THE GOVERNANCE OF WATER IN LOCALITY AND COMMUNITY PARTICIPATION:
A Study of Community Level Institutions in the Provision of Drinking Water in
Hanoi, Vietnam

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ABSTRACT

Community level institutions have been increasingly recognized as promising agents for service provision because of their demand-responsive and participatory approaches to unaddressed practical needs in developing countries. Whether considered governance actors complementing and/or compromising public and private sector water service provisions, or as primary providers responsible for inventing and governing their own water supply system, community level institutions are intriguing research topics. Existing literature emphasizes determinants of effectiveness, efficiency, and sustainability of infrastructural systems created and managed by community governance. The existing literature, however, has not sufficiently explored community level institutional building processes related to essential service enhancements for local people, piecemeal capacity building, nor the building of local governance.

This qualitative study of Co Nhue commune, Hanoi municipality, Vietnam (where drinking water service is the point of entry) answers the two questions: (1) How did the commune form and implement water supply system construction and management? (2) To what extent did the commune’s collective efforts foster capacity building and local governance processes? Adopting this non-conventional service provision pathway informs community capacity building processes, enhancing relationships between residents, local government, and other organizations.

Strong local leadership, envisioning community betterment, established and developed Co Nhue’s water supply project. Accordingly, community level institutions can act as service providers with (i) local government support, (ii) dedicated management team members and effective institutional arrangements, (iii) creative and enthusiastic leadership of local institutions, and (iv) participation and support of local civic organizations and water users. However, many constraints challenge the system’s endurance: institutional changes including leadership changes, unstable staffing, ineffective regulatory enforcement, free-riders, and opportunistic behaviors of institution members; limited technical capabilities, incompetency, and limited managerial inexperience of institution staff; lack of local government supervision; and unwillingness of public utilities to provide support.
The study also indicates that this non-conventional pathway in water provision potentially contributes to building and enhancing local capacity and governance. However, the end result of the community program, which was often documented as unsustainable, led to mixed perceptions of success and failure both within the community and by external actors.
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<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>ADB:</td>
<td>Asian Development Bank</td>
</tr>
<tr>
<td>AusAID:</td>
<td>Australian Government Overseas Aid Program</td>
</tr>
<tr>
<td>BCC:</td>
<td>Business – Cooperation – Contract</td>
</tr>
<tr>
<td>BOO:</td>
<td>Build – Operate – Own</td>
</tr>
<tr>
<td>BOT:</td>
<td>Build – Operate – Transfer</td>
</tr>
<tr>
<td>Cau Giay WSF:</td>
<td>Cau Giay Water Supply Factory:</td>
</tr>
<tr>
<td>CBS:</td>
<td>Community-based Organizations</td>
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<tr>
<td>CIDA:</td>
<td>Canadian International Development Agency</td>
</tr>
<tr>
<td>CPC:</td>
<td>Commune People’s Committee</td>
</tr>
<tr>
<td>DANIDA:</td>
<td>Danish International Development Agency</td>
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<tr>
<td>FINIDA:</td>
<td>The Finish International Development Agency</td>
</tr>
<tr>
<td>HWBC:</td>
<td>Hanoi Water Business Company</td>
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<td>INGOs:</td>
<td>International Non-governmental Organizations</td>
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<td>JICA:</td>
<td>Japan International Cooperation Agency</td>
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<tr>
<td>NGOs:</td>
<td>Non-governmental Organizations</td>
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<td>PMU:</td>
<td>Project Management Unit</td>
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<td>PPP:</td>
<td>Public – Private Partnership</td>
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<tr>
<td>SIDA:</td>
<td>Swedish International Development Cooperation Agency</td>
</tr>
<tr>
<td>UFW:</td>
<td>Unaccounted-for Water</td>
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<tr>
<td>UN-Habitat:</td>
<td>United Nations Center for Human Settlements</td>
</tr>
<tr>
<td>UN:</td>
<td>United Nations</td>
</tr>
<tr>
<td>UNDESA:</td>
<td>United Nations Department of Economic and Social Affairs</td>
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<tr>
<td>Acronym</td>
<td>Full Form</td>
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<tr>
<td>UNDP</td>
<td>United Nations Development Programme</td>
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<tr>
<td>UNECE</td>
<td>United Nations Economic Commissions for Europe</td>
</tr>
<tr>
<td>USAID</td>
<td>The United States Agency for International Development</td>
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<tr>
<td>VND</td>
<td>Vietnam Dong</td>
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<td>WMU</td>
<td>Water Management Unit</td>
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CHAPTER 1: INTRODUCTION

1.1. Problem Statement and Background of the Research

The global crisis of insufficient service provision in urban areas has been viewed as a threat to human development, especially in developing country contexts in light of accelerated urbanization trends; therefore the crisis has been highlighted in the agenda of the national governments, international donors, bilateral development agencies, research institutions, and the scholarly community. The fundamental challenge of the crisis, as revealed and widely recognized, does not rest on technical capacity or resource scarcity, but issues of governance such as political will, institutional capacity, civic engagement, or partnerships between public and various non-public actors (Hardoy, Mitlin, and Satterthwaite 2001; McIntosh 2003; UNDESA, UNDP, and UNECE 2003). Defined as the “sum of ways through which individuals and institutions plan and manage their common affairs” (UNDP 2001: 90), the notion of governance involves a process where decisions are made and implemented. This notion refers to the engagement, interactions, relationships, partnerships, and networks of multiple stakeholders with diverse objectives, including but not limited to civil society, the state, and other non-state actors for securing optimal services. The process also involves differences in power relations and requires efforts in the coordination, decision-making, dialogue, negotiation, and consensus building among various agents (UN-Habitat 2001; Laquian 2005; De la Harpe undated). Although the notion of governance in the provision of urban services operates differently in empirical research, it conveys that the provision and management of services, i.e., water supply, is not limited to the dominance of the state (Bakker 2008; Chhotray and Stoker 2009). In addition, the discourse emphasizes power relations and interactions between engaged actors in the production, provision and management of services as well as in other aspects of urban development.

1 In its definition of governance, UNDP highlights ‘citizens’ in the relationship with other stakeholders/groups. (UN-Habitat 2002)
Planning scholarship regarding service provision governance since the 1980s has emphasized the leading role of the state as a principal gate keeper, enabler, facilitator, and/or partner with other agents, e.g., the private sector (Ostrom 1997) or civil society (Korten 1984; Evans 1997; Douglass, Ard-am, and Kim 2002; O’Rouke 2004). Others have discussed the shrinking role of the state, the state’s retreat, and the state’s institutional failures in infrastructure development and service provision because of a deficit of resources and finance, poor performance of public utilities in billing management, over-staffing, and inadequate planning strategies. In addition, there have been calls for an institutional reform of the state sector, the private sector’s participation (Rich 1982; Carino 2002; Gutierrez 2003a, 2003b; UN 2003; UN-Habitat 2003; O’Rourke 2004; Allen, Dávila and Hofmann 2006; Bakker 2010), and public-public partnerships (Hall et al. 2009; Boag and McDonald 2010).

Since the early 1990s a relatively large number of studies have focused on the increased role of the private sector in infrastructure development and service provision in the face of the state’s retreat and inefficiency (Idelovitch and Ringskog 1995; Earle 2001; Esguerra 2003; Gutierrez 2003a, 2003b; World Bank 2003; McDonald and Ruiters 2005; McGranahan and Satterthwaite 2006). Others have focused on the private sector’s drawbacks, including its failure in addressing practical needs of economically vulnerable groups and securing financial investment in infrastructure development for essential services (Finger and Allouche 2002; Budds and McGranahan 2003; Esguerra 2003; Gutierrez 2003b; Lobita and Hall 2003; UN-Habitat 2003).

At the same time, remarkable attention has also been given to various forms of community governance in water resource management, water infrastructure development and provision, and the conditions needed for successful planning and implementation of those forms. The foci were on the revelation of both the state’s and market’s failures, the advocacy for social justice principles, sustainable planning principles, people-centered planning development, social learning, and deliberative planning, which are continuously intellectually debated, and practically adopted in the implementation of planning (Dunn Jr. 1984; Friedmann 1984; Korten and Klauss 1984; Stone and Webster Consultants 2002; Bakker 2008).

Community level institutions and/or community-based initiatives, as a new form of governance in urban service provisioning, have been broadly examined in the context of community planning and development in the developing countries. Many of the research/projects have concentrated
on cases of its emergence in areas of resource accessibility and management planning (Isham and Kähkonem 1999; Ostrom, Schroeder, and Wynne 1993; Agrawal and Gibson 1999; Madrigal, Alpízar, and Schlüter 2011). Others have highlighted varied forms and illustrations of community participation for housing upgrading in informal settlements and slums and other infrastructure, environmental service improvements, and economic development alleviating social distress (Yeng and McGee 1986), i.e., Kampung Improvement Program in environmental improvement and sanitation in Indonesia (Komalasari 2002), Wolgoksa-dong, South Korea (Douglass, Ard-am, and Kim 2002), sanitation program in Orangi, Karachi, Pakistan (Hasan 1990; Hardoy, Mitlin, and Satterthwaite 1992), water supplies in Dar es Salaam, Tanzania (Kyessi 2005) and in Dhaka, Bangladesh (Cavill and Sohail 2004; Akbar et al. 2007), and community public toilets in Pune, India (UN-Habitat 2006).

Community level institutions can emerge in the form of self-help/self-sustained organizations in which community members collectively work to address a common pressing issue (Kyessi 1999). However, community level institutions involved in water supply and other social and infrastructure service provision are basically established in association with the involvement of the local government and/or other external agents/intermediaries including international agencies, i.e., the World Bank (Narayan 1995; Keener, Luengo, and Baherjee 2010; Isham and Kähkönen, 2003), World Health Organization, United Nations Children Fund, (Crow, Swallow, and Asamba 2012), the UN-Habitat, the Asian Development Bank (Das 2009) and other non-governmental organizations (Lammerink 1998; Kwashie 2010). The management and maintenance tasks, in many cases, devolved to community-level institutions and the local government under decentralization policies, emphasizing the roles of locally based agencies increasing accountability and responsiveness to local demands and needs (Parkinson and Tayler 2003).

Community level institutions have been increasingly recognized as promising agents for service provision because of their demand-responsive approach to address the un-met practical needs of a great number of people, including economically vulnerable and under-privileged populations of developing countries (Yap 1993; Satterthwaite, McGranahan, and Mitlin 2005). For example, community-managed water supplies in rural Kenya significantly contributed to reducing the work of women and girls by facilitating home garden and livestock production, in addition to
securing water for the local residents (Crow, Swallow, and Asamba 2011). According to the scholarly literature, community level institutions that are arranged, operated, and managed via collective action uncovers potential for participation, deliberation, collaboration, and capacity building of local level communities in developing and securing services. The process of building and operating the local institutions potentially fosters and generates awareness and experience in community planning, community capacity building, social capital, and sense of community (Midgley 1986) in addition to the interactions among local actors that rests on principles of equity, inclusiveness, and sustainability (Moretto 2005; Satterthwaite, McGranahan, and Mitlin 2005). The emergence of community-based institutions also reflects a pragmatic response at the local level to deficiencies and ineffectiveness of public and private institutions, as mentioned (Yeung and McGee 1986; UN-Habitat 2003; UN-Habitat 2006). There is a common perception that people have to work collectively because neither the public nor the private sector is able to extend water services to their communities. This perception has guided empirical research focusing on (i) the significant role of local communities in securing water services and addressing pressing local issues for planning and social development, (ii) criticizing the lack of state capacity, and/or (iii) demonstrating reaction to the market-based institutions for not serving poor and disadvantaged populations (Jaglin 2002).

Whether considered as a governance actor that complements and/or compromises the public and private sector provision of water services, or as a provider that takes primary responsibility for inventing and governing their own water supply system (Choguill 1999; Burns, Williams, and Windebank 2004), community level institutions have become a topic of inquiry in numerous studies. The existing literature review has placed emphasis on the effectiveness, efficiency, coverage, and the sustainability of infrastructural systems created at the locality. Carter, Tyrrel, and Howsam (1999) highlighted that community participation does not necessarily lead to the success of community-based programs. They also indicated the causes of breakdown or non-sustainability of these programs, such as failure to raise sufficient capital to cover operation and maintenance costs, community members’ lack of sense of ownership of the new infrastructure, a failure to materialize benefits promised at the outset of projects, and instability and lack of participant accountability in the system management unit.
Another set of research, i.e., Narayan’s (1995), Isham and Kähkönen’s (1999), Doe and Khan’s (2004), Prokopy’s (2005), and Commins’ (2007) has stressed the role of users’ participation in the effectiveness of community-based infrastructure development projects. Doe and Khan (2004) pointed out the correlation between the active participation of prospective users in decision-making on service design and operation, i.e., attending meetings and labor/capital contributions, and the effectiveness of performance of water projects in Central Java, Indonesia and in Ghana. Additionally, while Isham and Kähkönen (1999) emphasized the establishment of transparent decision-making rules, capacity of the local water committees, and diverse levels of social capital factors, Doe and Khan (2004) in contrast highlighted characteristics of community, e.g., population size, household size, age of household heads, and occupation of household heads as determinants of the effectiveness of community-based water projects.

Das (2009) also examined the impact of underlying factors of contextualization, relations among the management committee of the infrastructure system, users, and the local government, and the participation of women, that make contributions to the effectiveness of community-managed water projects in three cities in Madhya Pradesh, India. Das concluded that institutional arrangements, the direct partnership arrangement between the water management committee and the local government agency, can facilitate or hinder the capacity for community level collection action. More specifically, the water management committee’s capacity affected the committee’s relationship with the local government while the government agency’s capacity in working with poor communities could make the service provision at the locality more effective. In addition, Das (2009) also highlighted the essence of women’s participation in the project, although this factor was not the major determinant to the effectiveness of the project.

A number of other studies attempted to correlate the endurance of the project and the application of a demand-responsive approach. In their analysis of community-managed water supplies in various developing countries Sara and Katz (1998) and Gross, van Wijk, and Mukherjee (2001) concluded project sustainability and viability was higher if projects were formulated based on user need or demand-responsive approaches. Doe and Khan (2004), Commins (2007), and Marks and Davis (2012) also emphasized that the importance of sense of ownership in local community. Their findings suggest that beneficiaries of the community projects have
responsibility, authority, and control over the development of such services, contributing to the project sustainability.

Among factors determining the performance of drinking water community organizations in rural Costa Rica, Madrigal, Alpízar, and Schlüter (2010) focused on institutional arrangement issues, especially the capacity and accountability of water committee members. They concluded that the dynamic interaction of a set of working rules, e.g., operational rules of the system, constitutional rules in the establishment of the system management unit, and local accountability, as well as the capacity of local leaders were associated with the effectiveness of community-based infrastructural systems. Madrigal, Alpízar, and Schlüter’s findings (2011) partly echoed Sara and Katz’s (1998) and Isham and Kähkonem’s (1999) statement regarding the impact of the community institution arrangement factors, particularly the operational rules of water user groups, on performances of the community management unit.

The emergence of community level institutions in water supply originates from the unmet needs for essential services at the locality regardless of causes. It illustrates a new form of governance – community governance (Bakker 2008; 2010) in service provision and environmental improvement at the locality in addition to or in place of the state-led (public institutions) and the private sector participation. The goal of a community level institution is determined through a participatory collective effort for the development of local infrastructure and enhancement of service provision. However, the process of implementation to achieve that set goal requires the cooperation of various segments and individuals in the community, which represent the community’s diverse interests and socio-economic groups. A community level institution was formed with governing authority to facilitate the operation and maintenance of the community water system and to sanction community members for non-compliance with the institution’s rules and norms (Ostrom 1990; Ostrom, Schroeder, and Wynne 1993).

This form of governance, during its stages of formation, evolution, and maintenance, requires meetings, communicative deliberation, discussions, debates, and even confrontations among community members and between the community institution and external agencies. Normatively, a community level institution opens up an opportunity for community residents to interact, increasing the likelihood of stakeholder bonds. The emergence of this institution at the local level also opens up decision-making processes to community residents and other engaged social
actors (Chhotray and Stoker 2009). Although collective action might not guarantee the success of the service provision, these engaged residents and actors experience a social learning process through joint effort. Because community governance requires embracing collective efforts and collaboration in decision-making, this form entails a trust building process and fosters local reciprocity and mutual assistance among community members (Midgley 1986; Douglass, Ard-\textit{am}, and Kim 2002; Carpenter, Daniere, and Takahashi 2003; Ostrom and Walker 2003) that increases the likelihood of community social capital formation. Community members gain knowledge and experience by participating in planning processes and institutional building for infrastructure systems and by interacting with the local government and other engaged stakeholders, including external institutions that provide financial and technical assistance, i.e., funding agencies and non-governmental organizations (Isham and Kähkönen 1999; Das 2009; Madrigal, Alpízar, and Schlüter 2010).

The community-based service provision literature focusing on how the direct engagement of community level institutions in service delivery has impacts on community capacity building, community development and the formation of local governance has not been well examined. In other words, the existing literature has not yet paid adequate attention to an examination of the community level institutional building process in relation to not only the enhancement of essential services for local people, but piecemeal capacity building as well as the construction of good local governance. To what extent does a population become more engaged in community activities and decisions or more connected to others after experiencing self-governance and management of an environmental service, like piped water? How did they feel towards others from their lived experience? What did community members gain through working together to secure a service compared to working with a service provider, such as a public utility? To what extent do they perceive changes in their relationship to the local government after being involved in the operation and development of the local organization for a service provision purpose?

Theoretically, an in-depth description of the development, operation, and maintenance of an infrastructural system created by a community can reveal the purpose of community level institution arrangements and factors that contribute to the success or failure of locally based water provision systems. It is believed that the study will better inform planning implications for the significance of practicing and supporting local collective action and community participation.
for the improvement of service provision at the community level and the building process of democratic local governance and community development.

Examining a case study of service provision at the community level (where drinking water service is selected as a point of entry) in a developing country context at Co Nhue commune of Hanoi municipality, Vietnam, this study proposes that the development of a community-based service provision like drinking water goes beyond the material purpose of water distribution. Throughout the process of building and operating a local water supply system, community residents have the opportunity to realize their existing assets, weaknesses and strengths and to build and/or enhance their community capacity. The operation, maintenance, and management of the local water supply system entail the establishment and performance of a local water committee and joint efforts between the local residents and government. This process facilitates the making of good governance at the locality.

The study explores the lived experience of Co Nhue community residents and other engaged stakeholders in the process of development and operation of a local water supply infrastructure. The case of drinking water supply in the commune of Co Nhue, Hanoi, Vietnam is illustrative of how the adoption of a non-conventional pathway of service provision at the locality not only influences the obtained service, but also informs community capacity building process and the relationship between community residents and their local government.

1.2. Research Objectives and Research Questions

Overall, what are the social impacts of community-based infrastructure efforts on the will and capacity of community members, on local governance, and on the success or failure of the infrastructure project. What lessons can planners learn about community-based service provision and the capacity for local community and local governance from the failed case of the Co Nhue commune in its efforts to develop and maintain a water supply infrastructure for the benefit of local residents?
1.2.1 Research goal

From a planning perspective this research aims to examine impacts of collective efforts in community level water supply in Co Nhue on the local capacity building and the making of local governance.

1.2.2 Research questions and objectives

The research was established to find answers to the following questions:

(1) How did the community of Co Nhue form and implement its collective efforts in its water supply project?

(2) To what extent did the collective efforts of the Co Nhue community contribute to its community building and the local governance process?

In particular, the research sets up three objectives to achieve the aforementioned goal:

(1) Objective 1: Examine the processes of the formation, operation, management, and demise of the community-based water supply in Co Nhue commune, Hanoi and the community level institution from the “lived experiences” of the local residents and perspective of other engaged stakeholders: the local government, grassroots organizations, and public utility of water supply.

(2) Objective 2: Analyze the extent to which the arrival of the Co Nhue’s community-based water supply project enhanced the community capacity building process. Community capacity building is examined via diverse and inclusive citizen participation, mobilization of resource, leadership development, bridging connections among local civic and grassroots organizations, and strengthened individual skills, such as (i) social skills (facilitation of meetings, collaborative efforts with others, addressing community members’ claims and complaints), (ii) decision-making capacity, consensus reaching ability, (iii) technical skills (capability to plan and implement the plan, maintain the system), and (iv) managerial skill.

(3) Objective 3: Examine the degree to which the process of developing and maintaining the water infrastructure system in Co Nhue commune, which entails interactions of various
local actors and external agents, influenced local community capacity building and governance.

1.2.3 Research propositions

The first proposition is that the arrival of the piped water infrastructure, collectively built by the government and residents of Co Nhue, demonstrates their ability to work together in bringing piped water services to the commune and thus creating the precedent in addressing future pressing issues in the community.

The second proposition is that Co Nhue leaders and citizens might not aim to develop the community capacity in their collective efforts in building a water infrastructure and service provision project originally. In the processes of construction, operation, and maintenance, however, the commune’s involved citizens, leaders, and agencies had the opportunity to develop and use managerial, technical, social and human skills, as well as to practice planning, public deliberation, citizen participation, collective decision-making, and network bridging, which positively influenced capacity building for individuals, internal organizations, and the continuity of community building. The built water infrastructure system was not sustainable, but the lived experience of the engaged local residents, government, and organizations provides them with invaluable lessons on resource mobilization, collaboration, leadership development, community organizing and planning, and self-confidence in the ability to collectively build their community and change their own future.

The third proposition is that regardless of the outcome, the emergence of the community based collective efforts in water service provision in Co Nhue facilitates a governance building process at the locality. The project connects the local government to local residents and other grassroots organizations, providing them with the experience of responsibility sharing, mutual accountability and decision-making, and inclusive leadership through the development and implementation of the community water supply project.
1.2.4 Organization of the dissertation

The report is composed of seven chapters. Chapter 1 provides an overall introduction to the research with descriptive problem statement, research objectives, and research questions.

Chapter 2 reviews the literature pertinent to this dissertation research and inquiry. This chapter aims to provide a deeper insight into existing concepts and theoretical discussion on community governance in infrastructural service provision, including water services. The selected literature particularly concentrates on the body of research specifically relating to community level institution building, decentralization of service provision and role of the local government, and community-based service provision and community capacity building.

Chapter 3 focuses on the research design approach and methodology. The chapter starts off with an introduction to case study method, how Co Nhue was chosen as a site for this research, and justification of the case selection. In the subsequent section of the chapter, the research conceptual framework was built as a guideline for the research analysis, which will be presented in chapter 5 and chapter 6 of the report. Lastly, the chapter includes a presentation of the research methodology adopted for data collection, a discussion about the reliability of data, as well as the data analysis used in the research.

Chapter 4 presents a contextualization of urban development and service provision in Vietnam in which the Co Nhue community governance of water supply stems from. The chapter highlights the contemporary political culture of Vietnam that facilitates participatory governance through local democracy and the call into the participation of various agents, actors, and stakeholders in the provision of urban services.

Chapter 5 provides an in-depth description of the study site – the community of Co Nhue – in Hanoi, Vietnam. The chapter starts off with an introduction to the community profile before depicting the process of establishment and performances of the community water system. The chapter also underlines factors contributing to the success and failure of the system over a decade of development and operation.
Chapter 6 presents an analysis of the degree to which the community water supply system in Co Nhue contributes to the community capacity building and influences the local governance, which features the collaboration between the local government and the community residents.

The conclusion chapter, chapter 7, presents a summary of the research questions, objectives, and methodology, followed by the research findings and a discussion of how these findings emphasize or supplement the existing school of thoughts on community governance and its role in water supply. Subsequently, there is a discussion of policy implications for planning in the context of Vietnam along with study limitations and its suggestions for future research.
CHAPTER 2: LITERATURE REVIEW

This chapter provides insight into existing theoretical discussions that are relevant to the research questions, goals, and objectives. The selected literature focuses on the body of knowledge on decentralization of service provision and the role of the local government as well as community-based service provision and community capacity building.

2.1 Community Building Efforts in Service Provision

Community residents play an important role in participatory service provision and management projects, whether as a service provider or a client (Harvey and Reed 2007). Community members can directly and indirectly engage in planning, implementation, and maintenance stages (Akbar, Minnery, Horen, and Smith 2007). Community members, local organizations, and the local government can collaboratively work with public utilities to co-monitor and maintain services in the locality as a partner. As a client, the community can contribute to making the process of service provision more efficient and effective by providing feedback and evaluation on issues related to the quality of service, quantity of supplies, billing, and responsiveness to customers’ requests.

Within many settings in developing countries when public utilities and corporate systems are not available, local communities may have to take primary responsibility in inventing and developing an infrastructural system of service provision. In the form of self-help or self-reliance, community members decide on the goals that need to be accomplished for the community, plan, and implement them to achieve these goals.

Either in the form of partnerships with other service providers (e.g., the state government and private sector) or self-determination, the involvement of local communities in urban service provisioning reflects more than just the process in which individuals or local organizations are engaged in community activities. Some forms of community participation, such as ‘contribution,’ ‘collaboration,’ ‘partnership,’ and ‘self-determination,’ for example, theoretically enable local community residents to break the dependency culture on the government and the
market to meet their own needs (Choguill 1999; Burns, Williams, and Windebank 2004). Along this line, local communities are encouraged to be self-assertive to pro-actively address their pressing service related issues without waiting for assistance and patronage from the government.

Practically, the form of self-determination/self-help in the context of many low-income and informal settlements (Akbar et al. 2007; Burra, Patel, and Kerr 2003; Jaglin 2004; Winayanti and Lang 2004), was assessed as reactions of these communities to the ignorance and lack of accountability of the government in providing public utilities for the multiple publics. On the other hand, these programs have been viewed as local initiatives reflecting efforts, capacity, and willingness to take action of communities for their own well being. Self-determination/self-help has proven successful and vital in terms of being able to provide direct and practical solutions to immediate needs for many socially excluded people neglected by the government/corporate system (Burn and Taylor 1998). This implies a community building process and determination.

In addition, this form of participation is a learning process for community members in successfully designing and operating a service system in the community. Residents have to go through the process of learning technical design, construction, and infrastructure system maintenance that are most appropriate given their context (including physical and economic feasibility and cultural adaptation); institutional and financial management and infrastructure system monitoring; effective facilitation of multiple publics and mitigation of conflicts among sub-groups with diverse interests within a single community; collaboration with voluntary and other civic organizations; and communication with local government and/or public agencies (even when they are not very supportive). Compared to other forms of community participation in service provision, the community-based infrastructure system better reflects the demands and preferences of local residents for particular types of service. Additionally, another theoretical advantage of this model is that it facilitates empowerment and representation of local people as well as sustainability of the infrastructure system (Jaglin 2002).

Although community-based institutions are an agent for infrastructure development and service provision (Yap 1993) especially in the developing world, this model might result in “substantial health risks, seasonal inflationary spirals and speculative mechanisms which penalize particularly the most vulnerable households” if inadequately organized and regulated (Jaglin
2002: 243). For example, water infrastructure projects exploit groundwater uncontrollably and without oversight causing land subsidence, while others that lack biological and chemical treatment technology might lead to serious health risks. Another concern is that reinforcing and instituting a community-based water supply to create dynamic local water markets could over-romanticize the role of community participation in water infrastructure development, disregard the inefficiency and irresponsibility of the government system, and preserve “two-tier” service (Jaglin 2002; Bakker 2008, 2010).

Empirical findings on the performances and effectiveness of this form of governance reveal mixed results. Not every community is capable of self-organizing, managing, and maintaining its own service system, or managing the system which had been constructed with some support from outsiders, i.e., international non-governmental organizations (NGOs), individuals, civic organizations, and/or the local government. Reasons for ineffective and unsustainable governance are insufficient financial resources, lack of capacity to garner support from within and outside the community, incapable leadership, lack of sense of ownership, inadequate technical support, inadequate post-project support, lack of adaptability and adjustment to contextual changes, and issues relating to the community-based model institutional design and management.

Financial management is important for a sustainable community-managed water supply system. Schouten and Moriarty (2003), Harvey and Reed (2007), Bakalian and Wakeman (2009) reveal that communities can address many aspects of basic supply management, but struggle with asset replacement. Bakalian and Wakeman (2009) also indicate that most communities encounter poor financial management. More specifically, Kyessi (2005) stresses the role of effective cost recovery mechanisms on community-based projects’ effectiveness. Kyessi notes that insufficient cost recovery mechanisms cause the collapse of community-based projects. In his research on community-based urban water in fringe neighborhoods in Dar es Salaam, Tanzania, Kyessi indicates the need for a cost recovery mechanism to recover costs for operation and maintenance, otherwise the infrastructure system will not be sustained. He argued that regardless of whether the water system was built from within the community or by outsiders, the system needed to be sustained by having a cost recovery financial system in place. Echoing Kyessi’s (2009) study, Whittington et al.’s study (2008) of rural water supply systems in 400 communities in Bolivia,
Ghana, and Peru also concludes that many of the systems are not financially sustainable in the long term and that one (system) might not be able to be replaced at the end of its economic life because cost recovery mechanisms adopted by those systems only covered the operating and maintenance costs.

Lack of capacity to garner support from within and outside of the community, incapable leadership, and inadequate technical know-how also affect the sustainability of community-managed projects. WaterAid Tanzania (2009) reports that community members were basically unable to make decision on technology choices, management options, and payment systems and prices for their water systems due to lack of experience in seeing different options in practice. In their assessment of the sustainability of twenty randomly selected community water supply projects in Kandy District in Sri Lanka, Mimrose, Gunawardena, and Nayakakorala (2011) concludes that inadequate training for operators of the community water systems, poor performances of the community based organization leaders resulted in poor consumer satisfaction and unwillingness to sustain the community water systems. Thus, the study recommends a capacity building program in combination with an institution arrangement to provide supporting services for increased community project sustainability. Harvey and Reed (2007) reached similar conclusions when they analyzed the reality of sustainable rural water supply in Africa.

Participation and levels of contributions of cash and labor have also been identified as factors affecting the effectiveness and sustainability of community-based projects. Evaluating 121 completed rural water supply projects in 49 developing countries (using data across projects and within the lifetime of individual projects), Narayan (1995) reveals that beneficiary participation contributes significantly to project effectiveness. Similarly, Prokopy (2005) also examines the relationship between participation and rural water supply project outcomes in 45 villages in India, and gives more specific conclusion that households’ participation in the decision making process contributed to the project’s success. Although, the research does not find a significant impact of capital cost contribution, Prokopy suggests that such projects should continue to encourage both contributions and the participation of households in decision making for better positive outcomes.
It is argued that the relationship between sense of ownership and the participation of beneficiaries affects community-based water supply project outcomes, though empirical findings also show mixed results. While Narayan’s study (1995) shows local ownership and control is highly correlated with overall levels of beneficiary participation, Maks and Davis (2012) suggest a more nuanced relationship between participation and ownership feelings as different levels of capital cost and labor contributions from households may impact households’ sense of ownership as well as the water system sustainability.

