects a deadlock of community-based solid waste management where waste donation reached its voluntary endpoint; neither the dwellers nor the community organization could mobilize toward further contribution for environmental improvement. Finally, community-based solid waste management (by this phase) could at best only achieve routine recyclable waste donation/bartering limited to a small cluster of participants.

State-civil society interaction in the pre-demonstration of solid waste management project period

While 201-Community organization was initiating community-based solid waste management, the municipality had been uninvolved in this attempt, despite being invited by neighborhood committee members to participate. 201-Community organization demanded the municipality support its community-based activity, but this was not successful because it did not fit the municipal annual/triennial development plan.¹⁴³ The municipality prioritized other aspects that were more critical: specifically flood prevention planning and road improvement (BSTM 2005). Having perceived community-based solid waste management as a social development activity rather than as an environmental instrument for betterment,¹⁴⁴ the municipality did not promote it as an alternative action to mitigate its own solid waste management burden. It was mentioned by the head of Health and Environmental Division that;

¹⁴² Informal group interview on March 2006

¹⁴³ Interview head of Public Health Division, the municipality on February 2006

¹⁴⁴ Interview the municipal clerk of the municipality on February 2006

“Solid waste management is absolutely our authority and task. If we do not do it, the people will complain and legislatively, all municipalities have been compulsorily mandated to maintain the cleanliness of municipal area.”

This statement shows how the conventional municipal solid waste management by state-led operation acts as the sole option without capacity to fully manage solid waste management due to technical reasons, despite the taskforces it has delegated. Having been a quasi-representational organization, 201-Community organization, as a grassroots development group demanded municipal recognition and ratification of its official status by the municipality. This indirectly promoted the patron-client relationship between the ruler and the ruled¹⁴⁵, which is common in the Southeast Asian (Shatkin 2000, 2004) and Thai local political context (Charivichaipong and Sajor 2006: 592). Regardless of socio-political relationship, it can be stated that the coordinating relationship between 201-Community organization and the municipality at that time was neutral: there was neither conflict (-) nor mutual coordination (+) between the two regarding solid waste management. The municipality regarded the community organization as its communicative channel to the dwellers rather than as an autonomous organization.¹⁴⁶ 201-Community organization was better equipped to act as the governing unit than the municipality for the grassroots operation. Development activity originating from bottom-up demand has never been in the municipal purview, unless it was indicated in the municipal annual/triennial development plan and policy.

Bang Sao Thong Municipality does not respond to community-based development activities regardless of community-based solid waste management needs. Municipal officers at the policy-making level also note that most community-based demands are discreet, misguided, and expect only short-term, ad-hoc fulfillment. A municipal clerk noted;

“Community people do not understand what the municipality is trying to achieve regarding Bang Plee Community development. They cannot perceive the development plan as a whole process, or how it is fragile and multi-faceted. They keep demanding solutions to surface problem regardless of what Bang Sao

¹⁴⁵ The local politicians always maintain a positive relationship to the community representatives. It is considered a reciprocal relation that once the politicians are supported by the community representatives, those representatives would receive some privileges in return.

¹⁴⁶ In this structural relationship, it is noted also that ‘the grassroots body is not self-initiated nor an interdependently organized group. Rather, it is state-organized and state-mandated, and functions as conduit and extension arm of government to the community.’ (Charuvichaipong and Sajor 2006: 587)

*Thong Municipality has already planned to implement. But they must wait because we cannot immediately respond to every single problem. Our resources are limited. We have to prioritize what is most critical.*¹⁴⁷”

Under these circumstances, community-based solid waste management is not mutual platform where Bang Sao Thong Municipality and 201-Community organization may share environmental governance. From personal interviews and non-structural discussions, the researcher analyses that for Bang Sao Thong Municipality; there are three reasons for this absence of dialogue. First, community-based solid waste management has never been conceived as a potentially successful option because the disguised populations are a majority who are usually socio-culturally disconnected from one another. Therefore, there are questions as to how 201-Community organization could engage those people to participate in community-based solid waste management activity. Second, there has never been clear evidence of successful grassroots action in this area, elucidated in Chapter 3. Thus, investing in community-based solid waste management in a single community without any evidence of success is impractical for the municipality. Questions of trust and capacity still remain, so the municipality is not willing to take risks or accept the possible failure. Third, the municipality, especially at the political/decision-making level, is reluctant to delegate authority to the community organization¹⁴⁸ that could somehow interfere with of the existing status quo.

For 201-Community organization, there are two reasons it cannot take steps further toward result-based community-based solid waste management. The first reason is the dearth of resources to support the operation. Philanthropy-based (for the community organization’s activists) and donation-based activities (for the neighborhood participants) are not sustainable. More importantly, the absence of a visible operating unit (e.g. waste management center, recycling unit) discourages engagement and enthusiasm for the activity from dwellers (This supports Bolaane 2006: 739). So the community organization confronted an operational vacuum where because of resource scarcity, it cannot ensure success to the municipality or 201-Neighborhood dwellers. The second reason is the lack of organizational capacity of the community organization as an informal/unofficial

¹⁴⁷ Interview with municipal clerk on February 2006

¹⁴⁸ This resembles previous research that solid waste management is avenue where local authority exercises its power over the citizen and maintains the status quo (Bolaane 2006)

organization.¹⁴⁹ The members have no institutional mandate, obligation, or commitment to contribute to social and development activity, and do so only on a voluntary basis.

At this stage, implementing widespread community-based solid waste management was not feasible, nor could it be used as an agent of change to promote shared governance. Intervention through the instigation of a small community-based solid waste management project raises two opportunities. The first that through internal-communal leadership, community-based solid waste management can, with capacity input, be an efficient and effective option for mitigating waste problems highlighted by some literatures (Luckin and Sharp 2005, Mongkolchaiarunya 2005) in Chapter 2. The second is that as a facilitator, it promotes shared environmental governance through plan/programme change or civil society inclusion in the context of Thai local agglomerated neighborhood¹⁵⁰. The instigation of a small community-based solid waste management project will help gauge two aspects of change: the capacity of civil society institution for mitigating waste collection difficulty and the degree of state-civil society interaction or civil society inclusion for shared environmental governance.

4-2: The demonstration project period (intervention period)

This section clarifies the process of intervention and quasi-experiment in community-based solid waste management undertaken as a community-based process, as an agent for change within the neighborhood and as a way to promote shared governance. An eight-month community-based solid waste management project called the ‘*Southeast Asian Urban Environmental Management Application Project*’ (SEA-UEMA) supported by Canadian International Development Agency and Asian Institute of Technology, an academic institute (CIDA-AIT partnership), tested community-based integrated solid waste management activity in 201-Neighborhood¹⁵¹. The input process is here investigated and

¹⁴⁹ The municipality ratifies only the status of community committee, not of community-based organization.

¹⁵⁰ The researcher implies that the neighborhood was affected by urban agglomeration and rapid urbanization mainly caused by the flow of labor immigration.

¹⁵¹ Under Southeast Asian Urban Environmental Management Application (SEA-UEMA) Project, CIDA-AIT Partnership (2003-2008) supported a community-based integrated solid waste management project by tackling two solid waste management issues – recyclable waste and organic waste management from households. By community-based recyclable waste management, the project promoted waste separation at the household level to minimize current refuse in order to mitigate the municipality’s burden of waste collection. Recyclable waste was collected and managed by community organization integrated into current Small-Micro Community Enterprise (SMCE) as a merchandizing activity. Organic waste derived from households and a nearby market, was composted. Both activities, therefore, aim to promote and integrate solid waste management as community organization capacity building and development programmes for income

reflects each involved stakeholder – state and civil society representation – as well as their interplay.

Civil society operation in the demonstration project period

The application project was implemented in July 2006.¹⁵² The main objective was to minimize solid waste disposal at its source: recyclable and organic waste. Meanwhile, the operational objectives were twofold. Operated by 201-Community organization, its first objective was to raise the dwellers' environmental awareness for practicing waste separation. Its second objective was to deal with the separated wastes via recyclable waste merchandizing programme, garbage banking system¹⁵³, and demonstrating degradable waste composting techniques. The operational framework is presented in Figure 4.3. The strategy sought to change the waste cycle through a focus on disposal at the communal end, which proves to be incremental burden for municipal collection, to a system directly managed by the community organization. The activity operated on entrepreneurial-based approach by working directly with the recycle business (junkshop) and composting organic waste. Figure 4.4 characterizes the synoptic operation.

In order to mechanize both activities, taskforces were mandated and job descriptions identified before both activities were undertaken. The overall process is chronologically elaborated herein.

generation, social recognition, gender equality, and grassroots empowerment. The project expected community organization to at least be able to maintain self-sustained/organized solid waste management and be emancipated from state dependency and at best, expected municipal policy change by replicating this project into other neighborhoods.

¹⁵² When the application project originated at 201-Neighborhood, it resembled "Environment Day", but happened more frequently and led to higher income generation.

¹⁵³ Garbage banking is a parallel strategy that aims to encourage youth participation in the programme for savings rather than for trading. However, it does not discourage adult participation.

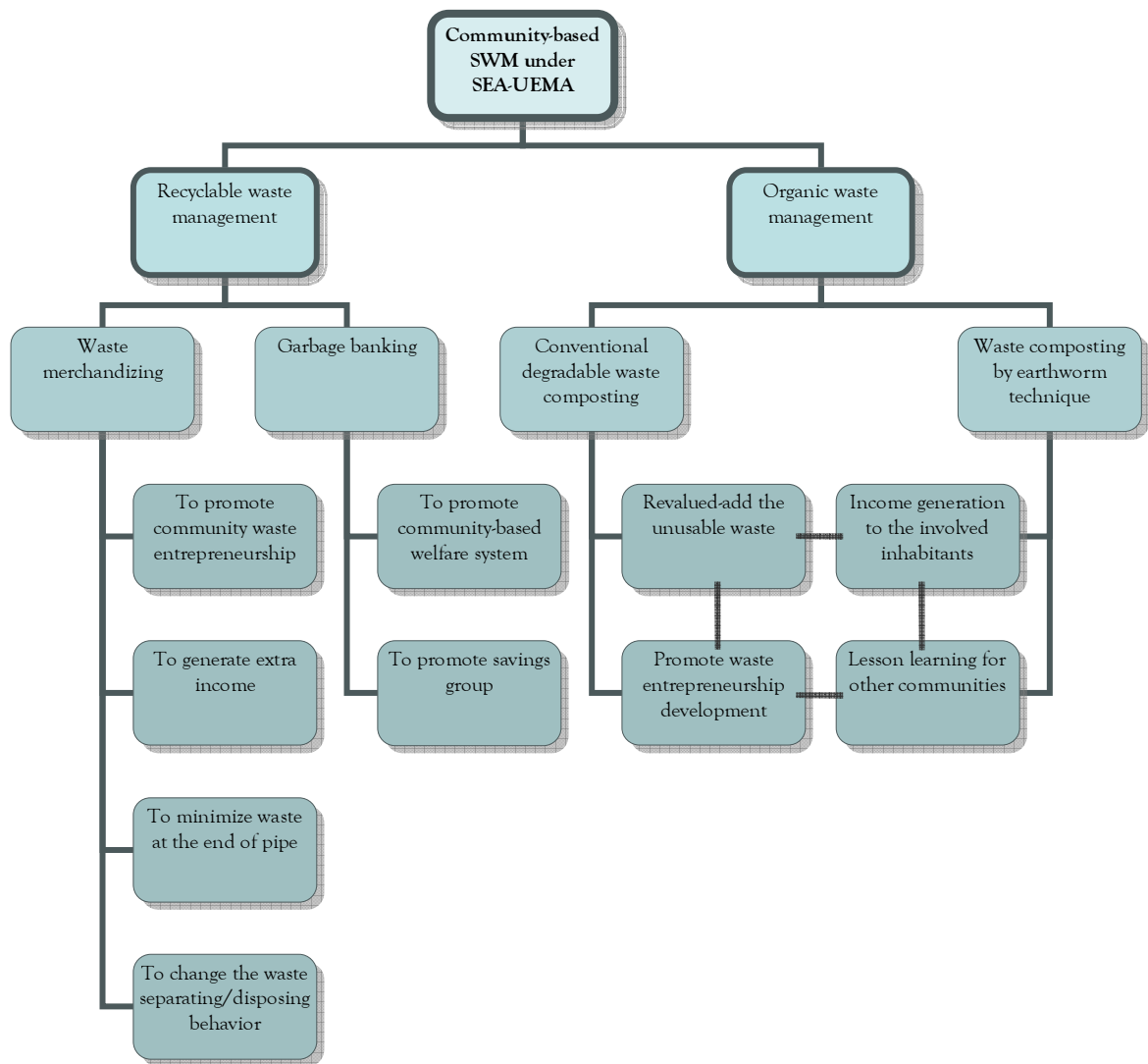


Figure 4.3 Operational concept of community-based solid waste management in 201-Neighborhood
 Source: Usavogitwong 2007: 6

Formulating the working team

201-Community Working Team for Environment (CWTE) was formulated. Comprised of two parallel activities under a project leader¹⁵⁴, Figure 4.4 shows the working team operational structure as supervised by the application project’s field coordinator.¹⁵⁵ Each

¹⁵⁴ Community rounded-table discussion had been conducted several rounds since the committee members knew about the coming application project. The working team among community committees was appointed on ‘who does what’. They are a group of 15 persons, being represented from each lane. Finally, the working team was organized which would be responsible for any of environmental activity and event. Insides, it had been separated another two sub-working team. The garbage banking team includes 3 waste collectors, 2 waste separators and 2 accountants, while the composting team includes 1 leader, 2 organic waste composting implementers who take care of both conventional organic waste and composting by earthworm method.

¹⁵⁵ The research on this stage plays another role as the application project’s field coordinator by linking the support from this international-academic partnership to 201-Community organization.

sub-team independently works from each other coordinated by the project chief who is one of the neighborhood committee members.

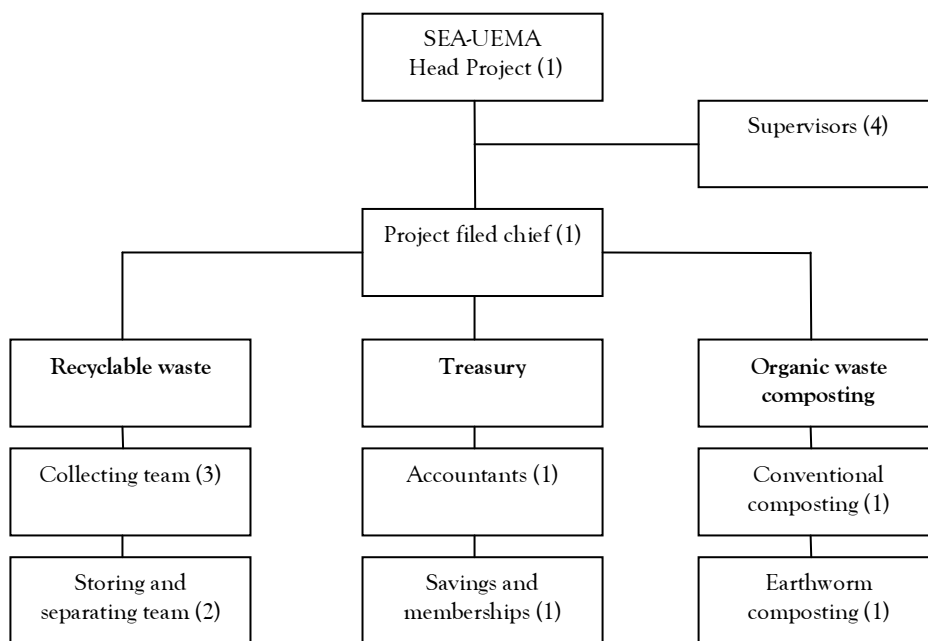


Figure 4.4 Community Working Team's operational structure

Capacity building: Training and learning waste management techniques

Since capacity building activity involves tackling both recyclable and degradable waste, the working team training and learning processes were rolled out. Concepts of recyclable waste management were introduced into 201-Neighborhood twice: as recyclable waste separation technique and recyclable waste merchandizing, supported by the application project and the municipal budget for each. For the former, the municipality invited experts from the Office of Municipal Clerk, Ministry of Natural Resources and Environment to organize waste separation training Figure 4.5; upper). This two-day training enrolled 120 participants from eight neighborhoods (201, 202, 203, 204, 40B, 40-Canal, 50B, and 50-Canal) and was arranged by the municipality.¹⁵⁶

¹⁵⁶ The first day of training covered knowledge about types of waste – recyclable waste, organic waste, hazardous waste and other waste – about the waste management cycle, and about the benefits of waste management; both from environmental and economical perspectives. The second day of training included workshop and practice on separating waste correctly as well as on preparing Effective Microorganism solution (EM) for organic waste.

For the latter, waste merchandizing and separation techniques were introduced targeting 201-Neighborhood ¹⁵⁷(See Figure 4.5; lower). Introduced by the ChumchonThai Foundation's network, the learning lesson emphasized detailed separation, the expense of each type of waste, which sorts of waste may or may not be sold, etc. This activity was the first local-based sharing experience scaled to 201-Neighborhood, unlike the former training conducted by superior authorities which the neighborhood was not able to replicate. Its outcome energetically empowered the environmental working team to begin a waste merchandizing programme where waste donation would lead to community-scale waste entrepreneurship.



Figure 4.5 Training on waste separation-merchandizing and composting technique

The other activity, a two-day training programme on organic waste composting technique by earthworm method, ¹⁵⁸ was organized by the National Science and Technology Development Agency (NSTDA) and Mae Jo University under royal project. Six representatives, a man and five women, attended. It focuses on household-scale waste composting as well as on neighborhood scale.

¹⁵⁷ A demonstrator is a committee member from another community who has been implementing waste merchandizing as his core community business, sharing knowledge and tactics on waste merchandizing.

¹⁵⁸ The idea utilizes earthworms to decompose via biological process rather than natural fermentation.

The municipality not only organized on-site training, but also led field visits to learn waste disposal; where domestic waste goes at the end of pipe. Eighty representatives from each neighborhood in Bang Plee Newtown Community participated in a field visit to Chonburi centralized waste disposal center. This field visit educated the participants on environmental awareness, cost and energy consumption required for waste disposal, and how the community may reduce these costs at the domestic level by managing and minimizing waste at source.



Figure 4.6 Field visit for other community-based solid waste management projects

Table 4.1 Training and field visits about solid waste management for 201-Community organization

Date	Type of activities	Location	Issues
26-07-06	Training	Bang Sao Thong Municipality	Waste separation and EM preparation technique
03-08-06	Field visit	Chonburi	Centralized solid waste disposal
11-08-06	Training	201-Neighborhood	Waste separation and merchandizing technique by a representative from networked community, Lak Si Community
08-09-06	Field visit	Bangkok	At Wat Klang Community: Garbage banking and waste separation programme At Poon Bam Pen Community: Organic waste composting and waste merchandizing

A day trip field visit was also conducted at the neighborhood scale. *Wat Klang* and *Poon Bam Pen* communities, two successful cases in garbage banking and organic waste composting, were selected as a fruitful waste management learning center for 201-Community organization (See Figure 4.6). At *Wat Klang* Community, a group of ten participants shared tips on how to organize and promote recyclable waste separation and garbage banking programmes in the community. The successful programmes are an interconnected combination of waste education, savings behavior, and environmental

awareness. At *Poon Bam Pen* Community, the representatives from 201-Neighborhood learned the idea of *integrated solid waste management* – the environmental-economic nexus at which recyclable and organic waste management meet in waste merchandizing and waste composting. The benefit from both activities could reduce disposed household waste and consequently decrease local governments’ burden for solid waste collection. Table 4.1 summarizes all activities of training and learning visits conducted in the two months after the project’s instigation. These learning opportunities covered both administrative- and community-based scales. These lessons help 201-Community organization’s representatives conceive of waste management through the lenses of environmental awareness and economic opportunity.

Facilities, resources, and manpower

After the capacity building programme, supportive facilities were allocated. For recyclable waste separation and merchandizing activity, the application project provided the environmental working team the hard materials such as three tricycles for door-to-door collection, recyclable waste storage, household buckets for waste separation, and two composting buckets and the necessary equipment for organic waste composting activity (Figure 4.7).



Figure 4.7 Neighborhood waste separation unit and composting buckets

Not only hard intervention, but also soft intervention was provided through labor incentive. Table 4.2 illustrates that local labor forces¹⁵⁹ subsidized by the project¹⁶⁰ contributed to waste recyclable merchandizing and organic composting activity. For

¹⁵⁹ Only three permanent staffs are in position, while the rest of the labor is rotated.

¹⁶⁰ The application project subsidizes 26.25 Euros/month to the labor forces for all activities.

recyclable waste merchandizing operations, 4.09 people are assigned on average to this job: 1.53 people for separation and 2.56 people for collection. For organic waste composting 1.09 people are assigned on average.

Table 4.2 Labor contribution on the project operation

Month	Recyclable waste merchandizing					Organic waste composting		
	Collection			Separation		Frequency of operation per month (days)	Number of labor force (lbu/m)	Average labor force per month (people)
	Frequency of operation per month (days)	Number of labor force (lbu/m)	Average labor force per operation (people)	Number of labor force (p/m)	Average labor force per operation (people)			
September 2006	18	53	2.94	36	2	12	13	1.08
October 2006	21	69	3.29	30	1.49	12	14	1.17
November 2006	23	70	3.04	33	1.43	13	15	1.15
December 2006	23	48	2.09	26	1.13	10	11	1.1
January 2007	21	43	2.05	36	1.71	11	11	1
February 2007	16	29	1.81	26	1.63	10	10	1
Average	20.33	52.00	2.56	31.17	1.53	11.33	12.33	1.09

Source: The working team's field record (lbu/m = labor force units/month¹⁶¹)

Note: The operation started in September and the project preparation addressed in July and August 2006

On operation

With each activity operating for about three hours per day, the process of implementation may be divided into two clusters.

- Recyclable waste collection, separation, merchandizing and garbage banking

As a reaction to waste donation activity for the six months at the pre-intervention stage, the working team shifted its focus from recyclable waste donation toward a waste entrepreneurial-based model. The project support helped steer resources to environmental-based activity. After rounds of committee discussion, a schedule and outline of work was designed by the sub-team members of the environmental working team. In the schedule, the collecting-team went door-to-door purchasing recyclable waste 3-4 times a week, covering 720 households in 201-Neighborhood (See Figure 4.8; above). They collected at the rate of two lanes per day, so each household was visited on average three times per

¹⁶¹ Labor force unit is the labor contributing for the given task s of one person/day. For example, if a one-day operation of waste merchandizing activity requires 3 staffs, it is counted as three labor force units.

month. They also promoted the project activity and educated the inhabitants to separate waste before disposal.

The separating team would then do detailed separation into the waste separation unit to prepare the waste for trade to the waste buyers. All waste was stored for the week, and then traded to the local junkshop/ waste buyer once or twice a week to clear the stock. Recyclable waste was weighed and its value estimated on-site. The accounting team recorded this value (See Figure 4.8 lower) systematically in order to allow for cross-checking both client/participant data and the amount of the merchandized waste.



Figure 4.8 Waste collecting, merchandizing with junkshop representative and savings via garbage banking

In addition to increased garbage banking activity by door-to-door campaign, the number of savings members slowly increased from the original committee members to the clients/participants whom the working team has engaged. The activity was first promoted in Lanes 5, 7, and 9, where most of the committee members live. After that, it was extended to Lanes 1, 3 and 11. Nevertheless, the number of participants engaged in garbage banking was limited compared to the number of participants engaged only in waste merchandizing. The cumulative number of merchandized-clients in the application project

is currently 422 households (around 50% of the total households). Savings membership is currently total 44 households (5.2% of the total households) in 201-Neighborhood. (See Chapter 5 for detailed analysis)

- Organic waste composting activity

Organic waste composting aims to reduce the organic waste produced in Bang Plee Newtown Community neighborhoods. It employs two techniques; conventional and earthworm composting, which work hand in hand in waste reduction and, as a by-product, can generate income by operating as a small-medium community enterprise (SMCE). After the construction of composting sites, most organic waste was derived from households and the community fresh market. Only vegetables and fruits are composted due to their lower odor and hygienic impact on Bang Plee Newtown Community's highly urbanized area (Figure 4.9). The activities and processes are as follows;

- In a conventional composting bucket, degradable waste is gathered and fermented by being covered with a waterproof nylon lid. The fermented compost is turned after three weeks, from bottom to top. The conventional composting process takes 3-6 months, and the output may be used or sold as a fertilizer.
- In an earthworm composting bucket, degradable waste is supplied to earthworms every 3-5 days at the rate of 5-7 kilograms. The bucket is separated into two sides and each feeding alternates by one side.
- Both composting techniques provide the same result, fertilizer, but in different forms. A conventional composting technique produces a soil-based fertilizer utilized for agricultural plantation, while an earthworm technique produces both liquid and soil-based fertilizer which may be utilized for different horticultural purposes. While conventional composting takes 3-6 months to harvest, it is uncomplicated to maintain compared to earthworm composting. Adopting this method requires several buckets. Earthworm composting technique requires also drainage of liquid-based fertilizer from the bucket. Soil-based fertilizer may be harvested from the surface of the compost in the bucket. Although the earthworm technique may be more frequently harvested (every 5-7 days) and sell for a better price, it is complicated to maintain because earthworms can live in only limited physical

conditions. Crucially, both may be merchandized and sold to generate income for the community organization.

Both recyclable waste separation-garbage banking and composting activity by these two techniques were operated simultaneously by the sub-working team. Both were monitored by the project head and their implementation adjusted when problems or impediments occurred on-site.

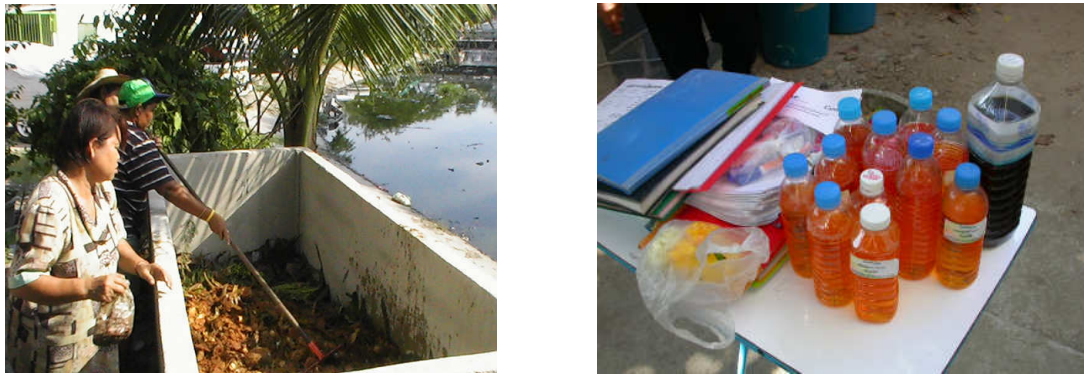


Figure 4.9 Organic waste composting and its productive outputs

State-civil society interaction in the demonstration of solid waste management project period

At the implementation level, the municipality was periodically informed about the project's progress. Unfortunately, the message was never delivered up to the policy-making level. At the planning and implementation level¹⁶², the application project encouraged a limited division of the municipality: Health and Environmental Division (functioning for municipal solid waste management) and Educational Division (functioning for community development). The former passively supported community-based solid waste management by allocating support for training and field visits for the working team learning experience,¹⁶³ while the latter ended with disassociation.

After four months of intervention, 201-Community organized an opening ceremony for its community-based solid waste management initiation in November 2006 and as a way to garner more involvement and support from the municipality. The mayor and the high-

¹⁶² The researcher classified the administrative authority into three categories - 1) policy and decision making level includes the electoral body such as mayor, deputy mayors, and municipal council members; 2) planning level includes the high ranking bureaucrats such as the municipal clerk, the head of each administrative division; and 3) implementing level includes the operational civil servants.

¹⁶³ The municipality, by division of Public Health, provided a training programme on waste separation and vehicles for community field visits.

ranking bureaucrats from planning level were invited to be chairpersons in the effort to deliver to the policy/decision-making and planning level the concerns of the neighborhood regarding the solid waste management issue.¹⁶⁴ Because this event was associated with an international organization, the local press¹⁶⁵ and the municipality shared the group's sympathies. Eventually, the initial expectation of the working team to engage the policy/decision making level was fulfilled. The mayor and the municipal clerk said in their speeches;

“On behalf of Bang Sao Thong Municipality, I would welcome and thank the application project for recognizing the difficulties of solid waste management of our area. We are concerned that the solid waste problem is urgent for our locality. I very much appreciate your support so the neighborhood may undertake such an admirable programme that seeks vital change...the best way to solve solid waste problems is to provoke environmental awareness that must start from the inhabitants, their self-awareness, not from the municipality.”

Mr. Prajuab Leelapatrakorn, Mayor

12 November 2006

“Bang Sao Thong Municipality is concerned with the importance of community in solving solid waste problems and this action shows a good practice... Bang Sao Thong Municipality would hope that it can be replicated and up-scaled to the other neighborhoods for which 201-Neighborhood is the pilot case study.”

Mr. Suwat Ritsamreth, The municipal clerk

12 November 2006

Given the atmosphere at this event, the relationship between 201-Community organization and the municipality has become positively sound, especially for the Health and Environmental Division that is directly mandated to inform the policy-making level of waste management cooperation.

¹⁶⁴ In the first four months, the working team improved the solid waste reduction step by step by increasing participants and waste savings members in the application project, and increasing income generation to the unemployed and community organization.

¹⁶⁵ *Sakorn Cable News*, the local press, broadcasting in several media (TV, radio and newspapers) within Samut Prakarn province.

4-3: Post-demonstration project period (post intervention)

This section explored the phenomenon of community-based solid waste management after the project's termination. More civil society-based parties have gotten involved in community-based solid waste management. The discussion addresses changes within the civil society sector in terms of its own capacity building, social capital enhancement, and integrated networking both at the neighborhood and institutional level, in addition to discussing the relationship change between 201-Community organization and the municipality.

Civil society in the post-demonstration of solid waste management project period

For civil society operation, the development and change has been addressed on two levels – intra-community organization and in the civil society network. At the intra-community organization level, after the intervention terminated in March 2007, the working team continued to undertake the activity¹⁶⁶ without further financial subsidy or labor incentives in collecting, separating and composting. The operation maintained the activity at an even higher frequency than during the project intervention¹⁶⁷ through self-sustaining funding derived from the surplus profits from recyclable waste merchandizing and trading compost. Community-based solid waste management was developing into a *Small-Medium Community Enterprise* (SMCE) by integrating into the current community-based development activity. Eventually, the activity passively engaged half of the dwellers associated with community-based solid waste management (See Chapter 5).

In the civil society network, the community organization has extended its cooperation to the local press, international development organizations, academic institute, and the non-government organization network (Figure 4.10). Even though this structure has not played an active role to bring the local administrative authority into the community-based solid waste management dialogue, nonetheless, its passive role has alerted the municipality that community-based solid waste management is now an alternative available for municipal solid waste management. Changes in civil society locus after the intervention include:

¹⁶⁶ The data collection terminated on June 2007.

¹⁶⁷ The working team operation increased frequency after the demonstration period, from three days a week to 4-5 days a week.

- The ChumchonThai Foundation has deepened its engagement at the local level (by 201-Community organization), where previously it played a role more at the provincial level. ChumchonThai Foundation’s networking role has tied 201-Community organization to the wider grassroots environmental network on the Sumut Prakarn provincial and regional level;
- Asian Institute of Technology, the international academic institute, named 201-Community organization as a member of its environmental network where community-based organizations among Southeast Asian countries exchange experiences, support, and cooperation.¹⁶⁸ Canadian International Development Agency proposed international field studies to visit this project as representative of a successful community-based solid waste management demonstration and initiation. Likewise, it strategically persuaded the municipality to be involved;
- the local media and broadcasting production programme¹⁶⁹ presented the intervention as an alternative community development project toward better environmental condition. This portrayal passively pressured the municipality to commit to community-based solid waste management plan and policy initiation (See in Chapter 5).



Figure 4.10 Canadian International Development Agency’s monitor and local press had stimulated the municipality to support community-based solid waste management

¹⁶⁸ Likely, 201-Community organization could provide AIT a field visit and a case study in environmental management higher education, while AIT could provide academic and technical support to 201-Community organization.

¹⁶⁹ The documentary production was broadcasted on TV, ‘Kon Huang Pan Din’ programme (its meaning is one that saves the patriot). See details about this programme at www.panoramaworldwide.com

State-civil society interaction in the post-demonstration of solid waste management project period

Near the end of the intervention, at the implementation and planning level, the municipality initiated a community-based solid waste management programme/project in their three-year municipal comprehensive plan. As the head of Public Health Division and the municipal clerk highlighted;

“We appreciate that 201-Community organization has shown community-based solid waste management can be a rich success and it is really because of the Community organization’s strength, which is able to express community unity. We have included a community-based waste management project into the community and environmental development programme for which each of the other neighborhoods, including 201-Neighborhood too, may propose their own community-based solid waste management plan which we will support in terms of facilities such as a small-scale waste separation unit, tricycles, composting buckets, or other items. up to 50,000 THB (around 1,000 Euro) per project. But this has to pass the Municipal Fiscal Annual Plan at the decision-making level, where they will decide whether it will be implemented¹⁷⁰ ”

Group discussion

4 February 2006

Regardless of whether the Health and Environmental Division positively responds to 201-Community organization, this evidence illustrates that by the end of the intervention, the planning and implementation level has sympathized with the idea of supporting community-based solid waste management. How successfully it may be delivered to the policy/decision making level is beyond the scope of this research to discover, given the absence of clear evidence thereof.

4-4: Conclusion

This chapter mainly explores changes inside the civil society agent (201-Community organization/the working team) and its interaction with local government. The application project has apparently led to some changes. Injecting community-based solid waste management is neither an automatic process nor social evolution, but requires resource

¹⁷⁰ Traditionally, in local administrative bureaucratic style, the system of plan and programme production, to be proposed in a municipal comprehensive programme, has been that the implanting level in each division would present a tentative plan to be approved by its head division. From each planning level, the plan is finalized by policy-making level. The plan must be realistic and monetarily feasible to pass the municipal council’s fiscal ratification. See detail in (Suwannala 1999).

input by external agents which was limited in the pre-intervention stage. From the elucidating process, it is obvious that the intervention turned 201-Community organization's capability to better tackle the solid waste problem in a positive direction. Dynamically, the pre-intervention period, practiced without external support, was an important formative time which allowed 201-Community organization to smoothly encompass the community-based solid waste management. The organizing process and evolution is presented to illustrate how 201-Community organization developed and produced tangible outcomes in tackling solid waste problem based on bottom-up approach (Figure 4.11). A detailed discussion will be presented in Chapter 5.

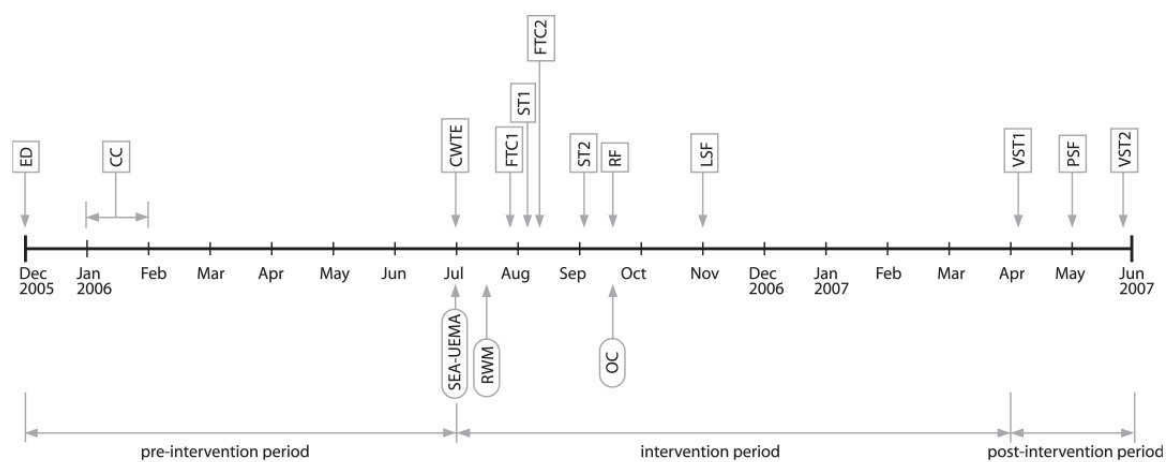


Figure 4.11 Trajectory process of community-based solid waste management in time series from pre- to post intervention

(Abbreviations for the figure; ED = Environmental Day, CC = Community Campaign, SEA-UJEMA = Southeast Asian Urban Environmental Management Application Project, CWTE = Community Working Team for Environment, RWM = Recyclable Waste Merchandizing, FTC = Formal training Course, ST = Study Tour, OC = Organic Waste Composting, RF = Reinforcing Facilities, LSF = Local Stakeholder Forum (Opening Ceremony), VST = Visiting Tour (Community as host), PSF = Provincial Stakeholder Forum)

To summarize the circumstance, therefore, it is essential to investigate an input-outcome process; Table 4.3 shows internal change at the neighborhood level and the community organization as civil society agent. The finding output reflects significant change highlighting environmental betterment, neighborhood capital, and capacity increment resulting from the input activity. Evidently, waste reduction, civil societal network enhancement, income generation as economic development, and individual capacity building were improved. Limited success was exhibited in other areas; for instance,

the formal institutionalization of 201-Community organization. The next chapter discusses, analyzes, and evaluates details addressing three loci: changes to civil society agent (201-Community organization), changes to state-civil society interaction, and changes to state agent (Bang Sao Thong Municipality) - based on the explored elements from Chapter 2. Also explored are the changes community-based solid waste management brings to the overall municipal solid waste management practice. The discussion, longitudinally drawn on the input intervention, is evaluated for success/failure to identify ways its contributions may be adopted as a supplemented approach for effective solid waste management in agglomerated neighborhood in rapidly urbanized context

Table 4.3 Input-outcome process regarding the project intervention for community-based solid waste management

<i>Former input</i>			<i>Input¹⁷¹</i>			<i>Outcome</i>		<i>Change</i>
<i>Issues</i>	<i>Amount</i>		<i>Activities</i>	<i>Resource used (Euros)</i>		<i>Beneficiaries</i>	<i>Amount</i>	
Waste generation	14,030 liters/week	→	Training	700	→	Waste reduction	11,708 liters/week	Waste in neighborhood reduce by 17% (see details in chapter 5)
Civil society network	1		Filed visit	1,680		Civil society network	5 ¹⁷²	Number of civil society network increase
Economic development	No income generation to individual member and community organization		Labor incentive	2,100		Economic Development	Individual members share extra income 2-3 Euros daily and 201-Community organization collectively earns 42 Euros/month	Neighborhood member and 201-Community organization has generated extra income (see details in chapter 5)
Organizational capacity building	Voluntary-based organization		Facilities	1,120		Organizational capacity building	Voluntary-based organization	Unchanged
Individual capacity building	No one with skill and knowledge		Operational cost	840		Individual capacity building	At least, 15 persons has skill and knowledge associating to community-based solid waste management	Capacitate in terms of skill and knowledge to manage waste and generate income
			Total	6,340				

¹⁷¹ Usavagovitwong, Nattawut. 2007. 'Community-based Solid Waste Management in Bang Plee Newtown Community, Samut Prakarn Province, Thailand' Final Report (R3-SEA-UEMA21-SW10/06), SEA-UEMA Project, CIDA-AIT Partnership (2003-2008)

¹⁷² An academic institute, a non-government organization, two media organizations, and an international agency

CHAPTER 5

FINDINGS AND LONGTITUDINAL ANALYSIS

This chapter elaborates on findings from the intervention described in chapter 4. The speculative analysis concentrates on three endeavors; 1) 201-Community organization as an internal change agent within civil society, 2) changes in interaction between the municipality and 201-Community organization as the reshaped governance, and 3) changes of inherent solid waste management function of the municipality as influenced by bottom-up intervention. Each parameter and element is herein thoroughly discussed and evaluated to explore the extent to which each has transformed. The outcome will contribute to an understanding of shared governance through longitudinal comparison of the pre- and post-intervention periods.

5.1: Changes in civil society: Internal enquiry

Internal changes in civil society are accordingly identified and investigated to characterize dynamic transformation in the performance of the working team in solid waste collection, capacity building, and environmental awareness among the dwellers. The term *performance* is meant to indicate the working team's ability to subtract current waste generation out of the synoptic waste cycle to relieve municipal solid waste management's collection burden and to identify the tendency of consequent actual waste reduction at the end of pipe for which the intervention functions. The terms *capacity building* (and *neighborhood capital*) are meant to indicate the internal change of the civil society agent in terms of capacity enhancement on individual, organizational, and network levels. This collective momentum from the individual to the network represents progress of the civil society institution toward shared governance. The term *environmental awareness* is identified as the change in waste refuting behavior of the dwellers as activated by the working team.

Performance

Improved cleanliness?: An empirical evaluation in community-based solid waste management efficiency

201-Neighborhood generates about 11.1 tons of solid waste per day, which is 18.5% of the 60 tons produced in the eight neighborhoods in Bang Plee Newtown Community daily

(BSTM 2008). The project intervention intersects in the middle of the waste generation cycle and attempts to identify changes which may be directly applicable. Since the intervention attempts both recyclable and organic waste reduction, each is circumscribed.

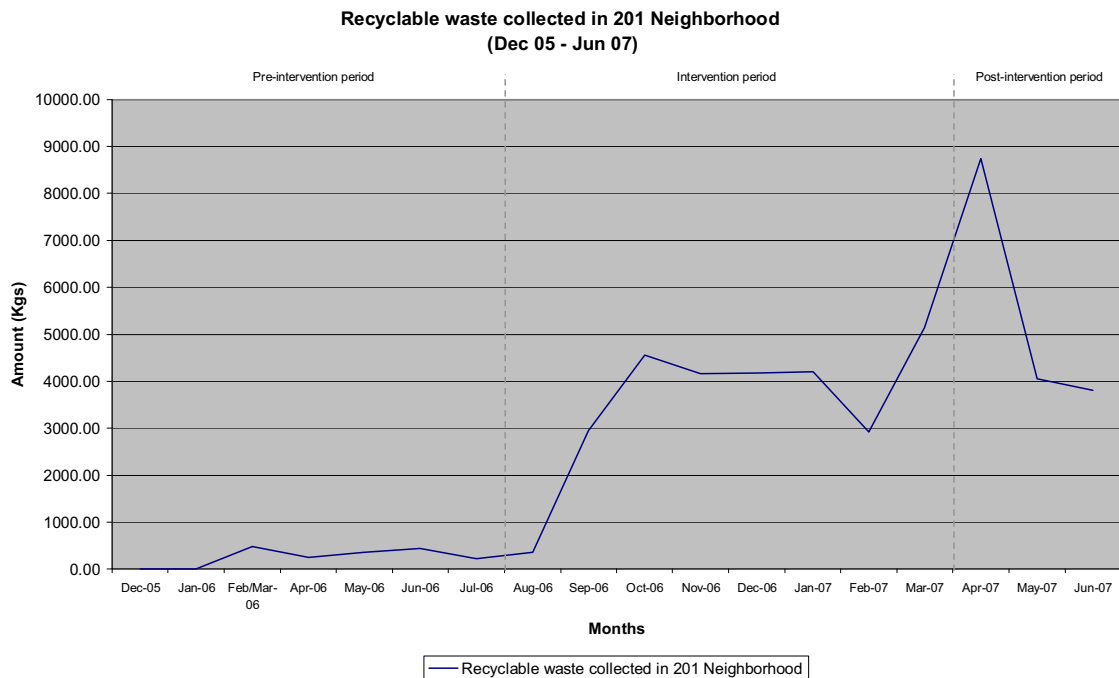


Figure 5.1 Amount of gathered waste by community organization under the project intervention

Regarding recyclable waste, from the research enquiry, collection frequency jumped exponentially from once or twice per month in the pre-intervention to 18-21 days per month during the intervention. During the eight-month intervention, the community-based solid waste management activity cost 5,220 Euros for project operation, maintenance, capacity building programs. The working team increased collected waste from less than 400 kilograms per month in the pre-intervention period to about 5,850 kilograms per month during the intervention period.¹⁷³ Figure 5.1 contrasts the community-based solid waste management outcome during the intervention to the amount of waste collected by the working team's operation during the pre-intervention practice, reflecting the change from a voluntary scheme to an entrepreneurial scheme. In the post-intervention period, the level of operation did not decrease, though the working team's operation frequency declined. Instead the working team maintained the same level of operation as during the intervention period, and even increased in April 2007.

¹⁷³ 46.83 tons for total period (See details in Appendix C)

Recyclable waste was gathered and traded by the dwellers during the intervention period, from July 2006 to March 2007 (Appendix C). Approximately 183.3 kilograms of recyclable waste per day, about 1.65% of the total waste generated in 201-Neighborhood, was subtracted from municipal waste collection and instead managed by the working team's waste entrepreneurship. Recyclables were categorized in to 5 types: plastic¹⁷⁴, glass¹⁷⁵, paper¹⁷⁶, metal¹⁷⁷, and other waste. Most are recyclable wastes generated from daily consumption. By weight, glass is the highest amount of waste managed by the programme, comprising 73% of total waste. Miscellaneous waste and cardboard are next highest.

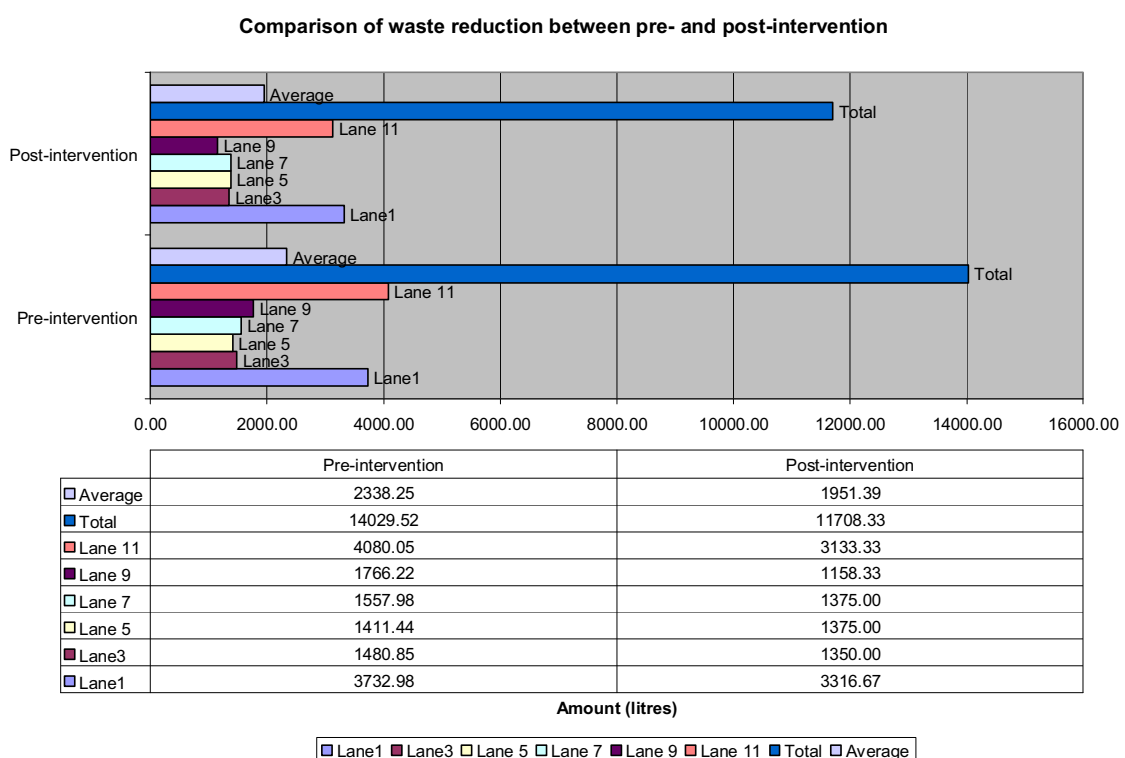


Figure 5.2 Recyclable waste reduction comparing by pre- and post intervention

Source: Monthly monitor and record by the working team

The intervention's indirect effect is obvious in that total waste has been reduced at the end of pipe.¹⁷⁸ Since the dwellers were educated through a demonstrable programme rather than through training, waste has decreased by 17% compared to the previous period

¹⁷⁴ Plastics are classified in detail onto 5 types: PET, PE, PP plastic, ABS and PS plastic, and PVC.

¹⁷⁵ Such as packed bottle and normal bottle glass

¹⁷⁶ Paper is classified as normal paper, newspaper, paper box, and cardboard

¹⁷⁷ Such as aluminum, iron, zinc, tin, and stainless steel

¹⁷⁸ Dwellers collect and trade not only to the working team operation, but also to private waste scavengers. Though, community organization would not get direct income benefits from this behavioral change.

(Table 5.1).¹⁷⁹ The amount of waste generation *decreased on average from 14,029.5 to 11,708.3 liters per day*. Or the rate of waste generation changes from 3.511liters/cap/day to 2.93 liters/cap/day. This implies that dwellers dispose less, but trade or recycle more (Figure 5.2).

Regarding organic waste, conventional and earthworm composting was operated, but only generated income after the halfway point of the intervention (December 2006) due to malpractice. Table 5.1 illustrates the degradable waste input to both composting techniques and their subsequent outputs. Both initiatives reduced waste little compared to waste recycling. Only 700 kilograms of organic waste were managed during the eight-month intervention period. Despite the low volume practiced in 201-Neighborhood, the composting approach was advocated as another option for other neighborhoods or communities to replicate. Notwithstanding, the actual practice on organic waste in 201-Neighborhood distracted from the intervention’s core objectives in that the dwellers did not separate organic waste for composting, and instead the working team collected organic waste from the nearby fresh market. This result highlights the failure of community-based organic waste management action. It is an ineffective option for agglomerated neighborhood both because of slow rate of waste management capacity¹⁸⁰ and dwellers’ reluctance to participate.

Table 5.1 Comparison of waste input and output from both composting techniques

Month	Amount of degradable waste input to conventional composting (Kgs)	Net profit (THB)	Amount of degradable waste input to earthworm composting (Kgs)	Net profit (THB)
September	450		-	
October	-		-	
November	-		-	
December	-		74.5	350
January	-		88.9	330
February	-		97.3	420
Total	450	1,000	252,30	1,100

Note: data derived from implementer’s note

Summarily, recyclable waste entrepreneurship by the working team directly and indirectly caused waste reduction in 201-Neighborhood by 17% until the project termination. The intervention encouraged the dwellers to more inventively practice waste

¹⁷⁹ Data was collected by monthly observation of central waste disposing point in 201-Neighborhood.

¹⁸⁰ Waste composting technique requires a lengthy time span for organic degradation and demands a land area for effective result that is too large for 201-Neighborhood to allocate.

separation and merchandizing. Contrarily, for organic waste management, it fails since the dwellers are unwilling to separate organic waste because it lacks economic incentive compared to recyclable waste.

Capacity building

The second civil society element addressed was capacity building. Capacity building, based on the aforementioned concept, is the capability of the community organization to navigate and to sustain a community development approach – human capital, organizational resources, and social capital¹⁸¹ – which in this context contributes to the capability to continue the community-based solid waste management activity and promote shared governance. The analysis concentrates on the change of the working team’s capacity before and after the intervention. Capacity building at the individual, organizational, and network level are discussed accordingly.

Individual level

Capacity building at the individual level implies the capability of each personal agent in the working team to contribute to overall organizational capacity. Three elements are investigated: personal income generation, leadership and personal skill/knowledge to handle the implementation.

- Personal income generation

Since the intervention, several members benefited through income generation. On individual and neighborhood levels, staffs were assigned to designated taskforces (see Chapter 4). On the individual level, for instance, voluntary staff were permanently and temporarily employed for labor contribution on waste collection, separation, garbage bank accounting, and composting, at which they could earn extra income of 100-150 THB (2-3 Euros)/day¹⁸² working three hours a day, three days a week during the intervention. A majority of staff are local unemployed inhabitants from the owner-occupied and the permanent renter groups.

Employment detail during the intervention period is illustrated in Table 5.2. It is apparent that the activity elevated the personal income of working team members. By

¹⁸¹ Social capital refers to non-material resources entailed as a reciprocal form, generated by social interaction as a group.

¹⁸² The minimum wage in Bangkok is about 3.5 Euros/day.

focusing on routine employment, recyclable waste entrepreneurship and organic waste composting can employ seven permanent staff members. However after project termination, staff has dropped from eleven to three people, prioritized by those who most urgently need work.¹⁸³ The rest rotate as volunteers. The wage paid was also halved to 75-100 THB (1.5-2 Euros) per day, this being the real surplus from recyclable waste entrepreneurship that the working team can allocate without external subsidy.¹⁸⁴

Table 5.2 Income generation by the intervention

Names/Duties	Gender	Previous status of employment	Extra income (Euros)	Total earned from the project intervention (Euros)
Recyclable waste separation and garbage banking			(Monthly)	(8 months)
- Project manager	W	Home-based business	14	160
- Waste collector 1	W	Student	42	480
- Waste collector 2	W	Unemployed	42	480
- Waste collector 3	W	Unemployed	42	480
- Waste separator 1	W	Home-based business	31.5	360
- Waste separator 2	W	Housewife	31.5	360
- Accountant	W	Housewife	21	240
Total			210	1,680
Composting activity (permanent employment)			(Monthly)	(8 months)
- Composting monitoring man	M	Private employee	9.8	78.4
- Composting worker 1	W	Self-employed	8.4	67.2
- Composting worker 2	W	Housewife	8.4	67.2
- Composting worker 3	W	Housewife	8.4	67.2
Total			35	280

Source: Slightly adapted from Usavagovitwong 2006: 28

Note: Unemployed staffs are in bold.

- Leadership

The project leader is a neighborhood activist voluntarily involved in community development action. Before the project intervention, the leader undertook grassroots action at the *place-based neighborhood level*. The intervention inter- and intra-connected the community-based environmental development network both institutionally and

¹⁸³ CTWE is able to employ members for this wage without worrying about competition because it is not a desirable job.

¹⁸⁴ During the intervention, the CTWE has profited from waste business since its labor costs were subsidized. This collective capital was intended to be the take-off cash flow for CTWE to sustain after the project terminated.

organizationally. In the post-intervention period, the leader of the working team was persuaded to share in public forums as the community development model at civil society *provincial level*. At three provincial forums, the leader of the working team was acknowledged as leading a rigorous grassroots environmental movement that has drawn attention from other communities at the provincial level.¹⁸⁵ In summary, leadership capacity improved from local to provincial level.

- Personal skill/knowledge

Most of the committee/ the working team members have enhanced their skills and capacity after attending four training courses and sharing experience among the project implementers on how to conduct appropriate community-based solid waste management practice. This enhancement occurred not only in technical knowledge supporting community environmental improvement, such as earthworm composting or waste merchandizing techniques, but also in economic opportunity. Two well-trained members have adapted their experience to home-based businesses, although these businesses are only in their initial stages. This empowerment shifts their mindset from the one-way contribution of neighborhood philanthropy to a 'give and take' philanthropy model. The improvement and development community organization members/ the working team staff obtained in term of 'capacity building' include:

- The ability to create part-time self-employment from waste merchandizing and composting since community organization members are connected to the market-cycle of waste entrepreneurship.
- The ability to create profitable home-based-self-employment opportunities from the increasing demand of earthworm composting expertise.

Figure 5.3 illustrates the tendency of the labor force to more efficiently handle community-based solid waste management. The labor force demanded for the program decreased from 89 labor units per month in September 2006 to 56 labor units/month in February 2007 , while the amount of waste collected increased from 91.5 kgs/cap/month to 126.8 kgs/cap/month (see performance section). So, each staff member improved his/her capability and this personal capacity improvement resulted in decreased labor

¹⁸⁵ Interview with Ms. Malinee Boon-Ngam, the Community Organization Development Institute's field staff in May 2007 who organizes provincial environmental forum and invite the working team leader as one of the key person in lesson learning session.

demand. In terms of skill and knowledge improvement, the application project personally capacitated some community organization members to engage in job creation. Nevertheless, the programme was limited only to community organization committee members and was not adopted neighbourhood-wide. It can be summarized that capacity building at the individual level is effective and demands less resource injection¹⁸⁶ since this knowledge is then passed downward via Chumchonchai Foundation's network.

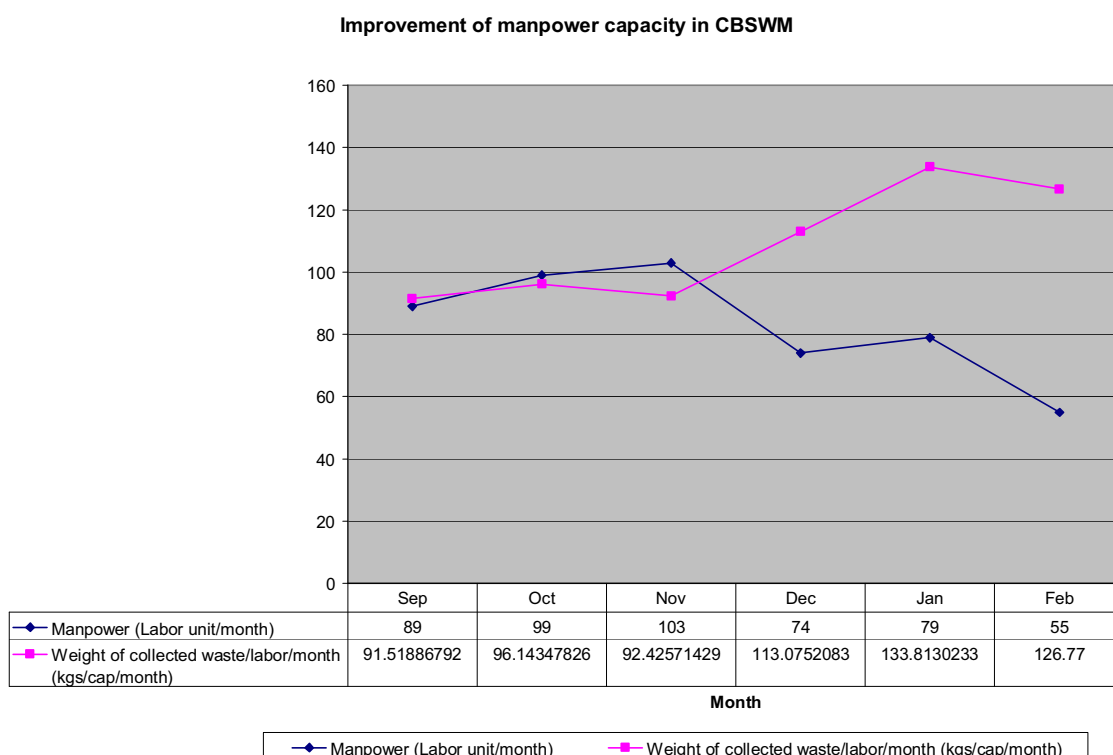


Figure 5.3 Improvement of manpower capacity in community-based solid waste management

Organizational level

The application project has provided capacity building at the organizational level to the working team as a resource. This research concentrates on three elements: organizational resources, trust and sympathy, and movement toward formal organization. The first refers to financial resource generation pertaining to community-based solid waste management activity. The second refers to social capital embedded through the indirect support of the

¹⁸⁶ The training organized by the National Science and Technology Development Agency was free of charge. Chumchonchai Foundation was invited to participate so 201-Community organization members were targeted for this training programme.

working team and the community organization gauged by the level of engagement in garbage banking activity. The third refers to the managerial capability of the organization to upgrade the community organization from volunteer-based organization to fully accountable entrepreneurial-based organization. These synoptic elements play a dual role; to reflect an inherent civil society institution's capacity to promote shared governance.

- Organizational resources

Organizational resources refer to income generation to the working team and the community organization accumulated through current occupation-based activity such as mushroom business activity. 201-Community organization members and committees expected recyclable waste entrepreneurship and degradable waste composting to act as parallel activities. Regarding recyclable waste merchandizing activity, by exploring the characteristics of waste disposal sold to the working team, it is discovered that glass, miscellaneous waste, and PET plastic made the highest profit in 201-Neighborhood. Glass made 37.5%, miscellaneous waste made 10.2% and PET made 9.8% of total profits (Appendix C). These three types accounted for 57.4% of net profit. Regarding degradable waste composting, the working team sold fertilizer from both conventional composting and earthworm composting in three rounds (November 2006, February 2007 and May 2007).¹⁸⁷ During the intervention period, organic compost generated income about 3,000 THB (63.3 Euros) or 8 Euros/month to the 201-Community organization.

Figure 5.4 illustrate profits generated from waste merchandizing and organic waste composting activity. In the three different periods of community-based solid waste management in Table 5.3, net revenue totaled 463 Euros (after operational and maintenance costs), or 25.7 Euros/month. The working team at pre-intervention levels generated revenue of 103.2 Euros in the six months studied (17.2 Euros/month). During the intervention period, the working team based on voluntary-entrepreneurial approach generated revenue of 366.8 Euros (45.9 Euros/month), doubling the pre-intervention period's rate.

¹⁸⁷ Conventional composting requires lengthy time span, however it could be sold and earn money by demanding almost without any capital input. Recently, it can sell for the whole bucket for 1,000 THB (20 Euros).

Table 5.3 Financial balance sheet of community-based solid waste management operation

Month	Dec05	Jan-06	Feb-06	Mar-06	Apr06	May-06	Jun-06	Jul-06	Aug-06	Sep-06	Oct-06	Nov-06	Dec-06	Jan-07	Feb-07	Mar-07	Apr07	May-07	Jun-07	Total
Revenue from recyclable waste (sell out)	11.00	26.42	20.26	17.67	10.49	17.35	12.60	0.00	104.73	224.82	263.55	124.65	258.95	266.04	261.50	308.15	264.06	46.48	2238.71	
Revenue from compost	0	0	0	0	0	0	0	0	0	0	11.60	0	0	26.17	0	0	25.54	0	63.31	
Expense of recyclable waste (buy in)	0.00	0.00	0.00	0.00	0.00	0.00	-6.83	-15.25	-152.34	-200.20	-206.39	-145.16	-169.92	-108.93	-182.82	-272.64	-134.53	-100.28	1695.29	
Expense of labor cost	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-48	-48	-48	-144.00	
Net profit	11.00	26.42	20.26	17.67	10.49	17.35	5.77	-15.25	-47.61	24.62	68.76	-20.51	89.03	183.28	78.68	-12.49	107.06	-101.80	462.73	
	Pre-intervention period (103.19)						Intervention period (366.77)						Post-intervention period (-7.23)							

Source: The working team's record

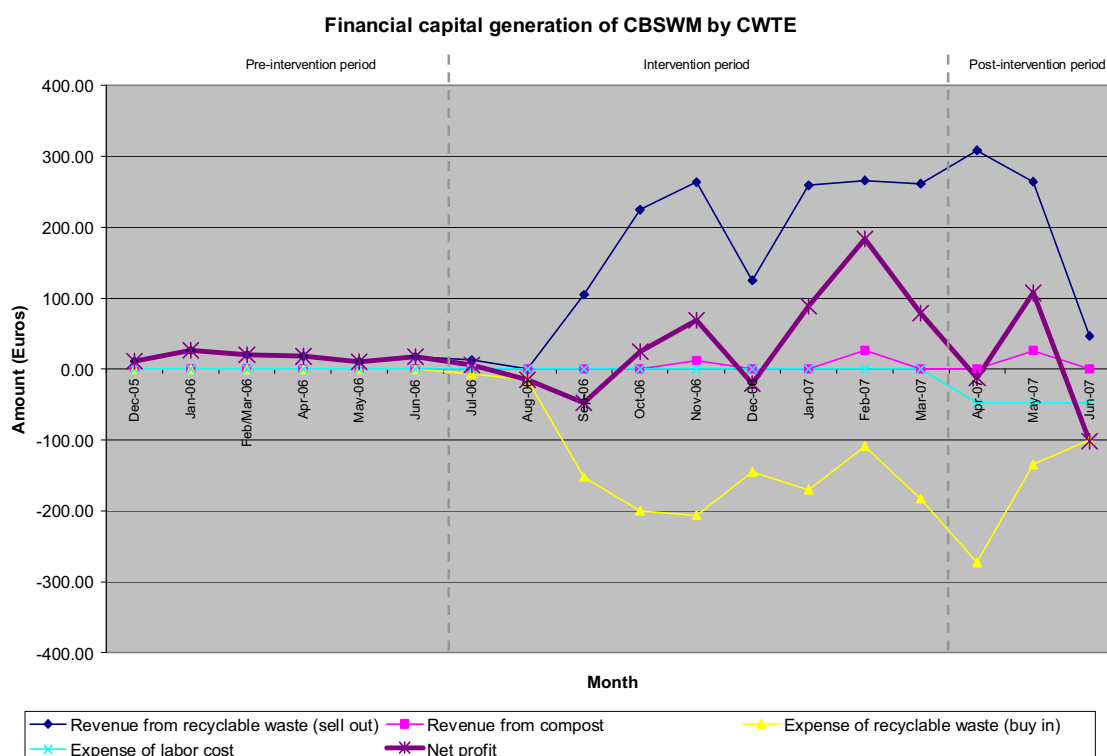


Figure 5.4 Financial generation by 201-Community organization from community-based solid waste management

The findings report the changes in entrepreneurial community-based solid waste management over the post-intervention period. Income declined, implying shrinkage of entrepreneurial scale. However, the research reflects that 201-Community organization is able to sustain the community-based organization development activity, the community-based solid waste management, without losing operational capacity in the post-intervention period although it is less profitable (Table 5.3). Critically, Figure 5.4 highlights the pivotal departure from a volunteer-based to an entrepreneurial scheme of community-based solid waste management in that the latter generates greater resources than the former. The data shows that the intervention solidified the temporary infusion from transactive subsidies which in the post-intervention period settled into a manageable, self-sustaining scale/capacity of community-based solid waste management.

The findings on financial capital reflect that capital was generated at an individual level at the expense of collective organizational resources, the synoptic procedure seems mutually beneficial, and the beneficiaries are the individually unemployed who gain ability to sustain the activity. Regarding entrepreneurship, it can be said that the working team was not successfully equipped for community-based solid waste management since it generates only a small amount of income and its benefits are limited for activity extension and scaling up. At this stage, community-based solid waste management as a community-based development activity is basically a not-for-profit scheme.

- Trust and sympathy

Trust and sympathy represent neighborhood companionship in community-based solid waste management activity based on the extent to which 201-Community organization can encourage collective cooperation among dwellers. It is postulated that the level of trust and sympathy is gauged by the number and frequency of engagement of collective client-based and savings-based participants.

For the extension of client-based recyclable waste merchandizing beyond the eight-month entrepreneurial intervention, the collective participant involvement may be categorized into two groups: occasional and routine participants. Occasional refers to participants with irregular/ad-hoc patterns of behavior on waste merchandizing with the working team. Either they separate and sell the recyclable waste to other waste buyers

instead of to the working team or they do not regularly separate waste. Routine refers to highly-disciplined participants who merchandize with the working team at least three times/month. Table 5.5 compares the findings from the initial neighborhood survey that during the pre-intervention period 46.7% of respondents practiced recyclable waste separation and 16.4% of total dwellings routinely practiced waste separation. The progress during the intervention projects that occasional participants comprised 306 households in 201-Neighborhood (36.4% of total dwellings; N=P), while routine participants were about 18 households, or 2.14% of the total dwellings.