The community-based and -managed infrastructure model has limitations impacting their long term sustainability. These systems are often described as being small in scale, using cheap and less durable materials, and serving a limited group of beneficiaries. In “Scaling up community management of rural water supply,” Lockwood (2004) suggests that because the community-based model has its own limitations, it is unreasonable to expect communities with disadvantaged and marginalized segments to effectively manage and sustain the infrastructural system. The author suggests that the model needs effective institutional support structures in order to be sustainable. Because communities are diverse in their population structure and play an important role in the local governance structure, one model that works for one community might not work for another. Kyessi (2005: 23) also concludes that “low cost water supply options are [only] feasible up to a certain density level… beyond this, other options have to be explored.” Moriarty et al. echoes Kyessi’s conclusion when stating that “the sort of success that traditionally practiced community management can provide is no longer in line with the rising expectations of users, their governments or the global community” (2013: 330). Thus, they recommend that an enabling professional environment be created for a service delivery approach. Amerasinghe (2009) suggests considering a strong government-community synergy model (Evans 1996) or the involvement of outsiders, e.g., non-governmental organizations.

Reasons for the ineffectiveness and (un)sustainability of this form of governance, according to Ostrom, Schroeder, and Wynne (1993), lie in major institutional issues which emerge during the development, operation, and maintenance process of production and provision: (i) institutional building process (how rules are set up and made; elimination and mitigation of a wide range of transaction costs incurred from the operation and progression of the institution), (ii) contextual factors (capturing the relevant local time and place information, necessary for the development
of infrastructure project in the locality; capacity of a local community), (iii) the expectations of
addressing the issue of equity to bring benefit to all, (iv) sustainability of the institution, and (v)
support of the state.

**Institutional building process of the community-based service provision:** Ostrom Elinor,
dedicated to scholarship in institution building, perceived and indicated the difficulty of the
building process of an institution regardless of the preparedness of the community and engaged
people. Ostrom (1990: 210-211) wrote: “designing and adopting new institutions to solve
common pool resource problems are difficult tasks, no matter how homogeneous the group, how
well informed the members are about the conditions of their common pool resource, and the
level that the the generalized norms of reciprocity are ingrained. Given the strong temptations to
shirk, free-ride, and generally act opportunistically that are usually present when individuals face
common pool resource problems, overcoming such problems can never be assured.” The
statement of Ostrom in regard to the difficulties embedded into the institutional building process
indicates that any attempts to arrange for a community-based institution for infrastructural
development and service provision should anticipate challenges, not only in the process of
institutional formation, but also in operational and maintenance processes.

The first challenge is finding the way to provide a “set or sets of perverse incentives” (Ostrom,
Schroeder, and Wynne 1993: 8) for people in the locality so that they actively organize
themselves to build and finance new infrastructural systems and services in their areas.
Convincing local people of this rather than being dependent on the government’s provision of
services to collectively work together to address their own needs for infrastructure and services is
far from easy. Their actions must start from within. Collective action can be inspired by a good
cause. However, in most empirical cases overall community efforts have to be driven by demand
for themselves or the community’s development as a whole.

Providing incentives for community residents to actively participate and be accountable to others
and for outsiders, such as NGOs, civic organizations, and the state, to financially and technically
contribute to the institutional building, operation, and maintenance is a separate challenge.
Ostrom (1990) and Ostrom, Schroeder, and Wynne (1993) suppose that residents and
officials/leaders weigh benefits and costs strategically before making institutional decisions.
They are also concerned about the platform(s) that will be created or offered for their participation.

Another challenge in the institutional building process is the development of rules to govern and facilitate the operation and maintenance of the institution. Rules are made to: protect the institution members from intruders; punish violators and other opportunist(s); address the full range of transaction costs, including information, coordination, negotiation, and monitoring, that significantly harm the operation of the institution; provide incentives encouraging every member to accomplish his/her own task in a timely manner and appropriate fashion; and be accountable to others in the institution (Ostrom, Schroeder, and Wynne 1993). Any operational and maintenance activities of the community-based institution requires well-tailored rules to self-monitor its members and eliminate/punish free-riders. Rules also need to be enforced to eliminate any rent-seeking behaviors, corruption, or nepotism of those who hold disciplinary power in the institution. The most challenging work in rule making and the institutional building process is creating a design that “tends to generate substantial information rapidly and accurately and allows for the changes of rules over time in light of performance” and this, according to Ostrom (1999: 4), is “more likely to be successful than those resulting from “grand designs” for societies as a whole.”

**Ensuring equity for all beneficiaries** in a community is another challenge faced by the community-based institution in designing, operating, and monitoring the infrastructure. If the institution rules and norms only allow those financially or manually contributing to and participating in the institution’s activities and show their compliance to agreed upon rules, some segments in the communities, especially vulnerable and underprivileged groups that have little resources or time to contribute will be excluded. In a normal sense, ensuring equal accessibility to services provided by a community institution could be based on one’s contribution. Community members of each institution have to agree upon their own rules stipulating how contributions need to be made and how services will be distributed among the members. One institution might set up a principle upon which a member receives service corresponding to the portion of contribution s/he makes. Another might use a cross-subsidy principle upon which better-off members can contribute more to cover the cost of service for others who are economically vulnerable and poorer and not able to equally contribute as regulated. In my
opinion every member of a community institution should be equally provided with a chance to get access to services, even though the volume and the quality of services they receive, obtain, or appropriate might not be similar compared to other segments in the community. Practical experiences from case studies reveal that poor people who probably have the most to gain through collective efforts are the least involved in the management of these local systems because of resource and time constraints (Schouten and Moriarty 2003). Findings of Ibem’s study (2009: 1930) also show that: “community residents who could not meet with their financial obligations to the organizations risk the confiscation of their personal and family property, as well as exclusion from community activities.”

Ostrom, Schroeder, and Wynne (1993) highlight the importance of equitable treatment in creating sustainable capital infrastructure and have suggested using fiscal equivalence and redistribution principles to assess the equity of institutional arrangements for infrastructural services. Fiscal equivalence refers to the equality between contributions to an effort and the benefits derived from those contributions. Fiscal equivalence implies recipients of a service should endure the cost of that service (regardless of their socio-economic status.) Those who gain or obtain greater benefits from the service provision are expected to pay or contribute more to offset the service costs. One who selects to apply this principle in evaluating equitable treatment of an institution would disregard the differential ability to pay of users. Unlike the fiscal equivalence, the redistribution principle underlines the basis of differential abilities to pay. The redistribution principle permits provision of subsidized service to poorer individuals those who have less abilities to pay. In some settings, like Dhaka, Bangladesh the community service provider came up with the cross-subsidy initiative to support those who are in the most need of water without adequate means to appropriate despite not being members of the group. These people are the poor and other vulnerable segments in the community. The cross-subsidy initiative in the form of community subsidy vouchers was provided for the poorest of the poor or disabled persons, with the decision made by either the community or the water provider (Akbar et al. 2007).

**Achieving a goal of institutional sustainability:** Maintaining and sustaining the community-based governance of infrastructure systems is significant, especially in the context in which other governance actors show their ignorance in meeting the needs of local people for infrastructure
and services. The sustainability of the community level institution is influenced by incentives given to engaged stakeholders, the mitigation of wide range of transactions costs mostly incurred in the operation process, internal relations among sub-groups in the institution, and financial availability.

Ostrom, Schroeder, and Wynne (1993: 213) supposed that “the set of incentives confronting multiple actors involved in the design, finance, construction, operation, maintenance, and use of infrastructure” is a single underlying cause of (un)sustainability of many infrastructure projects in the developing world. A major element of the set of incentives is the benefit-cost calculations of both individuals and public officials when engaged in the development and management of infrastructural services projects/programs. Free-riders, incentives to engage in rent-seeking by local authority leaders and the system operator, and disregarding the use of local place information, local community engagement, and enforcement and/or sanction of community institutional rules are other factors determining the sustainability of many infrastructure projects.

The community level institution could be sustainable if transaction costs, occurred during processes of institutional arrangement and operation, are minimized and mitigated. These costs are associated with the engagement of various groups/actors. For this reason, it is claimed that too much participation and negotiation among involved actors actually negatively affected the effectiveness and efficiency of the service system. Ostrom, Schroeder, and Wynne (1993), thus, call for more attention on minimizing the costs of transformation, coordination, and information exchange during institutional design and operational process.

Internal relations within sub-groups in the community institution also have substantial impact on the institution’s sustainability, especially during the operational process. This process entails issues such as: communication between users and their committees, the enforcement of rules, the management of the system, social conflicts between groups of service users, and equitable access to services for the underprivileged group. To make the community institution work properly, the institution leaders have to be provided skills in organizational management, human relations and communication, in addition to learning technical know-how (Schouten et al. 2003). Ostrom, Schroeder, and Wynne (1993) add that it is a substantial challenge for the community level institution to mitigate and minimize transactions costs while simultaneously counteracting potential strategic behaviors emerging from within.
The infrastructural service provision system, constructed by communities, is usually small in size, simple in design, and decided on utilizing cheap materials for the purpose of cost minimization or reduction. Given the low cost of the initial investment, the system is designed and built for a limited number of users and sometimes for a short duration of utilization. As the institution will be driven by contextual changes, such as population increase, pollution, degradation of natural resources, changes in administrative system, and the government policy and planning, the sustainability and vitality of the community level infrastructural systems in most cases is uncertain. There is a probability that the infrastructural system built by community level institutions might be incorporated into a larger one (in size and scale), operated and maintained by public utilities. Another possibility is that the community-based system will be demolished and replaced with a new and modern one, constructed and operated either by the government or corporation, so that a larger population group can be served; this happens in the context in which the government does not actually support the community-level infrastructural service provision. Even though the community system is static and will not be competing with others, the system is still subject to collapse and deterioration under the context of increased population density and increasing decline and degradation of (natural) resources.

Ibem’s research (2009) concerning 144 community groups finds that “community infrastructure provision approaches may not be viable for certain categories and scale of infrastructural projects, such as large scale or capital intensive projects.” (130) The author specifically names piped water supply as an example of a large scale and capital intensive project that for community-level institutions are likely to be unviable because community members, especially in the low-income/slums or informal settlements, usually face and suffer from financial scarcity. Therefore, a lack of financing is another impediment to the extension of coverage by the community infrastructural service system and its sustainability.

Ostrom, Schroeder, and Wynne (1993) perceive that there are no perfect institutions. If an existing community-based institution does not work effectively for any reason (failing to achieve economic efficiency, equity, accountability, adaptability, and keeping minimal cost in production and provision of services), there is a necessity to redesign the existing institutional arrangement to enhance its performance towards expected outcomes, and more importantly to sustain the infrastructural system which was already constructed. The redesign process might involve
changing existing rules, especially those that do not encourage and/or improve the behavioral incentives of both the insiders and the outsiders, i.e., external donors, NGOs, entrepreneurs, or civic organizations. The redesigning process might also entail changes in leadership of the institution (either an individual or a group). As the process of infrastructure/services development and maintenance involves diverse population groups and individuals, for those with different perceptions, preferences, and expectations of benefits and costs embedded in the process there will be considerable transaction costs (negotiation and confrontation). Hence, the redesigning process is a huge challenge to re-build and sustain the institution.

2.2 Role of The Local Government and Local Dynamics in the Governance of Service Provision

Theoretically, local government is expected to play an important role in the operation and sustainability of community-based institutions. The state can stimulate and safeguard infrastructure systems built by local collective efforts. Nevertheless, the state also can prevent these systems from being constructed or intervene to bring them down. When the arrangement and operation of self-governance in infrastructure construction and service provision in the locality receives support from the local government, i.e., without restrictions, facilitating and enabling the institution operation (Singleton 2000), or partnering with the community to cooperatively meet the needs of the local people for adequate infrastructure and availability of indispensable environmental services, the system is subject to better financial investment, technical support, and viability. On the contrary, if the system is ignored, or even worse, disapproved by the local government, it is highly subject to being removed and replaced. Discussing the role of the government in regard to the arrangement and sustainability of the community-based institution, Ostrom (1999: 3) wrote:

“Self-governing entities may exist as an enclave in the midst of highly authoritarian regimes. This may not be a stable solution, but self-governance provide opportunities to develop productive arrangements for those who establish trust and reciprocity backed by their own willingness to monitor and enforce interpersonal commitments. If the macro structure is not hostile, or even supports and encourages self-organization, what can be accomplished by small private and public enclaves can be very substantial… Productive, small scale self-organization, however, is difficult to sustain over time in a larger political
system which tries to impose uniform rules, operates through patron-client networks, or uses terror to sustain authoritarian rule. Having vigorous local and regional governments and many types of voluntary associations is part of the answer, but not sufficient in and of itself.”

The role of the local government becomes more important as decentralization policies and implementation have been promoted in many developing contexts. Decentralization has been seen as a means of breaking the power of the central government, devolving the decision-making and financial authority to the local government (Litvack, Ahmad, and Bird 1998). Decentralization provides the local government with opportunities to become more responsive and accountable to the needs of local residents/service users, if it intends to provide infrastructure services effectively (World Bank 1995). Decentralization also creates substantial impacts on dynamic governance in the locality when promoting opportunity to the private sector (Bond 2008), private citizens, and civil society (non-governmental organizations, community organizations, advocates, and others) to participate in the delivery of services as the state’s partner or a single provider (Spencer 2008a).

When the state is no longer the principal actor, it can act as an “enabler,” a “facilitator,” and/or a “partner” in association with the private sector and civil society. As an enabler, the state should work in the background to create a favorable environment where the private sector and civil society can make their own creative and innovative contributions (Osborne and Gaebler 1992; cited in Caroni 2002: 113). In this role, the state is required to understand and take advantage of other agents to compensate for its limitations and pitfalls in a collaborative manner. The state is expected to provide the legal and regulatory platform and political framework where various sectors and entities can plan and function. Additionally, the state commits to regulation by rule of law in order to ensure politically accountable decision-making and a fair judicial system. In reality, the state in this enabling role could either be highly restrictive (setting up a restrictive system, regulations and framework), regulative (setting up broad parameters within which other agents and/or entities can operate) or supportive (setting up a broad corridor for collaboration with other agents, such as intermediary organizations, the private sector and community). Even under the best free market conditions (when the state retreats - the neoliberal state), the state will always play a necessary role of gatekeeper to regulate the entry of multinational private
companies and/or any other agents committed to providing public services to serve its citizens (Gutierrez 2003a, 2003b). As a facilitator, even though the state may not be directly involved in the production and provision of water services, it is required to facilitate those processes. Basically, its role would be to harness available resources in assisting other actors, such as (i) providing information, (ii) providing technical advice and expertise, and (iii) piloting programs and project ideas from other agents, especially the private sector and community. In order to take on this role, the government needs to be more accountable and at the same time improve its capacity.

For the purpose of service provision in the locality, it is notable that within the state system, the effectiveness and efficiency of monitoring and management of water services demands an equitable geographical distribution of power, authority, resources, responsibility, and vision between different levels of the involved government agencies (Rich 1982). It seems doubtful that the responsibilities and authority for the provision of most urban environmental services generally, particularly water and sanitation, should ultimately be assigned to local government (ADB and EDI 1991). For countries experiencing weak and over dependent local authorities in relation to central government, the potential of decentralization is appealing and favored to encourage the responsive and accountable involvement of local authorities and agencies for the improvement of water and sanitation services provision (UN-Habitat 2003). Explanations for the incapacity of local government in urban services management mainly highlight: (i) weaknesses of local government structure and institutions, which are often under-funded and unrepresentative, (ii) economic vulnerability, and (iii) the unwillingness of higher levels of government to delegate local institutions the resources and revenue-raising powers they need to become more autonomous and independent.

The local government and community-based organizations (CBOs) are two major actors. Although each of the governance actors might play different roles, theoretically they both are accountable to local citizens/inhabitants. Although the agenda of CBOs could differ from that of

\[2\] Most states in the developing countries- are considered as guarantors, enforcers, and implementers of the right to access water by residents-simply do not have the capacity to deliver water service (Gutierrez 2003a).
the local government, CBO activities and programs in most situations relate to the local state. In the area of infrastructural facility development and the production and delivery of services, these two actors in local governance can work synergistically (Evans 1996) to improve the access to and quality of services for local citizens. In such state-community synergy (Evans 1997; Gupta, Grandvoinnet, and Romani 2004), the role of the local state is important because civil society partnerships, i.e., community-based organizations, also require the state to be supportive, accountable, democratically collaborative, and transparent. When partnering with community organizations, governments must implement their responsibilities, such as supporting community plans and enhancing the impact of their achievements in community initiatives in order to move towards expanded service coverage and ensure sustainability of the service.

Community-state partnerships emerge as a form of governance that emphasize the role of the state and particularly highlights the role of community in urban service provision and improvement. Evans (1997) considers the partnership as a synergy in which one actor reinforces the other’s strengths, while compensating for the other’s weaknesses. Similarly to Evans (1997), Allen, Dávilla, and Hofmann (2006) name this form of governance “society-centred” (since it is primarily concerned with the role of people in the civil society). These authors all emphasize that the state and community based organizations/citizens can collaboratively act and work as producers of urban services to better meet the needs of local inhabitants, especially the poor or those residing in unauthorized/informal settlements. Goss (2001) and Krishna (2003) also argue that when the state (local state, from their perspective) and community based organizations can work in support of one another, the performance of each actor may be improved. This synergy may also be realized when the state makes an effort in its interventions to break a top-down, bureaucratic manner through sectoral line ministries down to the local level in service delivery (Mehrotra 2006).

Empirical studies show that the local government of many cities in the developing world neither shows accountability to their citizens by ignoring the degradation of living environment and the need to provide indispensable services for many squatter communities nor supports these communities’ initiative in self-constructing and governing their own service systems. Exploring the reason behind this form of ignorance, Douglass, Ard-Am, and Kim (2002) describe that the state becomes more alienated with the squatter/slum dwellers in countries in which state-
community relationships are confrontational. The authors further add that: “when state and corporate interests combine over land development in Asia’s hyper-growth big cities, governments have targeted “illegal” squatter communities not for improvement but for demolition.” (42) This means when accountability to citizens is not the first priority of the state’s role, the chance for a local community to foster any form of self-constructing and governing system to maintain their living conditions becomes very slim. Burns (1998) names these ignored communities as subject to societal exclusion.

When discussing the reasons for the local government in not providing support for local innovative actions in service provision, existing literature has focused on matters of over-dependence of the local government on the central state and the former’s unwillingness to support community-based infrastructure systems. Specifically, if the local state remains weak in capacity, delegated authority, dependence in finance, and decision-making relative to the central government, then it cannot foster what is called authentic citizen-local government partnerships for service provision and other matters in the locality. In other words, the local state cannot assist and support any innovative actions developed from local communities. In addition, when local government staff and leaders do not foresee incentives for themselves in supporting community actions that improve the living environment or the enhancement of local residents’ access to urban services, they will not support those actions/programs (Ostrom et al. 1993). Moreover, if the emergence of those community-based actions potentially jeopardizes the power of the local government officials, the propensity of their giving support to community-based actions is very slim. In contexts where the local state only shows an upward accountability to the central government, local/community-based actions for access to service enhancement and environmental improvements have little chance of receiving its support.

Although infrastructure systems driven by community-based organizations have sometimes been criticized for being too small in scale, functioning poorly (Krisha 2003), low-cost investment, and failing to be sustained for a long period of time, their collective efforts, i.e., Wat Chonglom (Bangkok, Thailand) (Douglass, Ard-am, and Kim 2002) and Orangi Pilot Project (Karachi, Pakistan) (Hasan 1990; Hardoy, Mitlin, and Satterthwaite 1992) have already been highlighted as best practices, proving that CBOs can improve the locality. As the local governments in the above two contexts ignore the findings on these local achievements, these practical projects also
imply that CBO programs in urban environmental improvements and service provision would be more successful, viable, and sustainable for a longer period of time if they could have received support from the local government.

The community-state governance/partnership, under the aforementioned normative assumptions, recognizes the community-based organization as a stakeholder that can actively participate in the process and raise concerns about its own benefits in the locality. Community organizations can exercise their legal rights and incorporate their interests to reach a common ground plan with other involved actors/stakeholders, such as the state in this case (UN 2003).

In terms of considering the structure of the partnership, Krishna (2003) supposes that no blueprints will suffice for structuring the partnership between CBOs and the state in any given situation. Therefore, understanding the nature of the process that brings the two actors together in every actual case would be helpful in synthesizing different manifestations of the partnership, as well as identifying the role that each of the two plays. It is assumed that in the community-state partnership both actors share the same vision, make contributions to achieve a common goal, for example, upgrading and improving urban services for local communities. Also in this form of partnership, each partner is accountable to and respectful of the other. Both sides have to take responsibility for information and (labor and financing) resource sharing. However, issues of power relations between the CBOs and the state often emerge as a major challenge that might substantially affect the results of their joint work, if a partnership exists. Synthesized from practical projects in urban environmental improvements and infrastructure development, there are three forms of manifestation of the relations between CBOs and the local government.

The first form shows the strong intervention of the state in the provision of services in the locality. In other words, the state plays the role as a principal that determines the type of infrastructure, services that will be provided to the locality, and how the work will be done. The participation of CBOs in this form is very passive. Box 1 illustrates this type of “collaboration” through an example of the case of Kampung Improvement Program in Surabaya, Indonesia.
Box 1: Passive participation of CBOs and strong intervention of the state

In the case of Kampung Improvement Program (KIP) in Surabaya, Indonesia, community residents’ capacities and resources were mobilized to collaborate with the government at different levels in addressing a wide range of specific improvements at neighborhood/community level, from road and footpath upgrading, drains, water supplies, sanitary facilities, solid waste management and better social and educational conditions (Kenworthy 1997). Communities’ financial contributions to the program were matched with the integration of financial sources at various governmental levels (central, provincial, and local) and foreign loans (the World Bank, UNICEF, and UNEP) (Komalasari 2002). The results, however, were not sustainable; newly built toilets in many communities were abandoned or misused because the KIP program was not developed with the participation of local community members who are the direct beneficiaries. Instead, this was a top-down program with an extensive bureaucracy that reached down to the community level though appointed community leaders, controlled and monitored activities by the government. The local communities were not engaged in the design process. In her evaluation of the KIP programs in Bandung, Komalasari (2002) reveals: “much infrastructure built during the period of the KIP implementation in several Kampung in Bandung has broken down and is neglected by local communities. In addition, many sanitation facilities have become “a monument.” Kampung dwellers keep the facilities clean but they are reluctant to utilize such facilities due to cultural difference or technical instability. As a result, a huge investment of labor, time, and funds in infrastructure development has been wasted.” (2002: 46) It is claimed that there were connections between Kampung communities and the state at different levels, but the relations did not reflect the true meaning of Evan’s (1997) state-community synergy. The state set up a KIP committee at the community level and controlled most program activities, while community people were not given the opportunity to voice their ideas, be accountable to their work, and most importantly, the final results were definitely not what they had expected. This instance shows one form of community-state partnership with a high degree of the state’s control and intervention and passive participation of local community. The state also plays the role of primary provider – the principal actor with strong power that substantially undermines efforts and contributions of Kampung communities. Inevitably, the local communities had no influence in the development of this institution.

Uphoff (1986) supposes that the local government is usually the most promising foundation for initiating, developing, and maintaining the local infrastructure systems because it has a more assured financial base. The stability of resources is very crucial to the maintenance of such infrastructure systems, i.e., piped water. Capital costs for most infrastructure systems are substantial. For this reason, it is highly expected that the local government is be more accountable to every group in the community especially when a community is composed and characterized by heterogeneous populations.

In contrast to the first form, the second form shows the active engagement of CBOs to address important issues in the locality, while the local state does not show any interest and support. The
example in box 2 below illustrates the strong determination and commitment of local communities for the improvement of environmental services.

**Box 2: Active Participation of CBOs and the Ignorance of the Local State**

In this form, CBOs and community members take the initiative by self-designing, organizing and implementing programs, although without official approval and support of the local state as well as public utilities. For instance, without the support of local government, the environmental conditions in an informal settlement in Bangkok, Thailand were significantly improved by internal efforts of its residents. Comprising 180 households of long time residents in a slum complex on private land in southwestern Bangkok, the Wat Chonglom community confronted serious environmental problems because it lacked essential infrastructural services like access to water, electricity, and sewage. Because the community lacked political power, it was unable to obtain the local government support. Thanks to the initial investment of a $50,000 interest-free loan from Citibank, provided by two Mahidol University faculty, the community improvement program was launched at the end of the 1980s. Community residents collectively paved 624 meters of lanes in the community leading to improved community health and safety for its residents, promoted community economic development by designing and developing small shops, constructed community hall for children’s daycare center, upgraded housing to improve living conditions, created garbage collection program, and constructed a new drainage system connected to the city’s one (Douglass, Ard-am and Kim 2002). The successes of the Wat Chonglom community improvement program were gained without the involvement of the local government. The government did not provide any significant public resources for the community, ignored the community’s initiative, and had no response to the community improvement program. Government agencies only interacted with the community leader, who was selected from within, on limited basis. The case of Wat Chonglom, according to Douglass et al. (2002), shows anti-slum/squatter policy of the governments in Thailand. Informal settlements and slums were politically repressive. Although there was a limited link between these types of communities and the state agencies, there was no sign of hope for these communities to collaborate with the state, as the latter chose to ignore the community initiative.

The third form reflects the relationship between the local state and CBOs, with the local state as an enabler. Neither opposing nor ignoring the actions of local communities in infrastructure development and service provision, the local government has created an environment that stimulates community-based infrastructure development. Box 3 presents how a community-based public space improvement activity initiated by local residents was accepted by the local authority of a country in which urban planning policy and implementation is dominated by the top-down principle, and where the action was neither planned nor financially assisted by the local authority.
Box 3: Community as the Central Actor in Relations with the Local State as an Enabler

Thuong Dinh ward, located in the inner zone of Hanoi, Vietnam, is a poor community with high population density and a deteriorated infrastructural system. The community space, the only space for children to play, for community people to do morning exercises was degraded and gradually privatized by its surrounding households. With US$2,000 in support provided by an architect, who was not a member of the community, the community people of Thuong Dinh mobilized more financial resources and labors from within to renovate their community space. The community people worked with their leaders to sub-contract with a local builder. People actively participated in designing, implementation (construction), and supervision processes. The community space was renovated and upgraded for the use of the whole community after 2 months of construction. The whole project was reported to the local government for its approval.

Although the ward authority was unable to provide any public resources for the Thuong Dinh community space upgrading, it actually provided the legal and regulatory platform within which the project could be implemented. In its enabling role, the local government of Thuong Dinh, for the first time, set up a corridor for its community to work with the architect in an infrastructural development project at a locality that, according to the local government representative, where this was unprecedented (Nguyen and Nghiem 2007). The example of Thuong Dinh community space upgrading illustrates another role that the local government can play - an enabler. This if the state is unable to promptly provide services to meet the needs of local communities, it should work in the background as an enabler to create favorable environment within which CBOs or any other segments in the civil society and even the private sector can make their own creative and innovative contributions to the improvement and development of infrastructural services. (Osborne and Gaebler 1992; cited in Caroni 2002: 113).

In understanding potential political contexts for the partnership between the state and local communities in service provision, empirical projects have revealed that poor/low-income communities are usually treated as excluded communities in the city; therefore, they have slim or no opportunities to become the state’s partner in community improvement programs (Burns 1998). Among the many reasons for this, the majority are related to the fact that these communities often settle on either private land or locations where the state probably does not have any interest in investing in infrastructural services – case of Wat Chonglom (Douglass, Ard-am, and Kim 2002), or illegally occupied public land which the state might want to turn over to more commercially remunerative use –the case of Orangi Pilot Project, Pakistan - (UN-Habitat 2003). The communities involved in the Kampung Improvement Programs in Indonesia were involved because the Indonesian government received financial assistance from international financial institutions for the purpose of improving living environmental conditions in these areas. Thus, it is essential to examine the process in which the two actors work with each other to disclose particular contexts in which the community-state partnership occurs.
Douglass et al. (2002) highlights the significance of democratic practices at the local level and the lead role taken in facilitating and sharing mutual responsibility with the community and the local government. In addition, these authors emphasize devolving power and finances to the local government coupled with strengthening their capacity. For them, without democratic processes at the local level, the capacity of the local government community-state partnerships cannot be realistically strengthened. The partnerships are likely to be more real if the national government provides guidance to local authorities on the formation of local strategic partnerships so that the latter can work in partnerships with community organizations, as well as other sectors.

Public policy approaches to service provision and infrastructure development in the past focused exclusively on the state and private sector relations without taking into consideration the role of CBOs and other segment of civil society, including NGOs. However, practical programs in urban infrastructural development have shown some forms and promising contributions of community-state relations in addressing the poor state of public infrastructure in low-income communities in developing countries (Ibem 2009). Although the practice of community participation in planning for infrastructural development projects could incur higher transaction costs and is more time consuming for engaged stakeholders, many do believe that better organized and informed urban low-income communities could do a great deal to address their needs for infrastructure services, water in particular, through commitment to active participation. Either in the form of partnerships with other service providers (the state government and/or the private sector) or self-determination (self-help, self-reliance), the involvement of local communities in such projects not only solely reflects the process of citizen participation, but is informative as the significance of practicing democratic local governance for the sake of community development in the long run.

There is no doubt that appropriate institutional development at the grassroots level addressing dire socio-economic issues facing local residents will certainly provide positive effects in local level development (Uphoff 1986). Providing a set or sets of perverse incentives for individuals as well as other outside stakeholders and attaining various types of support from the local state are the strongest determinants of the development, evolution, and sustainability of community-based institutions and their infrastructure systems. The self-governed community infrastructure systems may be small-scale with simplified design and lowest-cost investment, but generally
meet essential local needs for services for a short period of time. In this form of governance, communities play the role of the central actor with or without the support of outsider stakeholders, including the local state. It is recommended that the self-governed community infrastructure development and service provision should be accepted by the government as a legitimate form, and be framed in national policies as an effective institutional support structure (Schouten, Moeiarty, and Postma 2003; Burns, Williams, and Windebank 2004). Thus, the community level institution might truly become a governance actor, contributing to the development and improvement of service provision and quality of life of people in the locality.