The changes in trust and sympathy correspond to the ratio of routine per total participants (Table 5.4). The analysis illustrates that the working team has had a limited effect in enhancing participation compared to the pre-intervention period. At the pre-intervention period, it was found that 35.1% of waste separators routinely practice, while during the intervention, only 5.9% of routine separators engaged with the working team. That means the intervention reached only on a small part of the target group and was not widely instituted. Trust and sympathy were difficult to generate based on the intervention. At least two reasons are given for limits on trust and sympathy enhancement to facilitate community-based solid waste management. First, the operational scale of the project itself limits it to small part of the neighborhood dwellings based on available resources and second, the working team is incapable of generating higher trust and sympathy among the dwellers to contribute on solid waste issue.

Table 5.4 Number of participants contributing to the project intervention

Categories	Pre-intervention		Post-intervention	
	Number of participants (households: N=493)	Percentage	Number of participants (households: N=P=840)	Percentage
Number of the participants contributing to community-based solid waste management activity (T)	204	46.7	306	36.4
Number of the participants regularly contributing to community-based solid waste management activity (R)	81	16.4	18	2.14
Regular-total separators ratio (R/T)		0.351		0.059

Note: The data has been collected during August 2006 - March 2007

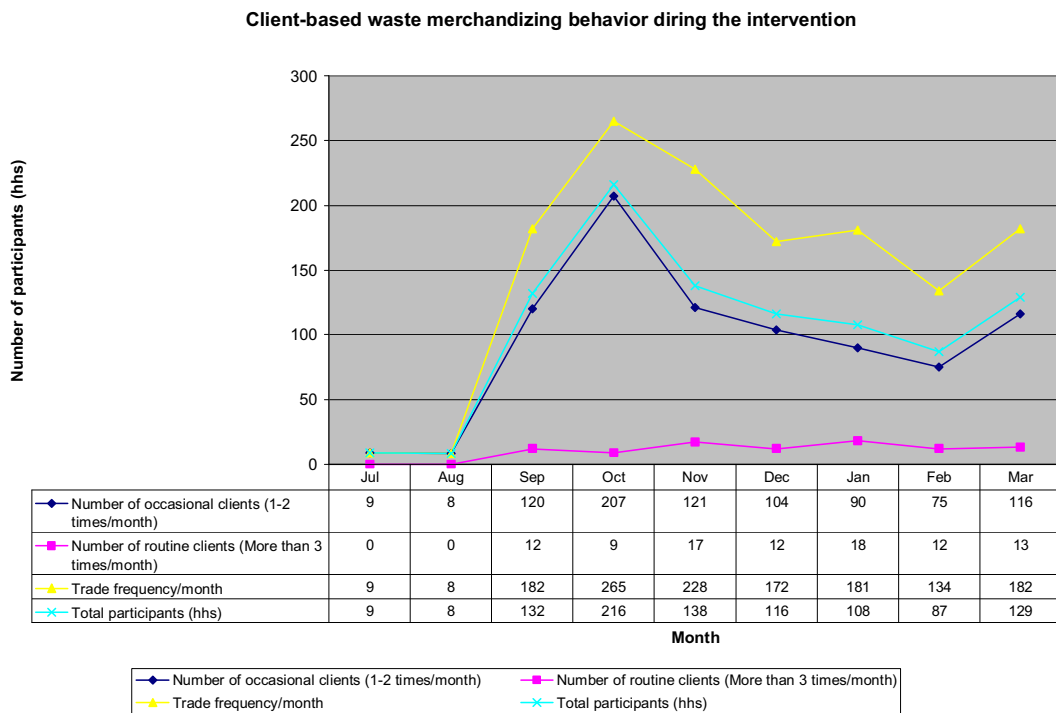


Figure 5.5 Change of client-based recyclable waste merchandizing during the intervention

Figure 5.5 reasserts the findings on trust and sympathy of the dwellers engaging in community-based solid waste management initiation. The tendency of occasional client-based participants has fluctuated while for the routine participants it remained constant. The number of occasional participants is much higher than the number of routine participants' engagement. The working team activity is driven by economic incentive rather than trust and sympathy, represented by the result that trade frequency changed for occasional clients instead of routine clients. The findings show that the working team has not been successful in securing routine participants. It addressed only a small circle of the working team staff whose personal ties to the project were well-established.

Savings-based extension from garbage banking is another indication of level of trust and sympathy on community-based solid waste management as measured through garbage banking membership. Associated with routine participants, garbage banking membership reflects the members' deep-trust in 201-Community organization. Forty four garbage banking member households of the neighborhood's 840 households (5.2%) are willing to save rather than merchandize. Garbage banking members and routine participants share the same client-based distribution pattern as the working team staff and 201-Community organization committee and are the key agents to encourage new participants.

Figure 5.6 illustrates how membership in garbage banking activity increased at a rate. Eventually, garbage banking members no longer kept their cash in a garbage bank and turned to waste merchandizing activity instead. So, while garbage banking initiation was temporarily sound during the intervention period, it no longer functions in the post-intervention period. From the tendency of collective members, the data shows that the number of members engaged in garbage banking has bottomed out. In the post-intervention period, garbage banking engaged no new members in community-based solid waste management. It survives only through existing members. Summarily, garbage banking meets its own current capacity but cannot gather more sympathy from dwellers beyond friendship-based clients. Compared to the previous community organization's activity, garbage banking is clearly the least attractive to dwellers, drawing only those with personal ties to the working team staff/201-Community organization committees.

Comparing the previous community organization's activities, the mushroom group (8.3% of households) and the savings fund (23.8% of households) embraced more members than garbage banking (5.2% of households), as illustrated in Table 5.5. This highlights that deep trust on garbage banking is relatively low. Dwellers prefer merchandizing to savings programmes. Three explanations are given for this; first, participants prefer immediate cash in return when they trade, rather than savings which are more complicated; second, people have little trust in the working team, so they are unwilling to risk their deposit with it; and third, garbage banking does not provide returns to participants sufficient enough to incentivize them.

Table 5.5 Community organization's development activity and members in 201-Neighborhood

Categories	Number of participants (households: N=P=840)	Percentage
Number of members in the project's garbage banking	44 ¹⁸⁸	5.2
Number of members in mushroom activity	70 ¹⁸⁹	8.3
Number of members in savings fund	200 ¹⁹⁰	23.8

Note: 201-Community organization membership record, retrieved on April 2007

¹⁸⁸ Data until February 2007

¹⁸⁹ Data from 201-Community organization occupational member account

¹⁹⁰ Data from 201-Community organization savings member account

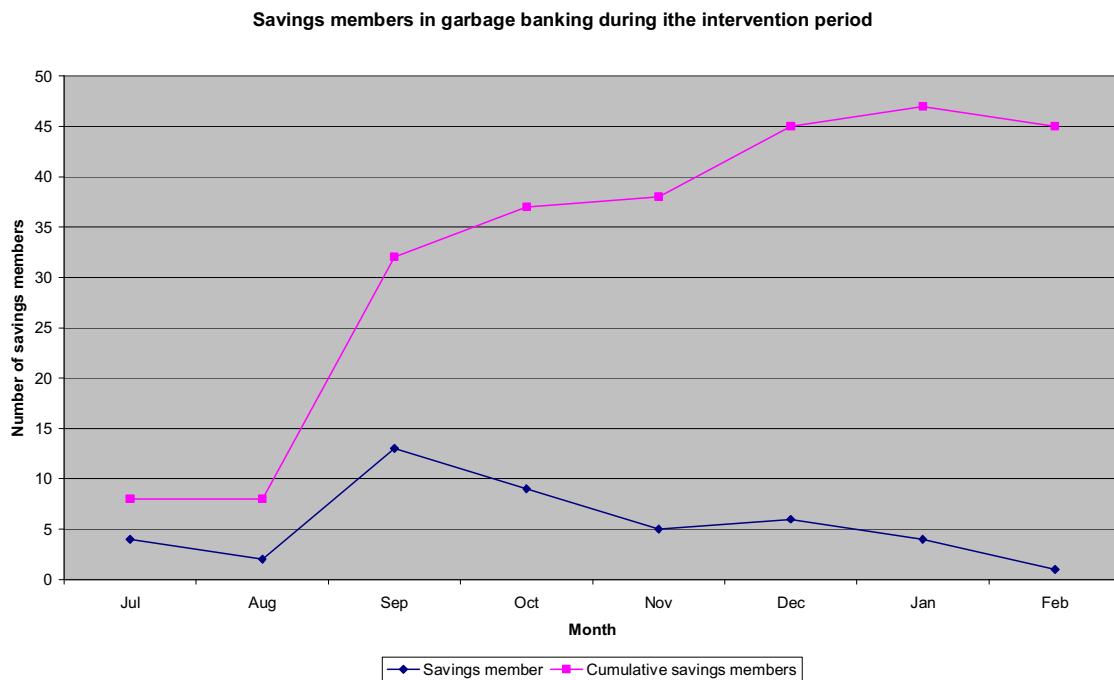


Figure 5.6 Collective membership of garbage banking

On one hand, the findings affirm that client-based waste merchandizing activity is based on economic incentive and market mechanism rather than the assumption that community-based solid waste management would help enhance neighborliness. The trajectories of garbage banking members and routine waste merchandizing participants are seen as indicators of the level of trust and sympathy dwellers attribute to 201-Community organization. It portrays a seemingly low rate of trust and sympathy, since only close-neighbors of the working team staff are involved. Nonetheless, either people are insecure in the ability of the working team project to survive, or they do not trust the personal ability of the community organization members.

- Movement toward being formal organization

Capacity building at the organizational level focuses on the working team's capacity to self-sustain the community-based solid waste management programme. The movement toward becoming a formal organization is a prominent example that shows the ability of a long-term operation to survive through a change from volunteer-based/informal organization. This refers to the technical ability of the working team members to continue community-based solid waste management activity with positive outcomes: both financially and effectively.

Having been consulted by the Division of Cooperatives Promotion (DCP), Sumut Prakarn branch office under Minister of Agriculture and Cooperatives, 201-Community organization through its contribution of the working team, has mobilized to become a formal community-based entrepreneur, the *Small-Medium Community Enterprise* (SMCE). Community-based solid waste management has also carried on occupational-based activity by integrating waste entrepreneurship into priori community development activity. Division of Cooperatives Promotion suggests that 201-Community organization can survive formality since its programmes generate revenue collectively to the organization. Two advisory visits from Division of Cooperatives Promotion in providing technical assistance on accounting and business practice were evidence of their confidence in 201-Community organization.

By the end of the intervention, 201-Community organization was not yet upgraded to being a formal small-medium community enterprise. The members prefer being informal because it allows them flexibility to devote themselves to their regular jobs. Also the community enterprise is technically too complicated due to its many compulsory rules and regulations. It survives as a volunteer-based activity without striving to be a more extensive entrepreneurial-based activity. Summarily, 201-Community organization has met its utmost potential based on the available resources. For the members, community-based solid waste management is an activity only for neighborhood betterment, not an active enterprise. Therefore, capacity building at the organizational level is limited to managing volunteer-based activity.

Network level

Capacity building at the network level refers to collective organizational networking among civil society institutions supporting shared governance applying pressure to influence the state. This is done through support for network connections and social recognition. Network connection functions for social learning and sharing experience among network members as a way to enhance institution's capacity. Social recognition expands network connections to wider civil society groups.

- Supporting network connection

Regarded as an element of social capital, network connection can be indicated by the extent that 201-Community organization via community-based solid waste management reaches out to other civil society institutions/agencies for their supportive role via accompanying webs. Figure 5.7 illustrates the change in networks from the pre- to post-intervention period, where 201-Community organization is central to the network.

During the pre-intervention period, 201-Community organization had limited networks with other civil society agents. The only apparent connection was with Chumchonhai Foundation as a supporting partner for grassroots action and development. During the intervention, 201-Community organization reached out to other civil society institutions for non-material resources – knowledge and skills – from local to provincial level. Longitudinal evidence from the post-intervention period reveals that 5-6 organizations and institutions are directly and indirectly involve with the application project, and increase from the prior period. These include:

- *Academia* refers to the international-academic partnership as resource provider and consultant. It links not only itself to 201-Neighborhood, but also helps connect 201-Community organization to other institutions, non-government organizations and administrative bodies via its current ‘Environmental Networks Members’ objectives.
- *The non-government organization* refers to Chumchonhai Foundation, the nationwide non-profit organization that has provided intermittent assistance to 201-Community organization organizational capacity building and development of savings practices since 1997. It plays a role mediating with the municipality, balancing the unequal power relation between the municipality and 201-Community organization. After a period of non-support from 2000-2005, Chumchonhai Foundation has played more integral role at the local level. The intervention brought Chumchonhai Foundation back in to Bang Plee Newtown Community to expand 201-Community organization at both the local and provincial levels.
- *The press* refers to two media institutes: ‘Sakorn news’, the daily local radio and TV news programme in Samut Prakarn province which broadcasts information

about 201-Community organization activity¹⁹¹; and the ‘Panorama Documentary’, the national documentary TV programme¹⁹² that publicized the movement beyond the place-based neighborhood. Panorama Documentary’s influences on other community-based development activities were observed on two study tour visits outside the international-academic partnership networks.

- *The provincial network* refers to the civil society network at provincial level which includes Chumchonchai Foundation and the international-academic partnership. This network provides the sharing/learning forum for 201-Community organization integrated with other neighborhood network members for reciprocal activity.
- *Other community organizations* refer to communities in and outside Bang Plee Newtown Community. From inner Bang Plee Newtown Community, leaders of two neighborhoods (202- and 40B-Neighborhoods) and the community organization are allied in knowledge and skill exchange, although their capacity lags behind the 201-Community organization. These community organizations support the civil society process by encouraging other neighborhoods. Throughout the intervention, 201-Community organization looked to other communities for capacity building help in the forms of field visits, training, and public forums. Through these activities, participants shared learning lessons among one another and strengthened grassroots networks. For instance, ‘*Lak Si*’ community taught 201-Community organization to do waste separation; ‘*Poon Bampen*’ community was a good exemplar for scoping neighborhood-scale waste entrepreneurship; ‘*Wat Klang*’ community was good at exemplifying garbage banking and savings. These are direct impacts of external networking that supports 201-Community organization to launch strategic waste entrepreneurship and tackle solid waste problems using bottom-up efforts.

¹⁹¹ Sakorn news broadcast 201-Community organization activity on solid waste collection and waste entrepreneurship as well as the opening ceremony of the international-academic partnership. It also advertised 201-Community organization’s international field visit (a group from ‘Environmental Networks Members’ since the application project is successful promoting small-scale community-based waste management).

¹⁹² The TV programme names ‘Kon Huang Pan Din’ (The man who preserves the Motherland). The national TV show promotes and embraces wider community networks. After the TV show, other community organizations proposed to visit 201-Neighborhood and showed willingness to initiate community-based solid waste management in their communities.

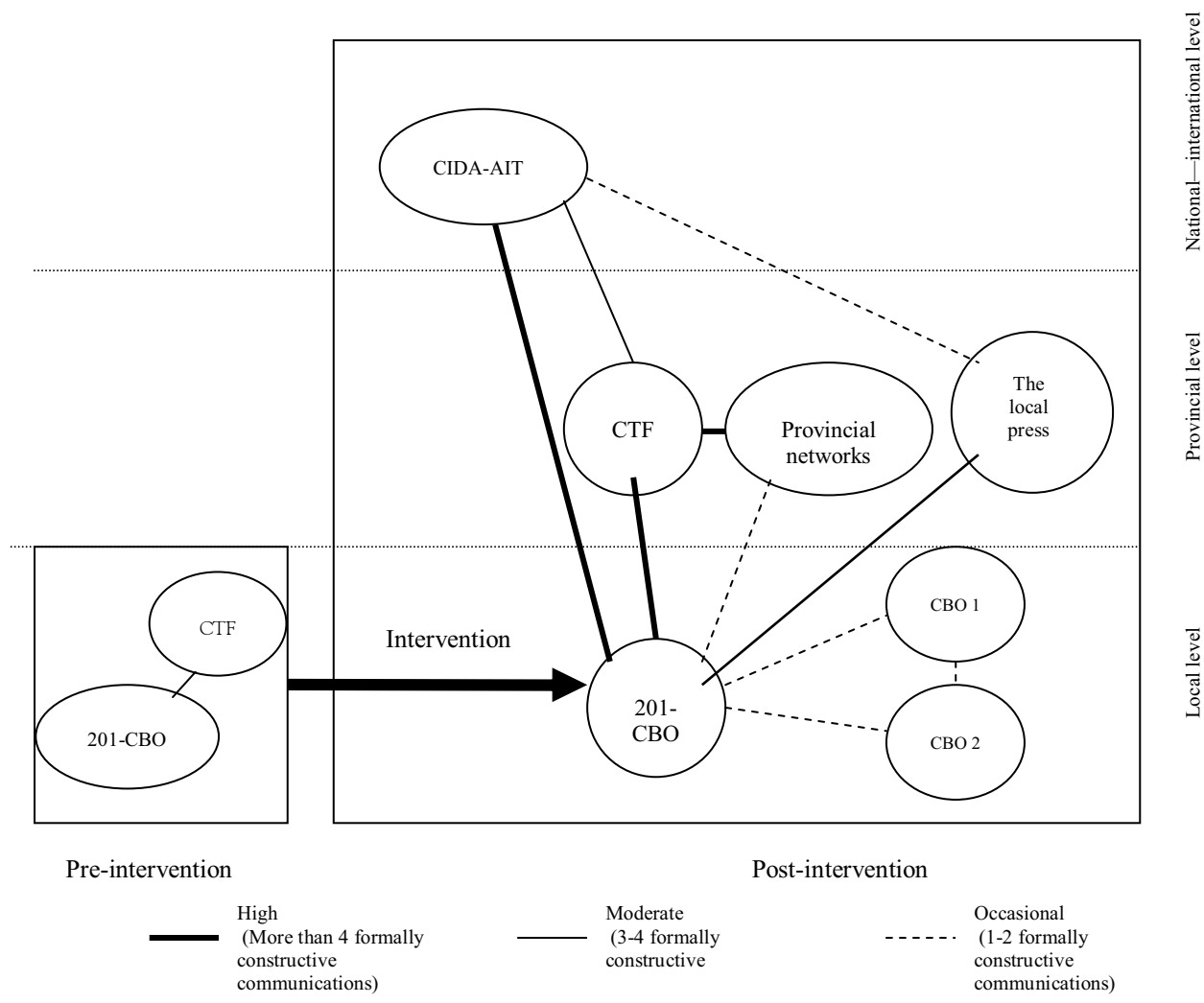


Figure 5.7 Change of network extension regarding as community-based solid waste management support function

Table 5.6 shows how network members contribute to 201-Community organization's social capital enhancement both directly, in the case of this international-academic partnership, and indirectly, for the rest of the civil society members. These network connections strengthen the cumulative social capital of civil society and also capacitate the 201-Community organization to undertake effective community-based solid waste management. Each stakeholder in the civil society network plays a supporting role for 201-Community organization/the working team. CIDA-AIT partnership is the core mechanism to enrich these resources. Chumchon Thai Foundation and the press foster the municipality to create state-civil society arena for partnerships where Chumchon Thai Foundation pushes programme reform while the press attracts more stakeholders beyond the place-based locality. This dynamic indirectly forces the municipality to respond to civil

society's anticipated demands. Since the network is enhanced in this context, it may be seen as one of the essential elements raising civil society agents' internal capital and carrying civil society agents toward shared environmental governance.

Table 5.6 Roles and contributions from each network member

Networks members	Roles	Contributions	Outcomes
CIDA-AIT	To provide all necessary resource to support community organization waste entrepreneurship and domestic waste reduction project (SEA-UEMA)	Resources for the working team instigation such as waste separation units, trainings, equipment	The working team gains resources for community-based solid waste management instigation
Chumchonchai Foundation (A nationwide NGO)	To support learning which benefits community organization capacity building To help link 201-Community organization to Bang Sao Thong Municipality and create a dialogue toward civil participation and shared governance	Skills , knowledge and networks toward community organization capacity building	201-Community organization is stepping into the municipality's arena for dialogue.
The press	To report, advocate, and announce the success of 201-Community's solid waste management activity To act as an informal connection to other grassroots development networks	Advertisement, broadcasting, and widespread acknowledgement of successful community-based solid waste management activity	Newspapers, TV programmes and news recognize 201-Community organization as a successful case in community-based solid waste management practice
Other neighborhoods	To exchange skill/knowledge within and across geographical neighborhoods	Unite civil society network to foster Bang Sao Thong Municipality for delegating and initiating community-based solid waste management programmes and budgets	Other neighborhoods learn from 201-Community organization and replicate community-based solid waste management activity

- Social recognition

Social recognition refers to the ability to indirectly influence the state to include the existing mobilized group in its arena. 201-Community organization's rigorous instigation of community-based solid waste management activity generates an increasing level of acceptance among civil society institutions. The findings portray the phenomenon that 201-community organization has been extensively recognized among the municipal administrative staff, community networks, and neighborhood inhabitants. 201-Community organization members are proud to play a part in the environmental betterment of their

neighborhood and society. Table 5.7 presents evidence that both state and civil society anticipate 201-Community organization will be able to mitigate solid waste problems. Those acknowledging that the community-based solid waste management is formally recognized are:

- local media (Sakorn News) has broadcast and written in the local newspaper about environmental activity and occupational activities operated by 201-Community organization;
- the national documentary programmes broadcasted a thirty-minute TV program about 201-Community organization and its environmental activity;
- provincial community network is supported by Chumchonchai Foundation and Community Organization Development Institute (CODI) has presented 201-Community organization a positive case study in community-based environmental management;
- The municipality has recognized 201-Community organization as the most enthusiastic community development mobilization in Bang Plee New Town Community; and
- the impact has been seen in two websites, two local community network visits and two international visits.

The findings underline that the civil society sector, drawing on the community organization and the intervention, has identified some positive aspects regarding capacity building among 201-Community organization members from individual to network level. Via the capacity building programmes indicated in Chapter 4 – solid waste management training, lessons learned from field visits and best practices, 201-Community organization is able to instigate a community-based solid waste management programme. Capacity building at the individual level means that the community organization is financially able to incorporate and sustain a staff. It can generate personal income and enhance the staff's skill/knowledge even though the employment rate is declining toward the genuine scale of the operation rather than the temporary employment bump from the intervention. At the organizational level, it reflects a tentative failure of the civil society institution. The effort toward formal organization is unsuccessful in that the working team and 201-Community organization are not willing to incorporate. Trust, sympathy, and organizational resource

generation are apparently limited. Organizational resources at best can only continue the current level of activity, not the upscaling necessary to become effective. At the network level, there are significant changes. The civil society network and indirect social recognition have supported the community organization to keep practicing community-based solid waste management since the project was terminated. Summarily in terms of change in capacity building, the findings imply that there was an apparent positive change at the individual and network levels, but at the organizational level, there was little change in operational limits.

Table 5.7 Some evidence of social recognition

Social recognition indicators	Pre-intervention	Post-intervention	Evidence
Number of appearances in local/national media	None	3 (local newspapers)	Sakorn News (Nov 2006, Jan 2007, April 2007)
		1 (national TV program)	'Kon Huang Pan Din', The documentary (on air on July 2007) www.panoramaworldwide.com/program/land/index.php
		1 (national magazine)	'Local Technology' No. 398, January 2008, pp. 47
		2 (websites)	www.chumchothai.or.th http://eco-town.dpim.go.th/news/
Number of appearances in national/international forums and events	None	1 (provincial environmental forum)	Samut Prakarn province Environmental forum, Minister of Natural Resource and Environments, May 2007
		1 (national academic forum)	'Thai Environmental Network Meeting' organized by AIT, June 2007
Impact in post intervention period	Four external visits were emerged to visit 201-Community organization and Neighborhood.		Two community network study tours visited 201-Community organization as a good practice learning, this international-academic environmental network study tours (host for Vietnamese academic excursion in April 2007), and Southeast Asian environmental networks excursion (host for nine Southeast Asian countries in May 2007)

Environmental awareness

Environmental awareness, one of the outcome evaluations of internal change in civil society, is determined via behavioral changes in waste refuting along with disposed waste reduction. Environmental education related to raising awareness among inhabitants is a

concern of both the municipality and 201-Community organization. The municipality, over the last five years (2002-2007), has increased its environmental awareness campaign to the community/civil society sector (from Chapter 3, Table 3.6). An average of 1.92% of municipal environmental expenditure was allocated to community environmental awareness programmes. Although this budget input has been increasing, the programme's efficacy has decreased. For instance, the researcher directly participated in two environmental awareness raising activities (a waste separation training programme and a field study trip) organized by the municipality in April and May 2006. Both programmes were exclusive and ineffectively communicated to the majority of inhabitants. The training activity targeted only the neighborhood committee members closely associated with the municipality.¹⁹³ The field study trip failed as the participants did little to translate environmental awareness learned into local neighborhood initiation because the municipality had them visit an advanced central waste management system rather than a case study where neighborhood members worked locally to start and operate a programme (as presented in Chapter 4).

Together with previous environmental awareness-raising programmes by the municipality, it may be stated that the municipality's message has been limited to civil society groups mentioned in Chapter 3, and has not affected the entire neighborhood. In the urban community, the hardship has been that the neighborhood committee, as the dweller's representatives, is loosely connected. One explanation is social network fatigue. The representing group's learning and education is not brought to the community as a whole, so the knowledge ends at the selected participants.

Another synopsis, starting from the civil society sector, the intervention indirectly introduced a waste refuting behavioral change where dwellers are encouraged to participate. Illustrated in Table 5.8, from 493 survey questionnaires distributed in 201-Neighborhood in the pre-intervention period, it was discovered that on average 46.7% of respondents separated waste before refuting. Of this percentage, 11.4% of respondents practicing waste separation are routine separators while 37.3% of respondents are occasional separators. Although 89.2% of respondents know that some kinds of waste are tradable, the number of

¹⁹³ The training activity was informed to the neighborhood committee because it is convenient for the municipality. As earlier mention, the municipality and neighborhood relationship has connected via the selected committees whom easy to be governed on the basis of patron-client relationship. Therefore, only the neighborhood committee participated in such the programme.

respondents who practice waste separation before refuting is roughly equal to those who do not (separator = 46.7% and non-separator = 53.3%). The major reasons given are that separation is time consuming (26.4%) and complicated (17.8%). Table 5.10 shows that among groups of dwellers, the assimilated group practices waste separation the most (50.0% of respondents), while the circulated group practices the least (43.5% of respondents).

Table 5.8 Longitudinal comparisons in behavioral change of waste refuting of the dwellers in 201-Neighborhood

Categories	Pre-intervention (p=493)			Post-intervention (p=720) ¹⁹⁴			Change ¹⁹⁵		
	Average	Occasional	Routine	Average	Occasional	Routine	Average (%)	Occasional (%)	Routine (%)
Total separators	46.7% (N=204)	37.3% (N=169)	23.5% (N=52)	58.6% (N=422)	52.8% (N=380)	5.8% (N=42)	+25	+42	-75
Original group	49.4% (N=84; p=170)	38.2% (N=65; p=170)	11.2% (N=19; p=170)	45.8% (N=88; p=192)	32.8% (N=63; p=192)	13.0% (N=25; p=192)	+16	+22	-71
O-T index	0.2307	0.1425	0.0258	0.2684	0.1956	0.0075			
Assimilated group	50.0% (N=65; p=130)	39.2% (N=51; p=130)	10.8% (N=14; p=130)	32.3% (N=62; p=192)	25.0% (N=48; p=192)	7.3% (N=14; p=192)	-19	-10	-83
A-T index	0.2335	0.1462	0.0248	0.1893	0.1320	0.0042			
Circulated group	43.5% (N=54; p=124)	32.3% (N=40; p=124)	11.3% (N=14; p=124)	22.9% (N=44; p=192)	21.4% (N=41; p=192)	1.6% (N=3; p=192)	-34	-6	-96
C-T index	0.2031	0.1205	0.0260	0.1342	0.1130	0.0009			

Note: The pre-intervention data was collected in June 2006. The post-intervention data was collected from August 2006 to March 2007. Missing value is excluded. (O-T, A-T, and C-T index are the percentage of separators in each group of the percentage of total separators. Since the researcher gauges this data type in different population, a standardize value is required for comparison).

In the post intervention period, the client-merchandizing data shows that the percentage of waste separating participant household in community-based solid waste management in 201-Neighborhood is 58.6%. Of that, occasional participants make up 52.8% while routine participants make up 5.8%. Regarding raised environmental awareness since the intervention, dwellers were expected to be more aware that recyclable waste is valuable since the members of the working team have advocated and encouraged dwellers to get involved by educating them door to door. After the project was terminated, client-based data¹⁹⁶ from pre- to post-intervention shows refuting behavioral change for the

¹⁹⁴ In the post-intervention period, *p* is equal to the number of households visited by the working team (720 households) during the intervention. On average, each household was visited three times per month where the rate of operational frequency was 18-20 days per month, two lanes per day, and three hours per day.

¹⁹⁵ Change in awareness is measured by the percentage of change between pre- and post-intervention employing change in indexes.

¹⁹⁶ the working team will note the address of the household-based client with whom it merchandizes.

total waste separators (+25%) as well as for occasional separators (+42%). However, routine separators decrease by (49%). From longitudinally comparing pre- and post-intervention recyclable waste separation, it can be summarized that the intervention of the working team moderately shifted waste separation practice toward better waste refuting habits. The percentage of separating practitioners in the original group increased on average by 16% (from 46.7% in the pre-intervention to 58.6% in the post-intervention period). The data also underlines that rate of waste separation in the assimilated and circulated group declined instead (19% and 34%, respectively).

Although the overall operation results in the rise of environmental awareness in 201-Neighborhood, the convergence change between original and assimilated/circulated group implies a tentative zero-sum effort. The researcher analyzes the circumstance that community-based solid waste management's members mostly consist of dwellers from original group; their operation was selective by associating more with their group rather than others. It can be seen in a disassociated rate with assimilated (-19%) and circulated group (-34%). This results in a substantive increase of occasional separators while percentage of routine separators and separators from other groups is reduced. Two reasons are given. First, because community-based solid waste management visits each household only three times per month, routine separators trade waste with other waste buyers/junkshops instead. Therefore, the involvement in community-based solid waste management from the assimilated and circulated groups is minimal. Second, this raised environmental awareness derives from the original group by specifically changing non-separators to be an occasional separator rather than raising awareness in any other group. Since the percentage of routine separators declined, while the percentage of occasional separators greatly increased, it implies that the working team acted as a catalyst by going door to door rather than dwellers' self-commitment to community-based solid waste management. Based on these given reasons, it may be determine that environmental awareness rises closely in concert with visiting frequency of community-based solid waste management operation.

In accordance with raised awareness, the intensity of waste separation also increased significantly. Figure 5.8 shows that on average a household increases the weight of merchandized waste from 16.2 kgs/household/month (at the start) to 28.2

kgs/household/month (at the end of the project), or 74.7% increase. The data portrays inhabitants practicing waste separation more intensively as a profit-driven force. This change underscores a critical behavioral improvement of dwellers who attained a higher level of environment awareness. This outcome implies correlation between the amount of waste reduction and raised awareness levels. Therefore, waste reduction results from dwellers' behavioral change where some inhabitants, especially in the original group, recognize the value of waste separation. The municipality may as a result eliminate a substantial amount of waste before it is transported to dumping sites, helping alleviate municipal solid waste management burden. In other words, environmental awareness of dwellers is raised by economic incentives rather than awareness from goodwill. Notwithstanding, tangible waste reduction occurs, as illustrated in the following performance analysis of the working team practice.

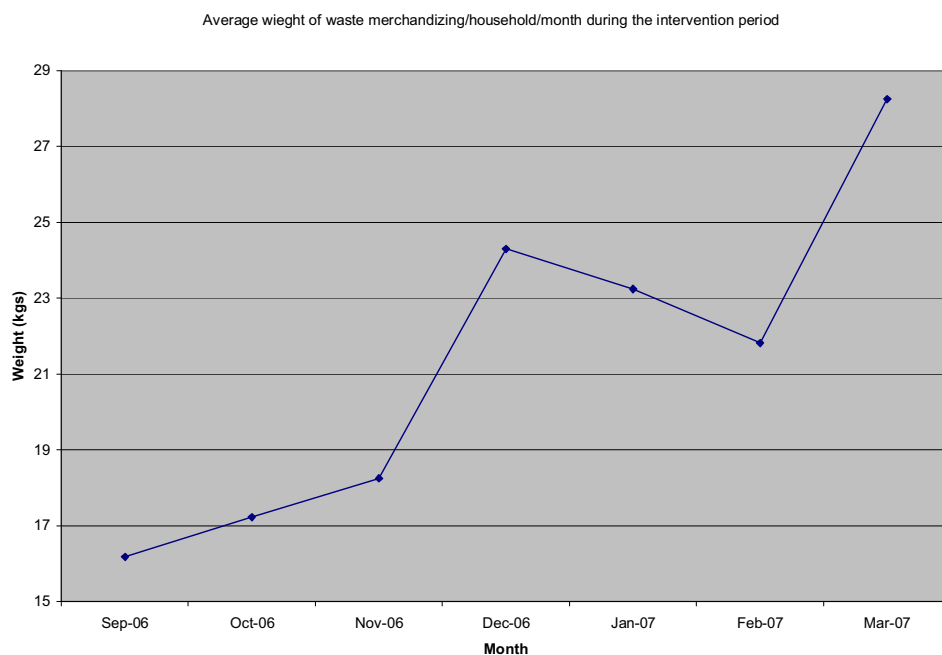


Figure 5.8 Average weight of waste merchandizing/household/month

Figure 5.8 highlights a positive change in the waste merchandizing level for the entire 201-Neighborhood. The percentage of environmental awareness changed moderately. In as much, the data indicates a significant shift in the waste separation rate. By comparing the two sets of information, it may be summarized that raised environmental awareness is limited only to waste separation practitioners in the original group engaging former non-separators as new separators. The intervention for raising environmental

awareness was unsuccessful in instilling better habits or awareness in separators among assimilated and circulated groups. The following discussion illustrates the apparent waste reduction in 201-Neighborhood. Thus environmental awareness was expanded by market incentive, not by awareness borne of goodwill or idealism.

It can be concluded herein that the effort from the municipality was unsuccessful in elevating the level of environmental awareness, while the effort from community-based solid waste management by the intervention depended highly on operational frequency despite awareness level increasing moderately. Both efforts were effective only on limited-selected groups, and were not widely adopted. The former failed to widely mobilize better awareness among the dwellers, targeting only the community organization group. The latter, while more intimately tied to the neighborhood, still requires extensive engagement by other groups. Figure 5.9 portrays the synoptic trajectory and process.

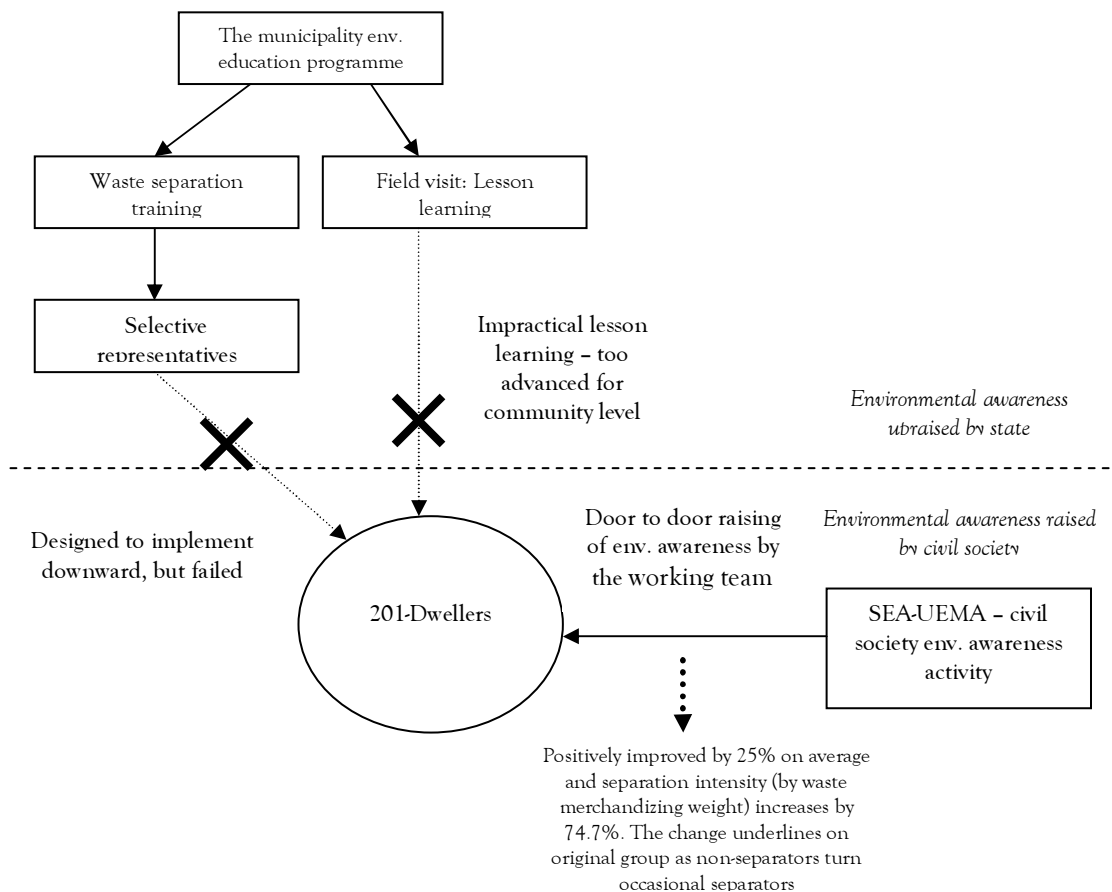


Figure 5.9 Process and outcome of raising environmental awareness by Bang Sao Thong Municipality and grassroots action

5-2: Changes in state-civil society interaction: Transforming the relationship

In the post- intervention period, some obvious changes in state and civil society institutional interaction are detected. The relationship is scrutinized via its two power structures: as top-down, represented by the municipality, and as bottom-up shared governance, represented by 201-Community organization. In a top-down relationship, change either negates or encourages the civil society institution to engage in public dialogue, collaborative building or social inclusion. A bottom-up approach incorporates civil society institution in a movement toward shared governance. Their interaction is herein analyzed. Two elements are discussed: the change toward civil society institutional inclusion and the resulting level and civil society intensity of self-mobilization as an environmental development counterpart.

Civil society institutional inclusion

Change of civil society institution's level of inclusion is discussed using four criteria; 1) municipal plan/program reorientation, 2) changes in the character of state-civil society communication, 3) participation of wider civil society agents, and 4) power delegation.

- Plan/program reorientation

Municipal plan/program reorientation refers to the extent the municipality has been influenced by community-based solid waste management activity and has embraced municipal solid waste management change. In the pre-intervention period, the municipality managed a school-based waste separation programme. The municipality claims this was the first initiation of a decentralized solid waste management programme in order to minimize waste at source.¹⁹⁷ After the project intervention, a community-based solid waste management project was proposed from Health and Environmental Division (implementation level) and the municipal clerk (planning level) to the municipal council (policy-making level) for the municipal senate's ratification. This annual approval of expenditures will be finalized in October 2008. This evidence shows how the municipality plays a supporting role at the bureaucratic level, with community-based solid waste management an integral activity alongside municipal solid waste management. Nonetheless,

¹⁹⁷ The author interviewed with Head of Health and Environmental Division and the municipal clerk, January 2006 and also it is indicated in the municipality annual plan 2005-6 (BSTM, 2006b).

funds for the proposed community-based solid waste management project, if approved, will not be immediately allocated to each community organization. Funding requires a clear proposal. This step shows, however, that the municipality has undertaken a course of action which widens civil society innovation that has never taken place before.

The working team has been a catalyst in revision of environmental programmes, particularly for the municipality to promote community-based solid waste management. In the past, the municipality did not provide resources to any programme/project to the civil society sector without approval from state-led administration (see Table 3.2 in Chapter 3). All civil society-based environmental programmes – such as training, campaigning and raising awareness – have been undertaken via the state exercising a course of action. Environmentally-focused programmes were imposed by the state upon municipal schools, youth, or community representatives. In the post-intervention period, community-based solid waste management plans and projects are proposed by Health and Environmental Division of the municipal implementation and planning level to upper policy-making level for consideration. Eventually, the municipality inserted community-based solid waste management project as community development programme mandated by the Educational Division.¹⁹⁸ Each neighborhood could apply for up to 50,000 THB (around 1,000 Euros) to initiate its own community-based solid waste management operation after the municipality highlighted 201-Neighborhood as a best practice. The municipal clerk said;

“Bang Sao Thong Municipality started the process of community-based solid waste management programme, which 201-Community organization has shown to be an admirable example of how community/civil society sector becomes part of an environmental improvement mechanism. Since 201-Neighborhood has shown such an effort, 201-Community organization can be a learning lesson and a case study that other neighborhoods in Bang Plle could replicate. Anyhow, it depends on the Community organization s to succeed. At most, we (Bang Sao Thong Municipality) can merely financially support... We hope the others are as strong as 201-Community organization.”¹⁹⁹

Based on this limited evidence, policy changes and reforms in solid waste management are difficult to identify, but the effect of intervention directly or indirectly encourage the municipal efforts at plan/program reform at the municipal bureaucratic

¹⁹⁸ Community work and development issue is handled by this division.

¹⁹⁹ Interviewing Mr. Suwat Ritsamret, the municipal clerk, February 2007

level. This provides a channel for neighborhood environmental action as a supplement to current municipal solid waste management. Either this may be claimed as a permanent change in shared governance toward civil society in the state arena due to solid waste management in agglomerated neighborhoods or it is a temporary change to relieve pressure from the civil society sector.

- Changes in the character of state-civil society communication

Changes in the character of state-civil society communication refer to behavioral change in how the municipality interacts with civil society institutions after the intervention compared to before. Although the neighborhood has its own elected representatives in the community organization, the municipality has the authority to approve the official status of the community organization committee. It is implied that the community organization functions as another downward stem in the state's top-down government and as a messenger to relay to the state the neighborhood's needs. 201-Community organization is no exception. In these roles, it is responsible to both parties. In the pre-intervention period, the municipality communicated with the community organization members and committees using a *command and order* mode of communication. The needs of inhabitants are responded to by the municipality very slowly and inefficiently. One of the 201-Community organization committees explains;

*'We have heard many complaints from our neighbors about wastewater and solid waste problems and we have related them to the municipality. But, the municipality has always responded slowly. They (the municipality) always say that we (the municipality) have limited budgets'*²⁰⁰

The municipal officer responded to this comment;

*'We (the municipality) are handling a lot of problems. And since we are a small municipality which has to carry a huge burden generated from the disguised population, we need to prioritize the course of action that is the most appropriate. The neighborhoods do not understand it thoroughly. This is why we have an annual and triennial plan.'*²⁰¹

²⁰⁰ Interview Mr. Wichit Wongthong, the committee member of 201-Community organization, January 2006

²⁰¹ Non-formal interview with Mr. Suwat Rithsamrej, the municipal clerk of the municipality, August 2006

The opinions from these personal interviews imply that the municipality is strictly implementing the course of action according to plan and procedure. Neighborhood needs remain unvoiced unless they surface in an ad-hoc way. In this communication between state and civil society, the municipality holds superior status and keeps a great distance from the community organization.

In the post-intervention period, the character of communication between the municipality and 201-Community organization became closer. The civil society network spotlighted the municipal effort, leading to recognition and interest beyond the locality. The character of the communication between the municipal staff and community organization members has changed positively in areas such as community development support. A member of 201-Community organization said;

*'The municipality responds faster and nicer to our needs. We ask for equipment to facilitate our activity and Bang Sao Thong Municipality provides it to us within a week. If compared to the previous scenario, when it could be so long for such things as documents and plans, or nothing happening, this is much better.'*²⁰²

As a result of these changes, 201-Community organization has elevated its organizational status to where other civil society agents and central state-based development agencies (Community Organization Development Institute, Division of Cooperatives Promotion) are supporting it. This tacit result was partially caused by its increased network connections among civil society institutions. The working team was liberated from its inferior status and is more able to dialogue with the municipal bureaucrats through the support of the institutional network. For instance, the coming emergence of community-based solid waste management programme from the municipality is evidence that 201-Community organization's advancement benefits to other neighborhoods.

- Participation

Participation of wider civil society agents refers to the degree of civil society institution involved in the state's environmental affairs in either creative or destructive ways in the post-intervention period. In the pre-intervention period, the municipality rarely included other civil society institutions in municipal solid waste management affairs. Few private

²⁰² Interview with Ms. Kularp Ratanapirom, former 201-Community organization leader, March 2007

companies, closely connected to the municipal politicians' families, were contracted to collect street-littering waste at which the municipality did not have the capacity to collect. The municipality informed the public on its operation via the municipal journal and newsletter (such as BSTM 2007a). This one-way communication by the municipality represented 'the informing level of participation.' Stakeholders did not actively participate in the municipal planning or action. The community organization never stepped in to make the process more inclusive. Therefore, participation was privileged only to private contractors, not to broader civil society community.



Figure 5.10 International study tour visits from external agencies to 201-Community organization as a learning lesson

In the post-intervention period, since 201-Community organization has attracted more stakeholders to the municipal arena through guest visits by civil society networks and academic institutes (Figure 5.10), the municipality has incorporated 201-Community organization activity little by little. Participation, therefore, has increased not through the municipal direct openness, but instead through 201-Community organization's influence through events and forums. Participation and communication, not surprisingly, are greater during these events. One of the community committee members mentioned;

*'The municipality apparently associates with the community organization only when visiting groups come. At that time we have to hurriedly propose what we need to develop.'*²⁰³

Based on observation and interview with committee members, it is discovered that participation in developing solid waste management dialogue between 201-Community organization and the municipality never materialized. The municipality limits participation

²⁰³ Interview Mrs. Pensri Prue-Ngam, the the working team leader of 201-Community organization, April 2007

to certain aspects only; such as community development stake. Although the non-government and community organization coalition encouraged civil society participation by putting into public forums/discussions the role of community in waste management, the municipality rarely joined. Eventually attempts at civil society participation were distracted by other issues. The community organization still cannot pass into the higher participatory level. Ultimately, the ability for civil society organizations to participate starts at a level of simple informing: this level is *pseudo-participatory* (Arnstein 1969). At this level, the project intervention cannot be a bridge to inclusive governance, because genuine open dialogue between state and civil society has not emerged. This pseudo-participation lasted through the community development exchange and field visits to 201-Community organization. Its influence is occasional and discreet and not strong enough to operate continuously in the long-term or to pressure the state to widen the level of participation.

- Power delegation

Power delegation in urban service delivery happens when the state turns over some parts of its mandatory operation to other sectors that may potentially perform better than the state. Delegation of power from state to civil society is reflected in the level of programme autonomy.

Bang Sao Thong Municipality has followed the application project's idea aiming to implement community-based solid waste management in other neighborhoods. Since the actual projects have not yet launched elsewhere, the level of autonomy is still tied to the previous practice of the municipality toward both 201-Community organization and the other community organizations. The level of autonomy is measured by the extent to which the neighborhood is capable of instigating solid waste management activity on its own, with the municipal support, and the degree to which the development outcome is predicated on the municipal waste management strategy. Previously, the community organization proposed development plans in the municipal dialoging forum, with no response from the municipality. One 201-Community organization committee member mentioned;

I have proposed a development plan a couple of times for municipal support. But they (the municipality) have never given us a package we were asking for. It is only impromptu, piecemeal support of either the material or equipment. And for the whole project, we cannot survive successfully without support²⁰⁴

²⁰⁴ Interview Mr. Wichit Wongthong, 201-Community organization deputy chairperson, December 2005

A municipal bureaucrat mentions the reason for this difficulty in supporting the neighborhood activities. The municipal clerk explained;

'Since we are a local authority, we cannot privilege a few interest groups. What if one community organization is awarded something and the others do not? It will bring us in trouble when the rumor goes onto a corruption issue and furthermore we have to document our course of action. Without supportive plan, how can we have execution for our support? We can at best respond to the content that matches our plan'²⁰⁵

The findings portray two competing sets of priorities where the neighborhood, while proposing the plan, is not able to enact it. Due to its dearth of resources, 201-Community organization cannot initiate the innovative course of action on its own. In the pre-intervention period 201-Community organization confronted a stumbling block in that it could no longer reform the community-based solid waste management activity from being volunteer-based to being entrepreneurial-based unless supported by external institutions (as illustrated in Chapter 4). The municipality was reluctant to respond, fearing they would be charged with prejudicial advocacy or corruption. The findings imply also that the procedure/approval process has always determined the municipal course of action. In the post-intervention period, whether or not the community-based solid waste management project is integrated into municipal solid waste management's genuine procedure and practice, the fact remains that the municipality fully exercises the decision-making power over 'whom', 'when' and 'how' to award projects and funding. The emergence of the community-based solid waste management project is, while a wider channel for new possibilities in solid waste management in Bang Plee Newtown Community, still impeded by community organizations' disempowerment in decision-making process. In this important aspect, the level of autonomy before and after intervention therefore remains unchanged. Thus, the municipal-based community-based solid waste management project can be perceived as an impromptu solution for the municipality to alleviate the grassroots pressure, not as an authorizing delegation of power to the civil society sector.

²⁰⁵ Interview Mr. Suwat Rithsamret, The municipal clerk, February 2007

Civil society intensity of self-mobilization

The change in the civil society intensity of self-mobilization is examined. This change is identified by the emergence of the civil society movement to replicate and upscale community-based solid waste management. In the pre-intervention period, the civil society movement was limited to locally place-based grassroots development initiatives focused on economic activity (as described in Chapter 3). Working with non-government organization, the community organization was accustomed to tackling specific impromptu problems rather than addressing general difficulties such as environmental problems, which were the state's responsibility. Despite each community organization sharing learning lessons in development practice, the development approach was self-determined and had not coalesced into a united civil society process to cope with wider development issues. The network connection with the civil society movement was located only at neighborhood level. The intervention helped generate, embrace, and intensify network members and connections beyond the neighborhood to the local and provincial levels. Other civil society institutions have not only supported 201-Community organization as a result of its recognition and the interest generated by its success (internationally known as a good practice), but also other community organizations have been supported by these actions.

Civil society mobilization does not demand only goodwill from the community organization, but also from neighborhood members. In the post-intervention period, the evidence showed that other community organizations, unlike 201-Community organization, are detached from their dwellers and are organizationally weak. The civil society process does not influence the municipality's allocation of more resources or its power delegation. Conversely, community organization representatives foster a municipal dependency based on patron-client relationship. Meanwhile, 201-Community organization does not change outcomes in practicing community-based solid waste management. Ultimately, civil society mobilization and integration brought 201-Community organization into the municipal sphere to attain more privilege than other community organizations. In civil society process, community organization is only an agent to persuade the municipality to listen to neighborhood demands - 86% of neighborhood respondents demanded the community organization act as a cooperative solid waste management agent with the municipality. But 201-Community organization acting without other community

organizations' support holds little bargaining power toward shared environmental governance. So while there was hope for civil society integration during the intervention, this hope was overshadowed by state domination post-intervention. The supporting roles of civil society intervention and external networks are not able to overcome resistance to changing the conventional municipal solid waste management system.

5-3: Changes in municipal solid waste management functions: Is a bottom-up approach effective?

Finally, the state as another actor is examined regarding the municipality to identify whether or not the intervention has affected changes within the state domain. Two parameters, institutional mechanism and performance, are identified to detect how much the intervention changed the municipal internal factors of municipal solid waste management collection practice.

Institutional mechanism

Institutional mechanism, on one hand, is explored via bureaucratic procedures and administrative style of the non-elected body at the municipal planning and implementation levels. On the other hand, it is explored via the stability of political mandate of the elected body at the policy/decision-making level.

Bureaucratic procedure

Bureaucratic procedure is a system functioning for plan/programme generation to be administered by a bureaucratic system. Therefore, it is analyzed using two elements: plan/program generating process and administrative style.

- Plan/program generating process

Plan/program generating process in this context refers to how the municipality's external factors influence plan/program initiation. This surfaced at the opening ceremony event as a crucial point.²⁰⁶ Thereafter, the municipality, especially at the decision/policy-making

²⁰⁶ Opening ceremony of 201-Neighborhood's community-based solid waste management was part of the community organization strategy to indirectly encourage the municipality to participate and be informed on what the neighborhood and community organization has been conducting. The programme was funded by CIDA-AIT partnership whereby it networks with many national and international agencies. Based on this, the municipality unavoidably acted as the host for

level acknowledged that not only was 201-Neighborhood a major actor, but other civil society stakeholders were as well. As a result, 201-Community organization made further inroads into the municipal sphere of influence in the post-intervention period, particularly by involving the international development agencies. This international-academic partnership influenced the municipality to initiate municipal-based community-based solid waste management projects since civil society institutions were advocating what 201-Neighborhood had undertaken.²⁰⁷ These new stakeholders²⁰⁸, the international agency, the press, and the non-government organizations, caused the municipality to reshape its plan/programme direction and its administrative style.

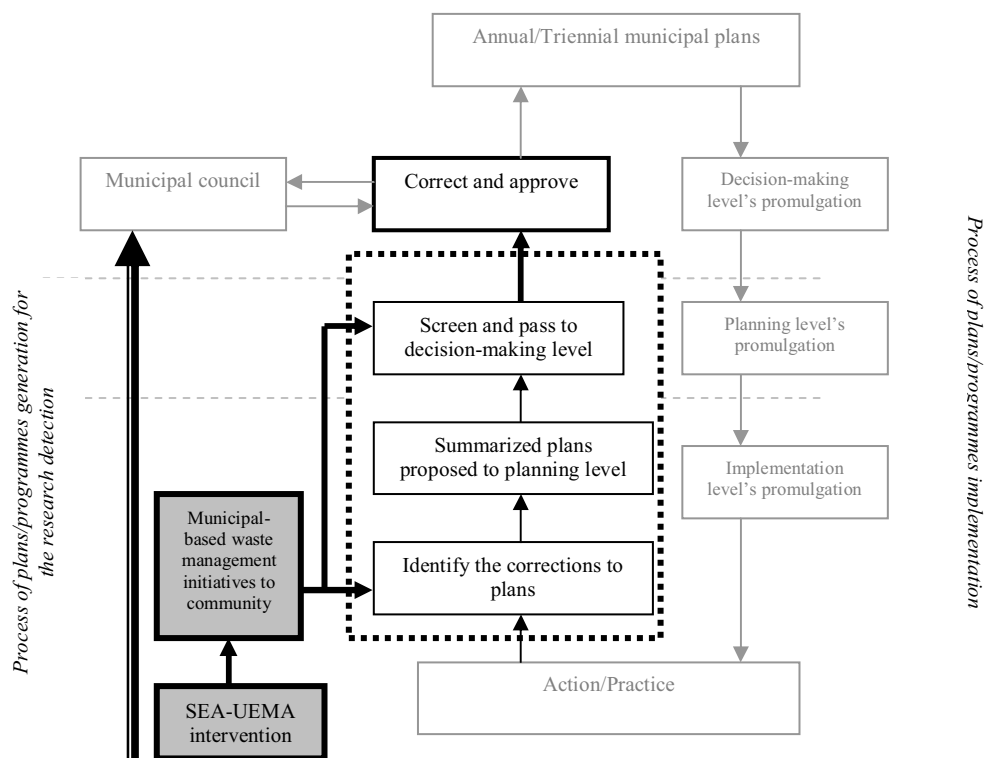


Figure 5.11 Injecting process of municipal-based into community-based solid waste management initiative

This community-based solid waste management programme by the municipality has already been forwarded to the council for fiscal ratification. The programme has so far been

such the event. Therefore, this event was a keystone between the municipality and civil society that afterwards, the municipality engages and recognizes 201-Community organization.

²⁰⁷ This circumstance indirectly fostered the municipality to change.

²⁰⁸ The international agency refers CIDA-AIT partnership and its networks. The Press refers Sakorn news (local newspaper, radio and TV programmes) and the Panorama Documentary (Documentary TV programme). And the non-government organization refers Chumchonhai Foundation, respectively.

approved only at the planning and implementation level,²⁰⁹ with no guarantee that the policy-making, which the municipal councils will follow, will ratify it. Figure 5.11 illustrates the procedural mechanism of notion-turned-programmes generated by the municipal implementation and planning levels. Observing the process, it can be summarized that *the planning and program generating processes were receptive at the implementation and planning levels toward supporting community-based solid waste management, since it was proposed for fiscal approval*. In other words, it was acknowledged among the bureaucrats, but has not been approved at the political/decision-making level.

- Administrative style

Regarding the municipal administrative style, Band Sao Thong Municipality's involvement in community-based solid waste management instigation is separated into two periods divided by the opening ceremony of the community-based solid waste management. Before the opening ceremony, the municipality had been periodically informed about the application project's progress. But, with its passive administrative style, staff at every level – implementation, planning, and policy-making level – had never directly participated. As the working team leader mentioned:²¹⁰

“The municipality has never been interested in what we are trying. It will take interest after something has been accomplished, but not at this stage, since we have no evidence of success.”

According to the meetings, since the community organization instigated community-based solid waste management activity – from November 2005 until March 2007 – thirty rounds of formal and informal meetings occurred, with the municipality participating only in formal events or where it acted as host: the Environmental Day, the Opening Ceremony day, and the two external group visits to the neighborhood (Table 5.9). In other words, the municipality chooses to be involved in community organization - community-based solid waste management only on the apparent engagement from external civil society institutions at formal events.

²⁰⁹ The role of staff at the implementation and planning levels is to propose the annual programmes and projects by each division at the council meeting. By this stage, the policy-making level will readjust those programmes again before sending them to municipal council where they are approved for actual implementation.

²¹⁰ Interviewed Mrs. Pensri Prue-Ngam, the the working team leader on August 2006

Table 5.9 Meetings, forums, and events conducted regarding community-based solid waste management

	Month of neighborhood meeting	Number of meetings	Type of meeting	Host	Participants from Civil society sect	Participants from Bang Sao Thong Municipality
Pre-intervention	Nov 2005	3	CM	CBO	10, 11, 15	-
	Dec 2005 (Environmental day)	1	Forum and activity	CBO/ Chumchonhai Foundation	(54)	2
	Jan 2006	2	CM	CBO	12, 10	-
	Feb 2006	1	CM	CBO	13	-
	Mar 2006	1	CM	CBO	11	-
	Apr 2006	1	CM	CBO	9	-
	May 2006	2	CM	CBO	9, 14	-
	Jun 2006	3	CM	CBO	16, 21, 20	-
Intervention	July 2006	1	CWM	CBO	22	-
	Aug 2006	1	CWM	CBO	11	-
	Sep 2006	1	CWM	CBO	8	-
	Oct 2006	2	CWM	CBO	17, 20	-
	Nov 2006 (Opening ceremony)	2	Forum	CBO	(101), 13	5
	Dec 2006	1	CWM	CBO	7	-
	Jan 2007	2	CWM	CBO	8, 10	-
	Feb 2007	2	CWM	CBO	16, 13	-
Mar 2007	2	CWM	CBO	12, 12	-	
Post-intervention	Apr 2007 (External host visiting)	1	Forum	BSTM	(57)	23
	June 2007 (External host visiting)	1	Forum	BSTM	(69)	25

Source: Author's record; Number in bracket refers to the participants the stakeholder forum

Notes: CBO = Community-based organization; BSTM = Bang Sao Thong Municipality; CM= Community meeting; CWM = Community working team meeting; Formal meeting = Forum

Based on the evidence, it is obvious that the municipality distanced itself from 201-Community organization and the neighborhood coalition, and neither rigorously supported nor undermined community-based solid waste management, since it was rarely involved. The municipality overlooked 201-Community's solid waste management as a non-integrated institutionally incompatible planning proposition in the function of its current municipal solid waste management obligation. By employing such a top-down administrative style, the state only allowed for state-provided channels of participation²¹¹, so the municipality did not participate in neighborhood forums and the civil society sector

²¹¹ See the municipality solid waste management programme contributes to civil society sector which counts less than 1% of municipal solid waste management expenditure.

played a passive role. Therefore, the intervention did not affect change in the municipality's top-down chain-of-command style of administration.

Stability of political mandate

Apart from the bureaucratic level, stability of political mandate is examined to reflect whether or not changes occurred at the political level. Two elements are explored: decision-making leadership and continuity of policy.

- Decision-making leadership

Decision-making leadership includes those elected officials in power to make decisions over development policy in a given locality, including municipal solid waste management policy direction. Since the municipality has been governed by a dominant group of local politicians, the former *Kamnan* group, both executive and legislative bodies prevail to this political group based on the exercise of patron-client relationship between politicians and 201-Community organization.

Though the project intervention delivered a signal to the policy/decision-making level, the municipality is still fully authorized to exercise any course of action without seriously taking into account the diverse demands of the community organization. This is because 201-Community organization is only a small part of the community and does not significantly impact voting popularity. *Evidence that supports this statement includes that since the beginning of the project intervention, the mayor of the municipality seldom participates in the programme; only the planning and implementation level participated.* This implies that the governing obligation rests with politically legitimated power without the necessity to exercise popular neighborhood practices. The intervention did not affect change on decision-making leadership. The municipality's decision-making level still employs its centralized approach in solid waste management.

- Continuity of policy

Another element, continuity of policy, refers to the ability of a political group to stay in political power, implying acceptable policy implementation on solid waste management. In January 2007's municipal general election, members of the former *Kamnan* group, were re-elected to a third term in political power. Two previous terms were led by the current mayor's father and another by the current mayor running without opposition. As long as

the politicians/political group remain stable, it underscores that environmental improvement and cleanliness action are stable enough to support the current political domination. Therefore, continuity in municipal solid waste management policy may be seen as not being politically consequential.

Regarding changes in the parameters of the state institutional mechanism at the planning and implementation level, community-based solid waste management programme was initiated to support neighborhood participation. At the policy/decision-making level, the intervention had no effect on decision-making. However, the small reaction at planning and implementation level may not be considered a true delegation toward neighborhood empowerment. Rather, the programme is still state-controlled because the municipality rarely participated in community waste management activity operated by the working team.

Municipal solid waste management performance

Municipal waste collection performance is gauged by changes in municipal solid waste management practice during the intervention as well as apparent cleanliness outcomes. Table 5.10 illustrates the frequency of waste collection traffic. It indicates that municipal solid waste management practice was unchanged even after community-based solid waste management was instigated. The municipality still routinely conducted solid waste management practice as usual.

Three explanations as to why community-based solid waste management activity does not affect municipal solid waste management collection practice are given. First is that the administrative system does not quickly respond to any change because of its hierarchical command from policy-making to implementation level. All job descriptions and taskforces are mandated annually. So, the adjustment of the waste collection schedule will not happen in the middle of the current fiscal year. Second, traffic circulation depends on the time schedule at the dumping site, so the time table of waste collection was little changed. "At best, the amount of waste each collection could be reduced, but the frequency of traffic remains stable" said one implementation staff.²¹² Third, the municipality will not take risks

²¹² Informal interview with Mrs. Tuk (the environmental specialist of the municipality) on January 2007

on community-based solid waste management because it is not compulsory. The head of Public Health Division said;²¹³

“What if the community just abandoned their activity? How could we guarantee that they (the community organization) will run it forever? Otherwise the residents must complain to us if we leave our waste collection competency”

To municipal planning level staff, it seems that the municipality does not consider community-based solid waste management an effective solution or as a mitigating course of action due to its many uncertainties. Table 5.10 shows that the frequency of waste collection practice by the Health and Environmental Division has been constant. The traffic averages two rounds of solid waste collection per day. Though community-based solid waste management has been implemented, it does not affect solid waste collection practice. Based on the unchanged practice, it can be implied that the resource input of the municipality on solid waste collection remains the same as during the previous period.

Table 5.10 Frequency of municipal solid waste management collection during the intervention

Running month	Frequency of collecting traffic (rounds/months)
August 2006	62
September 2006	60
October 2006	62
November 2006	60
December 2006	62
January 2007	62
February 2007	56

Source: Band Sao Thong Municipality record, Health and Environmental Division (The load is 10 m³/round)

The findings and analysis in this chapter indicate that the intervention has brought changes within the community organization’s development activity, has reshaped state-civil society interaction in some aspects, and has had almost no effect on the municipal current administrative domain. To identify this change, Table 5.11 summarizes the synoptic transformation within each domain: 201-Community organization, the municipality and their interaction. It classifies the level of change in each element into five different levels: very low/negatives (-), low/negatives (-), moderate/neutral (0), high/positive (+), and very high/positive (++). Each element is leveled and benchmarked by each criterion (See Table 5.12 as a conclusion).

²¹³ Interviewed with Mr. Pratueng Kobkusol on January 2007

Table 5.11 Longitudinal comparison of each locus of analysis in pre- and post intervention period

Civil society locus							
Variables/ Elements	Indicators	Pre-intervention	Post-intervention	Outcomes of change	Indicative evidence	Level of change ²¹⁴	Remarks
Performance							
Efficiency of solid waste activity	Solid waste collecting practice output	201-Community organization initiated community-based solid waste management by its own effort and resources. It passively persuades the dwellers' waste separation but being passive instigation, dwellers rarely participate in the activity. The circulation of waste trade is seldom (about once a month).	The community-based solid waste management project actively steers the working team to work three days a week on recyclable waste merchandizing that encouraging dwellers to store and to separate more often. The circulation of waste trade is once a week. Organic waste composting is not effective for waste reduction.	In the post-intervention period, the amount of waste at the disposal point is lessened. Waste refuting volume has been reduced by 17% of previous practice. Or the rate of waste generation changes from 3.51 liters/cap/day to 2.93 liters/cap/day.	Amount of waste reduced	Positive change (slightly) Change from very inefficient (-) to inefficient (-)	The reduction of waste reaches its highest capacity (by this scale of operation).
Capacity building							
Individual level	Personal income generation	Community organization staff practiced community-based solid waste management on a voluntary basis and philanthropy without getting return benefit.	A few permanent staff associated with the community organization are hired for the community-based solid waste management intervention initiated by the application project.	The staff generate extra income in the post-intervention period of 1.5-2 Euros/day (0.5 Euro/hour)	Employment and hiring	Positive change (obviously) Change from very low (-) to moderate (0)	Targeted on unemployed dwellers
	Leadership	The working team leader and members rigorously engage in Bang Plee Community affairs by focusing on occupational and savings activity.	The working team leader and members apparently extend their engagement to the broader public sphere, for instance from local to provincial engagement with regard to issues such as the environment, savings, and social welfare.	Self-confidence of designated leaders is apparent. Community networks and the Press increase the potential of the working team toward community-based solid waste management programme initiated by Bang Sao Thong Municipality.	Role and status of leader in public recognition	Positive change (obviously) Change from low (-) to high (+)	Personal charisma and leadership capability is increased from local to provincial level

²¹⁴ Change is identified into three levels: slightly, obviously, and significantly.