2.3 Community-based Infrastructure/Service Provision and Community Capacity Building

Demand-driven infrastructure development and service provision improvement projects/programs at the neighborhood/community level, in general, generate positive impacts on the quality of life and spirit of the local community. When community level institutions participate in an infrastructural development project as a partner with other governance actors or as the primary provider with or without any support from external agencies, there is a major concern about the effectiveness of their project. In addition, the idea that impacts of such projects on the community building and community-driven involves the development of skills, knowledge, confidence, and organizational structure are also questioned (Evans and Appleton 1993; Verity 2007).

Existing literature confirms that community capacity building and community development can be achieved, both developed and enhanced, via collective efforts of community residents for community improvement in any or all physical, environmental, cultural, social, political and economic realms (Mattessich and Monsey 2004; Philips and Pittman 2009). Community residents, with secure and sufficient access to urban services, are more likely to have better opportunity to improve their community’s economic development, and their quality of life that ultimately results in the well-being of the community as a whole (Vincent II 2009). Other scholars examine the objective of community capacity building and development via analyzing social relations and power dynamics between communities and other governance actors, such as the state and the private sector/market, and the dynamics from within between various population
segments in a community (Gittell and Vidal 1998). Advocates of the radical agenda of community development maintain that community work at the local level influences the struggle for transformation of the society (Ledwith 2005). Proponents of pluralist agenda, conversely, do not think that the community work/community organization approach is the way in which communities will radically challenge structure of the society and the state. Pluralist proponents perceive that “there is a multiplicity of competing power bases in society, mediated by the state, and that community work is only capable of ameliorative small scale neighborhood change and piecemeal reforms.” (Ledwith 2005: 12) Specifically, community work can contribute to improve interagency work and service delivery. Thinking along this line, community based projects at the neighborhood level planned and developed by residents and local organizations have the potential to not only reinforce the community capacity building and the solidarity among its sub-groups, but also enhance the status of the community in the dynamic power relations to the state and other actors for betterment of the locality.

Ledwith (2005) supposes that community building and development is created in a process of community participation and empowerment. Community participation and involvement in the enhancement of urban service delivery provides the community-level institutions with skills and experiences in (i) organizing collective action and building consensus with the engagement of sub-groups, characterized by diverse interests, economic status, and culture; (ii) understanding of how dialogues takes place, the way in which every stakeholder is drawn into dialogues, and participation dynamism due to differentiation of interest; (iii) forging partnership through collaboration to the broader society to strengthen community institutions, enhancing outside opportunities for residents, i.e., working and negotiating with the local government and other external agencies, including public utilities, and (iv) recognizing the community’s available assets, strengths and weaknesses, and common aspirations and values (Kingsley, McNeely, and Gibson 1997; Averill et al. 2003).

Mobilizing the participation of community members in self-help programs exists to enable people to become active agents for change and bring opportunities for further empowerment. Jaglin (2002) states that the theoretical advantage of the community-based model is that it ensures empowerment and representation of local people as well as the sustainability of the service. Active engagement in the overall efforts helps community residents gain confidence
while their lived experience in successful collective action certainly translates their acquired confidence into other community programs. As participation entails interactions and communication, community participants also have a chance to bond with one another or form mutual interest networks (Woolcock 1998; Putnam 2000; Gittell 2003; Larsen et al. 2004) via discussions, debates, and even confrontations. Their experience in the community-based self-help programs enables them to tackle other challenges either individually or collectively. In some contexts, through collective action, people learn how to reach consensus and make decisions more confidently. Certainly, community residents are invariably the best source of knowledge and wisdom about their surroundings. They sometimes just need more encouragement to share their knowledge through participating in community programs to be empowered (Rocha 1997; World Bank 2003).

The participation of community organizations in service provision is also seen as making contributions to promoting and enhancing local social capital (socio-cultural milieu and institutional infrastructure) (Temkin and Rohe 1998; Putnam 2000; Selman 2001; Gilchrist 2003) that ultimately shape community change/well-being (Gitte and Vidal 1998; Ledwith 2005; Pitchford and Henderson 2008). Experience in the Wat Changlom housing and infrastructure improvement project in Thailand (Douglass, Ard-am, and Kim 2002) shows that trust among community people and community networks (fostering reciprocity and mutual assistance), which could form social capital, were fostered during and after the project. In a comparative research on social capital, trust, and environmental management in Ho Chi Minh City (Vietnam) and Bangkok (Thailand), Carpenter, Daniere, and Takahashi (2003) suppos that trust and community network were also considered as key for potential social benefit.

Participation in urban service delivery programs/projects enables local residents to develop skills and capacity involving the management and mobilization of human capital and available assets. Community members learn to survey and assess their own situation, run their own programs, and manage their local assets. This helps the residents understand how planning processes work and how to influence and/or interact with the local government and other organizations.

However, the results and processes of collective actions or community-based service provisions are not always transformative beyond neighborhood/local levels or leading to a more just and equitable society, as expected by many radical community development scholars, i.e., Ledwith
Community-based initiatives in the provision of services, generally, focus and accomplish their primary goal of enhancing access to services for community residents. However, in many cases community-based projects fail to achieve their goals of improved service delivery due to failure in trust building, corruption of selected leaders, elite capture, rent seeking, and opportunistic behaviors, members of the management committee’s lack of experience, and deepened inequality (Curtis 2000; Dasgupta and Beard 2007; Keener, Luego, and Banerjee 2010). Inevitably, they could not fulfill any aspiration for community solidarity, institutional building for change, and/or social and environmental justice – the process of community development (Botes and Rensburg 2000; Ledwith 2005).

The existing literature has extensively focused on how community-based collective action that aims at addressing pressing local issues, i.e., natural resources management, infrastructural development and provision, or other socio-economic challenges are determined by and intertwined with the community capacity, social capital, and local power shifts (Curtis, 2000; Nelson and Wright, 2000). In other words, much existing research has emphasized the role of social capital and community building in the success and effectiveness of collective action, such as the importance of social capital and its impact on the participation of community residents in infrastructural development projects and the overall success of such projects (Isham and Kähkönen 2002; Pargal, Gilligan, and Hug 2002; Carpenter, Dariere, and Takahashi 2004) or social capital as a determinant of successful cooperation, collective action, and ultimate economic prospects (Gächter, Herrmann, and Thoni 2004; Sabatier et al. 2005).

The next step is identifying the extent to which community capacity and local development could be built and enhanced via community collective efforts in addressing shortfalls of services and other socio-economic issues. It is believed that residents of a community acting together can build bonding trust and relationships among themselves and bridging networks via their relationships with other external agents and actors (Putnam 2000). Relevant literature highlights the impactful forces of social capital and community capacity in shaping the effectiveness and potential success of community-based programs. Specific examined factors, for example, are effective institutional setting, the actor group (community) characteristics, the self-confidence of the personal actor, size of the group of beneficiaries (Agrawal 2002), cooperative capacity among the community (McCarthy, Dutilly-Diané, and Drabo 2004), and the community’s
experience in self-governance (Varughese and Ostrom 2001; McCarthy, Dutilly-Diané, and Drabo 2004; Sabatier et al. 2005).

However, it is also arguable in this research that community capacity and good local governance are not necessarily the conditions that community collective efforts can be initiated. Instead, community efforts in addressing imperative issues facing the local community, like water supplies, regardless of results produce opportunities and inform various lessons on capacity building for the community and the creation of good local governance. In this study, collective efforts for a piped water supply (i.e., assisted self-help, self-reliance, partnerships), planned, developed, and implemented by the government and residents of Co Nhue commune were examined and assessed. Via the local water system’s establishment, implementation, operation, and management, the study explored the degree to which the program facilitates and contributes to the enhancement of Co Nhue community capacity and the solidarity among sub-groups, and the enhancement of the status of communities in relation to the state, the private sector, and other segments of civil society in local governance for changes improving the community.
3.1. Case Study Method

This study is constructed as a research and qualitatively designed case study. The case study method has been widely used in studies of social life and social analysis across disciplines in social sciences to gather scientific data (Mills, Durepos, and Wiebe 2010). The case study is sometimes mistakenly perceived as an ethnographic study because it shares similar data collection techniques, such as participant-observation and in-depth interviews (Yin 1994). Many other fields apart from social sciences, including business economics, business management, medicine, administration sciences and technical sciences have extensively utilized the case study.

As a form of the five traditional qualitative inquiries identified by Creswell (1998) the case study method is defined by Yin (1994: 13) as “an empirical inquiry that investigates a contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident.” This method, notes Yin (1994); Mills, Durepos, and Wiebe (2010), is useful in examining contextual conditions of a phenomenon because the data is collected in natural and real-life situations.

A study deploying the case study method is influenced by the researcher’s role in the study process, the real-life context in which the study is formulated and conducted, the setting for the study with existing theory connections, the utilization of diverse data collection techniques to increase the study reliability, the commitment and skillful analysis of the researcher, and the type of case study that could be most promising and useful. As advised by Creswell (1998), the case study researcher should consider the type of case study for their research from the outset.

The researcher should examine issues/phenomena of the case rather than trying to use existing theories to explain the case phenomena. Various issues and facets of the case’s phenomenon need to be thoroughly investigated and described later in a report (Flyvbjerg 2006). Therefore, it is common for the researcher to use different data collection tools and techniques, e.g., in-depth interview, focus group discussion, participant observation, historical research, storytelling, community participatory mapping, surveying, and desk-study. The amount of data collected may
vary by study, as this variation depends on the research questions and the type of case study selected at the beginning of the research processes.

Designed as a single case study, this study seeks detailed information and multiple viewpoints (Newman 2004) on how a community-based initiative in water supply is likely to have impacts not only on the service, but on community capacity building and good local governance. A single case of Co Nhue commune in Hanoi, Vietnam was selected for this study because the locality presents a unique case of community-managed water supply. The commune of Co Nhue underwent an institutional shift from its community-based initiative to a state-led piped water supply in the context of rapid urbanization of Hanoi city. This offers the researcher an opportunity to thoroughly examine the establishment and evolution of the Co Nhue community’s governance of their water supply and factors contributing to developments and outcomes of this non-conventional pathway in public service provision.

3.2. Selection of Case Study: Institutional Shift in Water Provision in the Commune of Co Nhue, Hanoi City

Located to the west of the city of Hanoi, the commune of Co Nhue is a long-established community in the Red River Delta of Vietnam with a residential population of about 75,000 people (at the end of 2009). Since the national reform policy launched in 1986, the commune has witnessed major changes in its landscapes and socio-economic structure. With the ongoing encroachment of Hanoi city due to rapid urban growth, Co Nhue has urbanized in many aspects with high corresponding expectations of its residents concerning the availability of built environmental services in the locality. For water service provision, many Co Nhue inhabitants had shifted their water sourcing strategy from relying on surface and ground water to tapping into a piped network system, initiated in 1999 by the Co Nhue People’s Committee (CPC) (the local authority government). The CPC received monetary compensation from the City Department of Public Works and Transportation for its public land taken for the city development projects. With the permission of the City Department of Public Works and Transportation, the CPC used this source of money to finance the building of a local piped water supply network for the purpose of bringing clean water to local residents.
The CPC formed a water management organization, assigning some staff members to direct the construction, operation, and management of the water supply network. The local government signed contracts with construction companies to build a piped water supply network in the commune. The Hanoi Water Business Company (HWBC), which is responsible for supplying piped water to residents in urban areas, did not directly get involved in the construction, operation, and management of the network. The CPC negotiated and signed a lease contract with the Hanoi Water Business Company (HWBC) under which the latter provided water in bulk to the commune’s piped network through a master water meter. The local water management organization was responsible for operations, maintaining the water supply network, and retailing water service to local households. The organization was also in charge of installing new water meters and new connections within the communal area, repairing leaks and protecting the water system from revenue loss, billing its customers, and making payment to Cau Giay Water Supply Company, a branch of HWBC located in Cau Giay District, near Co Nhue commune, for the value of water pumped in bulk to the communal piped network.

According to the lease contract, the water tariff charged by HWBC to the Co Nhue People’s Committee was the lowest tariff overseen by the Hanoi People’s Committee. The local organization paid HWBC for 85 percent of the total pumped water to the area as HWBC subtracted 10 percent of a non-revenue water rate and a five percent management fee. Collaboration amongst HWBC, Co Nhue People’s Committee, and the local organization went well for about six years (from 1999 to May 2005) until the local organization faced high water loss rates (ranging from 42 to 45 percent in 2005, 59 percent in 2006, and up to almost 70 percent by the end of 2008/early 2009). The organization was unable to pay its water arrears and, therefore, it was chronically indebted to the HWBC. Consequently, approximately 30 percent of local users in summer 2007 reported that they were completely left without service, while the remaining users complained about unreliable service and high cost of the local piped water system. Due to the high non-revenue based water rate, the debt of the local organization to HWBC substantially increased from $4,000 (by the end of 2005) to around $10,000 (by the end of July 2007) and then to almost $20,000 (at the beginning of 2009).

According to the lease contract, signed by the CPC, the water management organization was obligated to pay the water arrears to HWBC. Due to the inability of the Co Nhue local
organization to repay the debt, HWBC terminated water service and threatened to bring the organization to the city court on multiple occasions. Since it did not operate and manage the system directly and financially, the CPC was not willing to pay the arrears. The local organization, in turn, had a financial deficit and was, therefore, unable to pay the debt. The case was widely featured in the mass media as a failure in collaboration between the local government and the Hanoi municipal water supply utility as well as in infrastructure development and service provision. In addition, the case was highlighted as a failure of the Vietnamese government policies in the mobilization of multiple stakeholders/agents in the provision of services.

In March 2009, Co Nhue residents were informed that HWBC would construct a new piped water supply network, directly monitoring and managing the service in the commune. Still hoping for a reliable piped/clean water source, the residents of Co Nhue again signed a service contract directly with the public utility, Cau Giay Water Supply Factory. As the new network was constructed, the old piped water system that was built by the local government and operated, managed, and maintained by the communal organization was literally terminated. None of the commune-built piped network was restored or reused.

The CPC leaders were relieved as long as the CPC did not have to be involved in the management of the deteriorated system, and there was a possibility that they did not have to pay the approximately $20,000 water arrears to the HWBC. The local water management unit was dismissed without any formal notice from the CPC. While the residents of Co Nhue were once again eager to work with a new piped water provider, the public utility, the staff members of the local water management unit, who had served in the local water supply organization, quietly withdrew. The local water supply system that the community had dedicated so much energy and resources to no longer existed.

Despite the project’s demise, there is much to learn from the Co Nhue people about their lived experiences with different forms of institutions. The recent shift in institutional arrangements of drinking water supplies in the commune from a community-based institution to public-led institution is of compelling interest from a planning perspective. The shift raises questions about i) how to understand local institutional development, social relations, and power dynamics associated with its formation, operation, and sustainability; ii) what could be learned from the failure of the practice of community participation and local institution arrangements for water
service provision, so that lessons drawn from this case could better inform policy on community participation in and local governance of water service; and iii) the extent that the evolution of the community water supply system, which entails citizen participation, dialogue, and collaboration between the local residents and the government, contributed to Co Nhue community capacity building.

3.3 Case Selection and Justification

Case selection for case study research is significant from the researcher’s viewpoint. An evaluation is recommended, whether selecting single or multiple cases in case study research if conclusions can be generalized to others. Silverman and Marvasti (2008) suppose that in qualitative inquiries including the case study research, statistical sampling procedures are usually unavailable. A single case or multiple cases are selected based on accessibility. Stake (1995) also indicates that case study research is not sampling research. One case cannot represent other cases. The primary task of the researcher is to understand the studied case and to highlight critical aspects and episodes of the case narrative. The purpose of case study research is neither for generalization nor understanding of other cases. Stake (2000) introduces three different types of case studies: i) the intrinsic case study focusing on the case because of its uniqueness, ii) the instrumental case study focuses on providing insight into an issue or to revise a generalization, and iii) the collective case study – selecting an array of multiple cases for an investigation of some general phenomenon. Stake (1995: 4) supposes that the case study researcher should ask him/herself “which cases are likely to lead us to understandings, to assertions, perhaps even for modifying of generalization[s]?“

Citing Thomas Kuhn’s (1987) article entitled “What are scientific revolutions?” Flyvbjerg (2006) explains and corrects a common misunderstanding about case study research, stating that one cannot generalize from a single case and, therefore, the single-case study cannot contribute to scientific development. Flyvbjerg (2006) proclaims that case study research brings value to science although it might not contribute to generalization. He wrote:

“In Germanic languages, the term science (Wissenschaft) means literally “to gain knowledge.” And formal generalization is only one of many ways by which
people gain and accumulate knowledge. That knowledge cannot be formally generalized does not mean that it cannot enter into the collective process of knowledge accumulation in a given field or in a society. A pure descriptive, phenomenological case study without any attempt to generalize can certainly be of value in this process and has often helped cut a path toward scientific innovation.” (226-7)

Flyvbjerg (2006) introduces strategies for the selection of samples and cases (Table 3.1). Flyvbjerg recommends identifying the research objective of their case study inquiry before making a choice of case(s). For example, a choice of a random sample might not be the optimal strategy for the study which aims at providing insight into clarifying causes behind problems and their consequences. However, an information-oriented selection of case(s) might meet that objective.

**Table 3.1 Strategies for the Selection of Samples and Cases**

<table>
<thead>
<tr>
<th>Type of selection</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Random selection</td>
<td>To avoid systematic biases in the sample. The sample’s size is decisive for generalization.</td>
</tr>
<tr>
<td>1. Random sample</td>
<td>To achieve a representative sample that allows for generalization for the entire population.</td>
</tr>
<tr>
<td>2. Stratified sample</td>
<td>To generalize for specially selected subgroups within the population.</td>
</tr>
<tr>
<td>B. Information-oriented</td>
<td>To maximize the utility of information from small samples and single cases. Cases are selected on the basis of expectations about their information content.</td>
</tr>
<tr>
<td>selection</td>
<td>To obtain information on unusual cases, which can be specifically problematic or especially good in a more closely defined sense.</td>
</tr>
<tr>
<td>1. Extreme/deviant</td>
<td>To obtain information about the significance of various circumstances for case process and outcomes (e.g., three to four cases that are very different on one dimension: size, form of organization, location, budget.)</td>
</tr>
<tr>
<td>cases</td>
<td>To achieve information that permits logical deductions of the type, “If this is (not) valid for this case, then it applies to all (no) cases.”</td>
</tr>
<tr>
<td>2. Maximum variation</td>
<td>To develop a metaphor or establish a school for the domain that the case concerns.</td>
</tr>
<tr>
<td>cases</td>
<td></td>
</tr>
</tbody>
</table>

Source: Flyvbjerg 2006
Discussing case selection strategies for the case study research, Yin (2009) highlights two possibilities. The researcher might know in advance what sort of case is most suitable, especially in case studies where special arrangements or unique access exist. However, if there are many qualified cases for selection, a two-stage screening procedure is required. Using some relevant criteria is recommended so that the qualified cases can be reduced to 20-30 in quantity for the first screening, and at this point, a selection can be made from the second screening. Yin (2009) also suggests that the case study researcher conduct a pilot case study because the implementation will help the researcher to refine the data collection plan, develop relevant lines of questions for the research inquiry as well as field questions about the logistics of the field inquiry, and possibly clarify conceptual framework for the research design.

The selection of the Co Nhue case is not random. Rather, it is an information-oriented selection, as indicated in table 3.1. The Co Nhue case is a collective effort case, even though the Co Nhue community-based piped water supply system might have failed; the research might reveal other meaningful results, such as the local commune’s capacity building process and good local governance. The transition in the governance of water service provision in Co Nhue from community-based to state-led could inform us (i) insights of various stakeholders into the failure of a community-based collective effort in service provision and lessons learned from the failure; and (ii) theoretical and policy implications about the role of community governance particularly in water supply and generally in urban services.

Although Flyvbjerg (2006) categorizes the information-oriented selection of cases into four groups: extreme/deviant cases, maximum variation cases, critical cases, and paradigmatic cases, however determining which category the Co Nhue case fits into was complicated. The selection was based on the researcher’s intuitive assessment that the transition in the governance of service provision in Co Nhue was a unique condition that opened the opportunity to thoroughly assess the (in)effectiveness of the community governance and its impact on the building of community capacity and governance at the locality. Preliminary research led to the decision to choose Co Nhue as a study site subsequent data gathering and field research. A detailed description of the data collection process for this research is presented in the next section.
3.4 Conceptual Framework

The emergence of community-based infrastructural development and service provision reflects the engagement of citizens and local organizations in the planning and implementation process of programs in the locality. In the water sector, this action is expected to address the shortfall of water service availability and accessibility while enabling a process of building and strengthening capacity in the local community and good governance in the locality. The conceptual framework of this study (figure 3.1) is built on the existing literature on the governance of service provision in community management and participation in service provision, the emergence of community level institutional building via service provision, and its association to community capacity building/community development and local governance in order to understand the extent to which community-based infrastructural service provision and management might have positive impacts on not only addressing gaps in service provision, but also the process of building and/or fostering community capacity and governance in the locality.

3.4.1 Community level institution for service provision: formation, operation, and sustainability

A community level institution in its processes of formation, operation, and sustainability contains: issues of collective effort; participation and contributions of diverse population segments in the community; optimal management scheme of the service delivery; rule making and the practices of rule use, the infrastructural system, and finance; mechanisms of decision-making; internal relations within the community; relations between the community; and the local government or other external agencies. Through the lived experience of various (identified) stakeholders engaging in the project, i.e., community residents, representatives of the local government and external agencies, it is important to learn how such issues emerged and were tackled because mechanisms/principles used to address such issues can inform whether the community had demonstrated characteristics of its capacity, such as individual’s commitment, sense of community, community solidarity through bridging relationship, access to resources, leadership development (individuals’ abilities and capacity), organizational collaboration.
(bridging network), and effective institutional building (Ostrom 1990; Chaskin, Brown, Venkatesh, and Vidal 2001).

**Figure 3.1 The Conceptual Framework of the Study**

3.6.2 Community capacity building

The perception and definition of “community capacity building” lacks consensus amongst community development practitioners, researchers, and government officers. Some define community capacity building broadly; others tend to describe it as an interactive or dynamic process shaped by interactions among individuals/population segments (Labonte and Laverack 2001). Another tendency, according to Verity (2007) is to anchor the perception/concept of community capacity building into a purpose, such as: “improve assets and attributes; promote responsibility for solving local problems; build local leadership; stimulate active and reflective
participation in urban renewal or regeneration; empower; promote health gains; local improvements; readdress disadvantages; allow for effective services and promote better risk management” (16). Verity (2007) also indicates another type of research and perception of this notion that links community capacity building to social capital and Frankish’s (2003) is an example. Goodman et al.’s (1998: 260) definition that describes community capacity building as both process and as an outcome. They wrote:

“It [community capacity building] is a process as well as an outcome; it includes supportive organizational structures and processes; it is multidimensional and ecological in operating at the individual, group, organizational, community and policy levels; and it is context specific.”

Among the various definitions, this study adopts Labonte and Laverack’s (2001) interpretation that describes and emphasizes a process of building community capacity via community interactions. The process takes time and requires commitment of engaged stakeholders and, most importantly, interactions, dialogues, and communicative approach in order to achieve the expected result. In a practical approach to this concept, Goodman et al. (1998) and Labonte and Laverack (2001) discuss domains/dimensions for community capacity building, which are deployed for this study’s conceptual framework and presented below:

*Participation*

Community participation by itself is not a self-explanatory indicator when making inferences about building community capacity efforts. High levels of participation and frequent meetings in a community initiative do not necessarily reflect the residents’ commitment or translate into community capacity building effort (Chaskin et al. 2001). Among many critiques of participation discourse, Garcia-Zamor (1985) indicates four major obstacles to the residents’ genuine participation: the dominance of one group over others, lack of interest of potential participants, lack of sufficient time, and restrictions generated by the existing social-political structures and systems. Other concerns regarding participation are: participants’ skepticism on the impact of their participation; participants’ lack of skills and resources for involvement in community-building effort; limited value attributed by participants’ on the meaningfulness of their community; divided interests among various population segments, form of leadership, mobilization of resources (Chaskin et al. 2001; Hooghe 2001; Ledwith 2005; Liberato et al.
2011), or over reliance on pursuing patron-client relationships that serve their specific interest rather than improve the community status in relation to the government (UN-Habitat, 1998); challenges in engaging low-income, minority groups, and young people in the decision-making process and how participation processes enable the voices of excluded segments to be influential (Lasker and Guidry 2009); and a lack of participatory and democratic institutional structures/platform that stimulate people’s involvement in community initiatives (Pawar 2010).

However, community residents’ involvement in collective efforts in infrastructure development and service provision, for instance, can be helpful in understanding how citizen participation might lead to the development of capacity in the community. There is opportunity to understand whether the initiative of a community received support by its residents exemplified by their resource contributions as well as participation in the decision-making process relating to the project formulation, program design, implementation, and maintenance.

**Leadership development**

There are untapped positive human resource and leadership potential in every community and neighborhood (Spergel, 1979). Leadership development is important in recognizing individuals’ skills, knowledge, and experience to effectively and efficiently manage the operation, maintenance, and sustainability of a project; leadership requires responsibility, commitment for the sake of the community at large, and the ability to take the lead while mobilizing community residents to actively engage in addressing the common issues (Chaskin et al. 2001). Additionally, it is also equally important to consider the role of community residents in the leadership development process; whether the leader(s) of a community program/project was voted from within, trusted and supported by community residents, or was appointed from external agencies, sponsors, and/or the local government; the inclusivity or exclusivity of the community leader(s) in the decision-making process as well as the transparent financial management; the opportunities the community leaders harnessed to connect and bond local residents together and bridge their organization to external organizations via collaboration; and experience, skills, and abilities of the leader(s) to effectively and efficiently manage the operation, maintenance, and sustainability of a project.

**Resource mobilization**
Access to resources from within or beyond the community is closely linked to the ability of community leader(s) to mobilize the engagement of community residents and other available community assets as well as to build a synergy among various populations and entities from within. Residents of a community have their own networks and connections beyond the community; it is important to mobilize this type of resource for the wealth of community at large.

**Links with others**

Linking with other organizations, either from within or beyond a community, allows connections and collaboration with other organizations and agencies to fulfill the needs of a community. A community is situated within broader social structures and political systems, whether a district, city, municipality, or country. Certainly, changes in wider social structures and processes result in increased/decreased resources and opportunities for the community. Therefore, cultivating and strengthening networks by bridging to external sources significantly renders more resources and opportunities for the community, which necessarily translates into community capacity. A community’s ties to external resources, such as government agencies are essential in infrastructure development and service provision projects, such as water supply, sanitation, transportation. Receiving support from different levels of the government affects the success of community initiative for service and infrastructure at the neighborhood level (Chaskin et al. 2001).

This study emphasizes Co Nhue residents’ ability to bond and connect to address common needs, like clean water. The study also emphasizes how the local water supply system management unit, in this case the local government, can connect and address the need for clean water with other external institutions, such as the public water supply and other infrastructural development companies.

**Community history**

A community that has its own history of implementing collective effort certainly influences the process of formation and implementation of a new project. Successful collective action in the past tends to generate more positive impacts, such as increased participation of residents. Also, successful practices of a community’s collective effort means community residents experience
processes of working together even though those processes entail both confrontations and mutual understanding. Community residents’ lived experience, skills, knowledge, strengthened connections, and leadership gained through their past collective action are actually viewed as a form of community assets that can be mobilized for other communities’ collective efforts. However, if a community has a history of failed collective effort, its residents tend to have negative thoughts and feelings toward ideas, plans, and actions of new initiatives, resulting in mistrust, skepticism with limited participation, collaboration, contributions, and commitments with a new project.

3.6.3 Local governance

As two major actors in local governance, the local government and community organizations can work well together to address pressing issues, including the inadequate service provision and accessibility facing the well-being of the local community. Theoretically, urban planning scholars promote and discuss a synergy and partnerships between these two major governance actors and positive community changes, enhanced social justice, improved community status in the local governance created by community-based collective efforts/community organizations (Fawcett 1999). Empirical studies on community-based initiatives and a number of self-reliant or assistive self-help programs also discuss the supporting role of the local government in facilitating and sustaining community initiatives. This study considers the extent to which the process of establishment, operation, and maintenance of the community-based initiative in piped water supply in Co Nhue commune Hanoi influences the process of good local governance building which rests on the domains of civic engagement, transparency, equity, accountability, and efficiency.

Governance refers to the engagement, interactions, relationships, partnerships, and networks of multiple stakeholders (with different objectives), including civil society, the state, and other non-state actors, with the purposes of ensuring optimal services (Pierre 2000). The process involves differences in power relations and requires effort for the coordination, decision-making, negotiation, and consensus building among stakeholders (UN-Habitat 2001; Laquian 2005; de la Harpe undated). Addressing governance issues concerning the crisis of urban services
provisioning. “good governance”/“effective governance” (UNDESA et al. 2003) has been promoted in the international development agenda by the United Nations as a framework for analysis. Additionally, UN-Habitat has even launched a “Global Campaign on Urban Governance” to support the growing number of initiatives and actions throughout the world aimed at the improvement of governance as a means to achieve sustainable development and human development (UN-Habitat 2002). Good governance involves the engagement of stakeholders and supporting their relationships with each other and collaborations with others with the aim of (i) achieving a shared vision and common agenda and (ii) developing joint-programs, which result in efficient use of resources, equitable access to services for all, responsible use of power, effective and sustainable provisioning of services, and empowerment of the most vulnerable segments in social, economic, and political schemes (de la Harpe undated). Achieving such expected outcomes might require policy shifts and the amendment and alteration of state regulations to create the necessary environment for engaging and supporting the collaborative actions of multiple stakeholders at both national and local levels. 

According to Healey’s (2006) perception, governance is the management of common affairs. That process also involves a wide range of stakeholders, i.e., the government, corporations, and various segments of civil society. Healey (2006) also emphasizes relations among entities, suggesting the emergence of four governance forms: i) representative democracy, ii) pluralist democracy, iii) corporatism, and iv) clientelism. Healey (2006) points out the transformation of these four forms of governance when each of the forms finds ways to enable more interactions among major entities such as the state, the corporate, and civil society. Good governance can be achieved via the collaborative planning process that entails intensive consensus building and interactions among engaged actors. In addition, Healey (2006) calls for particular attention to the local governance culture which is unique in each context and that the planner needs to have the ability to learn to read and contextualize the “politics of place” [Healey’s emphasis] and to sensitively grasp specific governance forms and styles (2006: 240). Because of the uniqueness

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3 At the national level, stakeholders include the national government, national department of water management, other sectoral departments, international donors, national NGOs, international financial institutions, local government, and research training institutes. At the local level, stakeholders include local government/authority, community based-organizations, local NGOs, retail and small-scale water service providers, public utilities, grassroots organizations, and local residents regardless of socio-economic, political status and religious orientation.
in forms and styles of the local governance, Healey (2006) perceives that “analysts of governance and planning systems should avoid simple generalizations about what style of planning will arise in particular circumstances.” (241)

Since the good governance concept has a range of interpretations, this study focuses on the four main components of the concept: (i) civic engagement/citizens-local government relations, (ii) transparency, (iii) equity, and (iv) accountability – which are generally recognized by scholars concerned with the topic (UNDESA et al. 2003; UN-Habitat 2002; McIntosh 2003; de la Harpe undate; UNDP 2003; McNeil and Mumvuma 2006). The relationship-making between community organizations, other independent citizens and the local government, represented by officials, could be based on either mutual trust building or a patron-client relationship. In the case of a locally built, managed piped water supply in Co Nhue commune, this study examines how the relationship-making between the two local governance entities resulted from processes of creating and operating an infrastructural system, whether the relationship was built from dialogue, constructive criticism or confrontation; and accordingly how/if the local government was accountable to the community needs and demonstrated its transparency in the local budget expenditures.

3.4 Research Methodology for Data Collection

Data collection for qualitative inquiries generally is a process, which, according to Creswell’s description, includes seven stages as illustrated in figure 3.2. Locating site/individual, in essence, requires the researcher to select the studied site or case of the inquiry. As discussed in section 3.3 the researcher will have to select a site or an array of multiple sites that best fit into the research objectives.

Gaining access and making rapport: Creswell (1998) suggests that it is best to gain access through gatekeepers, establishing relationships with leaders and local residents of the study site. The case study researcher has to prepare paperwork for and receive permission from a human subjects review board.

Figure 3.2 Data Collection Activities
Purposeful sampling is for selecting clientele/respondents for the research. In this stage, the researcher is advised to have clear criteria to provide rationale for their selections.

Collecting data is the process involving a wide array of data form as suggested by Yin (1994, 2009). Qualitative researchers have repeatedly suggested six forms of data collection: interviews, direct observation, participant observation, physical artifacts, archival records, and desk-study/documents. To increase the validity of collected data and concluding claims, multiple data collection methods are recommended. If necessary the researcher is advised to gather additional data to validate key observations, or his/her own quick interpretation of the earlier collected data.

Recording information is implemented during the field research. The researcher is expected to have skills in note taking, properly conducting and recording interviews, and other observational protocols.

Resolving field issues requires the researcher the ability to be flexible in his/her plan when gathering data at the field. The researcher tends to face issues of irrelevant questions, seeking for
relevant respondents, saturation of collected information, technical issues in recording and interviewing. Conducting a pilot study prior to the field research along with proper administration of the rapport stage can mitigate many of the aforementioned issues.

Storing data in the forms of field-notes, audio files, recorded tapes, computer files, and transcription is very important as this stage is associated with the commitment to protect the anonymity of the respondents/informants.

The data gathering process for this study took place over the course of two trips: June to August in 2008 and August to late-October in 2010. In 2008, there was tension between the Hanoi Water Supply Company and water users of Co Nhue when the case was featured in newspapers in Vietnam. At that time, due to the termination of service from the company, water users reported to mass media that they had used an intermittent and unreliable water service at a considerable cost compared to other places in urban districts of Hanoi. The case was fascinating and opened up the possibility of studying how the residents of Co Nhue initiated and operated a local water supply system and the extent to which this initiative contributed to the improvement of living conditions of the local residents. This case was compelling because the majority of communities in the suburbs of Hanoi did not receive piped water. The first stages of fieldwork included the researcher approaching some local residents of Co Nhue commune, acting like an ordinary person passing through the community. Several conversations with the local residents from this experience revealed that not all of the residents of the commune relied on the local water distribution system; the water service, prior to being terminated, was available to some areas of the commune; there was rumor of corruption among members of the local service management unit and some staff members were not respected by the respondents. These initial observations indicated that respondents were not excited, often complaining about the project. These preliminary responses triggered research curiosity over several issues: i) if the local water supply system was created by collective efforts of the Co Nhue residents, how was the system built and managed over the years, and why were people not excited when talking about it; ii) why had some community members benefited while others had not; iii) why had the residents of Co Nhue not directly signed a service contract with the Hanoi Water Supply Company like other areas in the city of Hanoi; iv) what role did the local government and the local service management play in this project; and v) were there other institutions involved in this project?
In Vietnam, in order to initiate a research project in a community, the researcher must receive approval from the local government. The researcher will be referred to the local community where s/he wants to conduct research. Within that community, the researcher meets with representatives of the community population cluster who were voted upon by the local residents to oversee issues in the community. These representatives are key contacts as they can provide a bridge for the researcher to approach local residents. Each representative has a list of households in his/her population cluster. In summer 2008, it was not possible to approach the local government of Co Nhue commune or population cluster representatives because there was no concrete research plan to show them. This limitation required other methods to exploring more information about the case. Through personal connections, the researcher was able to make an appointment with the existing director of the Cau Giay Water Supply Factory, a branch of the Hanoi Water Supply Company directly providing service to the Co Nhue water supply system. The researcher was also able to meet with one of the population clusters’ representatives in the Co Nhue commune who later referred the researcher to meet with one existing member of the local water service management unit.

The meeting with the director of the Cau Giay Water Supply Factory helped with information gathering from the perspective of the service provider in order to learn the reason why the factory did not directly sign a service contract with every single household in Co Nhue. At this point, the researcher was aware of the lease contract between the factory and the Co Nhue People’s Committee and the role of the communal People’s Committee in establishing and operating the local water supply system. The director, during the conversation, expressed his disappointment with the unprofessional behavior of the Co Nhue People’s Committee and the local service management unit as they both persistently failed to make monthly payments for the factory’s water bill since 2007. He also complained about the technical and managerial capacity of the communal government and the service management unit, as he perceived this was the major cause of the delayed payment. When asked about whether the factory had ever provided technical support to the local water supply system in Co Nhue, the director confirmed that the factory had helped its partner test technical errors in the water meters used for operating the local water supply system. Although the director confirmed that the factory was not financially vibrant enough to extend the city piped network to directly supply water to the Co Nhue residents, he was dismissive of the local system. He did not consider it a local initiative.
responding to the unavailability of the city water supply. Before ending the conversation, the director recommended meeting with a key stakeholder from the Co Nhue commune’s local water supply system that was knowledgeable of the establishment and arrangement of the local water supply system.

Under the arrangement of the Cau Giay Water Supply Factory director the next meeting was with the former head of the water service management unit of Co Nhue. He had already retired from the unit, but he had no hesitation in sharing the origin and reasons for the development of the local water supply system. He revealed that the Co Nhue People’s Committee planned the project, established a management unit by assigning local staff and recruiting local residents to operate and manage the system. Financially, the local budget and the Hanoi municipal government split the responsibility of investment. He enthusiastically expressed his dedication to the operation and management of the system during his time in leadership in the unit. He mentioned the name of the existing head of the unit, but he refused to give his comments on how the existing leadership was performing when asked. To better comprehend the initiative of Co Nhue in supplying water, he suggested meeting with other people who used to serve in the water service management unit. He provided several names and one happened to be a head of a population cluster.

It took several days to get a hold of the head of the population cluster referred to by the former head of the water service management unit. Representing the local People’s Committee at the grassroots level, the population cluster head said that he was extremely busy with disseminating the city government’s policies to residents in his population cluster, while reporting to the communal government on all pressing issues from his population cluster as well his residents’ concerns. When asked about the local water supply system and local residents’ complaints on mass media about the service, he first smiled, then said that the existing service management unit was facing so many problems that he and other staff members had never experienced in the past. And then he shared how hard he had worked in the past to provide good water service to the local residents and demonstrate financial transparency to both the communal government and local residents. He also gave examples of what he had meant by being accountable to the local government and residents of the community. He suggested meeting with officials of the Co Nhue People’s Committee and the existing head of the water service management unit for their
perspectives on existing matters relating to the performance of the local water supply system. Given a lack of concrete research plan at the time, showing up at the headquarters of the communal government to request interviews was not a possibility. Knowing how to approach the existing head of the water service management unit without the support of the local government was uncertain until contacting the director of Cau Giay Water Supply Factory for assistance.

If not for the referral from the director of the Cau Giay Water Supply Factory, meeting with the existing head of the water service management unit in Co Nhue would not have been possible. Since the case was featured in the mass media, he did not want to release any further information to the public. He was afraid that the situation could become exacerbated. The fact was that there was a certain amount of water arrears that his unit was indebted to the factory and was unable to pay on time. That was the major cause of temporary service termination as reported on the mass media. Although he had agreed to meet for this study, he refused to answer questions regarding how he had run the unit, issues facing the unit, the relations between the unit and the local government of Co Nhue, the local water users’ participation in the maintenance and protection of the piped system, etc., unless this study received approval from the Co Nhue People’s Committee. Although questions regarding the previously mentioned issues remained unanswered, the conversation focused on the service area in the commune. He showed a map of the piped water system and specific areas where residents intermittently received the service. This information enabled visits and discussions with several households in different population clusters of the commune to document various reactions to the performance of the water service management unit and the local water supply system in Co Nhue.

This exploratory trip, for many reasons, was very fascinating. There were many judgment calls on which stakeholders justified a visit and issues which deserved exploration. There was constant interaction with new people and new stories and viewpoints. The research process drove the need to learn everything about the initiative of the Co Nhue commune and collect as much detailed information on the case as possible, especially on how local people had worked together to run the local infrastructure system and how the local government, local residents, and the public water supply company related to one another to construct and operate the piped water system. During the trip, the researcher developed rapport with some key informants in the
community. This relationship building process enabled the identification of stakeholders engaging in the development and operation of the local water supply system, such as the Cau Giay Water Supply Factory, the Co Nhue People’s Committee (local government), the water service management unit, local residents (both service users and non-service users). Such information later was very useful in developing and finalizing the proposal for this research project.

In the summer of 2009 fieldwork continued in the Co Nhue commune with the intention of getting an update on the case after one year. Many changes to the local piped water system occurred during that time, influencing the design and objective of the research. The director of the Cau Giay Water Supply Factory revealed that throughout the 2008-2009 period, the water service management unit of Co Nhue commune’s account remained delinquent, forcing the factory to terminate its service to Co Nhue and to plan on replacing it with a new infrastructure. The case had been featured in an array of newspapers and brought to the Hanoi Municipal government. While the majority of water users in Co Nhue had continued paying for high cost of water service; the unit did not collect enough revenues to pay its arrears to the factory. A large number of the water users appealed to the communal government and the district government when the factory ceased its water service provision. The decision to construct a new water supply system in Co Nhue, with designated investment from the city government budget, to be directly managed by the Cau Giay Water Supply Factory, was made by the municipal government after many sessions of mediation involving levels of communal, district, and city governments, the factory, the Hanoi Water Supply Company, and the Co Nhue local water service management unit.

By the last quarter of 2009, households in one third of the Co Nhue population clusters were connected to the city water supply system. Further conversations with several households of this segment revealed that local residents were glad because they expected to receive reliable quality and cheaper water service from the public water supply utility. Meanwhile, the head of the local water service management unit was still confused about what would happen to his unit as the liability to the water arrears for the amount his unit was indebted to the Cau Giay Water Supply Factory; he was concerned about his immediate future as the unit was no longer effective. This allowed examination of how the public utility worked with the local government and residents to
lay a new piped water system in Co Nhue. In the process of talking with local households, every family had to express their need for a connection to the new system and register with the head of their population cluster area. Representatives from the Hanoi Water Business Company went to each population cluster to distribute a contract to the registered family. Under the rapidly urbanizing context of the commune, every single household wanted to get connected to the city water supply system. They patiently registered with the head of the population cluster in the area and collaborated with their representative of the Hanoi Water Business Company for a service contract. Information collection and synthesis from this trip were useful in finalizing the research project proposal and in developing tools for analyzing data gathered between August and late-October in 2010.

There were four groups of respondents identified and selected for the data gathering process in this research:

First, the Cau Giay Water Supply Factory which had signed a lease contract with the Co Nhue People’s Committee to sell water in bulk to the latter. The factory has its own perspective on the failure of the Co Nhue commune’s initiative in rendering piped water service available to the residents of Co Nhue. Representatives of the factory could reveal information on the origin of the contract, the business partnership experience between the two agencies, capacity of the communal institution and role of leadership that managed and operated the local water supply system. Since the city water supply system had been operated and managed by the Cau Giay Water Supply Factory this stakeholder also could share their new experience in doing business directly with local households, levels of engagement and participation of local residents in monitoring, protecting, and maintaining the service provided by the public utility.

Second, the Co Nhue commune People’s Committee is another stakeholder that directly initiated the local water supply system for its citizens. This commune level government entity also appointed the service management unit and directly supervised its operation. The government made decisions on budget use in its construction of the new piped water supply system. This stakeholder later served as an intermediary actor catalyzing registration of Co Nhue households for piped water service provided by the public utility (Cau Giay Water Supply Factory). In addition, it facilitated the construction of a new infrastructure system. In other words, this stakeholder made its contributions to the replacement of its own initiative.
Third, the local water service management unit was appointed by the local government. Its members were selected from the local population. During its nine years of operation, the unit was led by two leaders and operated by more than 10 staff members. Many of them had resigned before the unit was dismissed. The unit’s operation was under the stewardship of the Co Nhue People’s Committee. In business relations with Cau Giay Water Supply Factory, the unit recorded the volume of and paid for the water directly pumped into the local piped system. While the head of the unit worked directly with the Factory, the remaining staff members primarily worked with the local residents of Co Nhue to retail the water service and manage the pipeline.

Fourth, local residents were able share their lived experience using water service from both the water supply systems. Regardless of their water access, local residents were asked to reflect on their knowledge, experience, and opinion on the formation, operation and failure of the local water supply system. They could share their level of participation in to the provision and maintenance of the water service provided by the local organization and the public utility.

Multiple methods were deployed for the purpose of data collection, which are key informant interviews, focus group interviews, participant observation, and documents review. Respondents were chosen based on who could best provide in-depth information on studied issues; therefore, this study used a purposefully sampling technique to select respondents from the identified stakeholders involved in the development, operation, and management of the community-based water supply and the state-led water supply in Co Nhue, as recommended by experienced qualitative researchers (Creswell 1998; Bryman 2004; Yin 2009).

3.4.1 In-depth interviews

This research used semi-structured in-depth interviews to collect information from various stakeholders’ perspective on the process of formation and operation of both the community-based and state-led water supply systems and the extent to which these two systems contributed to the making of community capacity and good local governance. Because each stakeholder had their unique experience and its own story to tell, the researcher developed a guideline for each stakeholder’s in-depth interview. Respondents of in-depth interviews were selected as follows:
- **The local authority** – Co Nhue People’s Committee: the chairman, a vice chairman, a former chairperson, and existing representatives of the mass organizations;

- **The local community-based water supply system**: the plan was to conduct interviews with all individuals who served in the water management unit. Because some were not cooperative and did not consent to participate in the study, only two former heads of the unit were interviewed, and eight staff members were also interviewed to portray various narratives of insiders regarding the impact of the community-based water supply model on the lives of Co Nhue local residents, capacity building, and good local governance. In all, there were 10 respondents in this group.

- **Heads of population clusters (Hamlet/Thon)**: These were key persons who were aware of issues facing both the local government and local residents. Their mission was to disseminate and convince local residents to comply with the central, city, and local governments’ policies, decrees, and regulations and to express to the local government the needs and responses of local residents to the governments’ policies. Heads of each population cluster provided a panoramic picture of each hamlet. The narratives from this group of respondent portraits were mixed as some were more accountable to the local government, while others were more accountable to the local residents. In total, there were 10 respondents of this category participating in the in-depth interview.

- **Local residents**: respondents of this group were categorized into six sub-groups by their experience in using service of the locally based water supply system, the status of residence, and economic status. They were (i) representatives of households that had accessed the community-based water system, (ii) representatives of households that did not have access to the community-based water system for many reasons, and (iii) representatives of households that moved to Co Nhue commune for various reasons, (iv) representatives of households that were born and raised in Co Nhue commune, (v) representatives of households that were locally portrayed as better off, and (vi) representatives of households that were locally portrayed as poor in the commune. In all, 21 respondents participated in the study interviews.
- **The public water supply utility**: Four representatives from both the Hanoi Water Business Company (HWBC) and its branch that provided water service in Co Nhue commune and surrounding areas, the Cau Giay Water Supply Factory (CWSF), were selected for in-depth interviews. The HWBC representatives (the former director and an existing vice director) were asked about their perception and comments toward the Vietnamese government’s policy on the socialization of infrastructure development (including water supply) and the failure of the piped water system of Co Nhue. These representatives were also asked questions regarding the decision to develop a new water supply system in Co Nhue to replace the locally based one. The CWSF representatives (the former director and the existing director) were asked to reflect upon their experiences of working with the local government and the management unit of the Co Nhue commune and their comments on the failure of the local water supply system and what could be differently done to sustain the system.

All of the interviews were digitally recorded with the respondents’ consent. All the interviews were carried out in Vietnamese by the researcher. To ensure the consistency of the collected data transcription, all recordings were transcribed. This process was useful in recalling both the setting and the content of each interview.

### 3.4.2 Observation

To gain familiarity with the local residents of Co Nhue and a deeper understanding of community relations as well as collective activities among community residents, the researcher asked the head of hamlets for permission to participate in community meetings and collective activities organized by the local Women’s group. During the 2010 field trip, observation included four community meetings at the Tru Hamlet, Vien 1 Hamlet, Vien 2 Hamlet, and Hoang 1 Hamlet. The researcher recorded what had happened at each meeting, what was discussed and, who attended. Other meetings visited included two cleaning activities collectively carried out by households and coordinated by the Women’s Union of Vien 1 Hamlet and Vien 2 Hamlet (details of this activity was described in chapter 5). During this field visit, many conversations
took place between the head of a hamlet and local residents regarding the latter’s concern over their family’s connection to the water system directly provided by the Cau Giay Water Supply Factory; many water meters installed by the local water supply management unit, abandoned by the local residents when the community-based one was replaced with the state-led one. Whether intentional or unintentional, all of the observations were noted and useful for the in-depth interviews with key informants and residents, as well as for the purpose of increasing the reliability of the field research.

3.4.3 Document review

Involved stakeholders documented the operational and maintenance activities of the Co Nhue water supply system routinely; therefore, such documentation was collected for analysis. During the field research, data collection included financial records and narrative records of the water management unit. These reports were prepared by the head of the unit and submitted to the Co Nhue People’s Committee. Annually, the unit summarized operational and maintenance activities of the unit, the number of customers, new connection to the system, financial status (expenditure and incomes). These reports were filed at the headquarters of the Co Nhue People’s Committee and a copied version was held by the head of the water system management unit.

At the Cau Giay Water Supply Factory the researcher was able to duplicate the lease contract between the factory and the Co Nhue People’s Committee. The factory also documented the number of cubic meters of water provided to the Co Nhue’s water supply system and all payments made by the communal management unit monthly. Additionally, the factory also filed all of the appeals, requests, notifications, and written correspondences between the factory and the Co Nhue People’s Committee concerning the water arrears of the local water management unit and the factory’s (temporary) termination of services. Further data collection included documentation proving how the factory supported staff members of the Co Nhue water management unit to test the unit’s water meters and sketches of a new piped water supply system plan that was later constructed by the Hanoi Water Business Company.

At the headquarters of the Co Nhue People’s Committee data collection included the Committee’s annual report featuring socio-economic, population mobility and growth, and other
activities of the commune. The report also covers security, construction activities occurred within the communal territory. Also available were the commune’s revenues and expenditures on infrastructural development in some of the collected annual report, although the communal finance was not consistently documented over the years. The Co Nhue People’s Committee also produced and filed reports on the orientation and strategic development of the commune for 5 and 10 year periods. Information retrieved from such documentation was useful in examining changes that had taken place at the commune level.

Another secondary data source was information from the report prepared by the heads of each hamlet in the Co Nhue commune. As an intermediary that bridges the local government with local residents, a head of a commune’s population cluster had to prepare an annual report documenting concerns of local residents and status of the implementation of the local government, district government, and city government’s programs at the hamlet level. Reports are usually composed by the head of each hamlet, and verbally reported at the meeting of the commune People’s Council. The hardcopy of such reports could be submitted to the Administrative office of the People’s Committee. Because many heads of hamlets did not submit their reports to the commune, the researcher approached them to collect such reports from them when they agreed to respond to in-depth interviews.

Reviewing secondary information from documentation was used as a subordinate technique for in-depth interviews. The use of this technique was useful in achieving external consistency via cross-checking information with diverse sources of data, increasing the reliability of the field research.

### 3.5 Reliability of Data

The reliability of research can be achieved through using multiple sources of evidence and well-documented research process (Yin 2009), respondents’ feedback (Stake 1995), data triangulation, investigator triangulation, theory triangulation, and methodological triangulation (Patton 2002), and the skills of the researcher in gathering data (Newman 2004). It is ideal that every qualitative research inquiry deploys such recommendations.
Yin (2009) recommends using multiple measures of the same phenomenon to provide more reliable quality of description and interpretation. For this reason, the case study researcher can use various techniques to collect the same data to reveal the research problem(s). In addition, the researcher can well document the protocol of how to conduct his/her case study so that other scholars/researchers can replicate it. Yin (2009) recommends that the researcher create a case study database to document the data collection process as well as maintaining a chain of evidence via connecting the research question(s) with the case protocol, and the implementation of multiple sources of evidences.

Stake (1995) and Creswell (1998) emphasize the importance of asking for feedback from the research’s respondents and/or other researchers on a draft of the research. As the case study researcher provides an in-depth description of the phenomenon, the interviewed should verify the researcher’s description. The verification of the respondents helps the researcher revisit their narratives and the report and ultimately increase the creditability of explanations.

Using multiple methods, i.e., in-depth interview, direct observation, and documentation review, for data collection, this research concentrates on data triangulation to crosscheck the consistency and convergence of evidence used in the report. This study adopts multiple viewpoints from stakeholders to construct a story of the making of community capacity building and local governance via diverse forms of water service provision. To mitigate errors in data collection, the researcher was aware of the importance of evaluating the creditability of the provided information from respondents. Interviewing techniques, such as, rephrasing and asking questions in specific context, re-asking questions for double-checking purpose, using information provided by one respondent to interview another for validation and crosschecking, were used to reduce data errors. In addition, there was documentation of the protocol and process of carrying out the research and careful storage of both primary and secondary data for any future review and replication.
CHAPTER 4: DYNAMIC URBAN DEVELOPMENT AND PLURALIST GOVERNANCE OF URBAN SERVICE PROVISION IN VIETNAM

This chapter discusses urban growth and development strategies in Vietnam during the past 15 years that influenced the emergence of pluralist governance of service provision in urban areas. Rapid urban development in Vietnam has generated opportunities for the local government to increase its revenues, demands for upgrading and building new infrastructure systems, and changes in the government’s policies on infrastructure development.

Vietnam launched its national economic reform in 1986 to achieve closer integration into the global economy a decade after its national re-unification and operation of a centrally planned economy (1975-1986). This economic reform brought new perspective in economic management for the country, i.e., opening the economy to foreign trade and investment, allowing the co-existence of multiple economic sectors, abolishing subsidization for many state-owned enterprises (Phan, Mai, Nguyen et al. 2008). Gradually, Vietnam integrated into the global economy and politics by achieving the formal normalization of diplomatic relations with the United States of America in 1995, joining the Association of Southeast Asian Nations in 1997 and the World Trade Organization in 2007, and closely working with its Consultative Group composed of international donors and headed by the World Bank and the International Monetary Fund (IMF). Important achievements from the reform are rapid growth in domestic and international trade, higher income and improved living standards for Vietnamese citizens, an influx of international goods, services, and exchanges, poverty reduction, increased human development index, and increased enrollment rate in education nationwide (World Bank 2000; United Nations in Viet Nam 2002; Mattner 2004).

In this era, cities have been viewed as economic engines that generate forces for material wealth and act as magnets for global capital in development. Primary cities, notably Hanoi and Ho Chi Minh City followed by Hai Phong, Da Nang, and Can Tho, became destinations of internationally funded projects, global financial corporations, hotels and other luxury components of the service industry. New ports, new towns, satellite cities, industrial processing zones, underground/elevated rail system, arterial roads, highways and many other large-scale infrastructure development projects have been planned and constructed in these primary cities.
Other urban areas subsequently attracted the participation and investment of international construction, engineering, planning, and business firms as well as attracting domestic in-migrants from other lag-behind regions in the country. The growth of cities has been planned and oriented by the central government of Vietnam to boost national economic development. Contrary to the national development policy prior to the reform (1986) that discouraged the concentration of resources and development in the city, the central government of Vietnam since the early 1990s has planned, promoted, and even intensified the urbanization process in both major metropolitan centers and district towns and relied on this strategy to boost the development of rural and other lagging regions. The demands from rapid urbanization have created changes in urban finance and management that significantly influenced the development and provision of environmental services in cities of Vietnam, particularly financial development and an increased role of the local government, the state’s withdrawal and the participation of the private sector and other segments of civil society.

4.1. Accelerated Urbanization and the Demand for Services

As mentioned previously, urban growth is the focal point of Vietnam’s urban development strategy, and therefore the country has undergone a stage of planning and promotion of rapid urbanization-based economic development in which there has been a large-scale urban and economic transformation. The World Bank (2011) supposes that Vietnam is following the same path of development taken by the majority of countries that have been achieving higher-income status and strong economic growth furthered in part by urbanization. At the national level, the 2001-2010 Ten Year-Socioeconomic Development Strategy set Vietnam on a planned path to become one of the industrialized countries via an accelerated industrialization and modernization process. The Central government recently approved the 2010-2020 Ten Year-Socioeconomic Development Strategy emphasizing the promotion and orientation of national industrialization and modernization, while consolidating social inclusiveness, calling for the development of small sized and medium cities, as well as accepting the formation of mega cities which might

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4http://www.chinhphu.vn/portal/page/portal/chinhphu/NuocCHXHCNVietNam/ThongTinTongHop/noidungvankiendaihoidang?categoryId=10000714&articleId=10038387
possibly contain over 10 million inhabitants. At the provincial level, many urban centers have expanded as local governments have substantial incentives to sell public land to rapidly increase local (provincial) revenues. In the meantime, unplanned urbanization has also occurred, most visibly through dynamic real estate transactions among residents and the physical transformation in peri-urban areas (de Loddis 2006; Harms 2011). The Ministry of Construction projected that the share of classified urban population would increase from 23 percent in 2000 to 45 percent in 2020 (Ministry of Construction 1999). The United Nations (2008) forecasted that the urban population of Vietnam by 2040, for the first time, will exceed the rural population.

Both planned and spontaneous urban development have resulted in demand for intensive infrastructure development and service provisioning. In his opening remarks at the International Conference on Public-Private Partnerships: Practical Experiences and Orientation for Financial Principles and Framework for Vietnam held on May 18, 2012 in Hanoi, the Deputy Minister of Finance, Mr. Tran Xuan Ha, highlighted not only the need for infrastructure development, but also the initiatives in resource mobilization and collaborations among various stakeholders to realize the objective of Vietnam becoming one of the industrialized countries by 2020. The Deputy Minister of Finance estimated that the financial demand for urban infrastructure and service development in Vietnam would be approximately US$ 160-170 billion, equivalent to 10-11 percent of the national Gross Domestic Product (Hong Van 2012) and stated that the State itself was unable to sufficiently meet that investment need. On behalf of the Vietnamese Ministry of Finance, Mr. Tran placed his emphasis on the call for public-private partnerships as well as the participation of various agents in the development of infrastructure projects. This aspect is further elaborated in sections 4.4 and 4.5 of this chapter.

4.2. Accumulated Wealth and Roles of the Local Government

An urban development strategy based on national economic development manifested via residential/housing construction, new towns, and other infrastructure development projects cannot become feasible without land acquisition and proper negotiation with residents in localities in Vietnam. No single institution in the sub-national government of the Vietnamese
State apparatus could do this job better than the government at the communal level – the Commune People’s Committee.

**Table 4.1 The Four Levels of the Vietnamese State**

![Diagram showing the four levels of the Vietnamese State]


Although at the bottom of the state hierarchy\(^5\), CPC is delegated with excessive responsibilities, such as collecting taxes from local residents (entrepreneurs, farmers, land use conversion), playing a patronage role for socio-economic development, safety and security, and other issues at the locality. The CPC is responsible for administering and managing household registration as well as population mobility in its administrative territory with substantial assistance from local mass organizations under the stewardship of the Front Fatherland, including the Youth Association, the Women’s Union, the Veteran Association, and the Association of the Elderly. At the community level, CPC is assisted by heads of population clusters, playing the role of an outreach specialist that disseminates to local residents and implements the CPC agenda as well as

\(^5\) Local administration in Vietnam is structured in three tiers below the central government. There are 61 provinces, 598 districts, 10,500 rural communes, semi-urban townships and urban wards (World Bank 2002)
activities in the community. Officials themselves are also inhabitants of the commune and, therefore, have incentive to persuade other local residents to comply with and support state regulations and public policies for the locality.

Financially, CPC officials, as government employees, are paid monthly through public finances. Administrative activities carried out annually in the locality are covered by fiscal transfers from the government at the district level (District People’s Committee). When a development project is planned and constructed at the commune level the CPC receives a proportion from the total conveyance fees paid by the developer(s) and the CPC has an exclusive right to use this source of money for the well-being of the commune/locality.

As a unit of the government apparatus, the CPC executes missions and tasks assigned from the district and city government levels. Under the central and city’s planned urban growth policies, communes located in the fringe and periphery of metropolitan centers have been rapidly urbanized; and their urbanization features are manifested via the transformation of economic structure, land use, and increased population density. These communes attract developers who tirelessly seek land for new housing and other development projects as land acquisition compensation for residents of these communes is relatively cheaper compared to designated urban areas and the profit gained from such projects is enormous. Delegated by the District People’s Committee, the CPC led by a chairperson has to support any plans early approved by Urban Planning and Management Department, the Planning and Investment Department and Fiscal Management Department at the municipal level and those pre-approved of by the Prime Minister and the Government Office at the central level.