	Knowledge and skills	Trial and error is the usual practice based on voluntary contribution.	The working team members capacitate to practice organic composting to trade recyclable waste.	Community-based solid waste management has improved each member's capability for alternative self-employment since they now know how to benefit from waste. Apparently, some members adopt a unique waste composting technique as an extra occupation. (Compost from earthworm)	Ability to equip recyclable waste entrepreneurship (amount of collected waste/labor unit)	Positive change (obviously) Change from low (-) to high (+)	Technically and disciplinarily improved to be more versatile/skillful
Organizational level	Organizational resources	A dearth of organizational resources made it difficult for the community organization to instigate effective community-based solid waste management on its own.	The working team has drawn a surplus financially and has actively mechanized as a routine operation.	The working team benefits 201-Community organization and can self-sustaining with further resource input. The cumulative surplus is still limited and cannot enrich for upscaling.	Limited resources such as finance, equipments, facilities, etc	Positive change (obviously) Change from very scarce (-) to self-sustaining level (0)	Financially supported activities but was unable to upscale or extend into the broader scale with so little surplus
	Trust and sympathy	Routine participants were community organization members and those close to committee neighbors.	The level of trust and sympathy do not extend beyond routine clients and of garbage banking members.	Trust and sympathy temporarily improves during the intervention and some expansion in the number of garbage bank members and routine clients is seen. Eventually, the garbage banking activity collapses. The number of newcomers engaging in garbage banking activity is very small.	Number of participants engaged as garbage banking and routine waste merchandizing clients.	No change	Limited to the current neighborhood ties, does not create new neighborhood internal networks
	Movement toward becoming formal organization	201- Community organization is an informal volunteer-based organization that runs savings activity for the neighborhood.	The working team has move toward tangible self-sustaining community-based solid waste management operation by integrating recyclable waste merchandizing activity into its current occupational activity.	Department of Cooperatives Promotion attempts to persuade 201-Community organization to register as a formal cooperative. Community organization members do not want to formalize.	Status of community organization as being an entrepreneur	No changed	Community organization is reluctant to become a formal organization due to increased

							management burdens
Network level	Supporting network connection	201- Community organization has only limited network at the place-based level. Chumchonchai Foundation is a coalition which occasionally connects to supporting organizations (provincially, not locally).	201- Community organization links to wider civil society agents in academia, the press, and other external neighborhoods.	Since the application project has drawn the attention of other civil society institutions, resources have been shared that help raise the profile of the community organization beyond its locality.	Size of network increased and have their activities	Positive change (obviously) Change from low (-) to high (+)	The internal place-based network is weak, the external is greater and has more power to make change
	Social recognition	201- Community organization is known at the community level.	Civil society network helps to promote the activity and the community organization at provincial, national and international levels.	The community organization and Neighborhood have become a learning resource for community-based solid waste management, a model which two national and international study tours selected to visit.	Appearance of the community organization in various media	Positive change (significantly) Change from community organization level (-) to national level (+)	Community-based solid waste management activity appears in local press, internet, magazine, academic journals and TV programmes.
Environmental awareness							
Changes in refuting behavior	Changes in waste separation practice	47.6% of households do waste separation before disposing.	58.6% of households participate in community-based solid waste management. The major waste derives from the more intensive separation of routine separators.	Waste separation and refuting behavioral change increases on average by 11% via mostly from economic incentive. Non-separator becomes occasional separators. However, routine separators drop on the expense of those increasing new separators. (The increase awareness in the original group rise on the decrease awareness of other groups.)	Increase in percentage of participants in community-based solid waste management and average volume of separated waste from separating household.	Positive change (slightly) Change from low (-) to moderate (0)	The non-separators become separators, but limits to original group. Assimilated and circulated groups are more disassociated.

State – civil society interaction

Variables/ Elements	Indicators	Pre-intervention	Post-intervention	Outcomes of change	Indicative evidence	Level of change	Remarks
Plan/programme reorientation		A school-based waste separation programme, state-controlled programme, on waste management was initiated by the municipality. This can be counted as only an environmental programme involving civil society sector that is still a centralized/state-led approach. (Since this school is governed by the municipality.)	Bang Sao Thong Municipality extends the community-based environmental management programmes apparently based on 201-Community organization initiation. The tentative direction is shown by the effort of the municipal planning/implementation level to propose community-based solid waste management programme into the municipal plan.	Community-based solid waste management initiated by the municipality is proposed based on 201-Community working team operation. The community-based solid waste management tends to be more inclusive. However the final decision whether the plan/programme might result is fully determined by the municipality.	Direction toward civil society-based environmental management programmes	Positive change (slightly) Change from very centralized (←) to semi-centralized (→)	The process of plan/program's generation is underway.
Changes in the character of state-civil society communication		Having been dependent on Bang Sao Thong Municipality, the communication character between Bang Sao Thong Municipality and community organization presents a top-down managerial mode. Based on this institutional relation, Bang Sao Thong Municipality holds superior position to 201-Community organization, whereas the community organization becomes the function for the top-down governance model. (See Charuvichapong and Sajor 2006).	The municipality responds more to community organization's demands. The pre-conditions for community organization support from Bang Sao Thong Municipality are lessened. For instance, by the opening ceremony and external study tour, Bang Sao Thong Municipality supports the community organization without procedural requirements.	The municipality welcomes and supports 201-Community organization more than in the past. A possible reason might be that the community organization has gained publicly recognition and acceptance for its good practice case study, providing the municipality with good publicity.	Public dialogue and forum	Positive change (slightly) Change from ignorance (←) to top-down command (→)	Since the 201-Community organization has brought external recognitions, the municipality treats the community organization better.
Participation		The only civil society agent involved in solid waste management is the municipal closely-connected private	Participation level is limited to one-way/top-down mode. (the municipality engages 201-Community organization only	International guests and field visit studies to 201-Community organization, together with the non-	Public dialogue and forum	No change	Community-based solid waste management

		sector contract for street-littering waste collection. Other civil society agents participate passively through state-appointed programmes and projects in one-way/top-down mode of participation.	when it appoints.) Other civil society agents. 201-Community organization networks are not involved into local affairs.	government organization push, has moved 201-Community organization into the municipality focus. This movement encourages the municipality to undertake community-based solid waste management initiation. Participation has reached only at the level of tokenism/pseudo-participation (Arnstein 1969: 217). Only the designated channel is allowed and there is no formal dialogue.			by the municipality is designated without stakeholder's participation. It is still a state-controlled channel which the civil society sector has to procedurally accept.
	Power delegation	The municipality exercises the ultimate power to decide ('whom', 'when', and 'how') and whether or not to allocate resources at and be involved in the public arena. This power derives from the municipal plan	Unchanged	Although the municipality begins to promote community-based solid waste management, the community organization has to attempt reaching the municipality rather than the municipality instructing the community organization in the ways to strengthen community organization's capacity in the same ways as development agencies supporting 201-Community organization.	The municipality facilitating practice to civil society sector	No change	Community organization might reach this resource under the municipal strict procedure, rule, and expected output.
Civil society intensity of self-mobilization	Emergence of civil society-based movement in solid waste management	Civil society movement inherits community organization and non-government organization connection at locally place-based level focusing on economic development related issues. The community organizations are discrete from each other. No	Unchanged	No other community organizations in Bang Plee Community, inspired by 201-Community's solid waste management, replicate the community-based solid waste management initiation since it requires support which other community organizations cannot garner. Therefore,	Replication of community-based solid waste management in other neighborhoods	No change	Placed-based civil society integration is low, and external civil society organization put minimal mobilization on the

		formal plan for community-based solid waste management exists.		community-based solid waste management appears only in 201-Neighbourhood.			community organizations since they are so remote.
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State locus

Variables/ Elements	Indicators	Pre-intervention	Post-intervention	Outcomes of change	Indicative evidence	Level of change	Remarks
Institutional mechanism							
Bureaucratic procedure	Plan/programme generating process	The municipality employs conventional bureaucratic function from implementation to decision making level.	The municipal implementation and planning level the proposed community-based solid waste management programme to the policy-making level.	The approval procedure is currently underway. Securing these resources is difficult for other neighbourhoods because it demands a ground-working mechanism which might be beyond most neighbourhood's capacity	Appearance of plans and programmes	No change	The community organization has to prepare a clear procedure to develop the activity to attain this support otherwise the municipality will reject its grant application
	Administrative style	The centrally state-led municipal solid waste management practiced a hierarchical and technical-oriented mode of administration within the bureaucratic administrative system.	Unchanged	Community-based solid waste management does not effect to any change of bureaucratic style of administration embedded in the municipality.	Job description and tasks	No change	Procedural-based administrative style, lengthy chain of command

Stability of political mandate	Decision-making level's leadership	Executive authority and senate are the same team of politician.	Unchanged	The mayor and the senate council are relatives and coordinate business. This implies that the local administration is governed by an influential group without any political opposition. Their control over public policy is absolute.	Structure of policy making administrative level	No change	Dominated by political elite group with strong decision-making power
	Continuity of policy	The current political party/group is the former local influential group devoting itself to local politics.	In January 2007, the new mayor, who is the son of former mayor, was elected. His team is positioned in the policy-making level of the municipality (both executive and legislative).	People still vote for the same political group which has long dominated in local politics. Local political power is kept in the same hands.	Voting result	No change	Consistent political power
Performance							
Efficiency of service delivery	Expenditure and budgets (inputs) for solid waste management	The budget is spent mostly on solid waste facility improvement (85% of fiscal plan) and tends to increase annually.	Because of the unchanged pattern of waste collection practice, the budget spent in solid waste remained unchanged.	The municipality M is still practicing solid waste collection based on its established capacity for items such as collecting, frequency, labor. Therefore, the outcome is unchanged with regard to input resources.	Solid waste practice and resources consumed	No change	Greater investment in solid waste management budget but, still poor output.

5-4: Discussion and evaluation

Operational-based waste management managed via civil society agents is a catalytic intervention on which this research focuses. The community-based solid waste management is an agent to bring about change in local governance which environmental planning scholars have identified as an alternative option where local administrative authority is incapable of effective/efficient operation. Community-based solid waste management has had an impact to reshape and change the state (Bang Sao Thong Municipality) and civil society (201-Community organization and others). In this regard, it has reformulated the state-civil society interaction. From the findings and longitudinal comparison, three loci of analysis are herein summarized.

Evaluation of community-based solid waste management and civil society institutional-internal change

The community-based solid waste management's evaluation is based on three criteria: 1) performance as a supplementary alternative for effective solid waste management, 2) capacity building through community development integration, and 3) environmental awareness as a result of waste separation encouragement.

First, by performance in waste management, the findings gauge the amount of waste reduction by the project. Though its efficiency as a solid waste management supplementary alternative is substantial, it shows a limited outcome for the effective scale of waste management operation. The findings indicate that community-based solid waste management works only within limited place-based boundary and scale. About 17% of waste generation in 201-Neighborhood is reduced by community-based solid waste management approach, derived purely from recyclable waste entrepreneurial effort. Organic waste composting as a vehicle of waste reduction failed. In the post-intervention period, none of the eight nearby neighborhoods seriously adopts, replicates, or upscales community-based solid waste management on their own initiative. This reflects the limitation of community-based solid waste management; it is difficult to instigate without external resource input, given the community organization's managing capability. Therefore, community-based solid waste management by this measure is apparently not a

viable alternative for efficient solid waste management in agglomerated neighborhood. Though solid waste has been decreased, it still distances from effective output.

Second, by capacity building through community development integration, recyclable waste entrepreneurship and organic waste composting have impacted current community development practices and diversified other activities. Changes on three levels are summarized; individual, organizational, and network levels. At the individual level, personal income generation, leadership, and skills/knowledge have been enhanced. This change at the individual level influences the organizational level whereon organizational resources, trust and sympathy, and movement toward becoming a formal organization are detected. At the organizational level, in terms of managerial capacity, organizational resources reflect the ability to reach a self-sustaining level of community-based solid waste management without negative fiscal operation. However, generated resources are not sufficient to effectively expand, broaden service, or upscale because the level of trust and sympathy in the community-based solid waste management activity among the neighborhood dwellers is low, represented by the failure of garbage banking. Furthermore, the capacity and willingness to act as a professional community-based waste entrepreneur are limited, since the community organization is accustomed to operating on a voluntary basis. Despite this, the collective capacity is enhanced when individual skill and knowledge for community-based solid waste management are enhanced among neighborhood leadership. So, from individual to organizational collective contribution, the practical capacity of community-based solid waste management hits an organizational limit that falls short of the ideological community-based solid waste management. At the network level, community-based solid waste management is spotlighted by the civil society network as a success. The findings emphasize that the network, in spite of organizational limits, underpins the community organization to the upper institutional forum and helps bring community-based solid waste management into the state domain where shared governance may result. Third, by environmental awareness as a result of waste separation encouragement, the findings state that the number of households adopting separating behavior changed slightly. Waste reduction as a result of waste separation in these households is greater. It can be concluded that community-based solid waste management M is able to encourage waste separation by changing non-separators to occasional

separators. However this outcome is limited only to the original group. The amount of waste reduction and level of raising awareness function by economic and market incentives and community-based solid waste management's repeatedly acting as a catalyst. Moreover, this increase has fulfilled its potential given the size of the operation.

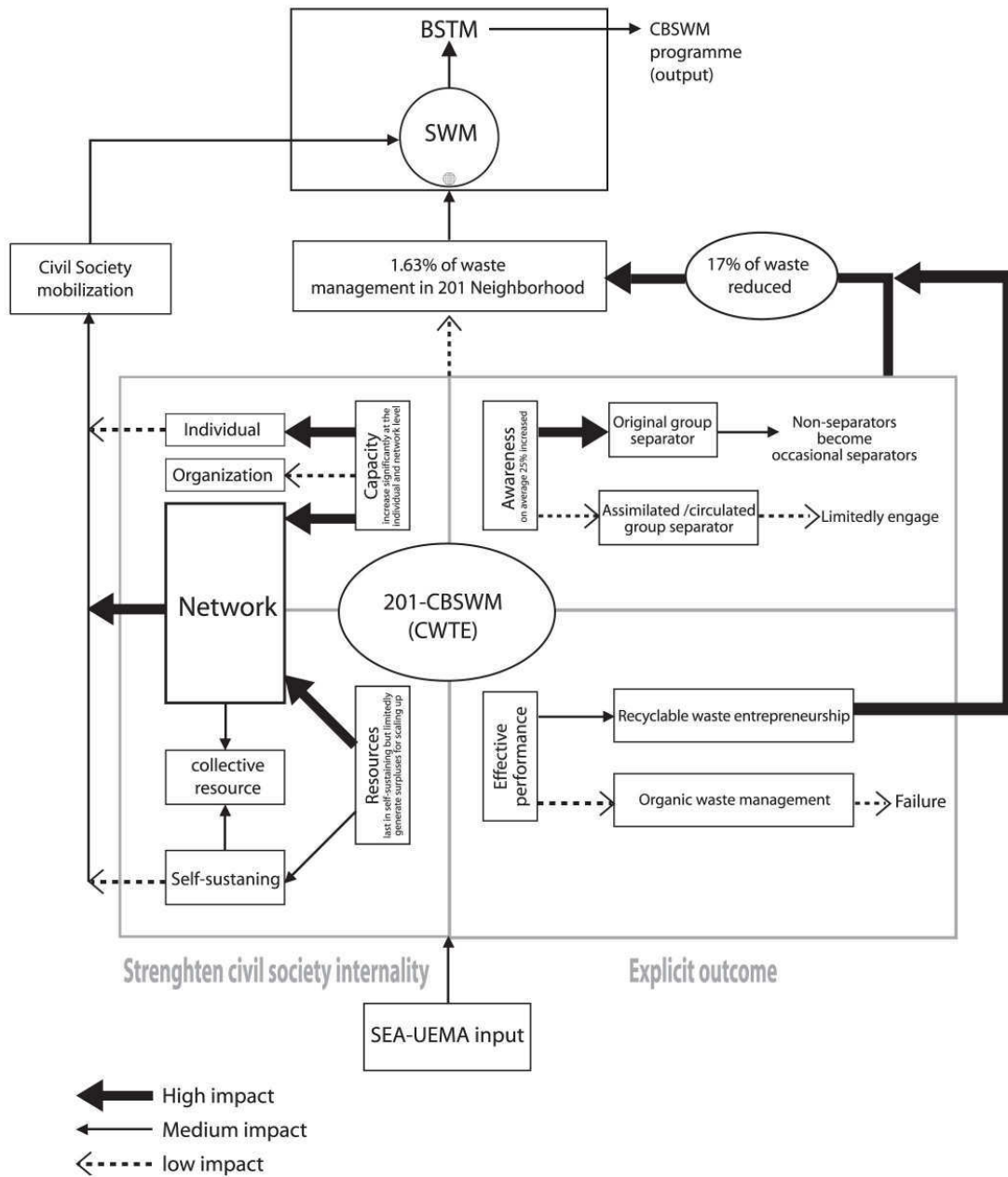


Figure 5.12 Synoptic changes in civil society locus and movement toward plan/programme change

It can be summarized that the working team's activity has directly delivered a small amount of waste reduction and that economic driven incentive is a prominent factor in this

performance improvement. Having failed to widen participation, effective community-based solid waste management and improved environmental awareness were limited by three factors: limits in scale and scope of operation, limits in socio-economic condition for true entrepreneurship, and limits in level of trust and sympathy to invoke awareness. Therefore, community-based solid waste management is seen in the quasi-experiment as being an ineffective alternative for waste management in agglomerated/rapidly urbanized neighborhoods. At the experiment's end, it can manage only 1.63% of waste generated in 201-Neighborhood. However, its capability highlights its potential to be a supplemental option for the municipality to support from a community development standpoint since it generated a resource-based surplus and benefited dwellers. But it may not be viewed as a waste management partner/entrepreneur on the level of the private sector. Figure 5.12 illustrates the overall scenario and outcomes of the civil society agent toward shared environmental governance.

Evaluation of state-civil society interaction and shared governance

State-civil society interaction influenced by the intervention has witnessed some primary changes regarding shared governance. In the state domain, the municipality has responded to civil society requests formally/institutionally. The promotion of the community-based solid waste management programme emerged as an outcome either because the municipality is honestly interested or merely to appeases pressure from 201-Community organization. This research does not aim to further explore the root causes. Participation expanded despite difficult conditions that civil society institutions confront. This hardship includes the state providing a channel for participation only at their predetermined choice.

Although the municipality has responded to request for a community-based solid waste management programme by initiating a solid waste management programme with community involvement, the previous experience underscores that the community organization is indirectly impeded by the bureaucratic process which has always limited their capacity. The programme was strictly regulated by the state's designation, limiting civil society's ability to operate. Hence, the level of civil autonomy over the state's allocation resource is limited in the state-provided programme.

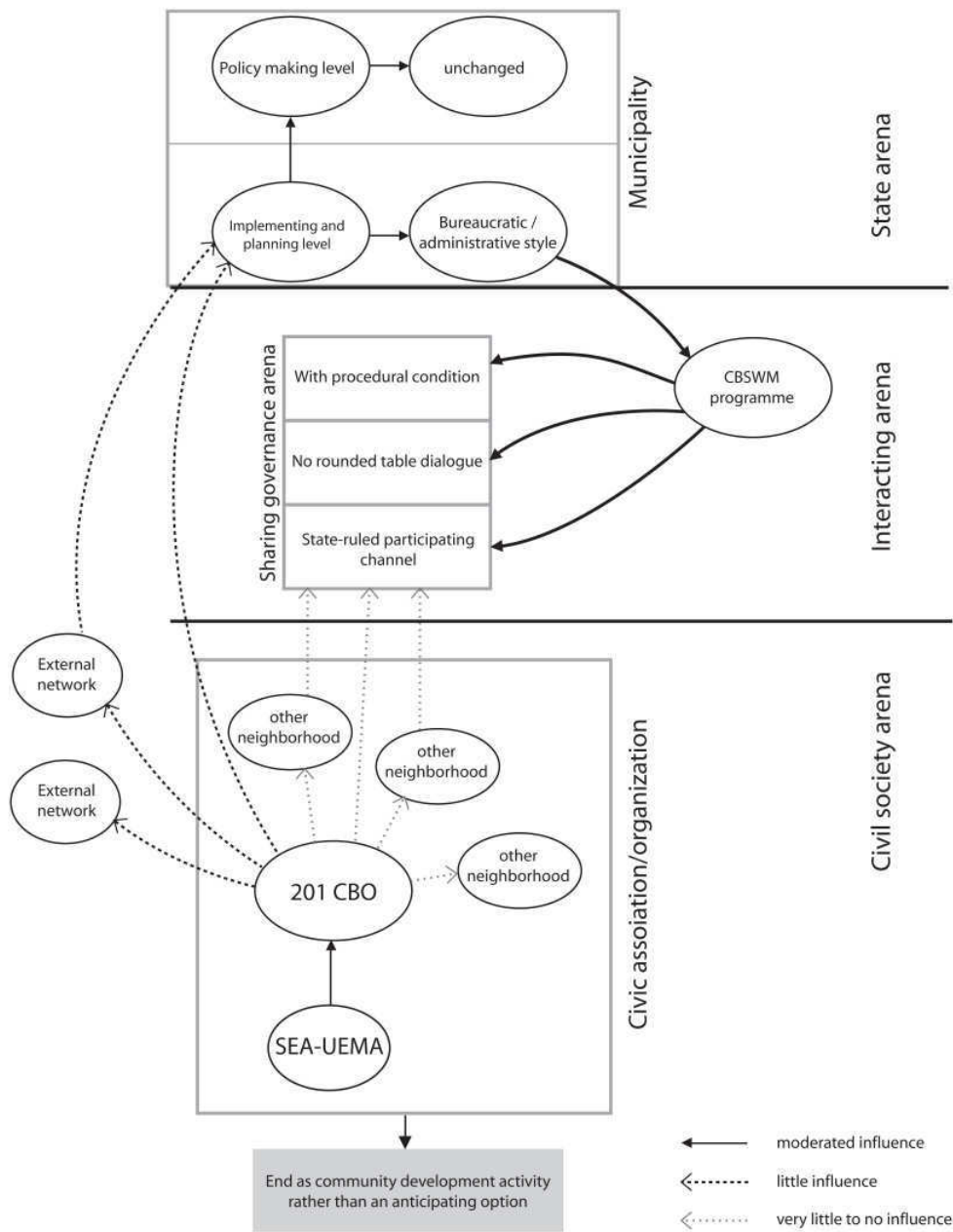


Figure 5.13 Actual governance synopsis occurred in the research context

The community organization is organizationally weak and unreliable. Although many supporting networks have emerged, 201-Community organization cannot sufficiently influence other community organizations to move toward shared environmental dialogues with the goal of co-governance. The absence of place-based civil society advancement and mobilization means that the municipality still perceives community-based solid waste management as a part of community development activity, not as a viable community-based solid waste management alternative since 201-Community organization does not promote

entrepreneurship and lacks the resources to scale up its operations. This causes community-based solid waste management to be dismissed as an option for solid waste management in Bang Plee Newtown Community's rapidly urbanized locality. Figure 5.13 depicts the synopsis of Bang Sao Thong Municipality and the community organization interaction post-intervention, showing little extension of interaction between state and civil society agents. The eventual result is state hegemony and no dialogue among the group.

Evaluation of change in Bang Sao Thong Municipality sphere

Changes in Bang Sao Thong Municipality's operations are viewed and evaluated on an institutional level. In general, community-based solid waste management cannot influence current municipal solid waste management hierarchy since solid waste collection expenditure and practice have not changed. Direct intervention from civil society can only influence the municipal bureaucratic mechanism at the implementation and planning levels. It has little influence to push the administrative delegation towards wider civil society engagement in solid waste management. It has no effect at the policy-making level. Moreover, administrative style remains unchanged, meaning the 201-Community's solid waste management intervention has had no influence in this aspect. The municipality still deploys the state-dominated/non-participatory mode of municipal solid waste management programmes since its current political leadership holds deep-rooted, enduring power without political competition. The findings portray that civil society movement in solid waste management extensively encourages other stakeholders' involvement and can bypass and influence the municipality to reorient toward a community-based/civil society-based approach in urban environmental service delivery and affairs.

Table 5.12 summarize synoptic changes resulted by community-based solid waste management intervention in three areas. Community-based solid waste management has significantly impacted the civil society sector and has consequently affected changes in state-civil society interaction, mainly at the bureaucratic level. However, it had little impact on the state regarding shared governance. The next chapter provides the conclusion and discussion of theoretical additions and contrasts, and discusses on the posited research questions/hypotheses.

Table 5.12 Summary of changes in each domain

Loci	Civil society locus							
	Performance	Efficiency of solid waste activity	Solid waste collecting practice output	1.08 kg or 3.51 liter/cap/day	0.90 kg or 2.93 liter/cap/day	0.6 kg or 1.94 liters/cap/day	Less than 0.6 kg or 1.94 liters/cap/day	
State-civil society interaction	Civil society intensity of self-mobilization	Emergence of civil society-based movement in SWM	No appearance	Place-based level	Community level	Provincial level	National level	
		Civil society inclusion	Power delegation	State-own programme	State's appointed	Civil society initiation	Cooperation	Citizen control
			Participation	Manipulation-therapy	Informing-consultation	Placation	Partnership	Delegated power
			Change in character of state-civil society communication	Top-down command and communication	Partial responsive with state's domination	Negotiated/interactive dialogue	Inclusive dialogue	Civil society influential dialogue
	Plan/programme reorientation		Full state-led programmes	Partial state-led programmes	Integrated state-led programmes	Co-programmes	Civil society as client	
	Capacity building	Network level	Social recognition	No recognition	Local level	Provincial level	National level	International level
			Network connection	No network	Local level	Provincial level	National level	International level
		Organizational level	Movement toward becoming formal organization	Unorganized volunteerism	Informal organized volunteerism	Well-organized volunteerism	Basic entrepreneur	Advance entrepreneur
			Trust and sympathy	No trust and sympathy	Limit to CBO group	Limit to original group	Original and partial assimilated group	Limit to original and assimilated group
			Organizational resource	High deficiency (Dearth of resources)	Slight deficiency	Balance	Slight profiteer	High profiteer
		Individual level	Leadership	No leadership	CBO level	Neighborhood level	Provincial level	National level
			Knowledge and skills	None	Trial and error	Workable operation	Effective operation	Expert
Personal income generation			No wage	Less than minimum wage	Minimum wage	Higher than minimum wage		
Performance		Efficiency of service delivery	Expenditure and resource input for SWM and outcomes	More than 20-25% of municipal expenditure	20-25% of municipal expenditure	Less than 20-25% of municipal expenditure		
Municipality locus		Institution mechanism	Stability of political mandate	Continuity of policy	Instability (rotated political group)			Stability (embedded political group)
	Decision-making leadership			Agonism	Negotiating polity	Consulting	Unity	Totalitarian
	Bureaucratic procedure	Administrative style	Many levels of hierarchy	Few levels of hierarchy	Horizontally	Multi-level horizontally	Network	
		Plan/program generating process	Many levels of hierarchy	Few levels of hierarchy	Horizontal administration	Multi-level horizontal administration	Network	
Parameters	Elements	Very low/negative (-)	Low/negative (-)	Moderate/neutral (0)	High/positive (+)	Very high/positive (++)		

Table 5.12 Summary of changes in each domain (cont.)

Loci	Civil society locus					State-civil society interaction					Municipality locus							
	Performance	Capacity building		Network level		Organizational level		Individual level		Performance	Institution mechanism		Bureaucratic procedure					
Parameters	Efficiency of solid waste activity	Solid waste collecting practice output	(-) = inefficient (+) = efficient	(-) = low (+) = high	(-) = unskillful (+) = highly skillful	(-) = low (+) = high	(-) = poor (+) = rich	Leadership	(-) = low (+) = high	Waste generation rate in Bangkok is 0.6 kg or 1.94 liters/cap/day (BMA 2-000)	Standard urban average waste generation (kg/cap/day)	(-) = inefficient (+) = efficient	(-) = weak (+) = strong	(-) = procedural-based (+) = result-based	New public management (NPM) concept	Osborne and Gabeler (1992)	Integrated thory of public policy implementation, Rational Ppanning	Faludi (1973a), Chantarasorn (2005)
Environmental awareness	Refuting behavioral change	(-) = unaware (+) = aware	Environmental awareness and sustainability	UNESCO (1998)	Civil society intensity of self-mobilization	Emergence of civil society-based movement in SWM	(-) = weak (+) = strong	Civil society movement and inclusion; Participatory and democracy concept	Friedmann's transactive planning (1973, 1992); Foreseotr's deliberative planning (1999)	Power delegation	(-) = state-controlled (+) = citizen-controlled	Participation	(-) = pseudo-participation (+) = genuine participation	Arnstein's ladder of participation	Arnstein's ladder of participation (1969)			
																Change in character of state-civil society communication	(-) = unequally treat (+) = equally treat	Equity dialogue and planning
Plan/programme reorientation	(-) = c inclusion (+) = exclusion	Good governance concept	World bank (1999), ADB (2004)															
				Social recognition	(-) = amateur (+) = professional	Community development and Social capital element	Bourdieu and Coleman (1990), Lin (2001), Lelieveldt (2004)											
Network connection	(-) = low density (+) = high density	Putnam (2000), Abbott (1996), Peterman (2000)																
			Movement toward becoming formal organization	(-) = informal (+) = formal	Coleman (1990), Putnam (2000), Carpenter et.al (2004)													
Trust and sympathy	(-) = low (+) = high	Lin (2001), Taylor (2000)																
			Organizational resource	(-) = poor (+) = rich	Kirk and Shutte (2004), Purdue (2001), Weber (1947)													
Leadership	(-) = low (+) = high	Lane and McDonald (2005)																
			Knowledge and skills	(-) = unskillful (+) = highly skillful														
Personal income generation	(-) = low (+) = high																	
		Solid waste collecting practice output	(-) = inefficient (+) = efficient															
Waste generation rate in Bangkok is 0.6 kg or 1.94 liters/cap/day (BMA 2-000)	Standard urban average waste generation (kg/cap/day)																	
		Standard minimum labor wage (THB/hour)																
Elements	Remarks		Benchmarks and concepts	Sources														

Unchanged

Status of pre-intervention

Status of post-intervention

CHAPTER 6

CONCLUSION

This chapter extrapolates on the findings in the study that contribute to better understanding of the true capacity of civil society institutions' environmental management functions in agglomerated localities. Shared governance and planning, in democratic society has become a popular way to generate more choice and put forward new possibilities to alleviate the difficulties in situations where local urban affairs lag behind rapid development changes. The research elucidates how civil society institutions may advocate changes to the current environmental management system. These research questions and hypotheses are held up to pertinent theories. Recommendations and implications for further researches are given.

6.1 General summary

The function of civil society institutions in environmental affairs is viewed in relation to two ideas pertaining to the research questions and hypotheses: 1) civil society institutions are internal domains with the potential to act as alternatives to mitigate solid waste management problem in agglomerated localities where the civil society sector is capacitated, and 2) the civil society mobilization process acts as a vehicle toward shared governance which is advocated as a democratic ideal.

The first idea can be discussed from two perspectives derived from community development concept discussed in Chapter 2. The first is as an active management unit to operate an environmental practice similar in function to the state's, with the goal of mitigating adverse environmental impact which the state is not well-equipped to manage. The second is through passive awareness mobilization exercised via the neighborhood relational web. Having been promoted and supported, community-based solid waste management by community organization generated potential successes, but also confronted barriers which it could not surmount to become an effective environmental instrument. Potentials, successes, and limitation are summarized as they derive from the intervention of community-based solid waste management initiative.

That 201-Community organization is a volunteer-based operation with limited organizational scale and resources and unreliable practices - in spite of capacity building education among its energetic members - means the reduction of waste disposal at the

community end is noticeable at the level on which capacity input is based. The resulting circumstance shows that the best possibility is for community-based solid waste management to become a reliable/efficient entrepreneurial-based scheme for the active management of direct waste refuting. As a passive function, trust, sympathy, and awareness are insufficient and limited only to the community organization conjugative members and groups, which limits the scale of community-based solid waste management success. The community organization has been unsuccessful in broadly promoting and embracing cooperation and awareness/waste separation practice among dwellers outside its group. Poor resource generation for upscaling and poor awareness raising and cooperation has limited the project. The findings underscore that resource input is a core element for change and for strengthening the civil society agent. To achieve better environmental development in agglomerated neighborhood, it is still a challenge for civil society institutions in a supplementary role. The findings illuminate that this cannot happen without support from relevant stakeholders as exemplified by community-based solid waste management's low accomplishment in the pre-intervention period compared to the post-intervention period. The level and scale of success depends on how influential the supporters embrace civil society sectors, convince/foster the local authority for shared governance, and how much resource is input.

Despite the difficulty community-based solid waste management has faced at the organizational level, at the network level, civil society networking shows great potential as a catalyst for change even when community-based solid waste management is not flourishing. Beyond the place-based neighborhood, the community organization has been supported and bestowed social status/recognition that encourages the state to rethink integrating shared governance/inclusion in state-based planning and programme initiation. The outcome from the research experiment might not bring many short-term solutions but for community development purposes, it projects positive tendencies with community-based solid waste management indirectly contributing to improved waste reduction performance at the end of pipe. However, some limitations were observed: mainly the capacity of civil society agent as an economic organization and the ability for upscaling.²¹⁵

²¹⁵ The intervention manages the waste to its limitations of resources and manpower. The researcher assumes that more resource inputs to the community organization, results in less waste at the end of pipe.

The impact of the community-based solid waste management project to change state-civil society interaction and shared governance was also studied and is here summarized. This summary projects the state-civil society interaction on to a wider scenario. The research finds that environmental governance is a complex interaction tied to local politics. Promoted by the grassroots and accompanying networks, the community-based solid waste management project passively involves the municipality in designating a course of action. However the inherent weakness of civil society institutions²¹⁶ in engaging the state limits this to being an isolated, rather than comprehensive strategy without place-based embracement among civil society institutions. Comparing other community organizations (or 201-Community organization in the pre-intervention period) which received no resources highlights the view that civil society mobilization processes will be effective only when resources are provided. Since civil society institutional power is not consolidated enough, the outcomes of the experiment highlight many difficulties to community-based solid waste management becoming a viable option for environmental management. The greatest difficulty is that the state strategically corresponds with “*project-based*” rather than “*policy dialogue-based*” programmes on the civil society side. At this stage of research, shared governance is apparently unsuccessful by bottom-up process, as it is suppressed by both the dominant mode of centralized top-down politics and by its own non-substantive outcomes.

The findings help to shed light over research questions and hypotheses and help reconfigure the notion of governance and planning embedded among local contexts in rapidly urbanized society by contrasting the results with the general phenomenon in practice.

6.2: On research questions and hypotheses

Responding to the questions and hypotheses based on the findings and analysis, the following summarizes and clarifies the extent of civil society’s role in environmental management, and recasts the idea of shared environmental governance in rapidly urbanized local context. The research questions postulated civil society advancement and inclusion as the remedial destinations proposed for contest.

²¹⁶ For place-based neighborhood, the community organization is dependent upon the local political group, meanwhile the external civil society institutions are distanced from the circumstances of the issue.

Responding to research questions

What are the current practices and limitations of the state agent (the municipality) and civil society agent (the community organization) in delivering environmental service?

As described in Chapter 3, the state exercises a municipal solid waste management mode of governance which limits involvement by the comprehensive stakeholders as the partners for urban environmental service delivery. Meanwhile, the civil society agent, represented by the community organization, plays little role in environmental issues. Environmental awareness is addressed at the neighborhood level facilitated by non-government organizations as a community development action rather than as environmental development. The civil society agent lacks resources and capacity – skill, knowledge, and strategic planning – with which it can become a good partner for environmental management that promotes inclusive governance.

From the state's point of view, the municipality tends to increasingly utilize its budgets to maintain environmental well-being, while its performance is not sustainable since levels of littering and uncollected waste remain stubbornly high. The large hidden population and poor awareness among dwellers forces the municipality into deadlock. Much research has raised the idea of inclusive governance by various stakeholders as a long-term solution. This inclusive governance includes such concepts as technical public reform, public-private partnership, and decentralization of service. The actual circumstance of the case study does not support those previous studies, since local politics is singularly dominated and new partnership and coalition possibilities cannot easily emerge. Three limitations are discovered:

- *The centralized style of local administration:* Having been ostensibly a municipal expenditure, it is clear that the locality in the case study employed a centralized mode of environmental governance for which policy, plan, and programme direction are entrusted to state actors alone, rather than being open to other possibilities to engagement with various stakeholders. Therefore, potential dialogue toward partnership as an alternative approach is not able to take place.
- *The deep-rooted political status quo:* Local politics shares the same adherence to the first limitation. It is understandable why the state remains centralized to keep the power status quo. The circumstance shows that deep-rooted domination of

uncompetitive politics results in lack of political will to step forward and offer changes as long as poor environmental conditions do not affect political popularity. The findings support Shatkin (2004) and Charuvichaiping and Sajor (2006), their previous studies of local politics in Thailand.

- *The technical flaws of municipal solid waste management:* It is not only political factors that constrain the municipality toward other options for environmental betterment, but also management factors. The findings illustrate that the municipality's collection capacity is undermined by inefficient transportation and disposal processes. These management factors are also the main causes contributing to programme design impasse.²¹⁷

The civil society's point of view illustrates the limit to integrate entrepreneurial-based development activity in the environmental sphere. Prior experience shows that grassroots environmental movement has episodically flourished and declined according to resource input by external supporters. Place-based civil society institutions such as the community organization and the neighborhood dwellers are too weak to effectively raise the issue of inclusion. Nor is local environmental awareness raised by state or broader civil society efforts. State and civil society have no established relationship or dialogue to cope with environmental problems. The municipality shares no cooperation with non-profit civil society or the for-profit sector in an innovative way. Civil society can at best posit complaints. Without external action, this problematic circumstance remains at a standstill. The research experiment contests this impasse.

Could community-based organizations be a supplemental instrument for better environmental development in agglomerated localities?

The outcome in response to this question illustrates that the community organization cannot effectively perform as a supplemental instrument despite an injection of resources. Its role in the waste management function subtracts little neighborhood waste and very little municipal waste from each total amount. Furthermore, its volunteer-based structure undermines its function because of its lack of reliability and efficacy, which puts the initiative on the same level as the informal waste sector. In its passive role of raising

²¹⁷ Managing efficacy and technically public administration are the aspects out of the research focuses.

awareness among inhabitants, it is effective only in the short-term and demands continuous catalytic action. Only a limited inhabitant group is associated with the programme because the scale of operation can at best overarch, so the majority is dismissed. Therefore, as a supplemental instrument, the community organization cannot be counted upon to act as a fully-formal mechanism. *In the agglomerated locality, the community organization can support community development initiation only where the environmental programme is a byproduct of other social development programmes.*

Could civil society institution/group participate and collaborate in the planning, policy and decision making of environmental service delivery be addressed using a bottom-up model? If so, how?

Civil society mobilization and movement promoted by external agents can encourage the community organization to seek change in the state's power delegation for community-based environmental programme initiation. However, this change currently seems to address only the bureaucratic level. Since environmental management has not proven to be an effective alternative model, the state lowers civil society expectations for the ongoing community environmental and development project. Participation and true dialogue between state and civil society groups has never taken place.²¹⁸ The pattern of shared governance between state and civil society agents exists through one-way communication where the state employs top-down management via its bureaucratic apparatus which civil society cannot accordingly utilize upward. It does not seem that state opens the forum for civil society engagement as a core partner for potential environmental management, although the civil society action can achieve a certain level of improvement²¹⁹. Shared governance seems impossible in agglomerated localities where political power is exercised without the will of shared partnership. Civil society clusters disassociate among and across the groups portrayed in original-assimilated-circulated groups in 201-Neighborhood, including to other community organizations. Civil society advancement process can at best provide the state with more options for environmental programme initiation. It may be employed as a political strategy to relieve civil society pressure.

²¹⁸ This is due to power inequality with the state dominating while civil society is subordinated in the dialogue.

²¹⁹ This improvement still requires development and upgrading

How can shared governance between state and civil society sector emerge as an alternative approach beside the state-led approach? And is it better?

To the question of how shared governance can emerge, it can be summarized that shared governance can potentially arise from civil society agents, but may not bring on environmental improvement unless those institutions operate on a large enough scale with fine-grained community-based organization and civil society networks. These operations should be economically founded, in that participants could attain some benefits beyond merely depending on philanthropy. This is the core necessity in urban agglomerated context where trust, sympathy, and awareness are low. These benefits must be enhanced before rising to a state of shared governance. The civil society agent is required to exhibit a success in order to establish the governance dialogue. Yet the state demands to be a key mechanism supporting the civil society initiation which can be a long-term process since the intervention is temporary. Hence, shared governance is crucial to the replication of the programme and to potentially provide a platform for upscaling. The evidence shows that the crucial factor in raising the status of civil society groups is the role of external civil society institutions as a driving force toward opening shared governance. But unless the state opens the dialogue, the case study shows, shared governance is unfortunately restricted.

Testing hypotheses

Two hypotheses are tested;

Hypothesis 1: “If the civil society sector is encouraged, capacitated, aware and able to be a part of environmental service delivery, rather than environmental service delivery being exclusively state-led, this can bring environmental improvement of particular services in the focus area.”

Community-based environmental development through civil society action from the findings and analysis provides at least two synopses. First, it is seen as an effective function; and second, as a social learning and development process. As an effective function, this proposition is partially acceptable from the study, since grassroots action projects can result in little cleanliness improvement. Capacity building to the community organization has not been strong enough to mobilize changes in solid waste separating behavior. The improvement is driven by economic incentive which demands continuously

reiterative operation. The outcome illustrates that community-based environmental management action emerges on a limited scale and group, with limited capability of action, rather than as an efficient approach. It can at best sustain its own environmental management activity, but is too limited to replace or change the current municipal environmental management system. Due to the weakness of the place-based civil society organizations and networks, the state and civil society agent share no mutual dialogue. As an added option, community-based solid waste management initiated by the municipality is an output only of the civil society process and does not change the municipal solid waste management practice.

Regardless of efficacy, community-based environmental management can be seen as a social learning process and as an unfinished human/community development task that demands unconditional support. Without it, the civil society arena would be further undermined in its democratization effort and turn the state into civil society's antagonist. From this point of view, community-based environmental management is not only a problem-solving approach but also a social learning practice that might facilitate shared governance emergence.

Hypothesis 2: "If civil society institutions/groups address environmental improvement, it can change the state toward civic participation, collaboration, and shared governance in environmental service delivery policy and practice."

This proposition failed to prove true in the case study, since the state shared no participation or inclusive governance with civil society. The state does not present a dialogue for co-governance, even though the bottom-up approach has been proposed as a means of inclusion. The municipality has responded to this pressure by proposing community-based solid waste management programmes to community organizations. Nonetheless, it remains a top-down mode of governance and planning where the state plays the central role in keeping civil society group in its designated place so the status quo can be perpetuated.

As previously drawn in Chapter 1, the researcher revisits the proposed scenario portraying the relationship between opened and closed shared governance and the success or failure of civil society efforts in environmental management. The literature review provides four propositions; 1) if the civil society institution is successful in good

environmental practice and the state opens the possibility for shared governance for the new initiatives, it implies that a partnership model is workable in the agglomerated locality, 2) if the civil society institution is successful in good environmental practice and the state restricts the possibility for shared governance, it implies that the state is unwilling to delegate service responsibility to civil society institutions as partners in the agglomerated locality, thus, this ends as a state-centralized model, 3) if the civil society institution fails in a good environmental practice and the state opens the possibility for shared governance for the new initiatives, it implies that the phenomenon is viewed as a community development model where the state does not expect a short-term effective practice, and 4) if the civil society institution fails in good environmental practice and the state restricts the possibility for shared governance, it implies that the state negates community-based solid waste management model as an alternative environmental management solution in the rapidly agglomerated context.

The findings tend to support shared governance scenario in agglomerated context that community-based solid waste management as an agent for changes could be best carried out as *community development* attempt. Although the operation generated minimal impact in terms of efficiency and scaling up, the municipality optimized a course of action to relieve/respond to civil society expectations. This can be a positive signal²²⁰ that even though the operation does not generate substantive outcomes, the state still valued what was accomplished and saw it as worthy of support. Instead of true dialogue, the outcome shows a diplomatic situation where dialogue relieves the pressure on the state and popularizes the community organization in the community. The proposed community-based solid waste management programme run by community organization was eventually absorbed by a state-based course of action. By transforming civil society and reproducing it in the state's discourse, rather than inclusion, the civil society institution/agent ends up being a passive stakeholder despite working for change. However, the scope, potential and limitations of community development approach to shared governance are still critical for theoretical validation.

²²⁰ Or negative where the state overshadows the civil society institution by claiming that the civil society improvement process starts from its own contribution.

6-3: Contrasting the scenario and theoretical contribution

Community organization plays three roles in the research: 1) as an agent for internal change, 2) as an environmental management unit, and 3) as a bridge toward shared governance. The first and second roles help illuminate limitations and potentials of civil society institutions in environmental improvement. It is essential to contrast the scenario given by the research findings with other circumstances that resemble the pre-intervention situation of the case study. This contrast gives better understanding of environmental improvement possibilities through civil society inclusion and shared governance. The third role provides a picture and position of the bottom-up approach in community development and shared environmental governance pathways in the context of the agglomerated locality

What would happen without civil society institutional engagement?

Having taken place in other rapidly agglomerated contexts, environmental service delivery conducted by a state-led approach demands resources for marginal outcomes as exemplified in the research cases. Figure 6.1 illustrates the current scenario of waste management, particularly for collection (in circle). Household waste generated in an agglomerated neighborhood, especially in Thailand, can be classified into three parts. The first part (white rendering) is managed by local administrative authority. The second part (grey rendering), being tradable, is managed by private and informal sectors prior to municipal collection. The third part (black rendering) remains uncollected as litter. Without any intervention, this causes unhygienic conditions in the locality. In the longer term, a more informal sector of waste pickers and scavengers emerges. This forces the state to manage an unplanned situation.

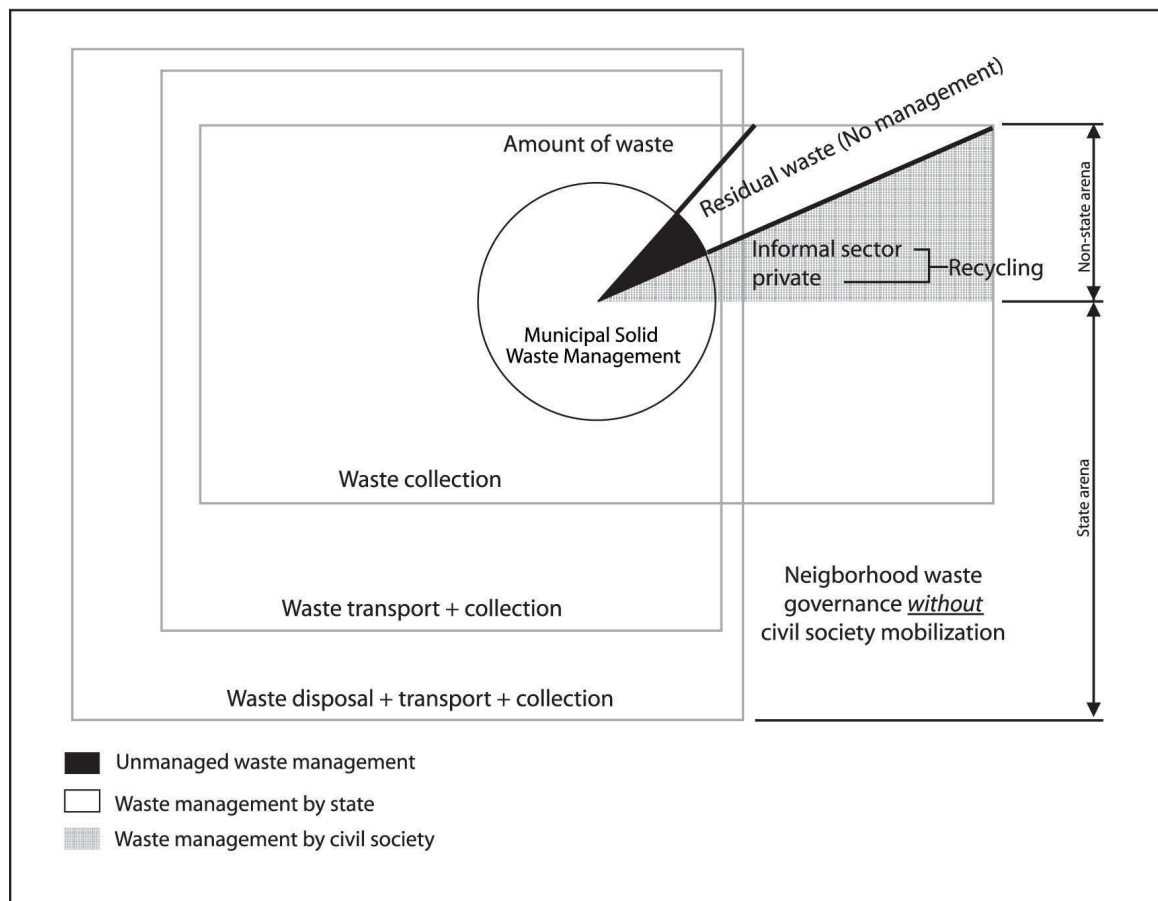


Figure 6.1 Environmental management scenario without civil society inclusion
 Source: Summarized from the cases of The Philippines (Vincentian 1998), India, (Dahiya 2003), and Indonesia (Nas and Jeffe 2004)

What would happen with more civil society institution engagement?

The research experiment provides a scenario where the civil society institution can partially supplement urban environmental service delivery by helping with waste reduction. The outcome illustrates how the civil society institution grows more extensive and larger scale than the prior period and can work with the state only through passive inclusion where local political power is consistent. Given the positive change in the effectiveness of waste reduction indicated in the case study, the state attempted to scale up this course of action to other neighborhoods. Although a bottom-up approach in environmental management in agglomerated localities has not proven to be an effective option, the possibility of inclusion can be seen as a positive step, though it may require amendments to reach an effective outcome.

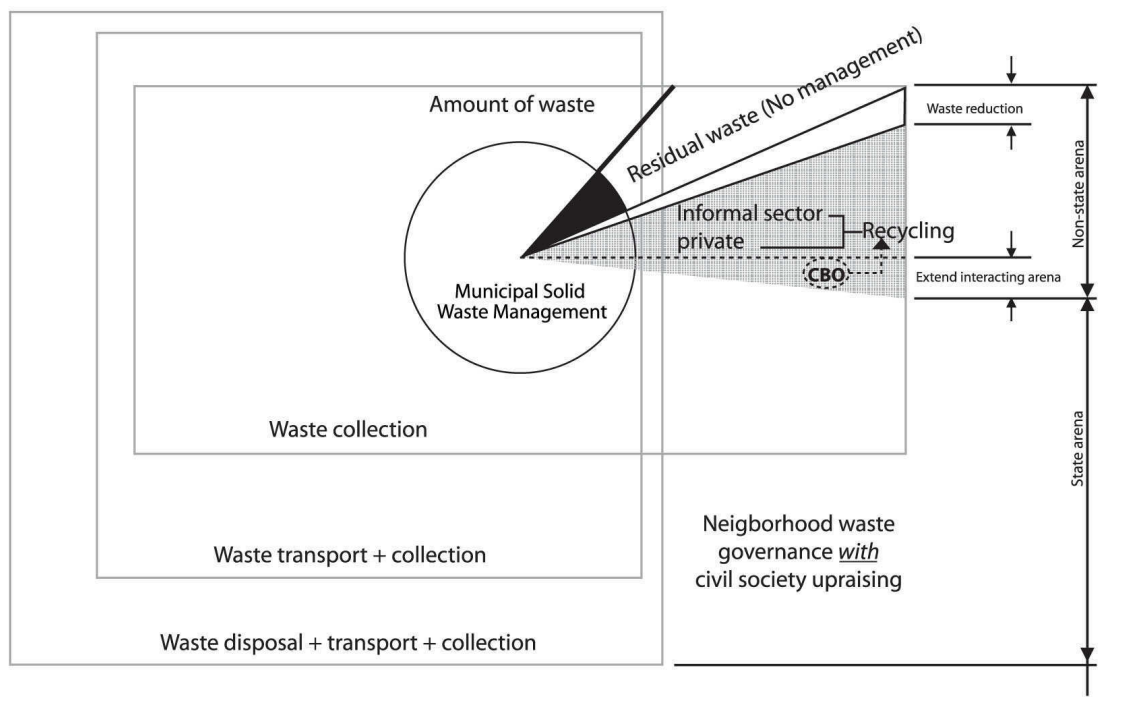


Figure 6.2 Environmental management scenario with civil society inclusion

Figure 6.2 illustrates potential contributions to improve environmental conditions from the bottom-up approach to civil society inclusion. The findings show an internal capacity of waste reduction conducted by civil society as an awareness raising agent and a waste managerial unit, although it results in minimal success. In terms of explicit performance, the community-based organization becomes an agent in the difficult task of improving cleanliness. In terms of community development promotion, environmental management by civil society movements results in community-based solid waste management plan/programme integration. The state-civil society interaction platform acts as a pilot programme albeit with limited grassroots capability. However, in terms of the municipal solid waste management system, since the managerial practices of collection, transportation, and disposal do not change, community-based solid waste management has no impact on the function of the waste management apparatus.

Theoretical contribution

Theoretical discussion herein is based on two issues: the challenge of shared environmental governance and collaborative planning. In environmental governance as ideologically posited and practiced, the state shares in stakeholder participation, downsizes for more

efficient service delivery by contracting with the private sector, develops waste incentive systems to minimize refuting behavior²²¹, and effectively promotes environmental awareness among residents. Waste management has been a problematic practical application for which the governance concept demands a highly democratic atmosphere. When democracy is limited, informal environmental management systems emerge, since waste is valuable to marginalized groups. In many current development studies, scholars highlight environmental management by civil society sector as a prominent alternative (such as Hiyama and Keen 2004; Dahiya 2003; Mongkolchaiarunya 2005; Boonyabancha 1999). Other studies have found that the role of civil society agents for sustaining environmental management is limited, especially at the neighborhood level operated by community-based organizations (such as Lane and McDonald 2005). The findings of this study contribute to reshaping conceptual notions about the bottom-up approach in environmental management and tools toward shared governance with the state.

Table 6.1 contrasts the project's findings with development pathways toward shared governance. Based on given principal elements summarized from Chapter 2, the findings support that the bottom-up approach in agglomerated contexts can best reach its potential as a community development initiative, rather than as an environmental managerial unit or an effective instrument to address shared governance. Exploring the findings along with other scenarios in Thailand (Mongkolnchairunya 2005), this research shares the outcome that community-based solid waste management can be, at best, a supplementary option due to limitations of scale, demands for external support, and organizational unreliability. In agglomerated contexts, the findings uncover a greater hardship: civil society agents are only able to limitedly represent their members. Shared governance is still a long way for being achieved by bottom-up process unless the state starts collaborates or opens a dialogue.

The research shares the idea that the bottom-up approach in environmental management acts as a social learning process rather than a primary solution for environmental problems in agglomerated neighborhoods. Therefore, the research argues that for agglomerated locality, the bottom-up approach via civil society agent is an unsuccessful process (at least in the short-term) and is not an agent for change toward shared environmental governance. However it generates economic, social, and .political by-product benefits which are crucial to multifaceted development strategies. As such, it

²²¹ Such as waste deposit system in Europe

should not be overlooked, but supported by relevant agencies; less to attain an effective outcome, than to mitigate the negative effects of failure.

Table 6.1 Contrasting research practice and findings in theoretical pathway

	Practices of community-based solid waste management projects		Theoretical pathway from community development to shared governance	
Criteria	Research findings	Other environmental management practice (Mongkolnchaiarunya 2005)	As community development ideology Abbott (1996)	As shared governance, empowerment and social inclusion ideology Friedmann (1992) Douglas (1990)
Role of municipality	Partially opened	Closed	Opened Yes/No	Opened
Change of municipality toward civil society inclusion	Yes (slightly)	No		Yes
Role of community-based environmental management	As an option, not primary device for environmental betterment	As an option, not primary device for environmental betterment	Focused, through project selection for attaining particular accomplishment Self-reliance	Partnership
Ability to endure organization	Self-reliance, the programme tends to be overshadowed by government	Self-reliance, the programmes limitedly entail at the neighborhood level without any further extension.		Government actively support community development initiative and facilitate rather than replace community decision making over community affairs
Ability to upscale	Little	Little	Limited. The project/programme is community centered and can be managed without reference to wider environment Not being mentioned	
Awareness upraising	Partial successful	Successful		Training focus
Role of external actors	Resource support, capacity building, and network	Resource support and capacity building		Educational focus
Sharing governance change	Initial step, the policy dialogue has not been accomplished	Initial step, the policy dialogue had not been accomplished	Limited. The project/programme is community centered and can be managed without reference to wider environment	Policy dialogue toward citizen centers

This research furthers steps toward change in bureaucratic programmes to increase civil society involvement and narrow the distance in shared governance, inclusion and empowerment. Based on the findings, the researcher gives a condition that any success will be both hard-won and will only be temporary unless multi-level networking is achieved. To address shared governance, place-based networking, the most significance element, requires strengthening by incentive-based rather than philanthropic-based programmes.

Another discussion is on the collaborative planning stake. The findings from this research support the recent contribution from Brand and Gaffikin (2007: 282-313) stated in Chapter 2 on collaborative planning in an uncollaborated condition *that the interests*

could be hidden in the interactive processes; besides, it might seem to be negotiated routinely in the public arenas. The research affirms this evidence. It highlights the gap of collaborative planning in practice that this approach is not immediately attained by the bottom-up process. Especially, when the agents are not equal and the superior agent does not demand a true dialogue. Figure 6.3 matches the findings with the ideological anticipation on collaborative planning. It is discovered by the research that collaboration for environmental planning is a learning and ongoing process. Although, the operational process could not achieve the final anticipation of collaborative planning, it shows a development of changes navigating to that goal since, the findings highlights the narrowing gap between state and civil society agents in term of equality to communication. Thus, the planning orientation, mobilized by the bottom-up process, has transformed each state and civil society agent away from the state-dominated mode toward a more cooperated/inclusive mode of planning and governance. The research elucidated this significant shift.

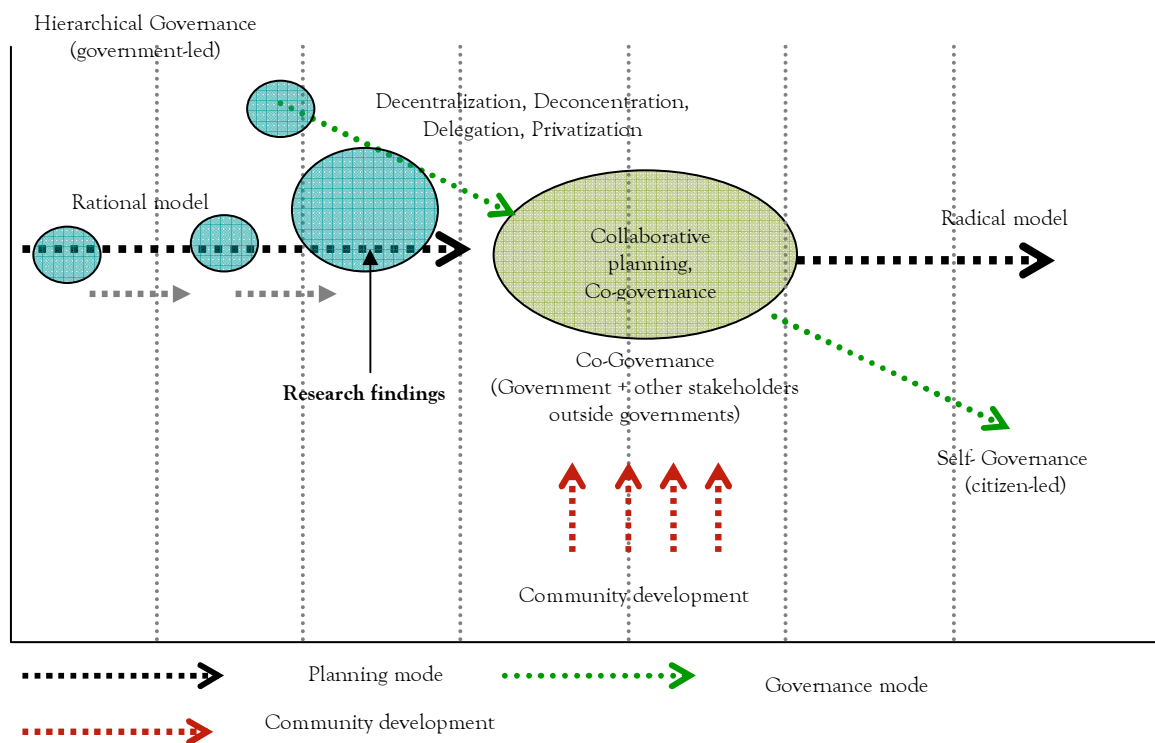


Figure 6.3 Process of planning development and changes from research findings and planning ideology

In general, it can be concluded that the bottom-up process by civil society mobilization is a critical tool toward changes and it do affect in a positive direction based on governance and planning ideology. It helps elucidate two level of understanding. First, it portrays the carrying capacity of civil society-based environmental management as an

instrument for better living condition. Second, it delineates civil society mobilization process as an agent of changes when state policy generates direct impacts to physical and environmental condition and its current mode of planning could not effectively equip. This transformation process based on demand for changes provides more alternatives in environmental management. However it is a time-consuming and development learning process which may not generate sudden impacts.

6-4: Recommendation and implications for further researches

In rapidly urbanized localities where the state is reluctant to delegate true power and responsibility to civil society institutions, other possibilities exist to bring environmental well-being. These demand support from, and pressure by, the civil society side rather than state self-reform. To alter the state's status quo in local political power, the civil society mobilization process has to be strengthened and capacitated. Intensifying internal networks is another essential element.

The capability of the civil society sector demands outstanding performance to ensure both the state and society that non-state waste management can be a reliable choice. Although the civil society organization in this context performs as a non-profit association, the research shows the fragmentation within the civil society community relates to *housing classes* [as prominently supported by Davis 1991: 27]. Other civil society institutions, the private and informal sectors, could also act as corresponding partners for collective improvement which further study should encourage along with other economic incentive programmes of waste management. Further studies should emphasize on appropriate scale and scope including factors impact to success and failure of community-based environmental management operation which is contextual sensitivity. Also, it demands the study on provincial and national environmental policy and programme intervention where environmental problems from urban agglomeration go beyond locality.

Environmental planning and management is multidisciplinary and multi-dimensional. Many possible extensive studies can be conducted to find better options for environmental well-being. Grassroots action by civil society organizations is one of them. Other technical research in areas such as the reform of public administration, public-private partnership, user charge policies, and intensive promotion of community-based environmental programmes as entrepreneurial-based businesses may find ways relieve the

state's burden. As highlighted by the research, shared governance is addressed not only as an autonomous process, but as a response to specific environmental demands. Further research associated with this research approach should address how power is manipulated among agents. This is a primary concern. Another is identifying differentiation among each agent because within each group, there is often multiplicity rather than unity. Differentiating agents in detail could help better understand the dynamic evolution within organizations. More generally, further research should intersect other environmental difficulties, for instance wastewater, drainage or sanitary problems that most agglomerated neighborhoods confront. Civil society inclusion is demanded so long as government's responsiveness to environmental well-being is insufficient. Finally, the research advocates what Hamdi (2004) emphasizes in his book, "*Small Change: About the Art of Practice and the Limits of Planning in Cities*", that a small change is a good start for a bigger impact. As shown in this research, a small step toward shared governance, although minimal is valuable not only for knowledge-based output, but also for correcting and improving practices.

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APPENDIX A
Survey questionnaire

**Survey Questionnaire for Integrated Community-based Solid Waste Management in
Bang Plee New Town Project
Supported by CIDA-AIT Partnership, SEA-UEMA Project**

General Background

Address.....

Name-Family name.....

1. Status about the habitats
 - Owner-dweller
 - Renter from.....
2. Origins
3. How long have you been Living in Bang Plee New Town?.....years
4. Have you ever been thinking of relocation to elsewhere? (Yes / No)
If yes, where? and when?
5. Have you and your family move here the census registration? (Yes / No)
6. Number of household members.....persons
7. Career/Occupation
8. Average income per household
 - Less than 10,000 Baht / Month
 - 10,000 - 20,000 Baht / Month
 - 20,001 - 30,000 Baht / Month
 - 30,000 - 50,000 Baht / Month
 - More than 50,000 Baht / Month
9. Are you and your family occupying the residence as a part of income generation?
 - Yes
 - No

Information associated with household's waste generation

10. Normally, have you ever separated the waste before disposing?
 - Yes (Please answer questions No. 11- 15)
 - No (Please answer questions No. 16- 18)
11. For what purpose have you keep separating it?
 - Just for disposal
 - For selling
12. If you have separated and sold it, how much per month you could earn?.....Baht
13. How often you have sold?
 - More than three times per month
 - Fews in a month
 - Less than once a month
14. What kind of waste have you always sold? Please rank from the highest to the lowest.
(Highest amount = 5, Lowest amount = 1)
_____Paper _____Glass bottle _____Plastic bottle _____ Can _____Steel
_____Others, such as.....
15. How have you been selling the waste?
 - Wait for the push-cart buyers
 - Go to sell at the junk shop
 - Others.....

16. Do you know that waste could be sold and valuable?
- Yes
 - No
17. What is the reason that you do not separate your waste (Could answer more than 1 choice)?
- Complicated
 - Unworthy
 - Time consuming
 - Others _____
18. On what reason will it encourage you to do waste separation? (Could answer more than 1 choice)
- No way
 - If it is high price, I will do it
 - Municipality should do waste separation's promotion and apply incentive approach when any household do waste separation.
 - Community-based organization should do waste separation's promotion and apply incentive approach when any household do waste separation.
 - Municipality cooperates with community-based organization promote waste separation activity
 - Others

Information associated with community-based solid waste management

19. How do you think about solid waste problem, Does it better or worse within 5 years?
- Better
 - Equal
 - Worse
20. Which organization or institution do you trustworthy in solid waste management if considering from effectiveness and efficiency point of view? (Could answer more than 1 choice)
- Municipality
 - National Housing Authority
 - Community-based organization
 - Municipality and community-based organization
 - All stakeholders should have collaborated
21. Would you like having community-based organization promoting waste separation activity and waste mechanization?
- Yes, because.....
 - Not to mention, because.....
 - No, because.....
22. What is the way do you think that it could eradicate solid waste problem in your community?
- Only municipality is an option. Municipality must collect the waste more rapidly and more rounds
 - The environmental awareness must be cultivated, such as to use cloth bag instead of plastic bag, etc.
 - We should have other organizations for instance waste entrepreneur association to help municipality's waste collection
 - Others.....
23. Comments and recommendation
-
-

APPENDIX B

Field records and some interview dialogues

27-10-2005

Committee discussion

The researcher was introduced to 201-Neighborhood by one staff from Chumchonhai Foundation, who has been working on savings activity, not only in Bang Plee New Town Community, but at provincial-wide scale or namely Samut Prakarn province. The initial discussion was conducted besides existing occupational activity; community-based mushroom entrepreneur. Chumchonhai Foundation staff intentionally attempted to promote environmentally friendly activity beside the existing one since its environmental condition is unhealthy. Therefore, the dialogue among 201-Neighborhood committees (ten persons), the Chumchonhai Foundation staff and the researcher began.

'There has been nobody involving in environmental stuffs, though the condition is so bad. I don't really understand why... even some of them are educated people, but still they have not been care. Perhaps, they are disguised population, not being felt like they are part of the community, so we have to help each other to develop environmental condition by ourselves, starting from our lanes.'

Some of the 201-Neighborhood Committees has explained the current situation in environmental aspect as followings.

'The system collecting domestic waste now is that each of the lanes has waste collection point at both of the ending lane. Each household has to carry the waste along the way to the waste collection point. There is no municipal's door to door service. However, some of the dwellers are lazy to carry. They selfishly lay it in front of their houses and it is washed into the drainage facility. In the pas, there were municipal garbage bin inside the lane, but in present this system had been aborted since there were too many disposed wastes, which municipality could not manage to collect efficiently. The waste had been accumulated and left over because municipality doesn't collect everyday, but 3-4 days in a week.'