To the extent of its capacity, CPC officials have to transparently disseminate information for the development project(s), the scale of development, area of coverage, and potential impacts of development projects on the locality. The leader of CPC, either the Chairperson or a Vice Chairperson join and assists the project’s Steering Committee in intensifying land clearance and acquisition for the project launching. As earlier mentioned, the CPC has incentives because of the conveyance fees to clear sites for development projects, which are mostly formulated, based on urban government’s appropriation of agricultural land. CPC officials hold public meetings with local residents to address the residents’ complaints and appeals regarding nonnegotiable compensation terms for land acquisition. In many cases, CPC has to play the role of facilitator to
solve compensation issues between the local residents and the developer. Additionally, the officials also make home visits to personally convince landowners of the merits of the prospective project for the sake of what is loosely called rural/local development; so that the latter might agree with the developer over the compensation terms. Successful persuasion efforts secure both economic incentives and fulfill the political mission of the communal government officials.

Under the context of politically planned urban development like the case of Hanoi\(^6\), many suburban communes/communities have been affected by the city’s recent expansion of its boundaries (occurred in August 2008) and pre-approval of over seven hundred housing development projects. The communal government officials were under political pressure to work with both the developer and the local inhabitants over land appropriation for construction. The larger the scale of a development project, the more challenges facing the local officials of the CPC in arranging for site clearance.

Undoubtedly, the CPC has been given an essential role to play in supporting and translating the general urban development strategy of the central government into reality at the commune level through its implementation of the state policies. This role, to some, becomes a burden added to the existing serious local governance problems, such as inadequate service and facility provisioning in return for tax payments and compulsory labor or financial contributions to infrastructure projects, rampant corruption of local officials who bend the rules and/or sell public land for their own benefit. To many others, acting as a facilitator for project development at the commune level is an irresistible opportunity for the CPC to increase their revenues, which have been recently reduced due to the abolishment of agricultural tax on farmers\(^7\). Because of the increased local budget/revenue and the fiscal decentralization delegated from the central government.

\(^{6}\) Since 1986 the municipality/capital of Vietnam has had its administrative boundaries be adjusted several times. In August of 2008, the National Parliament approved of a central government’s planning project, which aims at extending Hanoi’s administrative boundaries to accommodate the demands for development as the capital city of Vietnam. Consequently, the area of new Hanoi is three folds larger than its original size (334.7 square kilometer area).

\(^{7}\) Many peri-urban communes in Hanoi no longer charge agricultural tax to farmers as agricultural land has been rapidly appropriated by urban government and the local agricultural collective institution stopped providing irrigation service, seeding, and fertilizers to farmers.
government to the city/provincial authorities, the local authority has autonomy over the local revenues and uses its budget to address local issues and needs, including the building and upgrading of the local infrastructure system to improve welfare for local residents as a whole. What is a concern to most, and relates to the appropriation of agricultural land for urban development projects at many communes, is the lack of collaborative planning process, which involves the participation of citizens and affected people in the development planning at the locality. Many projects have been assigned land for development because of the legal enforcement executed by the local authority without consent of the local citizens. This flaw has caused many appeals as well as violent resistance by the affected households.

4.3. Facilitating Participatory Governance through Local Democracy

The accelerated urbanization process presents challenges in urban management and governance for the Vietnamese government at all levels. Coupled with a decentralization policy that manifests the devolution of the central government to the provincial government in fiscal management and decision-making authority is the introduction of a policy of participatory governance at the grassroots level that encourages the local citizens’ feedback on the performance of the government or emerging issues facing the locality. In 1998, Decree 29 on the promulgation of regulations in the exercise of democracy at grassroots level provides for direct citizen participation in decision-making processes at the commune level – the fourth tier below the central government – and specifically in four categories as presented by Mattner (2004: 123) below:

**Information:** Local officials are obliged to provide detailed information about a broad range of issues, from national laws to local projects. This includes the decisions of commune people’s councils as well as commune budgets, land use plans, results of investigation against corrupt officials, and the enforcement of law and order. Information is to be disseminated in public meets, or through written documents, public postings or public address systems.

**Consultation:** Most local government initiatives require public discussion prior to being decided by Commune People’s Councils and People’s Committees. The regulations list long-term socioeconomic planning, land use plans and the nomination of candidates to stand for commune people’s council elections. In addition, they also cover the mobilization of residents’ contributions to
infrastructure construction as well as the implementation of national plans on environmental protection, health and water. The views of local residents are to be gathered through questionnaires, feedback boxes or public meetings.

**Approval:** Local officials must seek majority popular approval for a number of activities, including public works that require contributions from residents. In addition, approval must be obtained for fund-raising plans, for various activities related to maintaining law and order, and for setting up boards to supervise construction projects. Implementation is to take place through public meetings or referendums. If the commune People’s Committee deems decisions to be inconsistent with relevant laws, however, it can refer them to the district People’s Committee for review.

**Supervision:** There are a number of local issues which are “to be supervised and inspected by the people, including the commune budget, land management, results of investigations against corrupt officials and social services. This also applies to the general activities of the people’s committee and the implementation of its decisions. Implementation is envisaged through the establishment of people’s inspection boards or through mass organizations. In addition, residents are entitled to make proposals and complaints, as well as request information from local officials about issues of concern to them.

The introduction of Decree 29, in theory, emphasizes a participatory mechanism in local decision-making and draws attention to the incorporation of participatory measures in development programs in the locality. The Decree along with the principle “People know, people discuss, people do, and people supervise,” regulated by the Party and Central State of Vietnam politically empowers the local residents as they have the right and responsibility to consult and supervise the performance of the local government as well as other government apparatus units when addressing local issues. This policy also requires the local government and administration to be more accountable and responsive to residents’ request, appeals, and other forms of feedback. With this policy in place, the government of Vietnam gains more attention from international aid agencies and avoids unnecessary social unrest at the grassroots level (Mattner 2004).

Although the implementation of Decree 29 varies by context, its existence informs changes in planning policies and orients towards participatory implementation at the grassroots level and orients citizen participation into planning projects. It also sets a legal foundation for a
collaborative planning process, in which both the beneficiaries and affected people of infrastructure development projects are viewed as stakeholders.

4.4. Seeking Efficiency and Effectiveness: The State Withdrawal and the Emergence of Non-state Stakeholders in Service Provision

Planned city growth of the government of Vietnam at all levels requires tremendous resources. The urban development objective(s) have to compete with other economic sectors for resources. Financially, funding for infrastructure development projects originates from three major sources. These are: Official Development Assistance (ODA) from international financial institutions and donors, bilateral aid funds from international development agencies, such as FINNIDA (Finland), DANIDA (Denmark), AusAID (Australia), CIDA (Canada), SIDA (Sweden), USAID (USA), JICA (Japan), and the national budget, allocated from the central government. National funding allocation to cities/provinces is set based on the classification of cities and the socioeconomic development status. Five centrally controlled municipalities, ranked as the first class cities, (Hanoi, Ho Chi Minh City, Hai Phong, Da Nang, and Can Tho) receive more annual resources and funding allocation than other provinces, and/or other lower ranked cities. Similarly, provinces/cities that are in shortage of public facilities, amenities like schools, primary health care centers, water supply stations, are higher prioritized in funding allocation than others.

Since its economy shifted from a centrally planned economy to a multi-sectoral economy guided by market economy principles with property predominantly in the hands of the state and cooperatives, the Vietnamese government has encouraged the participation of various stakeholders in the development of infrastructure and services to reduce its financial burden. According to assessments by foreign donors and the Consultative Group led by the World Bank and IMF, the state-owned enterprises and other public utilities’ performances have not yet been efficient and effective in providing infrastructure and service amenities for many reasons including over-staffing, insufficient resources, insufficient investment, inadequate capacity and technicality, and poor management. Some measures have been taken by the government of Vietnam to cope with and compensate for the inefficiency of the public utilities/state-owned enterprises in infrastructure development and service provisioning:
Decentralization policy is introduced for delegating the responsibility and accountability of the provincial government in the sub-national government apparatus of the Vietnamese State. Under this policy the provincial government (the provincial People’s Committee) has the power to approve development projects/plans proposed by the developer and decide on its budget allocation on demand and priority-based projects.

Encouraging the participation of the foreign private sector is another solution to the high demand for infrastructure and service provision during the accelerated urbanization process in Vietnam. The country’s effort to involve the private sector in infrastructure sectors is primarily focused on meeting financing needs through the equitization program and B-O-Ts (Build-Operate-Transfer). Phu My Hung new town development project invested in by Taiwanese entrepreneurs at the edge of Ho Chi Minh City and Ciputra Residential Development Project erected in the periphery of Hanoi City are two among the first examples of BOT projects that the central government of Vietnam approved. Among the many foreign investment projects in Vietnam, several were developed with the participation of international corporations for the provision of urban services, such as BCC (Business- Cooperation-Contract) projects in domestic telecommunication network development with Sweden (1995), Korea (1996), Japan (1997), France (1997), Great Britain (1997); a BCC project in international telecommunication network with Australia (1998) and a BCC project for a national communication network with Korea (2003); a BOT project in electricity generation with Thailand (1997); a BOT project in gas power generation with France and Japan (2002); a BOT project in national gas power generation with Singapore, Japan, and Great Britain (2003); and a BOT project in water supply (treatment plant) in Ho Chi Minh City with France and Malaysia (2001) (World Bank 2006). Private sector participation in urban and infrastructural services in Vietnam, however, should be advocated and promoted as a means of improving efficiency of programs and services, especially when introduced through competitive bidding for the right to serve in the Vietnamese market. Many have chosen to be in a partnership with state-owned enterprises (public-private partnerships). In the water supply sector, Vietnam’s Constitution does not allow private possession of water sources, but permits the private sector to participate in natural resource management (Fontennelle, 2001). The state truly acts as a gate-keeper that strictly monitors and regulates water tariffs to protect its citizen’s rights. Any interventions of the transnational corporations in the provision of services that diminish public benefits are neither welcomed, nor acceptable.
As reviewed and assessed by international donors, PPPs in Vietnam still are in an initial stage and the government has not clearly developed and regulated a mechanism or guidance for this type of partnership. PPPs in Vietnam have been used as a means to mobilize capital from the private sector, rather than concentrating on the efficiency of existing public enterprises and the improvement of urban service production and distribution.

“Socialization”/ Mobilization of various stakeholders’ participation policy [Chính sách “Xã Hội Hoá”] is another measure taken by Vietnamese government. Socialization, in essence, is the mobilization of various stakeholders to participate in financing public services and other targeted sectors, which means opening up to private participation and greater user’s engagement in service production and distribution (Albrecht, Hocquard, and Papi 2010). Although public sector companies (public utilities) are a cornerstone of Vietnam’s economy and are active in all productive and service sectors, the central and provincial governments of Vietnam highly encourage partnerships between public-public utilities and between domestic private sector and public utilities. A B-O-O Thu-Thiem Water Supply Project in Ho Chi Minh City is one example demonstrating partnerships in investment and management of six domestic enterprises. This project has been significantly useful in improving the accessibility of piped water in Ho Chi Minh City. However, a lack of a legal framework to steer and guide such projects has affected the success of many other PPPs in Vietnam (World Bank 2006). Decree 71/2010, signed by the Prime Minister and introduced in November of 2010 is the primary legal document used to regulate PPPs in Vietnam. This legal document, however, requires more detailed guidance for the implementation of PPP projects.

Coupled with the implementation of decentralization efforts (Spencer 2007), which authorizes more autonomy to local authority and public utilities to have initiatives in service provision, the encouragement of partnerships in Vietnam has significantly mobilized the involvement of not only the private sector, but also other segments of civil society. Although local entrepreneurs might not contribute financially to the sector, as revealed through the case of Can Tho (Spencer 2007; 2008b), Ha Noi (Nguyen 2004) Tien Giang and Ho Chi Minh City (Dardenne 2006), their involvement shows a new form of governance that significantly contributes to the improvement and enhancement of urban service provision.
The socialization in infrastructure development and service provision, as a financing mobilization strategy, also aims at the end users, households, and companies that have more resources to contribute to financial investments (Albrecht, Hocquard, and Papin 2010). Even though revenues generated from user fees do not sufficiently finance direct investment expenditure in environmental services like piped drinking water, public utilities still encourage users to collaborate in the distribution and maintenance of the service to enhance the quality of service and to reduce distribution costs. In some contexts, where the public utilities do not have the capacity to expand the service to every single household, lease contracts are arranged via a master water meter to reduce the risks of non-revenue water proportion during the distribution process (Nguyen 2004).

In rural and peri-urban areas, self-arrangement by users is also found and recognized when the public utilities’ services are not available. The fact is users’ participation in service provision manifests in varied forms beyond the financing contribution. In the water sector, it is unlikely that the centralized system of service provision (principally supplied by the city water supply company) can be adequately monitored, managed, and maintained, unless communities are mobilized and actively participate in the joint management. When the water supply system is managed at the neighborhood level, community members more closely monitor water utilization and use social norms and values to discourage and sanction illegal connections and piped deconstruction. The prevalence of this governance in service provision substantially linked with the increasing engagement of non-governmental organizations’ activities in the locality as well as the emergence of collective efforts of local citizens to protect their living environment and improve their quality of life, which are presented in the subsequent section 4.5.

4.5. Community Collective Efforts

Along with the integration of Vietnam into the world economy after its implementation of the national economic reform policy was the influx of international non-governmental organizations (INGOs), and later the emergence of the local NGOs, whose programs/activities have primarily focused on socio-economic development, i.e., education, healthcare, water and sanitation, tourism development, microfinance, and sustainable agriculture and natural resource
management. These programs not only tackle pressing socio-economic issues facing local communities, but also gradually change the attitudes and capacities of residents of many local communities in Vietnam (VUFO-NGO Resource Centre 2008).

A great number of practical community environmental improvement and infrastructural development projects entail substantial participation and contributions of non-governmental organizations (NGOs). NGOs provide initial, but significant support to help community-based organizations (CBOs) launch their programs/projects. Staff members of this sector work with local communities to plan, develop, and implement those programs. More specifically, NGOs initiate ideas and make financial investment, and in many cases, provide technical, administrative, and managerial assistance to CBOs. In certain settings NGOs first conduct a Build-Operate-Transfer project, followed by capacity building for CBOs and the local government so that these actors can take over the newly built infrastructural system.

Programs initiated by NGOs provide information, raise awareness, and contribute to capacity building for local residents via introducing best practices and training. Such programs also target local community empowerment by encouraging involvement in dialoguing with relevant government and donor institutions while creating a bridge between the local government and residents when addressing the local problems.

In addition to the NGO contributions to local development, the local mass organizations under the auspices of the Fatherland Front, i.e., the Women’s Union, the Youth Association, the Farmer’s Union, are also viewed as catalysts for collective efforts and capacity building at the locality. These organizations serve primarily as a vehicle for implementing policy directives from above, while taking action, which is oriented towards the social needs of the local community. There have been records of successful programs self-organized by local communes and assisted by the local government/mass organizations at the grassroots level in environmental protection and sanitation service, community space building (Nguyen and Nghiem 2006). For example, the “Green – Clean – Beautiful” program has been promoted from the commune/ward level to the city level in Vietnam. The role of Information-Education-Communication campaigns/activities is of importance in public awareness raising and collective action.
motivation, and is well implemented by mass organizations at the commune level 8. Local government officials and members of mass organizations call for and facilitate such activities to assure that cleaning activities and trash collection are completed and on time. Such programs and activities do not require excessive money in implementation, but facilitation skills, support, and downward accountability of the local government as well as mass organizations under the government’s stewardship. Every household has some members being affiliated with the local mass organizations; therefore, households, generally, have the urge to collect trash, clean their surroundings, and be proud of their own green, clean, and beautiful neighborhood. They collaborate and communicate with their neighbors to clean public areas in the alley, mobilize middle and high school students as well as members of the Youth Association, the Women’s Union under the local government’s stewardship to clean graffiti, public streets, or community spaces. Below are two examples of local initiatives in the area of environmental service management.

<table>
<thead>
<tr>
<th>Community based Initiative in Waste Management in Minh Khai Precinct</th>
<th>Waste Management Program Initiated by the Local Government of Nhan Chinh Village</th>
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<tbody>
<tr>
<td>As of 1998 there was no system of solid waste management in Minh Khai Precinct, Tu Liem District. Waste was usually burned, fed to livestock, or buried while organic waste was incorporated into agricultural fields or ponds. Streets were often dirty and full of waste. In October 1999, the local Women’s Union in collaboration with the community organization representative developed an experimental trial of waste collection. The Union initiated a daily curb side waste collection system. After two month of trial, the majority of the 60 members of the Union no longer wanted to continue the initiative. The Union had to hire two of their members to collect daily trash and proposed to the community that each household chip in a small amount of money to compensate for.</td>
<td>Prior to 1995, Nhan Chinh ward, Thanh Xuan District had no system of waste collection. The local environment was quite polluted with many plastic bags in the community’s ponds and littered through the streets and other public areas. There was a community landfill, but it went unattended and was often left burning or smoldering due to neglect. In 1996 the local People’s Committee initiated a “non-governmental” project namely “Model of Solid Waste Management in Nhan Chinh Village.” Five collectors were hired at the beginning and more were added later when the local population and volume of waste increased. An</td>
</tr>
</tbody>
</table>

8 These organizations have branches at all administrative levels, i.e., city, district, and ward/commune.
their work and to purchase maintenance supplies such as dustcarts, boots, brooms, and gloves for collectors. In 1999 a fee of VND300 (US$ 0.019) per person/household/month was imposed. In 2001, this fee was increased to VND 500 (US$ 0.032), and the Union along with head of the community met with community members and reached an agreement to establish of the community’s solid waste management organization with 6 members (Head of the community, head and vice head of the Women’s Union, two waste collectors and one who take responsibility for scheduling). Collectors selected by community members are responsible for waste collection from those households participating in the system as well as public street sweeping. Residents are informed of collecting time and schedule changes. Most meetings begin with the leader addressing issues or problems and then discussing any related opinions or possible solutions. Attendants have an equal chance to discuss solutions to problems. Once others have had a chance to voice their opinions, there is a show of hands to vote on an outcome. Voices are considered conclusive when 70 percent of the participating members agree.

This initiative not only brings a better appearance for the whole Precinct, but also provides community members an opportunity to practice collective action to resolve community common problems.

To conclude, this chapter contextualizes urban development and service provision status in Vietnam, from which the Co Nhue community governance of water supply originates. The chapter highlights the contemporary political culture of Vietnam that facilitates participatory governance through local democracy and the call into the participation of various agents, actors, and stakeholders in the provision of urban services. Lastly, the stage is also set for the subsequent chapter that introduces the locally built and managed water supply system in Co Nhue.
CHAPTER 5: CO NHUE’S COLLECTIVE COMMUNITY DEVELOPED LOCAL WATER SUPPLY SYSTEM: THE RISE AND FALL

This chapter narrates the story of collective community effort in water service provision in Hanoi, Vietnam’s Co Nhue commune in the midst of rapid urbanization. The service system fell apart after several years of operation, though planners, researchers, and policy makers can learn from the process that enabled the establishment and evolution of the system. Specifically, this case study can be a precedent for mobilizing community engagement in service provision and the development of community capacity and local governance as a result of the collective effort. The multiple narratives of the project’s various stakeholders tell the larger story of the rise and fall of Co Nhue’s community-based water supply. As highlighted in chapter 4, these stakeholders include:

(i) the local government of the locality (CPC);

(ii) the Water Management Unit (WMU) that was in charge of operating and monitoring the [communal water supply] system;

(iii) the water providers that sold water in bulk via a master water meter to CPC. Hanoi Water Business Company directly signed the contract and its branch factory – Cau Giay Water Supply Factory – was in charge of providing daily water service and collecting monthly bills from Co Nhue’s water supply system.

(iv) The residents of Co Nhue commune who received the water service.

This chapter starts off with an overview of the Co Nhue commune, the commune’s history, and other social, economic, and demographic information that is useful in documenting the development and evolution of the Co Nhue community-managed water supply system.
5.1 Background of the Study Site- Co Nhue Commune

In 1961, Co Nhue became a commune within the Tu Liem District, a Western rural district of Hanoi. Situated on approximately 615 hectares, Co Nhue is 10 miles from the center of the Hanoi (Pham, Do, Luong, and Phan 1994). According to historical archives and documents kept in the local temple, shrines, and the Communal House, Co Nhue village\(^9\) was established more than a thousand year ago by wet paddy cultivators. Like other traditional villages in the delta of the Red River, Co Nhue was constructed on elevated ground near the Nhue River so that the villagers could easily access water for daily life and irrigation purposes, which was essential for wet rice cultivation.

**Picture 5.1 A Satellite Image of Co Nhue Commune from Google Map**

Note: Highlighted areas in Picture 5.1 include 14 Hamlets/residential units of Co Nhue commune

\(^9\) According to anthropological research on the Village of the Viet People in Northern Vietnam, the village is a unit of settlement by peasants. It is composed of a residential area surrounded by farmland and lakes and ponds. One village is separated from others by a huge entrance gate, surrounding walls, farmland and open spaces (Nguyen 1993).
As seen in Picture 5.1, there are three residential zones in Co Nhue commune. Zone A includes families and clans that have lived in the commune for generations. Residents of this zone carry on the village tradition that has lasted more than one thousand years, such as annual festivals, respecting the village founders’ contributions to the building, and protection of the village. This era is till tangible with Co Nhue’s communal temples, pagodas, shrines, and old communal wells that range from one hundred to one thousand years old. The old communal wells that used to be the main source of water supply for the villagers, the entrance gates to the residential areas of the hamlets, and the ancient houses built from the early twentieth century have been maintained and preserved to the present. As the residents have lived in this area for generations, social and everyday relations between families are fundamentally based on kinship ties and/or the shared characteristics of their place of origin. Residents of Zone A have a stronger voice in the local political and social organizations of the commune compared to the other two zones since all of the communal leaders (since Co Nhue was declared as a unit of administration of the Tu Liem District in 1971) reside in the area.

The other two settlements, Zones B and C, were established as a result of Hanoi city’s urban expansion policies since the 1960s. The arrival of Hospital E and the Ho Chi Minh National Academy of Politics and Public Administration in the late 1960s enabled the formation of a new residential area in Zone B while the arrival of the Police Training Academy, Hanoi University of Mining and Geology, and College of Finance lead to residential growth in Zone C. Originally, residents of these two zones were employees of the aforementioned government institutions and offices. Beginning in the early 1990s, there has been an increase in the total number of housing units and infill development in Zones B and C, following the pattern of Hanoi’s urban expansion. In contrast to the traditional social norms found in Zone A or other villages in the Red River Delta, social relations among households of the two extended residential areas are more individualism-oriented.

The People’s Committee of Co Nhue governs all three zones. The commune government holds a monthly meeting with the head of each population cluster (Trưởng thôn of Co Nhue). However, the three residential areas lack cohesiveness and solidarity in the commune because of prejudice against non-local origin residents, according to some respondents’ insights. Non-local origin residents, particularly those who had purchased land and shared space in Co Nhue commune,
blame the local villagers with family that have lived in the commune for generations for discriminating against them. The non-local origin residents suggest that they did not feel welcome or included at community events or annual festivals. Those who participate in well-established local organizations, such as Association of Veterans and Women’s Union, shared the same view of being isolated in collective activities in the locality. On the contrary, the local origin residents described and portrayed their counterparts’ lifestyles as cold, unfriendly, closed, and strange. Children of the non-local families did not go to schools in the commune and tended to stay inside rather than play with other locally born kids. These families preferred staying inside over visiting their neighbors to chat or establish relationships during their free time. Their participation in the village’s festivals and community activities was very limited. Non-local residents, from the local residents’ perspective, tended to have different interests because they generally had higher educational attainment, stable jobs and income sources, and were wealthier than the local villagers. They tended to separate themselves from others and lacked interest in their neighbors by locking the entrance door/gate to their house even when they were at home.

According to leaders of the Co Nhue People’s Committee (Co Nhue CPC) and statistical reports retained at the CPC headquarters, the commune was no longer homogenous in its population and economic structure after the development of a number of universities, centrally managed offices, and the hospital. Local demographic changes began in the late 1980s when the national economic reform era, known as “Doi Moi” in Vietnamese, influenced the composition of the city of Hanoi. Results of the last three censuses in Vietnam (1989, 1999, and 2009) reveal an increase in Co Nhue’s population over this time period. The rise in Co Nhue’s population was especially remarkable between 1999 and 2009 as the population more than tripled from 21,828 to 70,000 inhabitants (Co Nhue CPC 2009a; The People’s Committee of Tu Liem District 2011). This rise was not because of net-population increase, but net migration. Three colleges located in Co Nhue receive thousands of new students annually. In addition, the expansion of Hanoi to its west has made Co Nhue and other communes in the city’s western side an attractive housing area, especially for those from other provinces seeking better life opportunities in Hanoi.

10 Prior to such arrivals, Co Nhue was known as a homogenous community with the majority of the population relying on agriculture as the primary means of livelihood (Pham, Do, Luong, and Phan 1994).
Until recently, the economic structure of Co Nhue relied on agriculture and the textile industry. Before 2000, the annual reports of the People’s Committee of Co Nhue emphasized efforts to support farmers and agricultural production, the productivity of local agricultural cooperatives, and maintaining agricultural production as the predominant local economic sector. After 2000 when the Hanoi city government approved housing and other infrastructure development projects in Co Nhue as part of the city’s urban expansion strategy, the local economic development strategy of Co Nhue de-emphasized prioritization of the agricultural sector. A significant portion of agricultural land has been acquired and developed to meet the demands of the city’s urban growth policy. In 2002, the Hanoi city government passed a decree to acquire agricultural land in Co Nhue for 12 new development projects. In 2007, the People’s Committee of Co Nhue cleared land for another 10 projects for housing, parks, a hospital, and other infrastructure development (Co Nhue CPC 2007). In 2008, another 18 urban development projects were implemented in the commune. By the end of 2009, Co Nhue became home to 56 new urban development projects, resulting in the development of 218.113 hectares of agricultural land (Co Nhue CPC 2009b). These projects led to a significant drop in local agricultural productivity due to the decline in available agricultural land.

To respond to the city urban development strategy, Co Nhue commune leaders planned on shifting the local economic structure from Agriculture–Textile industry to Textile–Construction and Service–Agriculture industries from 2000 to 2010, according to the annual reports of the CPC (Co Nhue CPC 2000; 2001; 2002; 2003; 2004; 2005; 2009a). This economic strategy reflects the emergence of the construction and service industries in the commune economy and signals the impact of Hanoi’s ongoing rapid urbanization on this peripheral urbanizing community.

5.2 The Formation of the Piped Water Supply System in Co Nhue Commune

Due to their direct involvement in the project, the former and current leaders of the CPC, members of the project management unit, and members of the water management unit (WMU) provided the most insight on the formation of the piped water supply system in Co Nhue. The annual reports of the CPC and WMU retained at the commune headquarters were also useful
sources of information, revealing the process of the local water supply system establishment and the extent of Co Nhue’s local resident and government engagement.

According to a former chairperson of the CPC, the water system was constructed in the late 1990s. At that time, the majority of the approximately 12,000 residents of the Co Nhue population relied on three communal water wells located in three major hamlets, along with rainwater and groundwater. After centuries as the main water supply source for the local villagers, these communal wells did not meet the local people’s needs for clean water because they were not well-maintained, as reported by CPC representatives. For many households, everyday fetching and carrying of water from these communal wells was challenging and time consuming because of the decreasing water quantity, deteriorating water quality, and an overall decline in reliability. Seeking convenience in water access for daily life, households started to drill wells. Better-off households paid for privately drilled wells (17-20 meter deep), using this water source for various household purposes, including drinking, cooking, bathing, watering, cleaning, and washing. Less wealthy households sought help from those that were better off for access to the privately drilled wells. As a result, the use of communal water wells became less popular. In the early 1990s, the communal wells were covered, with more than 90 percent of the local households owning at least one drilled well/each, according to a Co Nhue survey on local groundwater resource exploitation.

The trend of extracting groundwater by local households concerned the commune leaders. From the local government’s perspective, it was important for the local government to secure clean water for its residents to mitigate public health risks associated with massive and simultaneous exploitation of groundwater. In doing so, the local government was also able to respond to the central government’s policy on enhancing water and sanitation accessibility for rural populations. The insufficient supply and poor water quality from the communal water wells combined with the proliferation of spontaneous underground exploitation of groundwater led to the CPC’s plan to bring piped (clean) drinking water to Co Nhue’s residents.

**Determination and enthusiasm of the local leadership**

Back in the 1990s there were no precedents for community-based piped water supply construction in Hanoi. Thus, when the chairperson of the People’s Committee of Co Nhue
brought up the idea of building a locally owned and self-operated water supply system with the local (Communist) Party Secretary, the latter had to consider if such a system was a panacea for the unmanaged and unorganized groundwater extraction in the commune and, more importantly, how the Committee would find additional funds beyond the project cost. However, when the chairperson proposed an investment request from the government of Tu Liem District and the Hanoi city government matched the commune funds, the commune Party Secretary thought the project idea was possibly feasible. As a leader of the Communist Party at the commune level, the Secretary responsibilities included providing leadership in making decisions on every aspect, including politics and economic development, in the locality. When asked about the initiation of a water supply system locally owned and operated, a former Secretary said: “…I have to say that I shared the concern of the former chairperson about water usage conditions in the commune back then [the early 1990s]. For local families it was initially affordable to dig a hand-dug well and then a drilled well, but at the same time we were not instructed about how to regulate groundwater usage in the locality. The idea of establishing a local water supply system providing a reliable water source to local residents was excellent if the Committee [local government] could take care of financial deficit issues. I told the chairperson that she also had to share her idea with the chair of the commune Front Fatherland Unit to receive assistance from grassroots organizations.” (Interview #17)

To receive the support of other political and mass organizations at the commune level – the People’s Council and Front Fatherland Unit, the two local leaders representing the governing state and party – presented the idea to the chair of the commune Front Fatherland Unit, in charge of steering activities and programs for the mass organizations at the commune/ward level, and proposed the establishment of a project management unit (PMU). Both the CPC chairperson and the Party Secretary proactively looked for capable and reliable staff members, members of the Women’s Union, Youth’s Union, Farmer’s Union, and heads of population clusters for the PMU positions. PMU members were also members of the Communist Party. Their involvement in the establishment of the water supply project reflected their compliance with the leadership of the Communist Party. The PMU members were assigned the responsibility of lobbying the government at the district (the People’s Committee of Tu Liem District) and municipal (the People’s Committee of Hanoi) levels to seek additional funding, and more importantly, the project approval. They had to mobilize their networks and best use existing local resources to
complete their mission. One member recalled how he and others contributed to the arrangement of the project:

“… Back to that time [the 1990s] the People’s Committee chairperson and the Secretary of the communal party used the name and standing of the locally born - military General Van Tien Dung [Van was the last name] to request for a favor from the municipal government of Hanoi. The commune Party Secretary at that time was a member of the famous Van clan [in Co Nhue village], and he knew how to leverage this commune asset by using the General’s name to obtain the city government’s approval for this commune’s financially enormous infrastructure development project. As a member of the Party, I was appointed by the CPC chairperson and the Party Secretary to join their effort. We had to lobby the municipal Department of Public Works and Transportation and the Hanoi Water Business Company because these two institutions were directly involved in the construction and operation of the local water supply system. The former authorized and appointed construction companies to build the piped network while the latter directly signed a contract with the CPC and steered its factory branch (Cau Giay Water Supply Factory) to sell water in bulk to the commune. Without the influence of the General Van, it might have been far harder to launch this project.” (Interview # 5)

All of the former members of the PMU acquiesced when asked to participate in the establishment of the water project. As a member of the Party these people had to obey their leader’s order. None challenged the project objective, which was increased water accessibility for local residents, because they were also local residents and were well aware of the difficult water access situation in the commune. However, some of them had reservations about the capability of local personnel to later be selected to implement the project and about how to set up the collaborations with various municipal agencies so that the project would be run in the most efficient manner. One shared his personal experiences in serving the PMU:

“…As a member of the Party I was chosen [as a member of the project management unit], and I think the communal leaders made that selection for a reason. Of course I had to obey the order. That is the principle with which every party member has to comply. Yet, I was very curious about how the project would be implemented and who in the commune had the capacity to run it. The fact was no other commune in Hanoi ever did something like we were proposing at that
time. “Are we doing something right? Would the project stand a chance to be successful?” I asked myself these questions. I did not share my thoughts with others, though, since the leaders and others were very enthusiastic about the project ideas and worked hard to get the city’s permission.” (Interview # 6)

A common perception among the PMU members was their enthusiasm for the betterment of the locality. Although none of the four former members that were interviewed had any idea of how the project would be implemented, they had not been disheartened or discouraged by the process nor doubted the project feasibility. In fact, they felt motivated by the commune leaders who were always positive about the potential benefits that the project would generate for the community residents.