'Since now, there is not seriously any environmental activity and promotion undertaken by community organization. We have only savings and occupational activity. This is not only telling about our (201) neighborhood, but also means for all neighborhoods in **Bang Plee Community**. Geographically presented in masterplan, there are around 900 houses, but genuinely many of them have been converted to become apartments and renting houses. Let's say that, half of population living in 201-Neighborhood is disguised (hidden) population. There has been also the case that people who registered to municipality, but don't live here. They are only rent-seekers (some are owner-occupiers) providing the rooms for rent. Previously, National Housing Authority allowed whoever to book the housing rights since this area was not so developed. Afterwards, when the city of Bangkok has been expanded eastward and southeastward, then they built mid-rise dwellings for rent.

'The current activities are now occasionally depending on national festivities, for instances, New Year festival, Mother and Father days, Songkran festival, etc. It is not only 201-Neighborhood, but all.'

One of neighborhood committee, Aunty Pensri, the mushroom group leader, purposed the idea for coming environmental activity as well as agreeing from the other committees as following.

'We are interested to initiate activity since our neighborhoods has been suffering from poor environmental management. We have talked with 'Khun Pu' (Chumchonhai Foundation staff) about planting in front of the houses in every lane for better atmospheric condition. And also, we are thinking about waste management, what if we promote recyclable waste since it has been valuably counted to the inhabitants. We plan to change the waste for a bottle of EM²²². Its beneficiary could be two prongs; First, domestic waste could be separated since people know that it's valued at least for EM and Second, community organization could sell the waste and the return would be for neighborhood social activities, though we have such a tiny space for collecting, so we would sell it within few days. It could be sold for 20-30 THB per round, nonetheless it's considered trustworthy. Perhaps not monetary exchange, it could be everyday-life goods exchange for recyclable waste such as eggs, shampoos, detergents, etc. We know all those wastes are valuable and in Bang Plee Community, there are few junk shops and waste entrepreneurs, with which we could do business. We would start only from recyclable waste excluding organic waste, which municipality should do that job.'

'We are likely to barter recyclable waste to EM since it is non-chemical solution and it's safe. Furthermore, it is an integral part contributing to wastewater management regarding its qualification. Frankly speaking, we have none of knowledge managing environmental activity and what we have done was occasionally, not being sustained. How could we manage such the activity in sustainable way? What if we keep contributing our labors without any return? Would the labor stand dedicating?'

The research contributed some models into what the committees started. For instance, to introduce 201-Neighborhood to position itself as neighborhood-scale waste market for waste entrepreneur to purchase. On the other hand, specific group, namely 201-Neighborhood Environmental Team under community organization provision, plays the role as waste buyer from each household in the neighborhood starting from savings members.

²²² Effective Micro-organisms (EM) is the organic solution using to reconditioning the quality of wastewater by pouring into it. It has been popular used by low to middle-low income community where the neighborhood has been polluted by untreated domestic wastewater. Having been so uncomplicated and able for home-based production, it is widespread using in many communities especially in urban poor community by its various utility. It could be also domestically used as floor cleaner

The team for environmental activity could not go that far regarding enrolling the new working members. It has just only been the existing set of committees who keep contributing their labors and time for community organization without any return. Conversely they have to contribute also their money and did all kinds of activity hoping better community would come through in the future.

The formation of savings activity for 201 Neighborhood started by Community Organization Development Institute since 1997 after the big economic crisis in Asia. The support from many international funds such as Social Investment Fund (SIF) and Miyazawa Fund had been delivered to community; therefore, it was fostered to set up the community organization at that time. According to the circumstance, community organization's activity dealt only with savings activity and the activity has continuously been conducted by Community Organization Development Institute and Chumchonchai Foundation, local non-government organization, visioning and aiming to community and grassroots development and capacity building.

19-11.2005

Committee discussion and introducing Small and Micro Community Enterprise (SMCE)

Starting by Aunty Pensri, director of mushroom entrepreneur, declaring about progress of mushroom entrepreneur, she said that the returns was not considering substantial, though it has not been lost, compared to inputs resources. In that day, therefore, the group coordinated Samut Prakam Agricultural and Cooperatives Office to advice on how to effectively and profitably tackle and develop the managing system. The officer analyzed that because the 201-Community organization working on mushroom entrepreneur lacks of initial capital. So he suggested the group to conform Small and Micro Community Enterprise (SMCE) in order that the government could allocate it the capital. The community enterprise by its definition is the community-based cooperation body including goods and services. Previously, community organization s in general, was not formally organizing them, so they had limited resources regarding as non-authorizing organization rather than as juristic committee. Its system is replicated from cooperative system running by each of member's contribution as juristic committee. The beneficiaries were elaborated by the officer as followings; 1) Community organization could approaches financial resources easier, likewise financial institutes or banks regarding efficient cash flow and accounting system 2) Members of community organization could enhance their capabilities via training programme provided by networking government authority. Nevertheless, on one hand, becoming juristic committee could be beneficial to community organization as followings, but on the other hand, it implies that community organization has to regularly and seriously manage the entrepreneur which its existing organizing structure is volunteer-based entrepreneur. Therefore, community organization was challenged shifting its characteristic from amateur-based entrepreneur required less strictly managing system to be professional-based entrepreneur required correct, accurate and transparency regarding organizational management system. The introduction is about pursuing 201-Community organization to enroll community enterprise activity, explaining how to manage accounting system. Since the system could be considered as community organization's burden, so 201-Community organization was hesitating join community enterprise programme though some beneficiaries had been introduced regarding too strict rules and regulations.

The officer suggested 201-Community organization extending different types of business, whenever the community enterprise would run other business besides mushroom selling, for instance junk shop, waste entrepreneur, dish washing making and selling. While the researcher potentially saw the opportunity integrating solid waste management into entrepreneurship via this community enterprise channel. The officer added that if 201-Community organization performs as juristic committee running community enterprise, it could be allocated resource and capital supports from local administrative authority, such as Bang Sao Thong Municipality, besides financial institutes. Finally, 201-Community organization's committee had passed the consensus to join community enterprise programme.

Afterwards, the researcher had conducted the notion involving community organization in solid waste management. Given the idea from the small discussion, the result came into the focus group's mind that community organization should start and form neighborhood-scale waste separating point at the initial step. Piloting by exchanging recyclable waste with EM solution was the coming idea and extend the activities via existing networks, which having been existed. The aim was to develop this separating point as the market place merchandizing waste between community organization and the junk shops or waste entrepreneurs. The sources of finance injecting to mobilize the activity were planned and expected coming from private donors supporting social welfare and development activity, on one hand, and from international development agency²²³ on the other hand. The main obstacle of 201-Neighborhood at that time was that it is lacking of place and facility to run the activity. The researcher suggested 201-Neighborhood to cope three items; 1) promoting strategy, 2) construction strategy and 3) financing strategy. At the very first, 201-Neighborhood had have to inform and be authorized from National Housing Authority for land utilizing purpose, requiring about 10 sq.m., for waste the separating shelter's permission. 201-Neighborhood wanted this place nearby in order to appropriately undertake the activity. The shelter would plan to deserve the separated waste into categories; steel, plastic, glass, paper, and aluminum. Besides, Chumchonchai Foundation staff had advised that;

'We should first set up one day as "Environment day" in our community, which aims to promote environmental condition concern. The activity in this day could be easily promoting domestic waste donation from the inhabitants, likewise plastic bottles, cans, or paper. On the other hand, we would invite our community network outside community, member of Chumchonchai Foundation's community network, who has already achieved waste recycling activity, to teach us on how to manage and mobilize recycling activity, the value and price of each kind of wastes as well as 'Garbage banking system'. Besides, we could assess and evaluate the level of willingness to involve and interest of the inhabitants about such this activity. This is also very useful for us strategically pacing for environmental promoting.

The waste in this day would be gathered in the whole day and we would appoint the junk shop/waste entrepreneur, having been in our community to purchase them in the evening. The beneficiary from this initiating activity could be twofold; savings from waste selling to 201-Neighborhood and learning how to do waste recycling activity from the well experienced person'. Moreover, it would be good atmospheric and environmentally-friendly sound in the neighborhood for the coming activity to enhance environmental awareness to the dwellers. The community organization members discussed among each other about how to promote this activity such as through flyers-leaflets, community wireless, etc. They were talking about opening ceremony, which involving Bang Sao Thong Municipality and National Housing Authority. Chumchonchai Foundation staff added that;

²²³ At that time, the application project conducting by the international-academic partnership had enrolled the applicants from Southeast Asian countries to submit the proposal for implementing environmentally-friendly sound demonstration project. CIDA-AIT partnership programme aims three sub-sectors - air pollution, water and sanitation, and solid waste.

'I have been support the environmental activity in Samut Prakarn province as a civil society coordinator. For previous events, we were involving had been supported from Chumchonhai Foundation via Danish Cooperation for Environment and Development (DANCED) support, currently being terminated its support. Being brain storming about waste issue, we would start from ourselves; not much being depending on only outer supports and projects because it would not be sustainable. Looking at our in-house waste, if we minimize domestic waste from the beginning, all accumulating waste must be decreased. And what if, we quantitatively prove Bang Sao Thong Municipality that, after we are running the project, number of wastes has been reduced substantially. Could it be an option that Bang Sao Thong Municipality manipulating the budget to support community activity regarding environmental activity rather that keep increasing municipal waste management budget regarding cleaning and waste collecting issue? If we think that waste is counted as exchange value, we need to do regardless waiting other people, but just kick off from ourselves. This is the first step and then we run the activity, collecting recyclable waste from each house, perhaps twice a week. Not being mentioning about waste donation, but exchange waste with things or money to present that it's counted valuably. Nevertheless from each house, the amount is too little to be valued, but what if we gather to gather from the whole neighborhood. I'm not mentioning that this is the fostering activity, but volunteering by whoever is willing to do so'.

However, one of community committees, being kindergarten school teacher, mentioned also that; 'People know that waste can valuably be counted, but the point is that it is untrustworthy doing waste separation. For them, it's time consuming'. She argued also that for instance she has promoted waste separation and recycling in her school, but it has been unsuccessful, though she insisted that to educate and to raise environmental awareness is very necessary. She complained about how low environmental awareness of people in the community (society) is.

The 201-Neighborhood committees were also worrying about 'facility'. They have told that they don't have any facility underpinning this activity, but the researcher and Chumchonhai Foundation staff convinced that the important part is not about the facility, but the community-based willingness to participate in the activity itself. Khun Pu (Chumchonhai Foundation staff) repeated that the essence is not about to care whether who will involve or not, but we (I) insist to do such a good will. She illustrated some successful examples elsewhere in Samut Prakarn province including the school-based waste separation activity. She has told also that perhaps if the outsider initiates the activity, it could be more successful in term of persuading local authority and the dwellers. Because community organization has been get used to the inhabitants, regarding such many activities they conducted, and has less power to provoke the stakeholders. Ultimately, community organization has concluded that 'Environment Day' for community waste donation and waste recycling demonstration/training would be conducted on 11 December 2005 and the plan would be one week scheduled before (28 November.2005). Khun Pu has added that some community is profitable for such activity; buying-selling recyclable waste. The organizing team for that day was appointed for scheduling the activity. However, this was volunteer-based activity as normal for 201-Community organization. At the beginning at that day, the 201-Community organization would exchange waste for home-based consuming stuffs, such as powder, shampoo, soap, fish sauce, etc. rather than EM solution.

The responsible working team on that day included 10 (3 males/7 females) out of 15 persons from community organization committees and one committee consultant.

About wastewater problem, one of community organization committee opinioned as following;

'In my point of view, wastewater problem is severer that solid waste problem. Since National Housing Authority had managed centralized system and it had been malfunctioned at least more than 9-10 years. How it could be, if you've just built and operated it without any maintenance. That is what the authority does and it surely fails. We keep talking about this and we opinion here that the leaders in municipality have been lacked of knowledge. They are not well-educated people and they were grown up from the local politics²²⁴. They cannot perceive overview development organism. Only the small problems after one another, they could solve. I don't think they have solved any problem, but just prolonged them. For instance, the sewage pipeline under the inner walkway has to be cleaned, not only mentioning about 201-Neighborhood, but for the whole community. In my opinion, the best option for wastewater treatment is to repair and refunction the central system by cleaning up the pipe, fix the machine. Why don't we use it? Why we easily ignore it since the system had already been invested. I think it requires 30 Million THB fixing the system and I think the Bang Sao Thong Municipality could do it. Bang Sao Thong Municipality also need well trained or skillful staff in the same scenario that factories apply'.

28-11-2005

Committee discussion: Preparing schedule for 'Environment Day'

The tasks for preparing the activity in that day include;

- Prepare the space and place.
- Document the event and present to involved authorities, such as National Housing Authority and Bang Sao Thong Municipality about grassroots movement on environmental issue initiating by community organization in order that they could support for community-based environmental development programme in the near future.
- Whole week public relation activity to inform and introduce the dwellers to participate the activity; mouth to mouth advertising, advertising signage, etc.
- Identifying exchange rate which being relevant to market price; for examples, 10 cans can change for soap, half kilogram of newspaper can change for a small package of washing powder, etc.
- Accounting system; to arrange the member system, registration system
- How to add value the collected waste; some ideas generated, for instances, to make the products from recyclable wastes - bags, ornaments, etc.
- The activity would be finished the process within one day from waste donation, separation to selling. To sell, community organization will appoint the waste entrepreneur for merchandizing or if inconvenient, it could be sold on the next day.
- The detailed schedule on that day and management; who do what on that day.

²²⁴ In Thai context, local administrative leaders are in many cases, are local influential persons in the same token as 'Mafia' from Italian contexts.

- The Agricultural and Cooperatives Office donates 500 home plants, such as chili, cabbage, tomato, etc., which one can exchange them of collected garbage.
- Taskforces preparing for this event were identified; who do what.
- Small panel for experience sharing and instructing about how much each kind of waste is and how to increase its value.
- The event starts at 10.00 a.m. and the activity is likely to be that merchandizing reflected
- The event names as 'Let's reduce our garbage for better environment
- The event aims to evoke environmental awareness of the residents, not being aimed for profit. At least, if they would start collecting and separating garbage and know that it's counted as price, unnecessarily selling to our community organization, but wherever, this is already successful because the disposed garbage has been reduced at source.
- Develop this event to be routine activity; appoint the weekly date for merchandizing and to be sold on the next day in order to be not necessary for long keeping since there is not much space.
- The price of each kind of garbage per kilogram must be indicated by consulting with the invited instructor at that day. Besides, community organization working team should parallel explore also.
- Community organization conceived that this event is essential for the community, especially the one who long-lasting lives here, not mentioning about the labored renters.
- If this event could mechanize routinely, it would indirectly decrease Bang Sao Thong Municipality's workloads and budget on solid waste collection though it could be unsatisfied Bang Sao Thong Municipality's waste collectors since they could get less benefit from garbage selling²²⁵.
- The activity after this day was to enroll and expand number of membership participating in environmental protection activity based on the former savings group membership (around 50 households currently are members of the savings group)
- 201-Neighborhood will invite the experienced community (Lak Si Community in Bangkok) who had already been successful on 'Garbage Bank' programme to demonstrate how to run the bank in that day.
- There is the raised issue about whether the neighborhood would like to manage organic waste or not in order to integrate not only recyclable waste management, but in the holistic solid waste management scenario. Some are interested in and some have seen that the place is a major constraint. And there is also the discussion about advance composting technique to compost organic waste faster than the conventional method by using Japanese earthworm.
- The outcomes from this event needs to be evaluated whether it should seriously and routinely continue the activity
- The event in that day would be initially expected as donation-based rather than bartering activity.
- There is an ambiguous on garbage delivering system whether the participating inhabitants should come to donate or exchange at the waste recycling center or the member team get the waste from door to door.

11-12-2005

Environment day

201-Community initiated the first environmental activities at Bang Plee. The activity has been introduced to community by Chumchonhai Foundation, local non-government organization working on community development issue. 201-Community promotes recyclable waste collection by pursuing the dwellers to collect solid waste disposed in their houses and bring it on this day. In the end of the day, waste buyer came to purchase all recyclable waste donated by the dwellers. Solid waste includes plastic bottle, paper, tin can, glass, etc. On that day, 201-Community could earn 531 THB²²⁶ from selling recyclable waste. And also, the success community on solid waste management from Lak Si district shared the short training about how to separate recyclable waste and how to value different type of waste to community members.

Mr. Surachai, a representative from Lak Si Community has been successfully implementing 'Garbage Bank' and then developing into 'community organization's Garbage Entrepreneur' lectured and shared his experiences as he said

'I want you all to know at the first step that how many types of waste there are. In Thailand, it has been categorized into 5 types; 1) organic waste – for examples the residual of vegetable, fruit which could be used as source for composting, 2) hazardous waste – such as batteries, foam, hospital waste, 3) recyclable waste, which can be sold and reprocessed of using, reuse waste such as bottle of glass, and 5) other waste such as rubber, dust, etc. There are many forms of community organization solid waste management practicing elsewhere in Thailand, for instance, "Garbage for Egg", the famous case study that the community members exchange recyclable waste for eggs. Other form such as 'Garbage bank' is the developed stage of community-based solid waste management rather than volunteer-based activity which the members could deposit waste and being counted as monetary from referring the value of waste according to the market price. And the members could withdraw in monetary form. This activity in some neighborhoods runs besides savings group activity whereas the obtained surplus would be spent for social welfare purpose in the neighborhood. The details managing garbage banking share similar characteristic as savings group requiring organized committee and working team – collecting, separating, or accounting unit. The bank does not need such plenty of spaces, but depending on management method. Only scales and place for separating garbage could be enough for beginning. Other form of community-based solid waste management besides garbage bank is so called 'waste entrepreneur' where becoming the market for recyclable waste's trading. Its process is to find the appropriated place. On one hand community organization appoints a date to the neighbors who want to sell the garbage and on the other hand, on the next day or in the evening, appoints the waste buyer. That is how waste trading begins. There are above 100 community-based garbage banks in Bangkok and 400-500 places for waste trading. And what are the positive outcomes after founding garbage bank? There are several benefits. The first is the environmental betterment since the waste being spread everywhere has been decreased. Second, the community's solidarity has been optimized via this event. For your neighborhood, it would appreciate when you've already been community organization working on savings and occupational activity. So easily integrate and extend them. Thirdly, it is good for health and hygienic reason since it is clean – mosquitoes and flies would be less. Lastly, waste recycling could generate

²²⁵ If 201-Community organization could stabilize this waste merchandizing activity, this raising issue could become conflict of interest between the municipality waste collectors and 201-Community organization because the municipality's waste collectors as municipal bureaucrats could directly earn extra income from waste separating and selling to the waste entrepreneur.

²²⁶ 1 Euro = 48.44 THB at the stage that this research has been conducted

income, especially for the unemployed persons. In my community, there are some persons could earn about 3,000-4,000 THB per month from recycling waste as extra revenues.'

'Now, we learn about types of waste. In the plastic series, white plastic as well as PE plastic could value for 18-19 THB per kilogram (if less than this, do not sell it), 8 THB/kg for colored plastic, 10-12 THB/kg for oil gallon plastic and 4 THB/kg for residual plastic. In the glass series, beer bottle is 8-15 THB/dozen depending on the brands and small bottles is 1 THB/kg. Can values for 35-38 THB/kg. In the paper series, box cardboard is 4 THB/kg, 6 THB/kg for black and white paper, 4 THB/kg for newspaper, and 2 THB/kg for notebooks. The other such as white cotton values for 3 THB/kg. I advice you to sell to the big entrepreneurs, because some of small entrepreneurs have been cheated the scales.

Mr. Surachai shared his experience to 201-Neighborhood regardless the benefits returning to his own entrepreneur since he has been developing his skill from the others as well. He always welcomes to be a consultant for this activity if routinely organized and wish the 201-Neighborhood could succeed solid waste management in long run, not being only the occasional event.

04-01-2006

Committee discussion

Meeting with community organization including a staff from the Agricultural and Cooperatives Office had been arranged and the topic discussing was about the progress of 'Environment Day' event. The group was discussing about field visit the successful case study elsewhere for knowledge and skills improvement, which it could be beneficial to the group extending the environmental-promoting event to be routine activity. The group attempted here to cooperate with Bang Sao Thong Municipality for transportations support. Aunty Pensri elaborated;

'Obviously, after we have begun the environment day, the inhabitants energetically collected the waste, not being thrown away as previous time. They have collected for selling individually, even not to sell us. But, I don't think pessimistically despite they sell to the others since they know it's valued and know how to segregate. It is, at the end of the day, best to our neighborhood. Considering environmental-related habits, it starts from our current savings members despite some lanes (Lane 1 and 3) are still less participating. Nonetheless, the event prominently begins attracting at Lane 5, 7 and 9 rigorously joining the activity.'

Mr. Vichit, one of community committees, has added his mention on what should have progressed after this. He mentioned that;

'We should extend the membership via savings-based members. It could be integrated since they are members, they would automatically (or being compulsory) participate our environmentally-based activity via the membership network. Current savings members are 71 members increasing from 54 members in November 2005. We should target that from now on how many members have to be achieved gradually month by month. This is the membership plan. On the other hand, the plan of waste collection has to derive from collecting and storing capacity. It should not keep all gathered wastes for long since it causes bad odor and unhygienic. The management system and loop must be designated. Now, the activity is running based on waste donation, derived only from some members and community committees, but for long term, it is non-extendable and unsustainable. People will get bored one day. The system should sustain itself, though nowadays, only the committees participate, but I potentially expect that it could widen broadly in the neighborhood starting from ours. Perhaps the activity could draw in other neighborhoods nearby. Therefore, we need to think in a sustainable way, for instance highlighting the activity as a merchandizing unit where buyers and sellers could get benefits rather than only donation.

In primary school, Bang Sao Thong Municipality also has initiated waste separation programme inside, but it does not extend communally. It seems aiming for cultivating environmental awareness rather than effective civil society-based environmental management. Back to the event, we have sold recyclable waste twice in a month. First we have earned more or less 500 THB and 600 THB for the second round. This indicated something that none of newcomers participating the activity, only the committees involved. Actually, the amount of waste is much higher that what we have collected.

The researcher helped the 201-Neighborhood planning the way to extend the amount of collected waste. However, Mr Vichit offended that because of routinely collection that why the amount of collected waste has been reduced since the domestic wastes regeneration paces slower than collections frequency. The researcher insisted the importance of accounting system that community organization should have to organize. The scenario, now as the researcher perceived, is that only the committees is working out without participation from the members, not mentioning to the inhabitants. On one hand, horizontally, how to derive more participation from the neighbors is the crucial coming task. On the other hand, vertically, we should have talk to Bang Sao Thong Municipality that we have limited skill handling this. Request them for supports either lesson learning via field visit or training programme since we are the pilot neighborhood attempting solid waste management by our own. However the community organization understood itself as volunteer-based. Even though we have learned from the successful case, how could we go for it since we handled only by the committees?

From discussion, the argument started since they have limited manpower without any returning benefit. It runs for free riding on volunteer's labor. We were in the moving forward stage shifting from volunteer-based to entrepreneurial-based activity. Some committees raised that in order to maintain the activity, the labor-contributor should get wage in return and we could accountable if he (she) neglect his (her) job. Incentive-based programme is essential, but we require initial inputs resources. At this stage we are starting to inform the dwellers recognizing that waste is a worthy stuff. The membership extension became the first priority coming across this stage due to the economic of scale. The objective is to support Bang Sao Thong Municipality minimizing solid waste at sources in the neighborhood, not being profit organization. community organization aimed this activity to vibrate Bang Sao Thong Municipality for community-based activity support whether in term of equipment providing (waste bin) or budgets since Bang Sao Thong Municipality has always been centralized solid waste management without pragmatically community involvement²²⁷.

²²⁷ The municipality has never actively adopted genuine participation. At best, it involved community only through training programme regardless of environmental issues. The bottom-up process has been limited. Civic participation exercises only via the community representatives and committees since the inhabitants have little interests in local political affairs. The situation brings the bureaucrats assuming that is wasting time for participation since it turns exactly the same outputs whether participating or not. Nevertheless, what representatives have always demanded for is obstructed by its complicated rules and regulations.

'We (201-Community organization) should promote the value of each types of waste provocatively whether the dwellers would sell it to us or not. At best, we could reduce waste being disposed to Bang Sao Thong Municipality's waste bin. For the apartment and dormitory cases, I suggest that we should cooperate with the renters, not asking for waste donation, but for selling to our group. Being that better, we could extend our clients when membership extension was so hard. Some have already given to us for free. However, the problem is that they don't segregate the waste, but we could try telling them.'

One committee offended this assumption that most of the dwellers are the outsiders who have not been rooted here and rotated all the time. Why do they have to care since here are not their homes? "Are we too optimistic?" she said. Aunty Pensri has oppositely defended that she was given the waste more from those of dormitories and apartments than from the genuine inhabitants (original group). However, though we promote savings membership to the outsiders group, they are not interested to become members. Cash is more preferable for them.

The committees shared various ideas and viewpoints on how this activity is managed which some shared the same direction, while some are not, even being conflicts. Some ideologically perceive that the membership extension is the right solution and sustained, while some pragmatically perceive that the group should not expect too high, but let's the invisible hand mechanize whether it would be run by membership system or market mechanism. Among 201-Community organization committees, they are reluctant about the performance of Bang Sao Thong Municipality handling solid waste management issue whether it really welcomed or promoted community organization self-sustaining solid waste management or not. Nonetheless, 201-Community organization has attempted pursuing Bang Sao Thong Municipality to glance at what community organization has been doing. The committees expected Bang Sao Thong Municipality to realize and support them by proposing neighborhood-based solid waste management project. However they considered themselves having little capacity for well-outlined procedure in order in which Bang Sao Thong Municipality would be interested. Some committees have always disappointed on what Bang Sao Thong Municipality has been doing. As he said;

'I have always been hopeless waiting for Bang Sao Thong Municipality's support in anything. The better is that we should go on by ourselves. I have tried plenty of time doing that, but it'd just wasted our time asking for help despite it has been what community wants.Not every need is responded, Bang Sao Thong Municipality responded politically on what are the most beneficiaries for it, what project could get more vote, etc...'... Not being blaming, Bang Sao Thong Municipality must, somehow neutralize the issue of development since several issues are at its hand. If we would really need the support, better would ask before the election and tell Bang Sao Thong Municipality on what we have been doing (mushroom group, neighborhood garden, and waste collection activity). We must report Bang Sao Thong Municipality that what it will get from those activities.'

Somehow, one of the committees raised the topic on this that;

'I used to personally discuss with the municipal clerk and he definitely agrees of the community-based environmental activity. Nonetheless he frankly confesses that it is not easy possibility since several interests are there. The civil servants, waste collectors and collectors, would be shortage their extra income. The politicians, on the other hand, would protect their civil servants' well-being. Moreover, what if the municipal expenditure allocated by the central government would be deducted? Will the politicians welcome that consequence?'

'Politicians biased support other group since some of their relatives organizing the occupational group. The resource allocated based on cronyism.'

The discussion has shown many innovative ideas on what would be done step by step for instances, the extension of membership, the managing system functioning via each lane's representatives, the competition of sold waste among the lanes, etc. They have been thinking about the pushcarts, a shelter, the waste collection points, garbage bins, and organizing waste collection system, etc. Not only in 201-Neighborhood, the idea that collecting waste from the business sectors working in the Industrial Estate Authority. The overall atmosphere was rigorous.

08-01-2006

Environmental days and New Year

25-01-2006

Field visit for community-based wastewater and solid waste facilities

03-02-2006

Committee discussion

After 201-Community organization had been promoted waste separation tackled by the event, environment day, aiming the exponential increase of numbers who become the group members, there is obviously ineffective. The number of members had been constant instead. "The dwellers sold the garbage individually" Aunty Pensri said. "Although they didn't sell to us, at least they know that it counts valued. That satisfies me enough since previously they have kept throwing away."

The initial strategy is about to upscale environmental care on the basis of savings members, the community organization, therefore, integrated savings members to integrate monetary deposit beside waste deposit. Obviously, the waste donation activity didn't much activate the inhabitants for environmental care. The activity encouraged only people in some lanes, not overall. One of the committees explained; "I have promoted the activity, the residents have just informed but I couldn't ensure the success." The environmental promotion didn't extend the membership basis. Aunty Pensri added - Until now, there are Lane 5,7,9,11 from 6 lanes of our neighborhood have increased the number of savings members.....In Lane 1 and 3 there is not any members increasing, although we have already informed the lane's representative. In contrast, in other Lanes, there are the people donating the waste to community organization regardless the membership status. So the membership system seems irrelevant to waste donation behavior. "We didn't go along the lane and ask for the unused wastes. Some have brought them to us instead" said Aunty Pensri. "Now, they give it to us for free since they could sell it. Some shops give us as well, but some could not waste us, so they have to throw away because we don't have any vehicle to collect."

"We have pirated running the activity neither informing Bang Sao Thong Municipality nor National Housing Authority. We should prepare the report to them in case for any support, though they both knew, but ever since it has been informal. The Agricultural and Cooperatives Office has also supported. The researcher has also discussed with Bang Sao Thong Municipality by the municipal clerk. He said that Bang Sao Thong Municipality intend to support the neighborhood as well whether there is any support from the outsource programmes or not²²⁸. The researcher advised the community organization recording the change of number of members increasing each month (or not increasing) to evaluate the progress of activity and to indicate that in which level the activity has been achieving. First, data of type and amount of recyclable waste, collected from the activity in each round, should be reported to Bang Sao Thong Municipality. The data would help the community organization planning for activity progress and up-scaling. However, some of the committees felt that it has become his/her burden managing the document since the waste gives non-routinely donated. Several opinions over the activity have been derived as followings;

"People welcome donating the waste. In Lane 9 for instance, when people see our cart, they throw in the waste. We cannot know exactly who else give us the waste, but we do know that we should go to collect everyday otherwise people would not patient enough to keep it that long. They will throw it away." Auntys Pednsri added.

"I think that to upscale the activity as recyclable waste market doesn't sound successfully. They might be not interested. They've just throw it away" said Khun Tuk.

The number of savings members has stepped up 2 households more. Daily savings is collected for 5 THB per member. One THB is for member's welfare (such as funeral ceremony and health purpose) and the rest 4 THB for member's loan. The savings group started in July 2005. Its number has been gradually increased, especially in December, from 15 members as starting to 35 members, from 3 sub-groups to 10. Each group contains 5 members for easier to follow up the savings. But, the members have regressively increased. The activity came to the dilemma that community organization could not go far beyond and upscale the activity by itself regarding its capacity and resources. The researcher suggested that one of the ways to effectively upscale and expand the activity is to coordinate with the local authority, Bang Sao Thong Municipality.

'Now, I'm worrying about our pirated activity to go to far. We should inform somehow Bang Sao Thong Municipality about what we have been doing if we want its support Bang Sao Thong Municipality could deny and impede it. I think we should report to Bang Sao Thong Municipality before we run further activity. We unavoidably need the support from it such as, filed visit or equipment for our further activity.'

On the other hand, Mr. Vichit felt that Bang Sao Thong Municipality has never been sincere supporting neighborhood-based activity. But, Auntys Pensri wanted the support for field visit or equipments. The meeting in this day ended up that community organization will report the progress of community-based activity to Bang Sao Thong Municipality, about savings and environmental activity. And from that passed activity, it would request for filed visit support for transportation. The support from Bang Sao Thong Municipality would reflect the sincerity of Bang Sao Thong Municipality supporting community-based environmental management since the community organization has never experienced in any kind of knowledge in community-based environmental management.

18-02-06

Committee discussion

After the community organization submitted the progress report, aiming for public segregated garbage bin in each lane, the director of educational division committed that the Bang Sao Thong Municipality would allocate the budget for 201-Neighborhood around 50,000 THB/project either for occupational training programme or field visit (mushroom and dish-washer making profession) as long as 201-Neighborhood proposes the project. The report has already handed to the major by 4 committee members. The discussion likely jumped to the detail more on training course arrangement. In the opposite, community organization shared that the savings group has been undertaking at the grassroots level by Community Organization Development Institute's support. Bang Sao Thong Municipality were interested in such the daily savings activity because it has never experienced before and it has accorded to the national government policy in grassroots capacity building programme such as One Tambon - One Product (OTOP) and Community Fund. However, community organization felt difficulties communicate with Bang Sao Thong Municipality after proposing the project because it had to wait until 2007 regarding the project didn't synchronize to Bang Sao Thong Municipality's annual development plan²²⁹. The community organization's proposing demand would be discarded since it's time consuming. What 201-Community organization immediately demanding for was not spontaneously responded? It has been obstructed by Bang Sao Thong Municipality rules and formal procedures while community organization could not easily adapt to fit those channels. The meeting ended up with the formal proposing project invested in neighborhood-based occupation training programme and to indicate the training date. After discussing with Bang Sao Thong Municipality major, he didn't commit on what community organization had proposed about intending environmental support, just only accepted the proposal and told the community organization representatives that he would look for if he could do anything.

The crucial concern coming up after the meeting was that how the activity would be sustained if the community organization has only depended on volunteered-based activity, how patient the volunteers keep running the activity without any integration of incentive mechanisms, being without regeneration of the new coming leader - youth or adult group, how it could maintain self-sustained environmental development, or what would happen about environmental activity, if there are none of non-government organizations or outsource supports. At the end of the day, 201-Community organization was challenged that it requires working mechanism for sustaining those of activities. The capital inputs and institutional support have become the essential element.

05-03-2006

Occupational training

What is SEA-UEMA?

²²⁸ At that time, the researcher requested the project for the international-academic partnership handling integrated solid waste management - Biodegradable waste composting and recyclable waste management as garbage bank.

²²⁹ The annual plan of the municipality is the forecasting plan. In 2006 the development plan of the year 2007 has already been planned. Therefore what currently proposed this year would be considerer and implemented in the next coming year.