“Our commune leaders were very determined. No matter how hard we had to convince the [Hanoi] city leaders to approve our project, they always seemed to be in high spirits. They believed that their honesty and demonstrated-accountability to the local inhabitants would be recognized by the city leaders. Their strong determination and enthusiasm inspired other members including myself to continue working for the good cause.” (Interview # 5).

Another determining factor attributed to the construction of the water supply system in Co Nhue was the local matching fund. None of the former PMU members could recall the value of the Hanoi municipal government’s investment in the Co Nhue’s water system, but the local budget’s VND 4 billion was mentioned in many interviews as the amount of the local matching funds. Under the city government’s arrangements, the city invested in extending the existing water supply system of the Cau Giay WSF to a new water pumping station, which was built and operated in Co Nhue commune, coupled with an investment in the installation of 28 master water meters on the city’s invested piped network. The CPC built a distribution piped network within the commune for local household connections, and the construction of this internal distribution network cost VND 4 million, as stated by members of the PMU and former commune leaders. In essence, this amount was provided to the local government as a token of compensation for land acquisition from many of the city development projects in the late 1980s and early 1990s. The excerpt from a former leader of CPC presented below demonstrated the determination of the
local leadership in decision-making on the local budget allocation and the decision to budget the VND 4 million for the first ever piped water supply infrastructure development.

“… It was costly to build an entire piped network for the village, which was about 43,000 meter long. The construction expenditure was approximately VND 4 billion and we had to cover that cost. That was the deal made between our leaders and the city leaders. Our leaders (of the government and the party) decided to use money that we received from several public institutions and companies, which built new headquarters and/or started businesses in Co Nhue, to cover the construction cost. The decision was made by the People’s Council, the People’s Committee, and the Party. That was a huge investment for a single locally owned infrastructure project. I have no idea how long it would take for all the parties to have come to that decision. I reckon, without determination, the commune leaders would not have been able to convince other parties to approve of their financial plan, since there had been other community projects that also required financial investment from the local budget.” (Interview #1)

The Co Nhue commune leaders’ decision in making a tremendous investment in its piped water network reflects their strong determination in securing clean water for local residents for several reasons. The CPC had the responsibility of allocating the local budget down to its hamlets/population clusters for infrastructure upgrading and construction every year. The decision of spending VND 4 billion for a new water supply system meant that other infrastructure developments, such as improvements to local roads, drainage system improvements, open space development, and new communal house construction projects were put on hold. The investment priority in a clean water supply system to improve water accessibility over other community issues was presented to and agreed upon by the representatives of the local hamlet, who serve on the People’s Council:

“We all were asked to voice our opinions about the water project’s budget proposal. We first had no information on how much the project would cost. We only noticed that to do such project others would have to wait. We trusted the judgment of the commune leaders as we felt the urge to bring a clean and reliable water source to the residents, too. To me it was fair that addressing water issues for the whole commune deserved greater priority over any other projects that brought benefit to a group of residents in the commune.” (Interview #9)
Further evidence demonstrating the determination of the Co Nhue leaders was their persistence [the respondents’ words] in negotiating and contracting with the Hanoi Water Business Company (HWBC) and convincing leaders of the municipal government to bring piped water to the local residents. A member of PMU indicated a challenge facing the team during the negotiation process with HWBC to gain a service contract for water supply. He criticized HWBC for obstructing the Co Nhue government’s efforts and their delay in signing an economic contract in which the company sold water in bulk to its contractor. The company was hesitant to sign a contract because of their uncertainty about the project’s feasibility. Ultimately, the company was hesitant to trust in the potential of the project’s success and the capabilities of the commune. To crosscheck the accusation of the PMU member, an interview with a representative of HWBC revealed the company’s motives in signing a contract with the Co Nhue People’s Committee and that they had been directed by the municipal government to provide water service via a lease contract with the Co Nhue CPC. The company delayed signing the contract because it needed guidelines about how to prepare a service contract with a local government to sell water in bulk. The following excerpt originated from an interview with the above PMU member:

“In several meetings with other members [of the PMU] I was told that the company [Hanoi Water Business Company] doubted the project feasibility. They did not believe in our ability to manage a distribution of water service to our residents. They did not trust us. We had to remind them of the fact that the project was initiated to benefit the Co Nhue residents. By signing a contract with us, the company indirectly contributed to the improvement of living conditions for the local residents of Co Nhue. They should not have had any doubts about the project, which had literally been approved by the city government. As a public utility, they should have served citizens. I did not understand why the company was harsh on us. The city government approved of our proposed project in 1996, but we could not sign a contract with the company until May 1998. It was sad. Our leaders had persistently asked for assistance from the city government during the negotiation process with the company. Eventually, a contract was signed and that mattered the most. I have to say our leaders put much effort into getting that contract.” (Interview #1)
The local leaders’ determination in establishing the water project, their contribution in attaining the city government’s approval, and negotiations with the Hanoi Water Business Company were appreciated by their staff members who were selected to serve in the PMU, head of the local hamlets, and as members of the first cohort serving in the local water management unit (WMU). Both leaders of the CPC and the party were praised for their great vision, initiative, and dedication to the betterment of the general community. Providing his insight into roles of the local government in the establishment of the local water supply system and on this project, a current representative of the CPC stated that:

“The [water supply] system was constructed thanks to our former leaders of the Co Nhue CPC and Party. Back in the 1990s, none of the rural communes of Hanoi had access to piped water. The CPC and Party leaders together with other members of the project management unit worked hard to convince the city leader to [administratively and financially] support our initiative. Their dedication, after all, demonstrated that they cared for the well-being of the local residents, not for their own or a particular group’s interest.” (Interview #18)

On May 6, 1996, the People’s Committee of Hanoi Municipality approved of Co Nhue’s CPC’s proposal on building a local piped water supply at the Decision numbered 1579/QĐĐ-DT-UB. This Decision had been presented by the Co Nhue CPC at the Co Nhue People’s Council meeting two months later (on July 23, 1996) before the project start date for construction. Subsequently, the Co Nhue local government appointed a Water Management Unit (WMU) to manage the locally based water supply system. Through the head of local hamlets and the communal broadcasting channel, the local government informed its residents of the project establishment and disseminated the decision that regulated which households would receive a free connection with a water meter and which households would pay for the connection to the locally owned water supply system\(^\text{11}\). Local households soon registered with the head of their hamlet; the hamlet head had to submit a list of registered households along with his/her

\(^{11}\)A household would receive a free connection if it met both criterions: (i) the household head was born and raised in Co Nhue and (ii) all members of the household fulfilled their accountability to the locality and to the nation, such as serving the army, paying land-use taxations, abiding laws.
recommendations to the local government and the WMU. This unit was established by the CPC and leaders of the CPC appointed its members. The unit was responsible for installing household connections, operating, and monitoring the water system, and serving users. The unit members worked directly with users on billing matters, payments, repairs, and solving statements of claim. These preparatory steps of the Co Nhue local government had been completely accomplished prior to the chairperson of the CPC signing a service contract with the HWBC in 1998.

It took almost eight years for the leaders and residents of Co Nhue to incubate its plan to build a distribution pipeline network and prepare human resources for the establishment of a community-based water supply system (see Figure 5.1). This stage entailed building consensus and decision-making among members of the local government and political party, and between the local leaders and representatives of local residents. In addition, this stage demanded a great deal of negotiation between engaged stakeholders facilitating the arrival of the water system. These stakeholders included the communal government, the municipal government, the municipal department of Transportation and Public Works, and Hanoi Water Business Company. This is also the stage where local leaders required the recognition of its community available assets in order to select capable staff and residents to serve in the project management and operational system management units as well as to create an opportunity for these staff and residents to give back to their own community.

During the establishment of the Co Nhue water supply system, the local government successfully facilitated the engagement of sub-groups within the community, bridging these groups to external agencies. In addition to encouraging its PMU members to establish relationships with municipal departments and public utilities, the local leaders mobilized the participation of grassroots/mass organizations, such as the Women’s Union, Youth Union, Farmer's Union, and the Elderly Association in selecting capable residents for the formation of the WMU. Under the stewardship of the CPC, these agencies also cooperated with the head of every hamlet supervising the performance of construction companies that were building the pipeline network and installing household connections to the water supply system.
According to a former leader of the CPC, members of every family joined one of the local mass organizations as a result of the commune government with the party encouraging membership in their local mass organizations to work together in support of the project to accomplish internal community solidarity. Figure 5.2 below demonstrates the interconnectedness of stakeholders in the establishment of Co Nhue’s water supply system.
Reflections of local residents

Information collected from interviews with representatives of the local government, heads of hamlets, and local residents shows that the local residents of Co Nhue accepted the investment and understood it as the local government’s contribution to the well-being of the locality. According to the former and current leaders and members of the CPC, by building the local system of piped water the local government had taken responsibility for improving the quality of life of the local residents. The local government took the initiative by taking advantage of existing local social capital in negotiating with and obtaining the Hanoi municipal government’s permission and financial assistance for this project. The local
government formed a project management unit that was in charge of outreach, lobbying and establishing external relationships with various departments, offices at the municipality, and construction companies for the project initiation. After receiving approval from the municipal government, the local government publicly disseminated the project information to the general public of the commune through the heads of Hamlets and representatives of mass organizations, such as the Women’s Union, the Farmer’s Union, and the Association of the Elderly.

A representative of the head of a hamlet supported the local residents in the development of the Co Nhue water supply system by stating:

“That [the piped water supply system] was the biggest investment in infrastructure development projects in the commune, as far as I know. Before the project was launched local people were very excited about it. Every household wanted to connect to the system. They perceived that piped water was the most reliable and cleanest water source. Access to piped water, for them, was like enjoying amenities available only in urban areas. Citizens of my hamlet appreciated the local government’s initiative to bring piped water access to them. They supported the project.” (Interview # 12)

Commenting on the construction of the local water supply system in Co Nhue, a leader of the Hanoi Water Business Company recognized the Co Nhue government’s effort by calling it brave, a new idea, and risk taking. The leader stated that:

“In the early 1990s a public utility like us (Hanoi Water Business Company) faced severe resource constraints and management issues and therefore we were unable to extend service coverage to the periphery of the city. The whole city water supply system was just upgraded thanks to the technical and financial support of the Finnish International Development Agency and the Finnish government. The idea, plan, and construction of a local water supply network in Co Nhue commune were brilliant. I think the local leaders were brave when establishing and constructing such project because investing in water supply, generally speaking, is very costly. Managing that system efficiently is even harder because it requires technical knowledge and technological application. The fact is they must have done a lot to convince the city government to approve of their plan. It was no joke. For this reason, I gave them credit for their effort.” (Interview # 11)
When asked about their opinion concerning the local government’s decision to construct the water supply system in the commune, many of the residents highlighted the feeling of being served by the local government:

“The People’s Committee has to show its accountability to its residents. There is no doubt about it, I suppose. When they announced that a water supply system would be constructed in the commune to serve local people, the others and I were very curious and certainly excited. We appreciated their initiative and priority. Although the People’s Committee never presented to us that plan and the detailed information on how the water supply system project was formulated, we still felt that we were luckier than other people in the neighboring communes. The whole system cost a lot, but we did not have to pay a penny for the initial connection.” (Interview # 23)

Among the interviewed residents, the poor appreciated their leaders’ efforts the most. Because of limited economic resources, these families tried to control their everyday usage of piped water. They only used this source for drinking and cooking. For this reason, their monthly consumption of water was less than the average amount, calculated from all of the users in the community (4-6 cubic meter compared to 10 cubic meter, respectively). A common theme that emerged from the reflections from the poor households was that the availability of piped water supplied by the CPC would reduce the health concerns of unreliable water sources, such as surface and groundwater.

“We paid almost nothing for our home connection and installation to the piped water system, thanks to the CPC’s policy. This might not have meant much to others, but a great deal to us given that our resources are limited and we have been classified as the economically disadvantaged. The head of the hamlet helped with paperwork and the team of WMU helped with building the household connection to the water system. Accessing this clean water source cost us some every month, but we, at least, believe that using this source will give us less subjectivity to water borne diseases risks.” (Interview # 28)
Other responses from local residents of Co Nhue suggested that the local government had an opaque, top-down decision making process when formulating the project, and thus demanded that the local government should employ a better approach to work with its citizens. Public consultation was not widely sought at the hamlet [residential cluster] level. Many were not aware of the existence of the project until they were told by the head of hamlet to register for a connection. The planning process in this project, according to several interviewees, did not involve citizens’ input, although the local government sought collaboration with other public institutions, i.e., the Hanoi Water Business Company, Cau Giay Water Supply Factory (Cau Giay WSF), and the municipal Department of Public Works and Transportation. Reported by members of the project management unit and representatives of the CPC, the local government made the decision after consulting with the People’s Council members who represented the entire body of local residents and then informing the local residents of the results.

5.3. The Operation of the Locally Built Water System

5.3.1 The establishment of the water management unit

Although the government of Co Nhue commune made investments and arrangements for the development of the local water supply system, the government did not directly manage and monitor it. Instead, a group of local residents appointed and selected by leaders of the local government called the Water Management Unit (WMU) were in charge of the management. The unit was formed on February 22, 1997 prior to CPC signing a service contract with Hanoi Water Business Company on May 26, 1998. According to Document No. 2202/QLN-UB signed by a former chairperson of the CPC, both the People’s Council and the People’s Committee selected unit members based on candidates’ capabilities, willingness to participate with the unit, and recommendations from the head of hamlets.

There were eleven members in the WMU: the head/principal, first assistant to the principle who served as the secretary and account, second assistant to the chief who served as operating officer, three technicians, and five billing staff. The principal position was important because this person took the leading role in the unit to work with the Hanoi Water
Business Company branch: Cau Giay Water Supply Factory (Cau Giay WSF). The principal, on behalf of the unit, had to take responsibility for the [water supply] system management and maintenance. Two assistants helped the principal manage other members’ performances and the financial aspects of the unit. These three positions were carefully selected, according to former leaders of the Co Nhue People’s Committee and People’s Council.

“… We had a hard time choosing the leader and two assistants of the water management unit because candidates for these positions had to be someone who had experience in serving in the People’s Committee and in gaining trust and respect from the local residents. Since managing a huge infrastructure system like this water supply was a complicated task, the candidates had to be willing to take on challenges. They had to accept [the positions] from their heart. We just could not force them to take these positions. We found good candidates and had individual talks with every one of them. When they agreed to serve in the unit, we coordinated with the head of hamlets to hold a community meeting to collect input from their respective local residents. The unit’s first principal and his assistants were dedicated ones. We were lucky.” (Interview # 17)

The head of the technical team and other five billing staff members were also selected using the same method. Selected candidates for these positions either currently or formerly worked for the People’s Committee. Some were serving as a hamlet head. They were chosen because of their capability in working with local residents, which was crucial to the success of the WMU’s operation and management. The hamlet head was perceived to have an advantage in organizing households’ registration for the WMU’s service, supervising the pipeline system and water meter installations for every household, and billing. A former leader of the CPC stated:

“Whoever took over a billing staff position had to earn the trust and respect of his/her hamlet’s residents because that person had to deal with billing and collecting money from users. That person had to have good human skills, soft skills, and to be honest and persistent in accomplishing the task. A hamlet head was the best choice because s/he knew every household in the area. Out of the first five selected billing staff, two served in this capacity.” (Interview # 45)
Billing staff members were responsible for collecting payment from users and keeping the record book orderly. Records of every client (household user) had to be neatly written without erasure. Every client signed on the record book when making monthly payment for the services provided, and the billing staff took responsibility for submitting the payment to the unit accountant at the subsequent staff meeting with no exception. Because the participation in the WMU was on voluntary basis, one could resign from his/her position after informing the unit principal and the CPC. Prior to resignation, the staff member had to return all of the paperwork and money collected from users back to the unit principal.

The technical team included three members. The government of Co Nhue commune selected the head of the technical team and authorized the head to select candidates for two other technician positions. These three roles were responsible for installing the connection for new users (households) and fixing leakages as well as other technical issues.

**Figure 5.3 The Organizational Chart of the Water Management Unit**
The WMU’s foremost mission was managing the water distribution system and enhancing water accessibility for local residents of Co Nhue. The unit members’ daily work entailed coordination, collaboration, and interaction with household users, who were also seen as clients, neighbors, relatives, friends, the Cau Giay Water Supply Factory (Cau Giay WSF), and the CPC (the communal leaders). To the local water users, the unit members were responsible for installing new connections, supplying water in a timely manner, addressing users’ concerns over the quality and quantity of supplied water, leakages, billing, payment, and sanctioning illegal connections.

On a twice daily basis, the unit members coordinated with a staff member of the Cau Giay WSF on water distribution. The factory staff operated a pumping station built and located in the commune of Co Nhue for one hour in the morning and one hour in the afternoon. During these two hours, Co Nhue residents had access to piped water and members of the WMU had to monitor 42,000m length of a pipeline system and 28 grand water meters (installed along the pipeline) to spot possible leakages, dysfunctional water meters, and illegal connections while obtaining feedback from users on quantity, quality, and pressure issues. The unit was also responsible for making prompt payment to the Cau Giay WSF’s services at the end of each month. Although the unit collaborated with the Cau Giay WSF in providing water to residents of Co Nhue, staff members of the former never received technical capacity training from the latter. Explained by a leader of the Cau Giay WSF, because residents of Co Nhue were not involved in the design and construction processes of the water supply system, it did not interfere with how the water system was monitored and managed by the WMU.

The unit’s operation and performances were under the administrative support and supervision of the CPC. However, the CPC neither subsidized the unit’s operation and management costs nor covered monthly salary for its members. Ensuring the sustainability of the water supply system, the unit principal and its members had to self-organize and plan for its business,

12 Although Hanoi Water Business Company signed an economic contract with Co Nhue People’s Committee, the leaders of Cau Giay Water Supply Factory (Cau Giay WSF) – a branch of HWBC’s water distribution factory was in charge of rendering services stated in the contract. Because the WMU directly managed and monitored the Co Nhue locally built water supply system, the Unit directly worked with Business Office, Accounting Office, Technical Assistance Office of Cau Giay WSF.
including the purchase of office supplies and equipment, development of an economic contract between the unit and water users, development of regulations that specified tasks and missions of each staff member, development of a billing system, reporting of the People’s Committee and the People’s Council of Co Nhue unit performance semi-annually, and sanctioning of violations of water users and its members to mitigate potential threats to the destruction of the water supply system and loss in revenue. Although the unit operated the water supply system, the CPC set up and controlled water tariff. The unit did not have the authority to increase charging users without the CPC’s approval. If there were changes in the personnel and water tariff, the unit principal had to report to the leaders of the People’s Committee and the People’s Council of the commune and submit a request for change.

The office of the WMU, located in a small apartment that used to be a headquarters of an agricultural cooperative at the hamlet level, was assigned by the CPC. The unit was also given a cabinet (to lock all of its documents), a big meeting table with several chairs, a ceiling fan, and a set of tools for the technician team to operate the water system (installing new connections, monitoring the pipe network, and fixing leakages). At the headquarters, members of the unit routinely met three times per week and received visits, applications, and user complaints. At least one member had to be on guard at the headquarters on a daily basis. Since the CPC was assigned as the headquarters, the WMU saved some indirect costs every month.

**Specific task of the water management unit members**

The WMU principal served as a general manager to supervise the unit’s performance, including the unit’s business and accountability to both the CPC and local residents. Every day, he supervised the water supply system by visiting every hamlet during pumping hours (1 hour in the morning and another hour in the afternoon). He randomly visited users to obtain their feedback on the service. He also took this chance to keep users updated on situations of the water system and issues facing the unit in operation and management. In addition, he educated the users on the importance of saving piped water as: i) water was a scarce resource and ii) water production and distribution entailed technical and biological treatment,
technological monitoring, and was expensive. Occasionally, his visit to users was just for the purpose of chatting about everyday matters in the commune. This allowed increased connection and trust with his clients. He took the chance to educate users about the contributions of the unit staff members and the importance of water resource management. He also encouraged his staff members to take the same approach. The unit principal shared his business and management philosophy:

“… You just cannot do business well without showing respect to and gaining trust from the client you serve because they are the ones defining the success of your business. If you trust and respect them, they would be loyal to your service and make your business prosperous. It is, to me, a mutual respect in doing business. Don’t you agree with me? For example, my clients helped me identify water leakage occasionally and reported such incidences to me after I built trust in them. They would not damage the pipeline or attempt to make illegal connections if they were educated about how costly it was to build and maintain a water supply system and informed of consequences of committing such violation.” (Interview #1)

The unit principal also communicated with his billing staff on a daily basis to receive updates on everyday problems and provide solutions for users’ concerns. Although staff meetings were held three times per week with one additional required meeting at the end of each month (for the purpose of reviewing activities of the month and discuss plans of the subsequent month) the unit principal paid a daily visit to his five billing staff members to provide support. He understood that the staff, who shared the same goals with him in operating and managing the water system, did not work exclusively for the money given that the monthly salary compensation (VND 180,000 approximately equivalent to $US14.00, as regulated by the Co Nhue People’s Committee’s Document No. 57 TB-UB signed on 11 April 2001) and the commission (10% of the total value of users’ water consumption) did not make up for what they had to perform daily to supervise and monitor the water system. However, he sometimes reminded them of their commitments and responsibilities.

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13 Also regulated by this Document, the compensation for the Unit principal was VND262,000/month, for assistant positions was VND 200,000/month.
“... I did not want to supervise my staff members. I wanted them to understand that we worked collectively for good deeds, although the unit had to be self-sustained economically. Understanding that other staff members and I had to put a lot of time and efforts to run and monitor the system for the CPC with modest compensation in return, I just wanted to provide some moral support to them. I just wanted to remind them that what we were doing was for the sake of our community and future generations. We were serving the community.” (Interview #1)

The unit principal was well aware of his commitment to the People’s Committee and the People’s Council of Co Nhue, which was to manage the locally built water system and convince the local residents to use piped water for a better quality of life. As a member of the communist Party he had to demonstrate his devotion to serve the local government and make Co Nhue modern and prosperous. What he and his other 10 staff members did was thoroughly document the unit’s business by balancing revenues and arrears from the users, prepare and submit financial reports promptly to the CPC semi-annually, work collaboratively with the contractor (Cau Giay Water Supply Factory) to effectively provide water service to the local users and promptly pay for the contractor’s services, and make the business financially self-sustaining.

The unit principal was aware of the leadership role in managing the local water supply system. He was glad to accept the position when asked by the People’s Committee as he always wanted to dedicate his contributions to his mother’s land after 30 years being away. In this sense, the unit principal had an incentive to actively participate in the WMU. During a conversation regarding incentives for the unit members in managing and monitoring Co Nhue’s water supply system, he emphasized responsibilities one should take for the general community. In his perception, if one decided to participate in serving the community, one needed to do their best. He did not see any economic incentive for himself or other unit staff members. He, instead, indicated that the pressure bore on the staff’s shoulders while they were taking responsibility and liability for managing the local government’s property and serving other members of their community.
“… I thought when I took this position I had to do it well. As long as I did the best I was capable of, I could hold my head high. That was what I told other team members. If someone was irresponsible for her/his tasks, s/he should resign. Other residents of the community could be a replacement. I took the position because I loved to make contributions to the community. I realized that no one could do well a job if that person did not love doing it. But, I would be a liar if saying I had no concerns and worries about running the unit. I never had experience in managing an infrastructure system. Although I had almost twenty years of leading the Secondary school of the commune, the experience, I knew, was not similar. Moreover, the CPC leaders told me that the unit had to be self-sustained because the government ran out of resources to support the operation and maintenance costs the [water] system. Whatever I chose to do to lead the team, I had to do it right. I tried to inspire my staff members by showing them how much I took care of the business and addressed concerns of the local users. I invented an economic contract for every household user. I worked with other members to set up a form for billing staff to record monthly water consumption. I set examples for the staff by daily monitoring the pipeline during [water] pumping hours to spot possible leakages or illegal connections. I demonstrated to the billing staff how to show respect to the client when billing them and/or recording monthly water consumption. I supervised bookkeeping of billing staff to prevent them from fund embezzlement. One of my responsibilities was to supervise their work. There was nothing about trusting or not trusting my staff members. I made that point clear to my staff.” (Interview #1)

Rule-making

The individual interviews with water users, staff of the WMU, and representatives of the local government revealed that members of the WMUs participated in the institutional building process by jointly creating operational rules for the unit. The task of each unit member was clearly defined. The unit principal composed a draft and asked for the opinions of its members during meetings. The whole unit reached a consensus to pass the unit rules prior to the document submittal to the communal People’s Committee. Also mentioned is that the rules could be modified and amended to reflect changes in the group and in the locality. The local government (CPC) had minimal intervention in the unit’s institutional building process. It was the unit principal and his staff who worked out a set of rules to regulate the operation to sustain the group. The CPC, however, had a voice in the decision-
making on matter of compensation (in the form of monthly salaries) for every position of the unit and set water tariffs on local users. It was the communal leaders’ intention to give the unit principal and his members the authority to operate and monitor the system with limited involvement of the local government. It was important to give them sense of ownership over the system so that they could become more accountable to both the local government and the local residents, according to a representative of the CPC.

**Services:** the WMU set up a list of service charges and the list was available to household users. Unless the prospective clients offered tips, the staff was not allowed to ask for any extra fees for initial connection or repairs beyond the regulated pricing. Maintenance and repair expenditures had to be projected by the technical team and approved by the unit head prior to implementation.

**Financial Aspect:** because the WMU was self-sustained, a full-cost recovery principle was applied to all clients of the system. A water tariff was set up and modified by the Co Nhue CPC. The tariff was calculated after all of the operational, maintenance, and management costs were added into the tariff charged by the Hanoi Water Business Company. For this reason, Co Nhue residents had to pay for running water at a higher price compared with the Hanoi residents at that time. There was no cross-subsidy in water tariff calculation for economically disadvantaged households in the commune. The local government did not subsidize the water tariff for this particular segment of population, either. Without exception, every user had to pay based on the economic contract signed between the user and representative of the unit. If the WMU wanted to increase the water tariff, the unit principal had to submit a proposal to the CPC leaders first. The proposal was then discussed at hamlet meetings with the participation of local residents. The proposal would only be approved by the CPC if was passed at community meetings. Water bills were collected by the end of each month by the billing staff who paid a monthly visit to every household to record household consumption and collect payment (in cash).

**Technical Aspect:** None of the water management unit staff members were trained in hydrological and technical engineering. The only person who had expertise in this area was the head of the technical team. He used to work for the Hanoi Water Business Company. He taught other technicians on his technical team how to install a connection and fix leakages of
the pipe system. During more than eight years of operation and management of the water
supply system, the WMU members did not receive any technical training from any sources.
They did not receive assistance and training from the Cau Giay WSF, either. Thus, the unit
was truly self-sustained, economically and technically. The unit members’ technical capacity
evolved via the ‘learning by doing’ principle. Members of the technical team assisted and
learned from one another.

Relationship between the WMU and users; the relationship was defined by an economic
contract, regulated by the local government. This contract was prepared by the WMU and
signed by both the user and the unit, represented by the principal and the billing staff of the
place of residence. The WMU, as the supplier, was responsible for retailing water services
from Cau Giay WSF, billing the user’s amount of cubic water consumed monthly and
collecting the payment, and maintaining and repairing the pipeline system. The supplier
reserved the right to stop providing services and terminating the contract with the user if the
latter either failed to make monthly payment, utilized illegal connections, or damaged the
pipeline system. Specifically, there were various levels of consequences for illegal
connections and water supply network destruction. According to terms of the contract, the
user was considered as both a client and citizen. As a client, the user was responsible for
paying for services rendered. In addition, the users deserved the right to appeal or report any
billing malpractice by staff members to the unit principal and the CPC. However, as a
resident, the user was expected to hold responsibilities for protecting the water pipeline
system with the supplier (the unit) as the system was the commune’s property. Because of
this, the unit principal invested his efforts in building connections with users.

Portraits of the WMU staff members

The first unit principal: The Co Nhue water supply system was managed under the leadership
of two unit principals. The first joined as a member of the Project Management Unit member,
who worked closely with a former chairperson and head of the Party. Then, he was
designated as the principal of the unit prior to the Co Nhue CPC signing of the contract with
Hanoi Water Business Company. He was a former founder and principal of the Co Nhue
secondary school for almost two decades, who took the initiative to mobilize available
community assets in building the school and providing literacy opportunities for generations
of Co Nhue’s population. The first principal was born and raised in Co Nhue. However, he spent his entire career in another region in Vietnam. When he retired, he expressed his desire to make contributions to his motherland. That was the reason why he joined the communal leaders to launch the project in 1991, monitoring and managing the infrastructure. The assets he brought to the unit were his managerial skills and the honest, straightforward, but humble personality. He resigned from the position in March of 2003 because of health issues. He once said that he just did not want his health concerns to be detrimental to the performance of the WMU or affect other staff members’ efforts.

The second WMU principal was selected from within the unit when the first principal retired (3/2003). The second principal used to be the assistant to the first principal. He also identified himself as locally born and raised in Co Nhue commune. He used to serve in the Vietnamese Army prior to the national economic reform (1986). Finishing his military service, he returned to Co Nhue, working as an electrical engineer thanks to the vocational training during his service in the military, serving on the CPC as an administrative assistant and was given a position for the local security protection and management of construction activities in the communal areas. His leadership of the unit ended when the whole locally built and operated water supply system fell apart and was replaced with a new one, designed and constructed by the Hanoi Water Business Company, operated and managed by Cau Giay WSF (at the end of 2008).

Billing staff members were selected from various hamlets in the commune. The staff members had to patrol to monitor the pipeline system during water distribution hours. There were two generations of billing staff members. The first generation mostly included retirees who had experience in the military, working for the public sector, and participating in the state’s voluntary migration program (the 1960s-1980s). However, none of the members took the (billing) position as an economic solution for income generation. As earlier mentioned in this chapter, some of the billing staff members concurrently served as the head of hamlet or a representative for grassroots organizations at the hamlet level, such as the Elderly Association. They were willing to take extra responsibilities due to their desire to serve community members and to contribute to the local development (Interview #3, #5, #7, #20). All of the first billing staff members were involved in the formation of the project to begin
with. They either retired from the unit because of aging and health issues (Interview #3 and #5), or work overload (Interview #7), or because they were transferred to another position in the local government (Interview #20). The last person from the first billing staff generation retired in 2005.

The second generation of the billing staff members was younger than the first cohort. This group worked closely with the unit’s second principal and did not have experience in the formation of the project. They did not participate in the creation of the unit’s regulations/rule making. With the exception of one staff member who had prior working experience (Interview # 49), the remaining members were either classified as farmers or unclassified employees (Interview #4, #51, and #52).

**Technical team:** There were three members of the technical team. Only one member who was directly recruited by the Co Nhue CPC was delegated as head of the team. This person had working experience as a technician for the Hanoi Water Business Company prior to his early retirement. He was invited by a former chairperson of the CPC to use his experiences in installing new connections and repairing leakages of the pipeline system to serve local residents and maintain the locally built water distribution network. The head was given the authority to recruit another two people to form a team of three technicians. These two members had a background in engineering and worked as local plumbers.

5.3.2 **Support of leaders and grassroots organizations at the hamlet level**

During the operation and maintenance of the local water supply system, the WMU received support from leaders at the hamlet level: the hamlet head and their deputy. Directly voted into office by local residents, the head and deputy head represented the entire hamlet population in addressing socio-economic issues which emerged in the hamlet area. These two leaders worked with representatives of the grassroots associations, such as the Women’s Union, Youth’s Union, Farmers Association, and Elderly’s Association, to implement Information-Education-Communication campaigns and program activities on culture, socio-economic development, environmental management, safety and security, healthcare, and community development, launched by the Commune People’s Committee and People’s
Council for varied age groups, gender, and socio-economic groups at the hamlet level. Because water supply and sanitation was one of the major concerns of local residents, the management of the locally built and operated water supply system apparently received the attention and support of hamlet leaders.

The hamlet head and deputy, in cooperation with representatives of the Women’s Union, Youth’s Union, Farmers Association, and Elderly’s Association, backed up the WMU billing staff, who were in charge of billing, addressing concerns of users, and daily monitoring of the system in the area. Although the hamlet head and the deputy did not patrol daily like the billing staff during water service distribution hours, they still received updates on issues of leakages or illegal connections from responsible residents in the hamlet. The hamlet head coordinated with the deputy and other assistants to talk with residents about the importance of using clean piped water and good healthcare and the necessity for them to jointly protect the water supply system with WMU members. These hamlet leaders actually made efforts to raise awareness of the local residents toward citizen’s co-responsibility for the communal resource management and encouraged their residents to report bad service (concerning quantity and quality of water obtained, relationships with the billing staff) based on their experiences.

The hamlet leaders also supported the billing staff by considering users’ complaints. Both the head and the deputy first listened to reflections, then would have an exchange with the unit principal and the local billing staff over users’ concerns and how to improve service distribution at the hamlet. In this case the hamlet leaders not only helped the WMU staff update their clients’ feedback, but also demonstrated accountability to local residents.

Another platform connecting the WMU staff with users was community meetings, which were led by the hamlet leader and routinely scheduled every two months. Water users could bring their issues to the community meeting where billing staff members were required to attend. At the meetings, the billing staff were responsible for taking reflections of the water users and providing answers to questions/concerns raised at the previous meetings. Community meetings became a venue for dialogue and interaction between the service management and the client. Local residents found this platform as a safe place to express their concerns over water services, and the WMU staff became publicly responsible for
providing answers to concerns of the users. Box 5.1 below provides a list of claims and feedbacks from the water users to the billing staff, documented by the WMU documents and reported through interviews:

**Box 5.1 Water users’ claims to the WMU via billing staff and the hamlet head and their comments on members of the WMU**

<table>
<thead>
<tr>
<th>Claims of the Users to WMU</th>
<th>Comments of the users on the WMU staff</th>
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<tbody>
<tr>
<td>- Not accessible due to low pressure</td>
<td>- Responsive to taking an responding to feedbacks</td>
</tr>
<tr>
<td>- Not meeting the users’ demand</td>
<td>- Calm and professional</td>
</tr>
<tr>
<td>- Limited distribution hours</td>
<td>- Highly accessible</td>
</tr>
<tr>
<td>- Leakages</td>
<td>- Incapable of fixing the system leakages</td>
</tr>
<tr>
<td>- Bad quality of water</td>
<td>- Rude in recording water consumption and billing</td>
</tr>
<tr>
<td>- Dysfunctional water meters/errors in reading</td>
<td></td>
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<tr>
<td>water meters</td>
<td></td>
</tr>
<tr>
<td>- High cost /water tariff</td>
<td></td>
</tr>
<tr>
<td>- Termination of services without notice</td>
<td></td>
</tr>
</tbody>
</table>

The WMU principal and billing staff members appreciated the support of the hamlet leaders and their assistants. Representing the unit, the first principal stated that: “the hamlet leaders and their assistants’ accountability to local residents motivated me and my staff to be more responsible for the service distribution and the pipeline system management. We had to work harder to address concerns and questions of the clients in a timely manner.” (Interview #1). Adding into the unit principal’s compliment, a billing staff member highlighted the importance of community meetings in the unit’s business. He mentioned that:

“the community meeting was an useful official platform for the WMU’s interaction and exchange with local residents. The staff apparently had to address issues raised by the client. However, the staff also used this platform to disseminate its program, i.e., IEC (Information – Education-Communication) on clean water and its proposal on water tariff increase.” (Interview #7).
5.3.3 Performance of the water management unit

The performance of the unit was strongly shaped by leadership styles and personality of the leader. In this case the unit was first led by a dedicated leader who used his managerial experience and impressive leadership skills to construct a solid group of fully committed staff members in serving local residents and safeguarding the locally built water supply infrastructure system. The leader paid attention to facilitating internal collaboration with communal organizations and building a reliable economic partnership with the municipal public utility in water supply. In addition, he adopted communicative and dialogue methods in addressing issues related to the operation and monitoring of the system. The following sub-sessions showed highlights of the remarkable leadership and performances of WMU members within these methods.

5.3.3.1 Performance of the unit principal

A creative and active leadership

The first WMU leader demonstrated his creativity through his stewardship. He developed an economic contract with users so that users not only obtained benefits from the communal investment in water supply infrastructure, but also took responsibility for protecting the system. According to the contract terms, the local residents deserved piped water service at a full-cost recovery financial arrangement. The users, however, could not be served and their rights to service could be taken away when they violated the contract terms. The more engagement by the users in the system management, the better the system would be maintained and sustained. This simply was a co-management and maintenance effort between the service provider and beneficiaries. The process of developing the contract entailed collective participation of other unit members and leaders of the local government, which included the People’s Committee and the People’s Council members. Explaining the reasons for developing the contract, the first unit principle stated:

“Our communal leaders assigned us such a challenging mission: being independent and self-sustained in monitoring and maintaining a
complicated water supply infrastructure system. I thought to effectively manage the infrastructure system and provide water services, the unit had to develop a contract between the provider and client. I was referred to a service contract created by Hanoi Water Business Company. In countless exchanges among members of the unit, we talked about the difference between the HWBC and the WMU although both were water service providers. While the water company received subsidies and investment from the Hanoi Municipal government and foreign aid and had abundant human resources and technology, we had to be self-sustained and self-taught about technical and managerial skills. We finally reached a consensus on a management plan that included local residents. We modified the original contract terms, added the client’s responsibilities for the infrastructure maintenance and management coupled with the client’s right to access to water service. We explicitly highlighted in the contract different levels of penalty and sanction applied to intentional behaviors of destruction, including illegal connections.” (Interview # 1)

A former chairperson of the communal government spoke highly about the unit members when asked about the origin of the contract. On this occasion, the chairperson brought out a possible connection between the unit’s autonomy and the initiative its members came up with to run and manage the water supply infrastructure system.

“I suppose that being autonomous in the management and operation of the infrastructure system stimulated the WMU leader and his staff to be creative. Developing an economic contract with the service user was one example. The local government assigned the mission to the unit, but never specifically set up an agenda for and on behalf of the unit. Its creativeness in management simply and truly reflected their abilities.” (Interview #45)

Acknowledging his limited experience in the management of an infrastructure system, the unit principal was active in searching for an optimal model. To maximize the service distribution to local residents, there had to be methods of minimizing operation and maintenance costs and the non-revenue water rate. For this reason, the unit principal encouraged his technical and billing staff members to implement intense patrol to spot any possible leakage and prevent illegal connections. The principal and his members collaborated with the leaders of hamlets and mass organizations to raise awareness among local residents.
in the water infrastructure management. In addition, the principal researched the various
tricks of illegal connection an individual could deploy. He, then, organized a contest among
his staff members on revealing various ways of stealing water. This contest, in the
principal’s perspective, motivated every member of the unit to take responsibility for their
task and contribute to the unit’s mission. To cut down on the cost of renting tools for the
pipeline network repairs and new connection installations, the principal decided to purchase
various sets of tools for the technical team, a smart investment.

Application of previous experience

Although the WMU principal not previously supervised or monitored an infrastructure
system, he had leadership experience of almost two decades as the principal of the Secondary
School of Co Nhue. During several exchanges and interviews, he mentioned that it would be
feeble to translate what he had done for the Secondary School and local children into the
management work at the WMU (to manage the water supply system and provide services for
local households). He, however, discussed the general leadership principles that could be
transferable.

The unit principal mobilized existing community assets for his business, mimicking the way
he would manage the Secondary School of Co Nhue. He made a request to the CPC and
asked that the CPC facilitate the participation of various mass organizations at the hamlet
level, i.e., the Women’s Union, Farmer’s Union, and Youth’s Union. As earlier mentioned,
members of these organizations backed up billing staff members in monitoring the service
distribution and the infrastructure network repairs, as well as facilitating the responsiveness
of WMU staff to feedback and concerns of the users.

Additionally, the WMU leader developed a bookkeeping and recording guidance system for
the unit billing staff. Each member of the billing staff was given composition books to
document water consumption, billing, and payment records of clients in their designated
population cluster/area. The staff had to document water consumption of their clients, then
send invoices and collected payments on the monthly basis.

The leader of the WMU promoted transparency in financial management of the WMU.
Bookkeeping documents and records of the five billing staff members were closely reviewed
and double-checked by the leader directly every month. Because the unit members met three times per week, the principal had sufficient time to review if staff members correctly documented clients’ water consumption and fully collected payments accordingly. He requested that all the billing staff members clear and collect payments from their clients monthly, so that the unit was able to track the non-revenue water rate and, thus, have appropriate action plans for subsequent months. The unit principal shared his concerns over financial transparency:

“To me, financial transparency and supervision were very important, especially in a small institution like the WMU. Ill-formed and clutter bookkeeping and recording might cause mis-understanding between the billing staff and the client, financial loss, lack of trust among staff members, and such consequences might jeopardize the effectiveness and endurance of the unit. I talked straight to every member and repeated my position again in many staff meetings that my close financial supervision had nothing to do with trust or mis-trust toward performances of the billing staff. I just performed what I was supposed to do as a manager of the unit. I had to calculate revenues and expenditures of each month to determine non-revenue water percentage and our monthly activities and plans. If the percentage of non-revenue water was high in certain area, we had to exclusively check if water meter was dysfunctional, or illegal connections had occurred. The close supervision also allowed me to help those staff who had ineffective performance.” (Interview #1)

The transparent financial management of the unit allowed the principal to demonstrate and present clear, well-formed, and organized financial reports to the communal government semi-annually and annually. In addition, the principal, on behalf of his unit, also provided narrative reports on achievements and challenges facing the unit members, and an orientation plan for the unit’s operation. All reports were presented to representatives of the local government (the People’s Committee and the People’s Council members), representatives of the grassroots organizations, and the entire staff members of the unit. A representative of the local government provided a comment on the WMU’s performance as follows:

“Among other members of the [local] government, I reviewed reports of the WMU. Those reports signaled a clear pathway of the WMU in its management and monitoring of the local water supply system. I and other members of the Committees were very impressed. At the CPC, we had an
accountant who double-checked bookkeeping document of the unit. We were told that those reports showed no fault. The way in which the WMU operated the infrastructure earned our trust.” (Interview #19)

The unit principal also set a good example for his staff members by demonstrating his concentration at work, attention to detail, commitment and full accountability to his tasks, and being mindful of challenges facing other staff members. He concentrated on the effectiveness of the business and quality of service for local residents. For example, the leader proposed to routinely check accuracy of grand water meters installed along the pipeline, household water meters when there was a mismatch between a number of household members, and the quantity of water consumption or sudden reduction in utilization of services.

The unit principal encouraged his staff, yet was strict in order to be upwardly accountable to the local government and downwardly responsible to the local residents. Delegated by the authority to be autonomous in distributing water service and managing the local infrastructure, the WMU represented the government of Co Nhue (the People’s Committee and the People’s Council). On behalf of the local government, the unit had to demonstrate its best in doing business with the Cau Giay WSF and in serving local people. To the government, the unit routinely reported its performance semi-annually. To clients, the unit members were responsive to their concerns and request for services. A member of the unit coordinated daily with the Cau Giay WSF staff member at the pumping station to distribute water to users in a timely manner, while other billing staff members patrolled along the pipeline to spot possible leaks and document any concerns and complaints from users on water pressure, water quantity, and quality.

Although Co Nhue government and Hanoi Water Business Company signed a contract for retailing water service to Co Nhue residents, the relationship between the WMU (vested by the Co Nhue government in water distribution to local households) and Cau Giay WSF (vested by HWBC in supplying water to the WMU) was not mutually dependent. The WMU was completely dependent on the Cau Giay WSF. The former could not serve the local residents of Co Nhue if the latter refused to supply water via the pumping station situated in
Co Nhue commune. The principal of WMU always reminded his staff members of the importance of building a good relationship with the factory. The WMU built the relationship by making payments to the factory in a timely manner. The unit principal and accountant made a payment to the factory every month. Occasionally, the unit principal stopped by the factory director’s office just to have a cup of tea and chat about managerial experience among other matters. He mentioned that although the WMU and the factory were in an economic partnership, the former had nothing to offer and became reliant on the latter. However, it was a former director of Cau Giay WSF who brought up positive comments about the WMU leader when asked about the Co Nhue’s water supply infrastructure. He shared in an interview:

“… The [water supply] system of Co Nhue was operated smoothly for the first couple of years. I would say that among other factors, good leadership was an attribute of the initial success. I personally had met with the group leader. He was down-to-earth and humble person and really knew how to listen. I learned from our Business Office that the leader directly made monthly payment and was thankful for our service. He once asked me about how to minimize non-revenue water, how to maintain the pipe network, and how to provide incentives to staff members. He never brought up his own problems to me, but I could sense that as the group leader, he must have cared so much for the group…” (Interview # 6)

Although the principal never doubted his staff members’ dedication to the unit’s general mission, he was always concerned with providing work incentives to his staff. Reducing cost to maximize the unit revenues, organizing summer excursion for the unit members and their family, hosting occasional get-togethers, or having end-of-the year parties were examples of how the leader created incentives for his employees. He also knew how to encourage positive behaviors and thoughts among his staff. He sincerely took ideas and suggestions from the staff, and considered their voices when making decisions.

**Adoption of democratic and communicative principles in leadership**

The WMU adopted democratic and communicative principles while leading the group. He was seen (by his staff members) as strict, yet not dominating leader when developing and implementing the unit’s plans. There was no favoritism in the WMU. Every staff member
was required to attend staff meetings in which everyone was encouraged to share their challenges and constraints at work. Solutions were usually sought collectively with the whole group consensus. The principal proactively contacted billing staff members on a daily basis to provide necessary support and kept the communal leaders updated on the unit’s performance. The principal, coupled with billing staff members, attended community meetings at every hamlet to document and immediately respond to water users’ reflections on the unit’s quality of service. When changes in water tariff and service charges needed to be made, the WMU principal and staff members employed a dialogue with the local government representatives and water users to present their proposal. Even though the unit increased the water tariff several times (in January and September of 2002, June of 2006) during its operation and management of the water infrastructure, such changes were never forcibly imposed without consent from the local leaders and water users. The unit achieved such goals completely via dialogue and communication. The unit principal shared in his interview how he and the staff had convinced the local leaders and residents to accept the unit’s proposal on water tariff increase in 2002:

“Our clients were all aware of the fact that the unit had to charge them higher tariff compared to other Hanoi residents who received direct services from the Hanoi Water Business Company (HWBC). Thus, when we had to increase water tariff, we had to go through huge debates with leaders and residents over our proposal. As the leader, I just used all the facts that we documented over the years as evidence. You know, facts carried weight. So... I showed our revenues and operational and management costs to the residents. Then, I said if we kept charging you at the existing price, the unit was not going to be sustained because the service distribution and management cost would exceed the revenues. We also showed them that the unit staff members received limited compensation from managing the infrastructure. Our staff members were not opportunistic, but enthusiastic to make contributions…and the residents were convinced. In the end, the residents understood that the WMU received no subsidies from the city government, while the HWBC did.” (Interview #1)

The ability to be aware of constraints and limitations
While leading the WMU, the first principal was well aware of challenges facing his group. Among others, technical know-how and personnel selection were the major concerns. Although there were three technicians serving the unit, only one had experience managing the pipe network given his prior working experience in the Hanoi Water Business Company. The principal perceived that his technical staff members were able to repair leakages, install new connections, but were not capable of technical control of the infrastructure by subsections to reduce non-revenue water percentage. The technical team also did not have expertise in checking the accuracy of all grand water meters installed along the pipeline. The principal shared that he always encouraged his staff to be enthusiastic, but he himself was not sure if enthusiasm was sufficient enough. Enthusiasm without expertise could lead to massive destruction. He sought help from the HWBC so that his technician team could receive technical training and assistance from the Company. He later learned from the HWBC that the company digitally controlled its pipeline network, so its technicians could measure pressure within the pipe network to spot possible leakage. This technique was something his unit staff members could not pursue due to technology shortages.

Unstable staffing was another major challenge of the unit, especially to the unit leader. More than half of the unit staff members who joined the collective effort at the very beginning dropped out after four years of serving in the unit. Some of them had to drop because they were overwhelmed with the responsibilities of being a hamlet head. Others were transferred to serve at the local government headquarters, as required by the People’s Committee. The process of recruiting a new staff member usually took time and involved many agencies and actors within the locality. The unit principal had to ask for references and recommendations from the head of hamlets and residents at community meetings. He also needed to meet with the candidate and confirm if that person was ready to serve in the unit which required a lot of responsibilities, but provided much less compensation. Once the recruitment process ended, the training started and this process involved active participation from all of the unit members. New staff members had to learn the unit’s regulations and procedures, and more importantly, had to collaborate with the existing staff members to be efficient at work.

The principal was also concerned with the low rate of consumption among the registered households and its impact on the endurance of the system. The prevalence of well water
usage in the majority of Co Nhue households, coupled with high percentage of non-revenue water rates (which exponentially increased from 29% in 2000 to 75% in 2008), had significant effect on revenues of the unit. From the first year of operation, the unit revenues collected from the water tariff were not sufficient enough to compensate for the quantity of water use recorded at the grand water meter and charged by the Cau Giay WSF. The unit had to use money generated from new installment connection fees to make up for that financial gap. Because of this the unit principal disagreed with a Co Nhue government’s representative’s request which stated that the WMU saved some money from its revenue to extend the infrastructure. The principal’s rationale was that if the water tariff did not compensate operation and management costs of the infrastructure system, it was unrealistic and impossible to request for an extension of the service. Later, the unit principal’s concerns became reality: the consumption rate was low, the proportion of non-revenue water continued increasing, and there were no more new connection requests. These factors were detrimental to the service distribution of the unit, the partnership between the unit and the Cau Giay WSF, and more importantly, the endurance and sustainability of the infrastructure. Discussions of these factors are provided in section 5.4 and 5.5 of this chapter.

5.4 Reflections of Users on the Service and the Effectiveness of the Water Supply System

The water supply infrastructure of Co Nhue started its service distribution in August 1999 and collapsed at the end of 2008. This section presents some highlights of the system’s effectiveness under the management of a selected institution – the water management unit – over the nine-year period. Information used for this section was based on annual reports prepared by the water management unit, statistics of water distribution of the Cau Giay WSF, official correspondences, and meeting minutes filed at the Co Nhue CPC headquarters, and primary information from interviews with representatives of the local government, hamlet, and water users.
5.4.1 Beneficiaries of the Co Nhue water supply system

In the early 1990s, the government of Co Nhue commune spent its budget of VND 4 billion (appropriate US$ 300,000) to match the Hanoi municipal government’s funding for the construction of a 38,000 m long water supply system, which was connected to the city water supply system, which was further supplied and managed by the public utility (Hanoi Water Business Company). It was the communal government’s intention that the new water distribution system be built to serve local residents’ needs for clean and reliable water. Prior to the system becoming operable, three groups of beneficiaries were identified, according to a document signed by the CPC chairperson on 20 February 1997:

(i) A connection and water meter, both free of charge, were provided to households that met the following criteria:

- the household head was born in the commune,
- none of the household members had a record of legal conviction,
- the household had a good record of being a responsible local tax payer (paying agricultural production tax, business tax, and/or land-use tax).

This was a one-time offer from the CPC. Other households that wanted to connect to the local water supply system had to pay for connection fees. Such fees differed according to the registration status of the applicant.

(ii) VND 500,000 contribution/connection for migrant households that already registered at the Co Nhue People’s Committee.

(iii) VND 2,000,000 contribution/connection fee for migrant households that did not register at the Co Nhue People’s Committee.

Other households that were not categorized in one of the three categories had to wait for future availability to connect to the local water supply system.

Because of this regulation, many households entitled to a free-of-charge connection chose to connect to the system regardless of their actual usage. The WMU first principal revealed in
his interview that none of the eligible households, in fact, declined its entitlement to a free connection service even if the household did not have the need for piped water. Financial reports of the Water Management Unit and insights of the Co Nhue residents into the quality of service and effectiveness of the water supply system revealed that many households that had a connection to the system did not actually consume water from this source. This means that the percentage of households that had connections to the water system could not be used to reveal the actual beneficiaries. According to the WMU’s reports, in 2002, only 900 of the 2,923 households connected to the system (accounting for 65% of the village households) consumed water on a monthly basis. Later, when the WMU accepted more applications of migrants’ households the number of customers increased to 1,257 households, according to bookkeeping records of the WMU.

Besides the local government’s definition of eligibility of the beneficiary, other reasons which contributed to the limited usage of piped water among the Co Nhue households were the co-existence of other water sources and insufficient supply. A high percentage (more than 25%) of the connected households chose not to use the piped water service because of other existing alternative sources in the commune, such as surface water and groundwater. Members of these households had been using such water sources prior to the arrival of the piped water system. More importantly, such sources were free and users of the sources trusted the water quality. In addition because the Cau Giay WSF only provided water two hours per day, households situated at the end of the pipe system hardly received enough water for their cooking and drinking needs.

However, regardless of water utilization and socio-economic status, residents that participated in this research appreciated the arrival of this piped water supply system as this arrival demonstrated the local government’s accountability to its local residents’ quality of life. Migrant families, those who had moved to settle down in the Co Nhue area, also appreciated the local government’s initiative as no rural communities in Hanoi had access to piped water supplies prior to the 1990s.
5.4.2 Limited water supplies

According to the contract signed between the Co Nhue People’s Committee and Hanoi Water Business Company, the Cau Giay WSF pumped water into the 38,000-meter long distribution network of the commune twice per day (one hour in the morning and one hour in the afternoon). Provided with a contract of this nature, a great number of families failed to store water in tanks during the supply hours if there was no one at home. In addition, families located at the end of the pipe system had far less access to the water service compared to others situated close to the system. Because of the limited and unreliable supplies, many households gave up using this source.

5.4.3 Uncontrollable quality of water

Because of the retailing method used by Cau Giay WSF to deliver water to local users, the water management unit of Co Nhue could not control the quality of water. Thus, in addition to limited supplies, the water quality was another issue which concerned the operational and managerial unit. Billing staff members usually received water samples directly sent by local users with a request of explanation about its quality. Billing staff members took it as a complaint, documenting such complaints in their bookkeeping records. Below was one of many complaints about the quality of water taken from billing staff records:

“Oct. 29, 2005… Mr B living in hamlet 6 sent a bottle of water and requested it checked. He suspected that water was polluted. It was really foul smelling and blackish in color. The incident was reported to the principal on the same day.”

Generally, there was a strong association between reports of bad water quality and leaks in the system. When leaks were not discovered, there was penetration of dirt, drainage water and other trash into the piped water supply system. As a result, users obtained blackish water during the distribution hours. According to documents retained at the WMU, leakages occurred every month, but more incidents were recorded from the second half of 2004 onwards. Apparently, more leakage incidents occurred boosting non-revenue water levels,
suffered by the water management unit since 2002 (CPC 2002b), increasing expenditures on the system maintenance, and discredited the water management unit’s performances.

Controlling leakages was one of the greatest challenges to the unit members. While leakages took place throughout the entire 38,000 meter long system and with increasing frequency from 2002 onwards (just 4 years after the system was constructed), there were only three members of the technical team in charge of fixing leakage incidents. The head of the technical team confessed that sometimes it took a week for the team to find a leak, which was frustrating. When more leakages were spotted taking place outside of the commune’s piped system, the WMU in combination with the CPC had to call for a meeting with representatives of the HWBC and leaders of the Cau Giay WSF. Meeting minutes from August 16, 2002 indicated that the CPC requested that the HWBC and its branch (Cau Giay WSF) be in charge of repairing leakage incidents in their 2,500 m piped distribution network to improve the quality of service for local users and save maintenance costs for the WMU. The Cau Giay WSF committed to fixing any leakage in its distribution network as requested. However, when leakage incidents increased in 2005 and 2006, some of the users started to quit the system because of limited provision of bad quality of water, others (approximately 200 households) discontinued the service because the WMU’s decision to terminate the provision of water in certain areas of the piped network where leakages were not identified by the unit.

5.4.4 High unaccounted-for water levels and various strategies to compensate for the revenue loss

Perceived as the difference between the quantity of water supplied to a network and the metered quantity of water used by users, unaccounted-for water (UFW) includes two components: physical losses due to leakage from the piped network, and losses caused by users’ illegal connections and under registration of water meter. Periodic and annual reports of the WMU revealed that UFW levels were approximately 29% during the first two years of operation. This rate gradually increased from 29% (2000) to 42% (2005), and sharply increased between 2005 and 2008 (from 42% to 75 %) (See Figure 5.2).
The consensus in the explanation for causes of the high rate of UFW among interviews with the WMU staff members and annual reports. ‘Illegal connections’ and water meter inaccuracy were the main causes for the UFW rate during the first four years (1998 – 2002). During this period there were, on average, 15-17 households were caught making illegal connections or damaging the water meter to steal water (WMU 2002). From 2002 on, incidents of pipe leakages were frequently found in both the piped network of the Cau Giay WSF and the distribution network of the Co Nhue commune. This was a challenge for technicians and other members of the WMU.

Two causes were emphasized in the WMU’s reports and highlighted again in interviews with members of the unit and representatives of the CPC. The deterioration of the piped network was attributable to the constant leakages. The piped network was laid down under two arterial roads running through the commune of Co Nhue since 1997. After five years of operation, these roads had been upgraded on several occasions. Other infrastructure companies, such as telecommunication, electricity, and drainage water also laid their networks underground. Their construction and repairing process might have caused damage to the piped water supply for Co Nhue residents. Both principals of the unit stressed that the
piped network were buried 2-3 meters deep down from the surface in Co Nhue, making the inspection of leakages impossible without the application of technology. In addition, the utilization of bad quality water pipes and fittings when the network was constructed was seen as likely associated with high levels of unaccounted-for water. It was reported that pipe and fitting material chosen by the leaders of the commune was less durable compared to the standardized ones. A former leader of the Cau Giay WSF discussed this issue in his interview:

“Upon request of the WMU, we sent our technical staff to assist with finding leakages in their piped network. Our technicians reported to me that the Co Nhue commune’s piped network was constructed with cheap material - ductile iron and galvanized pipes and fittings. The material they used was way less durable compared with polyvinyl chloride pipes and fittings DN225 we used for our distribution piped network.” (Interview #52)

Consequences of high levels of UFW were documented and led to the WMU deficit in budget, inability to pay on time to the Cau Giay WSF, and the break down of trust with its economic partner.