Southeast Asian Urban Environmental Management Application Project (SEA-UEMA) is one of the projects under Canadian International Development Agency and Asian Institute of Technology Partnership (CIDA-AIT) which allocates the grants for environmental demonstration projects aiming three sub-sectors; water and sanitation, solid waste and air pollution among Southeast Asian countries. The projects welcomes researchers, academic institutes, public sectors, non-government organizations, and etc proposing environmentally friendly sounded projects or innovations beneath the three sub-sectors, which could somehow replicate the same idea elsewhere.

The application project has been introduced to the study area since the end of December 2005 until the project has been accepted and finally approved in May 2006, which the total amount of budgets 12,895 USD was awarded to launch eight-month project, so called 'Community-based solid waste management in Bang Plee New Town Community, Samut Prakarn Province, Thailand'. Beside, the concerned authorities, Bang Sao Thong Municipality and National Housing Authority, had also supported another 3,500 USD in non-monetary form, such as field visit, training courses, land tenure, facilities, and project advertisement.

21-03-2006

Community Discussion

The community organization reported what it had been trained and educated over a month - training to register as community enterprise. The idea was to expand the occupation activity, not only mushroom business, but also recyclable waste merchandizing entrepreneur and other businesses. The entrepreneur is adopted from cooperative system. The committee members had also explained about what they have been alleviated domestic wastewater problem by integrating the by product of dish-washing solution, EM. By pouring it into the stagnant water inside the neighborhood, the water quality turned into better condition since fewer odors.

08-04-2006

Separating and Selling Solid Waste+ Committee meeting

26-04-2006

Solid Waste Management Training (Organized by Bang Sao Thong Municipality)

Bang Sao Thong Municipality undertook one-day short training course instructing by Secretary Office, Ministry of Natural Resources and Environment about how community people technically do separation. The content of training educates people about 'why we need solid waste separation', 'what are the adverse impacts from improper managed solid waste', 'type of waste', and 'how to separate them at the household level', not only lecturing, but also demonstrating. The training included half-day workshop and demonstration about how to make home-based dish washer produced from organic waste. The participants in training course were approximately 100-120 persons, representing from ten neighborhoods (Bang Plee New Town Community is comprised of ten neighborhoods). Most of them were the persons - actively involving community activity whether it organized by community itself or BTSM.

Bang Sao Thong Municipality, its first time, initiated environmental education to community, since previously it only supported community on social and economic development.

03-05-2006

Field visit at Chonburi Waste Disposal Center

Bang Sao Thong Municipality has coordinated with Chonburi Waste Disposal Center to initiate field visit about solid waste management in order to encourage community environmental awareness. Community representatives, mostly community committees from ten neighborhoods, living in Bang Plee New Town were brought to see and learn how environmental management is done. However, Bang Sao Thong Municipality unworthily conduct the field visit because it is mega project on solid waste disposal, which community totally cannot implement at neighborhood scale. As one member exposed

"I don't understand why Bang Sao Thong Municipality brings us to see this stuff. It is useless for us regarding its scale. This disposal factory cannot be done by community."

Some said "This is the field visit that Bang Sao Thong Municipality wants to spend the budgets because the expenditure year is likely to close. It is not the first time bringing us elsewhere under many seminar issues, societal consolidation, education, and now under the name of environments, in order to waste all money despite we've never learned from field visit. It likes more or less having vacation together. Believe me; nothing would happen after the field visit. People do what they always do. Environment remains poor as it is."

What we could understand is Bang Sao Thong Municipality misunderstood the point bringing community people to see and learn things that they could impossible start by themselves to protect their environment. Bang Sao Thong Municipality wants only to show that it has done something regardless the effective and beneficial results which communities would obtain.

Partnership of the application project has begun

After having been informed about what the application project was going to initiate, involving partnership comprises of the application project, the municipality, National Housing Authority and 201-Community organization. Each has been contributing on what it is suitable and applicable to carry on the project. For instance, the application project provides fund for 12,695 USD²³⁰ to undertake solid waste management programme in the targeted neighborhood. Bang Sao Thong Municipality allocates resources for community capacity building such as training the community for waste separation, granting for field visits. National Housing Authority allows community to utilize the land plot as recycling center and small-scale composting site. And, 201-Neighborhood, core project implementer, contributes labor and operates the project.

08-05-2006

Small and Medium Community Enterprise (SMCE) Training

²³⁰ 1 Euro = 1.30 USD at the stage that this research has been conducted.

Formal community enterprise, by Ministry of Agriculture and Cooperatives under Samut Prakarn Branch Office has been promoted to 201-Community since it has been undertaken informally as community-based occupational group, which so called 'Mushroom group'. The main activity is small-scale mushroom plantation, organized by 201-Community organization, and locally merchandized. The profit from the activity has been utilizing for community's social welfare, such as funeral, health and public service purpose. From this beginning, the Agricultural and Cooperatives Office were to initiate training to Mushroom group to upgrade its business to become formal community enterprise according to the current government policy. The aim was to build community organization's capacity to run the business, at least, at the level that the business could maintain its genuine expenditure²³¹. This includes several items for example, how to manage accounting system, how to enhance the market, how to formally set up the cooperative system, and how to organize it to be more profitable and efficient.

10-05-2006

the application project team observes 201-Community to assess the potential for demonstration project

The application project sent the evaluation team to investigate the research site for tentatively settling the project. The team has advised the neighborhood committees preparing ground work such as where the project location is about to settle waste recycling center and composting site, manpower and task distribution among community organization staffs, scheduling the project, how to involve and demonstrate other neighborhoods for project replication. The 201-Neighborhood has also presented their idea regarding how to involve the dwellers to participate in the project. For instance, 201-Community Working Team for Environment (CWTE) would integrate such activity to saving activity, which they have already and continuously carrying on. The working team hopes that the number of saving members would increase due to this activity since formerly; the dwellers are inactively and are not disciplined saving the money. And if the project idea aims to promote better environmental condition and recyclable waste has already been valued. On the other hand, the dwellers could either deposit recyclable waste or cash and both are counted. Therefore, environmental condition betterment regarding solid waste could go hand in hand with community network enhancement. The application project team has commented that this project could be the very successful and tentatively be a good demonstration, which the project could promote elsewhere, not only in Thailand for replication, but also in Southeast Asian region where community-based environmental management could be an alternative to promote environmental betterment.

08-06-2006

Field visit at Wat Klang and Poonbampen Community for 'Garbage bank'

8 from 14 communities in Bang Plee New Town project has been underpinned for environmental management activity from Bang Sao Thong Municipality by providing the vehicle for field visit. Its aim was for community to learn from others about solid waste and wastewater management. On the other hand, Bang Sao Thong Municipality plans to apply waste separation unit as undertaking at Poonbampen Community at Bang Plee New Town by launching in pilot community. The field visit was contacted by the researcher.

At Wat Klang Community, it illustrated on how community initiated solid waste management programme there. The programme started by 'Garbage bank' where some of community committees learned from other communities elsewhere.

At Poonbampen Community, the group of Bang Plee communities has learned about holistic environmental management. The activity there includes community-based wastewater management and solid waste management. For solid waste management, it includes both recyclable and organic waste management. Organic waste from household were to be composted for fertilizing purpose, meanwhile, recyclable waste has been separated and merchandized. The profit returns to community as community welfare and as stocks for the members. The community organization at Poonbampen manages the recyclable waste as non-profit activity.

11-06-2006

Undertaking the application project (Community-based solid waste management in Bang Plee New Town)

The project was approved underpinning 201-Neighborhood for 8 months. Its framework was about to promote community-based solid waste management focusing on 2 implementations - the former is about recyclable waste separation and to formulate neighborhood garbage bank and the latter is about organic waste management, degradable waste composting derive from the neighborhood. The aim of the application project is not to solve the actual environmental problems, but to demonstrate the idea of community-based solid waste management regarding to gender equality in order to be able to replicate the project's idea elsewhere. The application project and the other local partners²³² will support for resources such as labor cost, necessary equipments, training, and facilities. The project was introduced to all community committees to prepare organizing team and the location. The taskforces had been mandated among the members of working team as well as its schedule.

The system of recyclable waste collection was outlined together among committee members and the application project leader about the collection schedule, the designated place for waste disposal, and the task and competencies of waste collectors. For its schedule, the garbage bank would operate twice a week, every Wednesday and Sunday and all the gathered waste would be separated and sold immediately in the evening. Besides, nearby the mushroom house was designated doe waste separation unit, the light-weight steel structure with roof and enclosed wiring-grid sieves. Inside, there are 5 buckets for different types of recyclable waste. When the working team member collects/buys recyclable waste from the dwellers, they could have two options either they would get cash in return or save it at the garbage bank as members of 201-Neighborhood savings group. Simultaneously, the designated place for composting activity is in the neighborhood garden along the pond. There are two composting sites and each is 4 sq.m large by one meter-height enclosure. The degradable waste would be initially derived from committees household since it is demonstration project. The crucial step is to broadly inform and bring about the sympathy to cooperate from the inhabitants, especially garbage bank activity. The representatives from each lane would be mandated to promote and announce information about the activity. The project injected more incentive approach for the inhabitants. It stepped forwards from waste donation to waste mechanization activity and the dwellers could gain surplus in return. Therefore, by the activity, community organization would get the small profit that would be spent on organizing cost for instance labor, administrative, and maintenance cost.

²³¹ Nowadays, Mushroom group undertakes the business by volunteer-based, which the labor cost has not been accounted.

²³² It includes the National Housing Authority and the municipality.

From sustainability point of view, the project could start running mechanism by the project's resource injection and the activity sustains itself from the surplus obtained from mechanization. The recyclable waste merchandizing activity performed itself as a middle man between buying/getting waste from the inhabitant households and the junk shops/ waste entrepreneurs, to whom community organization sells recyclable waste. However, the current waste buyers, 'Sa-leng' were still doing their job. The working team could be understood that it is the current waste pickers' competitor. That's somehow true, but at least the application project hopes the benefits return to the neighborhood rather than to the outsiders. At this stage, the system was not yet fully functioned. More on training and strategic planning required regarding efficiency and sustainability or at least to ensure that the activity would mechanize itself when the application project is withdrawn. Two teams were set for the activity - the former team is responsible for waste separation, merchandizing and banking and the latter team is responsible for degradable waste composting. Some comments had been reflected from the meeting audiences as following:

'I really appreciate the project activity and I'm sure that Bang Sao Thong Municipality would support it, but since the conventional way is that Bang Sao Thong Municipality collects. And one day, we claim that waste count valuably. Don't they think that we are lying? How can we communicate to the inhabitants to make them understand the activity and its objectives?'

The next discussion oriented on many technical topics such as the price list for each type of waste identified, how the money and when it would return if one sells it, and in which form either cash or savings? Even, it is about how to bring trust among the inhabitants who participating the activity and to make them believe that the community organization would honest.

The outcomes from the meeting were 1) the detail price list of each type of waste that community organization would buy, 2) the working hour of the bank and 3) the manpower allocation who push the cart. The first month would deal with the construction activity. It included 2 composting buckets and a waste separation unit.

The question reminded the researcher that the activity has been based and undertaken only among the committee members. It is not participated the inhabitants either they are not interesting in or they have been detached by the committees or even by the 'Us and Them' barrier. The community committees were worrying that the dwellers would misunderstand and think that community organization gains interest over the project, and they think that the better mean to communicate is by mouth to mouth and formal informing letter and the best is to show up or an exemplar. The committees finalized that the procedure would step by step by being started from small group and gradually expand the activity rather than at first beginning huge. By the way after 8 months, the activity would have to stabilize the mechanism and incentive when the application project pulls itself out.

23/24-06-2006

Training for mushroom business development

16-07-2006

Meeting for preparing and organizing staffs/task forces for coming the application project

The project implementer introduces the idea of community-based waste management to community committee and, community organization members have delegated what the community has to organize and arrange in order to equip it. The intervention at first is to prepare the requiring facilities focusing on recyclable waste activity and waste mechanization. The facility for waste separation unit was finalized as a wiring-enclosed shelter, 2.5X4 sq.m. Other supportive equipment is the three-wheeled pushcarts. Besides, the facility for waste composting was two composting-buckets. They are about to undertake simultaneously. The shelter design items, such as size, height, dimensions, and materials had been discussed and negotiated among the members regarding budget framework which what 201-Neighborhood has proposed requiring to be readjusted in term of dimensions and functions.

Later on, Aunty Pensri had elaborated over the recent practice - including amount of sold waste and the staff taking care of the activity. The mandatory has been delegated among the members into 3 different duties - they are waste collecting team (first team), waste separating team who stationing at the shelter (second team) and accounting team (third team). The first team would collect and purchased recyclable waste from door to door three times per month, while the second team would afterwards rebound from the first team for separation. The third team would operate twice a month, waste-selling day (Wednesday and Monday), when the waste entrepreneur could immediately buy it from community organization.

Members were programming the waste collecting system. The issues addressed were about to parallel deploy both waste banking system and merchandizing system, which the dwellers could choose whether which one they prefer. One of the members said.

"At the beginning, the savings dwellers would tentatively join garbage banking activity, while the group of renters would not since they have had no trust to us. But, our aim is that later on they would be the garbage banking members by getting savings account instead of money since we address social welfare incentive."

The achievement of the activity is, therefore, the longer collecting, the more members participating in garbage bank, and the less monetary form of waste merchandizing. If today, it spends 500 THB each round to buy recyclable waste, tomorrow it should be less. Book bank would be at hand whoever wants to be the member and one could claim for money in the same token as ordinary book bank by financial institute. 201-Neighborhood has conducted various community development activities. Its organizing mechanism has done via the representative form each lane.

Another competency required to be equipped was about how to promote such activity in inhabitants' recognition. Some of the members have argued that since there is much tangible facilities and obvious outputs, therefore they have not widely communicated to the neighborhood people. This issue should wait until the tangible outputs such as waste recycling shelter, composting site, and the pushcarts are figured out, which can be done later.

The schedule for each tea, waste collection, separation and accounting was figured out at least twice a week of operation including the team staffs- 3 women for waste collection, 2 women for waste separation and accounting.

23-07-2006

Preparing the shelter for recyclable waste

The project starts from constructing the shelter for recyclable waste generated in 201-Community. The shelter is separated into 6 parts for different type of wastes; glass, plastic, aluminum, paper, and steel. At the same time, the interview with the small-scale waste buyers, middle-age woman and man, were conduct. They explained their biography and details in waste entrepreneur as followings;

Woman: *I have been in this career for 10 years in Bang Plee New Town. Formerly I used to do other home-based business, a small delivering bakery. Not have been living here before, I was about to purchased an accommodation since the beginning of Bang Plee Newtown. At the time, I haven't yet moved in here, but have monthly paid since my business was running so good. After 3-4 years, in 1992 political revolution, it had been declined rapidly until I've lost. Therefore I have to figure out other business. Finally it came up as waste buyers because I've known that it's valued. Normally, I didn't pick, but I buy from the shops. I have also permanent clients in each lane. I start working for 8.00-11.00, while resting at noon. In the afternoon I separate it until 16.00, and then I sell it to the junk shop. The revenue was so satisfied, around 500-600 THB per day, but nowadays it has been not that much regarding many new competitors. Now it is only 300 THB a day. Mostly the wastes are plastic bottles, paper, all the things I would account for.*

Man: *I have been in it for one year. Formerly I used to work in the factory and it was boring and routine, therefore I've quitted.*

30-07-2006

The construction of shelter starts: grading the floor

01-08-2006

The shelter has further been constructing

The shelter for waste recycling activity, one of the application project's facilities, has been constructed by community-based labors who are most men in 201-Neighborhood. Its six-categorized spaces were prepared for different types of recyclable waste; paper, aluminum, steel, plastic, and glass. They would be stored within two week for maximum and then would be sold to local recyclable waste entrepreneurs or junk shops.

05-08-2006

The shelter is almost completed and the construction of composting site is started

14-08-2006

The composting site is finished

Two composting sites, each contained four cubic meters of neighborhood organic waste, are finished after a week and start operation. Each could monthly compose; therefore it would be functioned month after month.

The detailed working plan and procedure about the opening ceremony had been discussed. This event would invite not only the representatives from Bang Sao Thong Municipality and National Housing Authority but also the representatives from the project, the main supporter as well as other community representatives. It was about to tackle the detail in that event in order to communicate to other stakeholders and up-scaling to other communities aiming for replication. Details include the preparation of savings document, book bank, etc. as much as a documentary presented to concerned stakeholders. 201-Neighborhood agreed to launch the opening ceremony in October 2006. Besides, the community organization members were about to participate training programme in organic composting by earthworm method²³³ conducted by The Royal Project. It could technically underpin community organization capacity regarding waste management. Having been the members of savings group, some participants integrate recyclable waste savings. Since today, some current members have already saved rather than to get cash. The account book for recyclable waste savings has detached from existing savings. Baseline surveys, socio-economic mapping and questionnaires have been conducted to prepare neighborhood data base which would be beneficial for setting strategies regarding waste management. Leaflets and flyers have also been distributed to reperussion the activity since the environmental-care activity has shifted from volunteer-based to incentive-based activity.

13/14-09-2006

Training programme of organic composting by using earthworm method

08-10-2006

Monitoring of the application project progress

The research has been monitored on the application project progress in order to report the financial owners about all activities having been carried out. Due to degradable waste composting activity, the composting site has already been readjusted since the community organization wants to experiment on the earthworm composting method. Therefore the roof and an extended bucket are required. However the activity has not been taken off yet. On the other hand, due to recyclable waste mechanization, it has been gradually widespread in term of covering area. Nowadays, the working team had promoted the activity to every lane and the waste in each would be collected/bought weekly.

By the way, Mr. Vichit, community organization vice president, has been questioned whether this activity is sustained regarding the project's financial subsidy for labor. He elaborated;

"I turn to partially disagree with the application project subsidy for labor cost, for the collectors, separators, and accountant. Besides, I'm wondering that money could easily bring community conflict and only exploit the people habits. What if the other development activities do not pay for labor cost? Do the people still willing to contribute their labor regardless of monetary

²³³ Organic waste composting by earthworm method is about to feed red earthworm with degradable waste. On one hand, organic waste could be eliminated by becoming earthworm's food which is degraded 6 times faster than conventional composting method, while on the other hand red earthworm could generate additional income to community organization regarding its current high demand.

returns. I'm sure that the application project will positive mind on income generation regarding the poor, but it brings also unexpected adverse impact"

One of the community organization members' spouses has also mentioned this point;

"I guarantee that after the application project has withdrawn from 201-Neighborhood, Only few members would continue the activity since there is no beneficiary for the implementers. And I don't think profit from waste mechanization would be able to take care of genuine labor expense. Most of the members carrying out the activity want wrap this money like a piece of cake, not by environmentally mindful. At the end of the day, who maintain the activity are only the persons frankly will to environment and neighborhood betterment, or the activity is terminated."

APPENDIX C
Outputs from relevant SPSS analysis and processing

Sex

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Male	199	40,4	44,1	44,1
Female	252	51,1	55,9	100,0
Total	451	91,5	100,0	
Missing	42	8,5		
Total	493	100,0		

Tenure status

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Owner-occupier	192	38,9	41,2	41,2
Permanent renter	181	35,8	37,8	79,0
Circulated renter	93	19,8	21,0	
Total	466	94,5	100,0	
Missing	27	5,5		
Total	493	100,0		

Level of assimilation

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Original group	170	34,5	40,0	40,0
Assimilated group	142	28,8	32,6	72,6
Circulated group	124	25,2	27,4	
Total	436	88,5	100,0	
Missing	57	11,5		
Total	493	100,0		

Original homeland

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Central region	110	22,3	30,3	30,3
Northern region	24	4,9	6,6	36,9
Northeastern region	179	36,3	49,3	86,2
Southern region	7	1,4	1,9	88,2
Bangkok	36	7,3	9,9	98,1
Samut Prakarn	7	1,4	1,9	100,0
Total	363	73,6	100,0	
Missing	130	26,4		
Total	493	100,0		

Plan of moving out

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	111	22,5	36,0	36,0
	No	197	40,0	64,0	100,0
	Total	308	62,5	100,0	
Missing		185	37,5		
Total		493	100,0		

How long would it take from now on?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	146	29,6	49,8	49,8
	No	146	29,6	49,8	99,6
	Total	293	59,2	100,0	
Missing		201	40,8		
Total		493	100,0		

Occupation

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Self-employed	73	14,8	16,4	16,4
	Private employee	339	68,8	76,0	92,4
	Civil servant	8	1,6	1,8	94,2
	Others	25	5,1	5,6	99,8
	Total	446	90,5	100,0	
Missing		48	9,5		
Total		493	100,0		

Average income per household

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than 200 Euros/month	208	42,2	46,5	46,5
	201-400 Euros/month	183	37,1	40,9	87,5
	401-600 Euros/month	34	6,9	7,6	95,1
	601-1,000 Euros/month	7	1,4	1,6	96,6
	More than 1,000 Euros/month	15	3,0	3,4	100,0
	Total	447	90,7	100,0	
Missing		46	9,3		
Total		493	100,0		

Have you and your family occupied habitat as production unit?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	149	30,2	31,0	31,0
	No	331	67,1	69,0	100,0
	Total	480	97,4	100,0	
Missing		13	2,6		
Total		493	100,0		

Have you separated waste before disposing?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	204	41,4	46,7	46,9
	No	233	47,3	53,3	100,0
	Total	437	88,6	100,0	
Missing		56	11,4		
Total		493	100,0		

For what purpose, you separate?

		Frequency	Percent	Valid Percent	Cumulative Percent
	Only for disciplined disposal	112	22,5	39,0	39,4
	For selling	173	35,1	60,3	99,7
	Total	287	59,2	100,0	
Missing		208	42,2		
Total		493	100,0		

Frequency for waste separation

		Frequency	Percent	Valid Percent	Cumulative Percent
	More than three times per month	52	10,5	23,5	23,3
	Couple of times in a month	29	5,9	13,1	34,4
	Once a month	140	28,4	63,3	97,7
Total		221	44,8	100,0	
Missing		272	55,2		
Total		493	100,0		

How do you sell the separated waste?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Waste buyers at the doorstep	169	34,3	73,8	73,8
	Walk to the junk shop	16	3,2	7,0	80,8
	Others	41	8,3	17,9	98,7
	Total	229	45,8	100,0	
Missing		267	54,2		
Total		493	100,0		

Do you know that waste is valued and tradable?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	378	76,7	89,2	89,2
	No	46	9,3	10,8	100,0
	Total	424	86,0	100,0	
Missing		69	14,0		
Total		493	100,0		

What make you do not separate the waste?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Complicated	54	11,0	17,8	17,8
	Unworthy	23	4,7	7,6	25,4
	Time consuming	80	16,2	26,4	51,8
	Complicated and Unworthy	3	,6	1,0	52,8
	Complicated and time consuming	26	5,3	8,6	61,4
	Unworthy and time consuming	10	2,0	3,3	64,7
	All reasons	18	3,7	5,9	70,6
	Others	89	18,1	29,4	100,0
	Total	303	61,5	100,0	
Missing		190	38,5		
Total		493	100,0		

Do you think the environmental conditions better comparing to last 5 years?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Better	188	38,1	44,7	44,7
	Same	171	34,7	40,6	85,3
	Worse	62	12,6	14,7	100,0
	Total	421	85,4	100,0	
Missing		72	14,6		
Total		493	100,0		

What else encourage you interested in waste separation?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No for any reasons	10	2,0	2,8	2,8
	If worthy and it is run by community organization	10	2,0	2,8	5,7
	If worthy and run by Bang Sao Thong Municipality and community organization	9	1,8	2,6	8,2
	Others	71	14,4	20,2	28,4
	If it is profiteer	69	14,0	19,6	48,0
	Bang Sao Thong Municipality steers waste separation promotion and insert some incentives	21	4,3	6,0	54,0
	Community organization steers waste separation promotion and insert some incentives	60	12,2	17,0	71,0
	Bang Sao Thong Municipality and community organization coordinate with each other for waste separation	87	17,6	25,1	97,4
	2+3	9	1,8	2,6	100,0
	Total	352	71,4	100,0	
Missing		147	29,8		
Total		493	100,0		

Which organizations will you trust in efficient solid waste collection and management?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Bang Sao Thong Municipality	44	8,9	10,6	10,6
	National Housing Authority	13	2,6	3,1	13,7
	Community organization	26	5,3	6,3	20,0
	Bang Sao Thong Municipality and community organization	56	11,4	13,5	33,4
	All the stakeholders' cooperation	275	55,8	66,1	99,5
	Total	416	84,0	100,0	
Missing		79	16,0		
Total		493	100,0		

Do you prefer to have community organization promoting waste separation and merchandizing programme?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	306	62,1	82,7	82,7
	No	49	9,9	13,2	95,9
	No comments	15	3,0	4,1	100,0
	Total	370	75,1	100,0	
Missing		123	24,9		
Total		493	100,0		

How does the waste problem be eliminated?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Only Bang Sao Thong Municipality is the solution	28	5,7	7,1	7,1
	Environmental awareness program, such as waste reduction for	166	33,7	42,2	49,4
	Other organization should have participated	137	27,8	34,9	84,2
	Others	62	12,6	15,8	100,0
	Total	393	79,7	100,0	
Missing		100	20,3		
Total		493	100,0		

Number of garbage bank members distributed among each lane in 201-Neighborhood

Month	Number of members (households)	Percentage	Cumulative members (households)	Percentage
July	4	9.09	4	9.09
August	2	4.54	6	13.63
September	13	29.54	19	43.18
October	9	20.46	28	63.63
November	5	11.36	33	75
December	6	13.64	39	88.63
January	4	9.09	43	97.72
February	1	2.72	44	100
Total	44	100	44	100

Note: The record is between the Middle of August 2006 to the End of March 2007

Change in amount of waste before and after the project intervention in 201-Neighborhood

Lane number	Average weekly waste disposed (pre-intervention) (liters)	Average weekly waste disposed (post-intervention) (liters)	Waste reduction (liters)	Waste reduction (%)
Lane 1	3732,98	3316,67	416,31	11%
Lane 3	1480,85	1350,00	130,85	9%
Lane 5	1411,44	1375,00	36,44	3%
Lane 7	1557,98	1375,00	182,98	12%
Lane 9	1766,22	1158,33	607,89	34%
Lane 11	4080,05	3133,33	946,72	23%
Total	14029,52	11708,33	2321,19	17%

Amount of waste (kgs) sorted by types collected by 201-Community organization

	Dec-05	Jan-06	Feb/Mar-06	Apr-06	May-06	Jun-06	Jul-06	Aug-06	Sep-06	Oct-06	Nov-06	Dec-06	Jan-07	Feb-07	Mar-07	Apr-07	May-07	Jun-07	Total		
	Kg	Kg	Kg	Kg	Kg	Kg	Kg	Kg	Kg	Kg	Kg	Kg	Kg	Kg	Kg	Kg	Kg	Kg			
Paper	Cardboard	-	-	19.00	7.80	4.00	12.50	7.00	32.00	205.40	221.10	350.00	242.90	281.60	150.60	214.90	333.30	322.70	114.10	2475.60	
	Paper	-	-	17.50	15.50	0.00	4.80	0.00	2.00	86.10	147.10	129.10	104.10	194.50	140.00	301.60	342.50	204.50	40.15	1691.65	
	Newspaper	-	-	1.00	0.00	1.00	0.00	0.00	0.00	57.00	77.50	13.50	104.40	34.50	27.50	124.20	90.10	54.80	12.50	596.00	
	Paper box	-	-	0.00	0.00	13.50	0.00	0.00	4.00	23.00	44.20	57.60	33.40	18.40	6.80	21.80	17.30	8.20	6.90	241.60	
Plastic	PET	-	-	8.50	7.50	3.50	6.00	3.50	6.40	52.80	54.70	59.90	74.80	70.90	31.70	39.60	124.80	48.50	42.70	610.30	
	PE	-	-	3.50	2.00	0.80	3.40	4.20	10.50	6.70	10.00	18.70	19.30	23.00	20.00	19.30	19.50	16.90	7.70	175.80	
	PP Plastic	-	-	14.70	9.50	5.00	9.00	1.50	7.80	86.80	89.80	92.50	54.00	83.40	38.40	80.00	95.30	79.40	43.20	752.10	
	ABS+PS Plastic	-	-	0.00	0.00	0.00	0.00	0.00	0.00	13.00	49.50	12.00	5.80	44.90	9.70	4.80	14.10	22.80	13.30	189.90	
	PVC	-	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.50	0.00	0.00	0.00	0.00	0.00	1.00	0.00	5.50	
Glass	Packed bottles	-	-	185.00	196.00	190.00	285.00	25.00	245.00	1015.00	1500.00	1550.00	1795.00	1885.00	1495.00	2665.00	4485.00	1340.00	1995.00	19995.00	
	Glass	-	-	163.00	7.00	119.00	114.00	182.00	50.00	1302.30	2152.70	1627.00	1601.20	1213.50	716.50	1112.60	2689.00	1777.90	1396.20	15820.90	
Metal	Aluminum	-	-	0.70	0.80	0.00	0.80	0.23	0.40	8.10	3.90	13.40	6.91	11.86	8.23	9.29	9.88	12.97	9.63	94.80	
	Steel	-	-	17.00	0.00	0.00	0.00	0.00	0.00	42.10	138.00	160.70	47.00	212.50	67.40	66.40	108.20	36.50	96.80	975.60	
	Stainless	-	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.50	0.50	0.50	0.00	0.00	0.30	1.90	0.00	5.70	
	Zinc	-	-	0.00	4.50	0.00	0.00	0.00	0.00	1.00	12.50	8.00	1.30	0.00	5.80	0.00	0.00	0.00	0.00	3.20	31.80
	Tin	-	-	9.00	0.00	5.30	12.00	0.00	1.00	2.00	36.30	47.70	9.50	11.50	13.90	10.00	55.50	8.50	7.20	203.10	
Others	-	-	46.00	0.00	9.00	0.00	0.00	0.00	0.00	41.20	24.60	14.70	79.50	119.90	190.80	471.80	354.75	121.20	16.60	1435.05	
Total	0.00	0.00	484.90	250.60	351.10	447.50	223.43	359.10	2942.50	4563.90	4159.80	4179.61	4205.96	2922.33	5141.29	8739.53	4057.77	3805.18	46834.50		

Amount of income generation from recyclable waste entrepreneurship by 201-Community organization during Dec 05-Jun 07

	Dec-05	Jan-06	Feb/Mar-06	Apr-06	May-06	Jun-06	Jul-06	Aug-06	Sep-06	Oct-06	Nov-06	Dec-06	Jan-07	Feb-07	Mar-07	Apr-07	May-07	Jun-07	Total	
	Baht	Baht	Baht	Baht	Baht	Baht	Baht	Baht	Baht	Baht	Baht	Baht	Baht	Baht	Baht	Baht	Baht	Baht	Baht	
Cardboard							21.00	96.00	616.20	663.00	1050.00	728.70	844.80	451.80	644.70	1166.55	1129.45	399.35	7811.55	
Paper							0.00	8.00	344.40	588.40	516.40	104.10	194.50	140.00	301.60	342.50	204.50	40.15	2784.55	
Newspaper							0.00	0.00	171.00	232.50	40.50	313.20	103.50	82.50	372.60	270.30	164.40	37.50	1788.00	
Paper box							0.00	40.00	230.00	442.00	576.00	334.00	184.00	68.00	218.00	346.00	164.00	138.00	2740.00	
PET							49.00	89.60	739.20	765.80	838.60	1047.20	992.60	443.80	554.40	1747.20	679.00	596.80	8543.20	
PE							67.20	168.00	107.20	160.00	299.20	270.20	332.00	280.00	270.20	273.00	236.60	107.80	2571.40	
PP Plastic							12.00	62.40	694.40	718.40	740.00	324.00	500.40	230.40	480.00	571.80	476.40	259.20	5069.40	
ABS+PS Plastic							0.00	0.00	39.00	148.50	36.00	17.40	44.90	9.70	4.80	14.10	22.80	13.30	350.50	
PVC							0.00	0.00	0.00	16.00	20.00	0.00	0.00	0.00	0.00	0.00	6.00	0.00	42.00	
Packed bottles							28.75	281.75	1167.25	1725.00	1782.50	2260.00	2388.00	1904.00	3404.00	5743.00	1731.00	1795.00	24210.25	
Glass							136.50	37.50	976.73	1614.53	1220.93	800.60	606.75	358.25	556.30	826.50	515.60	393.10	8043.29	
Aluminum							9.20	16.00	324.00	156.00	536.00	294.50	478.00	311.00	361.00	408.50	487.00	358.50	3739.70	
Steel							0.00	0.00	294.70	966.00	1124.90	235.00	1062.50	337.00	332.00	541.00	182.50	484.00	5559.60	
Stainless							0.00	0.00	0.00	0.00	87.50	17.50	17.50	0.00	0.00	10.50	66.50	0.00	199.50	
Zinc							0.00	0.00	1.00	12.50	8.00	1.30	0.00	5.80	0.00	0.00	0.00	3.20	31.80	
Tin							0.00	2.00	2.00	36.30	47.70	9.50	11.50	13.90	10.00	55.50	8.50	7.20	204.10	
Others							0.00	0.00	1510.60	1240.40	854.70	120.50	289.65	525.15	1152.63	601.00	300.00	118.00	6712.63	
Total bought	0.00	0.00	0.00	0.00	0.00	0.00	323.65	801.25	7217.68	9485.33	9778.93	6877.70	8050.60	5161.30	8662.23	12917.45	6374.25	4751.10	56358.67	
Total sold	521.00	1252.00	960.00	837.00	497.00	822.00	597.00	0.00	4962.00	10652.00	12487.00	5906.00	12269.00	12605.00	12390.00	14600.00	12511.00	2202.00	106070.00	
Net profit	521.00	1252.00	960.00	837.00	497.00	822.00	273.35	-801.25	-2255.68	1166.67	2708.07	-971.70	4218.40	7443.70	3727.77	1682.55	6136.75	-2549.10	49711.33	