In every periodic and annual report since 2002, the WMU principal emphasized such challenges to leaders of the CPC and the director of Cau Giay WSF. It seemed that preventing administrative losses due to illegal connections, to the WMU members, was easier than controlling physical losses due to leakage from pipes. Throughout the leadership of two principals, the WMU made several proposals to its supervising institution, the People’s Committee and the People’s Council of Co Nhue commune, and its business partner, the Cau Giay WSF. Such proposals, in fact, were coping strategies in reducing high levels of UFW and eventually sustaining the existence of the local water supply network. These were: increasing water tariff, continuously accepting new applications, seeking technical assistance from the business partner, and terminating services to existing customers.
5.4.4.1 Increasing water tariff to compensate for high levels of unaccounted for water

Since Co Nhue’s water supply network was constructed, the water tariff had increased four times in 2001, 2002, 2006, and 2008 (see Figure 5.3). Figure 5.3 shows the water tariff changes of both the Co Nhue water supply network and the Hanoi Water Business Company (HWBC) between 1998 and 2008. Generally, the changes in the water tariff in Co Nhue’s network were more frequent than the city water supply network. In addition, the Co Nhue water management unit water tariff charged to the local water users was much more expensive over the period compared to the tariff charged by HWBC to other Hanoi residents (1.3 times, 1.5 times, 2.1 times, and 3.2 times in 1998, 2002, 2002, 2006, and 2008, respectively). Figure 5.3 also shows that while the HWBC gradually increased the water tariff over the period, the WMU substantially increased the tariff particularly between 2002 and 2008. This trend correlated with the sharp increase in UFW levels over the same period (2002-2008), as seen in Figure 5.2.

**Figure 5.3 Changes in Water Tariff in the Co Nhue Water Supply Network versus the Hanoi Water Supply Network**

![Figure 5.3 Changes in Water Tariff in the Co Nhue Water Supply Network versus the Hanoi Water Supply Network](image)

Repeatedly confirmed by the WMU members and representatives of the CPC, the increase in the water tariff was necessary to accommodate for the high rate of UFW and non-revenue water, provided that the WMU was financially self-sustaining. Previously the WMU had found various methods of minimizing water losses relating to administrative causes. For example, the WMU had installed a floater for the water tank at the pumping station and inspected mal-functioning water meters for its customers. Additionally, the unit billing staff members, assisted by hamlet head and other mass organizations’ representatives attempted to discover illegal connections. The WMU even made a request that the Hanoi Water Business Company revise terms of the contract signed on May 26, 1998. Specifically, the former asked the latter to share with its non-revenue water by charging for 70% of the water amount recorded by the grand water meter. HWBC did not revise the contract terms; thus, the WMU had to rely on different strategies.

5.4.4.2 Installing new connection as a mean of raising revenues

Another strategy used by the WMU to increase its revenues was to continue accepting applications for new connections. While approximately one-third of the customers did not actually use the local piped water service, according to the WMU’s annual report in 2002, there had been many other households that continued applying to be customers of the system. According to applications filed at the WMU’s office, new applicants were either existing households that wanted to have a second connection, someone who purchased a parcel of land and settled down in Co Nhue, or someone who recently got married and had separated from their extended family to form a new household. They all expressed a need for piped water. Regulated by the CPC and the WMU, migrants’ households paid higher connection fees than local ones; and these fees ranged from VND 500,000 to VND 2,150,000 (bookkeeping records of the WMU’s second principal).

Figure 5.4 shows values of new connections documented over the 2000-2008 period. The number of households receiving new connections to Co Nhue’s piped water supply system increased gradually from 2000 to reach a peak in 2003 (at the value of VND 113,622,000). This revenue source of the WMU started dropping from 2004 to April 2006. The last
connection was installed by the WMU on April 8, 2006, just 9 days before the WMU received the first warning from the Cau Giay WSF for the service disconnection\(^\text{14}\). Since then, the WMU did not approve or install any new connections, even though there were a large number of pending applications.

**Figure 5.4 Values of New Connections Per Year in 2000 - 2008**

Source: Bookkeeping records of the Water Management Unit and the annual reports from 2000-2008

5.4.4.3 Scaling down business – the disconnection of service of WMU to its customers

In June 2006, the WMU decided to close the valves that controlled water delivery to about one-fifth of its existing customers to reduce the exceptionally high percentage of non-revenue

\(^{14}\) On April 17, 2006 the WMU and the People’s Committee of Co Nhue commune received a warning from the Cau Giay WSF for the service discontinuation because the WMU owed the factory two months (February and March of 2006) of payment (Cau Giay WSF 2006).
water (65%). As a result, more than 200 households were immediately disconnected from the WMU services. According to the unit principal this was a hard decision that the unit had to make collectively. The disconnected service area was, geographically, at the end of the piped network where customers frequently complained about bad water quality, intermittent supplies, and insufficient water quantity. This area was suspected as the location with the highest unaccounted-for water rate after the WMU members partitioned the network to inspect physical water losses. Due to the inability to find and fix leakage in the area, the WMU made that decision to bring the operational and maintenance cost down. The principal shared this incident in his interview:

“It was very intense for the unit at that time. We were two months behind the payment schedule for the Cau Giay WSF. The factory already sent us three warnings for service disconnection. We tested the water meter installed at that branch and learned that the physical losses were at the highest in that branch. Leakage was nowhere to be found, although we were all searching. So...we had to close the valve to disconnect that branch from the piped system. If we did not do that the non-revenue water rate could have been higher. Newspapers on the mainstream had already criticized our system for over-charging customers. We just could not propose to increase the tariff anymore. Even we did, our leaders at the CPC would not approve it.” (Interview #2)

This decision received approval of the CPC leaders, but customers were not notified. Many customers were furious to face this unanticipated consequence. Although the piped water service was intermittently provided, many customers still relied on this for cooking and drinking purposes. Box 5.2 and 5.3 present the reactions of the water users when water service was cut without prior notice from the perspective of both a local billing staff member and a water user:

**Box 5.2 Insight of billing staff into reaction of water users in his area**

I received many phone calls from neighbors who wanted to know why all of a sudden water service was no longer available to them. Even when I told them the decision was made collectively by the unit and that I was unable to reverse the

**Box 5.3 Reaction of a group of water users when being disconnected to the service**

“That was the day I met Mrs. Ha. Her family was out of service [water], too. She told me that she received an explanation from one of the Water Management Unit members that the commune chairman decided to cut services in our hamlet because of high rate of water losses. She told me to
decision myself, they did not trust me. They accused me and the entire water management unit of being rude and unreasonable. They reported to a representative of the People’s Council. They said the decision was made out of the WMU’s convenience. Why were their services terminated? Why did not that happen to other parts of the commune, as well? I knew they had every right to question us. I myself was uncomfortable because the closure of our branch also meant that I finished my work for the unit. What concerned me the most was that our customers who did not clear their arrears to the unit refused to pay back the debt. (Interview #54)

As commented on by members of the water management unit, this was the first time a decision on water services for local residents was rashly made by the unit without careful consideration of potential consequences. The decision to disconnect the service had not been discussed during community meetings, and customers were not given the chance to participate in the process of decision-making. The WMU might not make the decision for its best convenience, but the decision reflected the unit’s ignorance of its customers. The decision also reflected technical incapacities of the WMU members.

5.4.4.4 WMU’s efforts in reducing unaccountable-for water and requests for external technical assistance from the business partner

The WMU had put much effort in minimizing physical and administrative water losses, which were detrimental to the operation and management of the water network, by intensifying the patrolling and monitoring of the water supply system. Its technical team, as earlier described, had managed to repair leaks identified by the billing staff members and other collaborators at the hamlet level. It seemed that the technical team kept the piped network under its control for the first four years (1998 – 2002) by sanctioning illegal connections, identifying inaccurate water meters of customers, and fixing some minor
leakage incidents. After 2002, there had been many technical issues, which were attributable to constant high rates of non-revenue water and unaccounted-for water, resulting in failed efforts of the WMU technical team. The WMU and its supervising actor (the Co Nhue People’s Committee) had to ask for assistance from their business partner.

Among terms of the economic contract between the Co Nhue People’s Committee and the Hanoi Water Business Company, neither sought mutual support from the other. However, representatives of the CPC and the Water Management Unit had to make several requests for assistance to address its most challenging issue, lack of technical expertise in addressing high levels of unaccounted-for water. Since its establishment, the WMU were given several opportunities to request for assistance.

In 2002, in its efforts to reduce the physical water losses, the WMU asked its business partner to assist with inspecting leaks within the distribution piped network from the grand meter water to the pumping station. The Cau Giay WSF technical team pumped 1,500 cubic meter of water to spot and repair 4 leakage incidents in the system to resume services for 1,257 households. Facing continuous high non-revenue water levels and accumulated water arrears to the service provider (the Cau Giay WSF), on 14 February 2006, the chairperson of the CPC sent a dispatch to the Hanoi Department of Transportation and Public Works, the HWBC, and the Cau Giay WSF to request for another urgent meeting at the communal headquarters to resolve chronic issues related to perennially high UFW and water arrears facing both business partners, the WMU representing CPC and the Cau Giay WSF representing HWBC. This meeting was important given three warnings of service disconnection sent from the Cau Giay WSF to the CPC due to the fact that the WMU owed and failed to pay VND 96,920,904 to the factory (Cau Giay WSF 2006). Facilitated by the Department of Transportation and Public Works, after the meeting the factory agreed to help the WMU investigate and test the accuracy of 28 water meters installed on the communal piped network’s 28 branches. The inspection results revealed that all of the 28 water meters were all working improperly. As the WMU’s technical team members were unable to test water meter accuracy, they relied on the factory’s technical inspection to find out the inaccuracies of another 40 water meters installed in the communal piped system in February 2007.
Because the percentage of UFW continued increasing from 65% (2006) to 75% (2007), the WMU was deeply indebted to the Cau Giay WSF. The former continuously failed to pay for obtained water services. The water arrears to the factory accumulated VND 121,884,974, as reported by the CPC chairperson on a Government Document No. 76/UBND-VP signed on March 8, 2007. Consequently, the factory, again, temporarily disconnected the service to 1,257 households in Co Nhue. Subsequently, more urgent meetings were called in 2007 with the participation of all engaged actors at the municipal, district, and communal levels to find solutions to the chronic cycle of high levels of UFW: WMU’s increased water arrears to Cau Giay WSF – Discontinuation of water services – Request for technical assistance. On November 7, 2007, the CPC Chairperson, Vice Chairperson, the WMU Principal, HWBC Vice Director and Head of the Business Department, the Cau Giay WSF Vice Director, and Head of the Investigation Office met again at the headquarters of the CPC to discuss the future of the communal water supply system. The CPC leaders and the WMU principal expected that the outcome of the meeting would be that the HWBC help them overcome the inefficient operation and high levels of non-revenue water by identifying causes of prolonged non-revenue water levels and managerial skills. Moreover, it was requested that the HWBC and the Cau Giay WSF provide technical training for the WMU members and eventually take over the operation and management of the communal water supply infrastructure from the WMU. However, the HWBC did not grant the request. Instead, the company asked its branch to focus on reducing the supply of water to the Co Nhue’s water supply network and to collaborate with the WMU in mitigating non-revenue water caused by illegal connections. The company also recommended that the CPC closely inspect bookkeeping records of the WMU over the years. For the first time, the Cau Giay WSF requested that the WMU provide a map of the local water supply infrastructure and a list of registered households, so that the factory could consider developing a plan to help.

Seeking the assistance of the Cau Giay WSF only helped WMU find out causes of the constant high non-revenue water and UFW, failing to mitigate the impact of high operating and management costs on service provision of the unit and its business with the Cau Giay WSF. The unit continuously failed to pay for its water arrears and constantly faced the Cau Giay WSF’s threats to terminate services.
What the local government of Co Nhue and the WMU members were not aware of was that while continuously asking the Cau Giay WSF to put pressure on the CPC and the WMU to collect the WMU’s water arrears over the years, the HWBC secretly developed an investment project on building a new capacity water supply network in Co Nhue (HWBC 2007a). This project’s investment value was estimated at VND 60,386 millions; and the project was going to be constructed from December 25, 2007 to June 2008, according to the Government Document No. 2169/KDNS-CTCN signed on December 14, 2007. The planning and development of this new project signaled that the HWBC did not take over the operation and management of the Co Nhue’s piped water supply network, instead replacing it with a new one. The formulation of this project marked the end of the Co Nhue’s communal efforts in water supply after approximately a decade of planning and construction and another decade of operation and management. In the subsequent section, there will be an analysis of the Co Nhue’s community efforts’ failures and lessons learned for community capacity building and the making of local governance.

5.5 The Failure of the Community-based Water Supply System and a Discussion of Causes

Co Nhue’s water supply system collapsed for various reasons. The underlying causes are institutional building-related issues such as technical incapability of the management unit members, unstable staffing, a lack of adaptive strategies to institutional changes, weak sanctions and rules enforcement, and changes in leadership. In addition, other contributory causes, such as design defects and the deterioration of the system, were also detrimental to the water system sustainability.

5.5.1 Qualifications of the water management unit staff

The effectiveness of the water supply system was highly dependent on the performance of the management unit staff members. In community-based projects, established and operated with external agencies’ assistance and support, the management unit staff members were often found to be trained on various aspects, such as management, technicality,
organizational administration. In the case of Co Nhue’s water supply system, the management staff members were chosen based on their enthusiasm and recommendations from the hamlet heads. What was commonly found in the qualifications of the WMU staff is a lack of proper training in business, technical, and managerial competence in operating an infrastructural system like piped water supply. Except from the first principal that had leadership experience and head of the technical team that used to serve as a technician for the Hanoi Water Business Company, the remaining staff of the WMU operated the piped water system by ‘trial and error’ principle. Although the local leaders and representatives of the local grassroots organizations gave compliments to the hardworking ethics of the WMU members, such ethics could not make up for the ineffectiveness of the unit.

Technically, the WMU members were able to pursue initial connection, meter installation for households, and fix minor leakages of the piped system. However, they were unable to reduce both administrative and physical water losses, which became chronic issues since 2005 and lasted until the system collapsed. The team was incapable of finding leaks or controlling the piped network to bring the operational and maintenance cost down. As a result, the local water users had to pay the high tariff while the unit had debts to the Cau Giay WSF.

Another issue associated with the WMU’s performances was unstable staffing. The WMU had to change leadership in March of 2003 after the first principal’s retirement. After that two assistants to the (first) principal resigned to work for the CPC. Within the 9 years of operation, there were several changes in billing staff members at the hamlet levels of the unit. Some new members failed to follow the unit’s guiding principles and regulations by violating work ethics, such as personal embezzlement of the unit’s money.

5.5.2 Leadership change and ineffective institutional adaptation

The change in leadership in March of 2003 was a marking point in the performance of the water management unit. The first principal, who originally participated in the project’s establishment and led the unit, received respect and trust from community members because of his personality and approximately 20 year-working experience as the headmaster at the
local secondary school. He initiated working regulations for the unit’s performances. He also came up with a business contract to legalize the economic relationship between the unit and the local water users. To ensure the unit’s financial transparency, he established a bookkeeping system for the billing staff members to use. He enforced the unit rules to his staff members, who failed to fulfill assigned tasks, attend compulsory periodical meetings, or sanctioned water users’ violations in the piped system maintenance. He appreciated the staff members’ contributions by organizing and sponsoring summer vacations for the unit members and their families and hosting get-together for the unit occasionally.

To earn trust from the business partner (the Cau Giay WSF) the first principal made monthly payments on time. He coordinated and mobilized the participation of local grassroots organization representatives in the piped system maintenance and management. He advocated for the right of water users and included them in the operation and management of the local water supply system, as well. For example, he collected and responded to users’ feedback, sought users’ opinion toward tariff change proposal, educated users on the costs of water infrastructural construction and maintenance, and water resource management. His inclusive leadership in the business, as a result, motivated citizen participation in maintaining the piped system and received admiration and respect of not only his staff members, his business partner, but also the local leaders.

The second principal, who previously served as an assistant to the first principal, took a leadership role in the WMU business, but failed to take over the legacy left by the predecessor. He did not set up a good model/example for the unit staff members. He showed his lack of responsibility in monitoring the piped system during the water service distribution hours (one hour in the morning and another one in the afternoon). He failed to communicate and update the unit performances to the People’s Committee and the People’s Council. Although he submitted financial reports periodically to the local government, his records were found unclean with scattered correction and disorganized. The second principal did not maintain periodical meetings per week. He lost connections with his staff members, especially the billing staff team. One of the unit billing staff members shared his insights into the principal’s performance.
“We had to keep track of water consumption from every household on our list. We did not know that our list of clients would be different from the [second] principal’s one until we found several households that had new connections to the piped system, were not included in our records. Certainly, those households had to pay fees for a new connection and a new water meter installation. I, personally, was not sure if the principal documented those cases in his financial records.” (Interview #4)

In this case, the unit principal’s dedication and managerial capability were not in place. His enthusiastic character did not compensate for lacking in creativity and professionalism. He lacked the social skills for strengthening the established relationship with the business partner. Moreover, he lost the water management unit credential to the Cau Giay WSF due to failing to pursue monthly payments on time. The unit’s water arrears to the Cau Giay WSF, in a linear relationship with continued high rate of physical and administrative water losses, increased exponentially over the months; yet, he was unable to develop any adaptive strategies to minimize the operating and maintenance costs. In addition, the second principal’s decision to halt the water service to a population cluster in the commune without prior consultation with the clients created excessive complaint from the affected group as well as the local leaders. It was hard to believe that the second principal was the opposite image of his predecessor in the eyes of the water users, other former members of the WMU, and representatives of the CPC and Cau Giay WSF. His failure to continue the first principal’s legacy caused many unfavorable conditions and impediments for the unit’s performance.

5.5.3 The water management unit’s poor sanctions and rules enforcement

Although the water management unit set up rules that regulated responsibilities of its staff members and sanctioned violations of water users, such rules were neither sufficiently nor strictly enforced. For example, some unit members did not bill and/or collect water arrears from users because the users were their relatives. Another example is that some users that broke the piped system did not receive proper sanctions for their violations due to a lack of disciplinary action by the unit staff. The inconsistency in sanctions and rule enforcements of
the unit backfired. Specifically, the inconsistency caused ineffective institutional administration and financial inefficiency. The unit staff belittled the organization’s rules and regulations. In this situation, the unit principal was accountable for his staff’s professional irresponsibility because inefficient supervision from the principal led to such opportunistic behaviors and probably stimulated corruption from the staff members. The following excerpt from the interview with the second principal of the unit indicated how kinship relationships actually affected the unit performance, especially its rule enforcement.

“The amount of water arrears from users was not significant, only VND 40,000,000. I could not be strict about forcing my billing staff members to retrieve money from users or halt service provision to these families. They owned one or two bills. They were not strangers anyways. They were either our neighbors or relatives. We ran into them daily, we just could not treat them like strangers. If we enforced the rules to stop supplying water, we were considered as someone who had no compassion.” (Interview #2)

5.5.4 Inconsistent supervision of the local government

Because the water management unit represented the local government of Co Nhue in doing business with the Cau Giay WSF and distributing water service to the local residents, its ineffective and inefficient performances indicated that the government did not successfully fulfill the supervision and patronage mission. While the WMU constantly faced high operational and maintenance costs, the high rate of unaccounted-for water, a large amount of debt to the Cau Giay WSF (from 2004 to 2008), the local government did not make any concrete intervention or effective measures to help except for a request for technical assistance from the Hanoi Water Business Company. The most powerful actor in the locality did not take any measures to discipline the WMU members who embezzled the unit’s money.

A representative from the CPC supposed that the local government already accomplished its role when taking the initiative and making financial investment in the project establishment for Co Nhue commune. The local government, in coordination with grassroots organizations, also delegated the WMU members to operate and monitor the piped water infrastructure and service delivery to local households under one condition: the unit had to be financially self-sustaining and self-sufficient. After the project establishment, the government stayed in the
background to facilitate the unit’s performances rather than directly steer its daily operation. The local government faced under-staffing itself. A vice-chairman of the CPC, who was in charge of socio-economic well-being in the commune only attended meetings between the management unit and the Cau Giay WSF when being called. The CPC delegated authority to the WMU in the water system operation and management. The CPC expected that as a state owned enterprise, the Cau Giay WSF should have provided technical support to the local management unit because the collaborative efforts between the two entities eventually was for the sake and well-being of the Co Nhue residents. Expressing his viewpoint on the ineffectiveness of the WMU’s performances and the collapse of the piped water infrastructure, a CPC representative supposed that:

“I did not call the collapse of the locally built water supply system a failure of the WMU and the CPC. I did not think that the Hanoi Municipal government and public water utilities showed enough interest and support to our collective efforts. Our staff should have received training and technical assistance in monitoring and controlling the piped network. It was my belief that had the Hanoi Water Business Company provided technical training for our staff, our water supply system could not have been collapsed.” (Interview # 27)

However, the Cau Giay WSF did not highly appreciate the initiative of the CPC and roles of Co Nhue government as well as the management unit in this project. A representative of the Cau Giay WSF was sarcastic when sharing his insights into the inefficiency and ineffectiveness of the community-based water supply system in Co Nhue. He supposed that both the local government and the WMU were incapable of running a water infrastructure in the locality. He did not completely agree with the central government’s policy on the mobilization of multiple stakeholders’ participation in service provision and infrastructure development. To him, in order for water supply infrastructure projects to be operated and managed efficiently and effectively, a capable technical team with experienced leadership must have been in place. The larger scale the infrastructure is, the more complicated the requirement for technical design and managerial experience.

In conclusion, this chapter provided an in-depth narration of Co Nhue commune and the establishment, development, and evolution of Co Nhue’s first locally built and managed water supply infrastructure. The chapter starts with an introduction to the community profile
before depicting the process of establishment and performances of the community water system. The chapter also underlined factors contributing to the failures of the water system throughout its decade of development and operation. The subsequent chapter will present an analysis of the degree to which the community water supply system of Co Nhue contributed to fostering the community capacity and the building process of local governance.
For community level institutions, the construction, operation, and management of an infrastructure program requires not only capital intensive and technical competence, but also concerns over an array of inquiries such as: “How will the infrastructure be built?” “Does the new infrastructure benefit citizens?” “How will the new infrastructure be operated, managed, maintained, and sustained efficiently and effectively?” Some institutions place priority on preparing resources and personnel prior to the project development while others prioritize the capabilities of existing community structure, social networks, local history, and other forms of assets. Some institutions depend on the capacity of the community to implement the project; others implement the project while developing capacity simultaneously. The ultimate value for the community is the process and experience in collective action and institutional building efforts. The community becomes aware of available assets, strengths and weaknesses, potential and constraints, and gaps and areas of improvement. This chapter describes and analyzes the extent to which the experience of the Co Nhue government and residents in developing, operating, managing, and dealing with the collapse of the piped water supply contributed to community capacity building and the process of making good local governance at the commune level.

6.1 Impact on Capacity Building

Community capacity building is observable, according to Chaskin et al. (2001) as community capacity has multiple component characteristics, operated and manifested through individuals, organizations, and networks within the community. Thus, efforts to build community capacity can take many forms. Community capacity can be built either by community members or externally by stimulated change efforts. Optimally, residents living in the same community would mutually support one another, relying on an extensive network of capable civic and community-based organizations. It is a common belief that through a
successful collective action, community members gain more confidence in learning to collaborate and build cohesiveness in the community, but on the other hand, people might lose interest and incentive to work together when their collective efforts fail.

In the case of Co Nhue, after eight years of development and another decade of operation, the local water supply system collapsed. However, both the local government and residents were exposed to a new form of infrastructure development and service provision. They were brought together to manage their property and co-solve problems which arose during the operation and maintenance of the local water supply system. Ultimately, they went through a process realizing where their potential and capabilities, both individually and collectively. Their lived experience generated lessons about leadership development, access to available (internal and external) resources, asset building, decentralization, collective action, and positive changes in the community.

While community development programs are normally launched and operated by community-based organizations and occasionally sponsored by NGOs and other international agencies, the local government’s determination, dedication, and responsiveness is what drove the Co Nhue water system’s development. The local government of Co Nhue actively played the role of gate-keeper, seeking approval of the city government and consensus of other local agencies. The local government also played the roles of enabler and facilitator during the project’s operation and management while simultaneously developing and supervising the water system. The involvement of the local government in community-based programs has often been seen as manipulative (Narine 1986). In Co Nhue, the local institution received significant financial and administrative support from the local government, especially during the construction and operation stages of the local water supply system. The local institution was given the authority to manage the infrastructure and self-sustain financially through direct service provision to the local water users. Under the leadership of the local state, grassroots organizations assisted the local institutions in their efforts.

One could conclude that the collapse of Co Nhue’s water supply system signals the failure of the community’s collective efforts. However, the collapse of Co Nhue’s local piped network and its community institution was just an end result, and did not truly reflect the whole process in which both the local government, organizations, and residents had engaged in
efforts resulting in individual and collective lessons, such as how to financially plan and manage an infrastructure network as well as collaborate with external agencies. The ups and downs throughout the decade of the development and maintenance of the piped water supply system revealed both strengths and weaknesses of the Co Nhue community’s collective efforts. Thus, the following subsections highlight the community building learning experiences for the Co Nhue government and residents and the development of local governance over two periods of time: the triumphal period during the establishment and operation in 1999-2004 and the demise of the system during 2005-2009. Chapter 3 presented the conceptual framework discussing Goodman et al.’s (1998) and Labonte and Laverack’s (2001) domains/dimensions for community capacity building: participation, leadership development, resource mobilization, and (vertical/horizontal) linkages.

Community efforts establishing, implementing, and maintaining water service provision from 1999-2004 generated positive impacts in the community. The local residents were excited about the newly built infrastructure and an accessible, clean, and reliable water source. During this time, the local institution (the WMU) had to focus on institution building, such as developing institutional rules and regulations, refining an economic contract, and financially planning for the business and maintenance of the system while also being occupied with the installment of water connections for the local households. The WMU also successfully mobilized administrative support from the local organizations and leaders. They maintained that the water infrastructure provided for the needs of the local users and became a reliable partner to the Cau Giay WSF. All of the positive impacts from this period are presented in the subsequent sections.

6.1.1 Inclusive participation: from everyday experience to knowledge generation

The establishment and implementation of the water project allowed the local residents and government of Co Nhue to work and interact with others. The local leaders and the project management unit members learned how to strategically mobilize the existing assets to gain project approval and financial support from the municipal government of Hanoi. Learning to efficiently provide water services to the local users and maintain the infrastructure, the
members of the water management unit sought support from local grassroots level organizations and leaders at the hamlet level. In order to extend its community outreach and education to the local water users, the WMU members called for the participation of varied groups of users, whether better off, less wealthy, locally born, or non-local residents. Participating residents were informed of up-to-date status of the infrastructure and water services at community meetings. As described in chapter 5, services were extended to various population segments in the community. Users were willing to comply with the water management unit’s financial regulations regarding system connections, the water tariff, and monthly billing.

Through “learning by doing”, the WMU staff learned how to manage the local infrastructure system, turning the everyday experience of distributing and providing water service to the local users and maintaining the piped network into knowledge of technical monitoring and managerial administration. When reflecting on their interactions with water users, members of the WMU recalled how collaborating with local residents improved the quality of service. Learning how to fix the piped network and implement other measures that reduced and mitigated the non-revenue water and unaccounted for water rate, the WMU members accumulated knowledge on causes of administrative and physical water losses, realizing their abilities and needs for collaborative efforts with the public utility (the Cau Giay WSF) in technical management of the network. The WMU members also learned how to communicate and educate the local users on the cost of the water infrastructure construction and service provision to call for collaborative efforts from the users in monitoring and managing the system. The learning process could not have been possible without interacting and communicating with the local residents or observing the interactions between the local residents with other actors involved in the project.

As highlighted in chapter 5, the water management unit principal and his staff dedicated great efforts in learning and gaining skills in monitoring and managing the system. They also learned soft/human skills in working with local users and holding them accountable. Although users of the water supply systems were either long-time neighbors or relatives of the WMU members, the unit principal successfully developed, signed, and enforced economic terms in a mutual contract with every registered household. He inspired and
required his staff members to separate the economic relationship from the social and kinship ties to gain efficiency in the service provision and sustainability of the entire local water supply infrastructure. Given the opportunity to run the system, the water management unit learned to perform economic administrative functions in collaborating with the business office of the Cau Giay WSF and monitor commitments of the local users simultaneously.

6.1.2 Building and strengthening social ties in the community through interaction

Share concerns for water accessibility and provision united the local residents, regardless of differences in interest, contributions, participation, and priorities. Residents interacted and cooperated alongside the WMU members and the local leaders to express and solve water service and network management issues. Regardless of residency or socio-economic status, residents developed mutual concerns over the quantity and quality of water, damages to the network, inaccuracy of the water meter, and/or responsibility/accountability of billing staff members. In this sense, the water program became a common interest connecting users and managers of the system together. The local development project became a catalyst for social interaction among the local residents in a shared geographical community, structured by diverse groups, and guided by the local government.

As a long established community, Co Nhue had strong social ties in place; the arrival of the water service project was a test to find out whether the social ties could be effectively used for the local infrastructure system development, maintenance, and endurance. Local residents successfully coordinated with the water management unit members, assisted by the local mass organizations and the leader at the hamlet level, in maintaining the piped system. Being self-accountable, the residents relayed water quality, low water pressure, and intermittent service concerns to the unit staff. They also participated in community meetings at the hamlet level to directly communicate, interact, and dialogue with the WMU leader and members about water services. The opportunistic behaviors of certain users threatened the service efficiency and the community efforts, the management unit members intensified their supervision of the infrastructure and interaction with the users to mitigate such potential
threats and risks. This process taught managerial lessons in working with other community members and led to community knowledge of institution building.

6.1.3 Commitment of the local government to run the project

The local government of Co Nhue demonstrated its strong determination and commitment in establishing the project. Leaders of the People’s Committee and People’s Council believed in positive changes in their residents’ quality of life through a community infrastructure development project, in this case water supply. They convinced the municipal authority of Hanoi and other Departments to finance and approve of the project. They determined to set a precedent for other rural communes of Hanoi by dedicating a huge portion of the local budget towards matching funds, so that the project construction could be accomplished. They selectively recruited staff from local offices and grassroots organizations to form the Project Management Unit and chose reliable and credible residents to form the institution that was directly in charge of monitoring the network. The local government leaders were also accountable to local residents by allocating free-of-charge water connections and water meter installations to responsible local households. They steered civic organizations at the hamlet level towards the support of the water management unit’s operation, e.g., reporting the piped network damages, leakages, inaccuracy of water meters, and illegal connections.

The local government’s commitments towards accountability to local residents manifested through the local government’s role as a mediator in the business dispute between the Cau Giay WSF and the local water management unit. The local government advocated for the WMU staff, providing support when the latter enforced the institution rules/regulations in response to infractions committed by some of the local users. To support the unit, the government requested administrative assistance from the District government, municipal government, Department of Transportation and Public Works, and technical training from HWBC. Even when the WMU was incapable of monitoring and managing the deteriorated piped network, the government continued asking the HWBC to take control of the system operation, to secure water accessibility for Co Nhue residents. Compared to many other local governments that did not support local initiatives, the Co Nhue government’s supportive
action gave its local residents a sense of what might be a reasonable positive trajectory for future initiatives toward their development goals. Representing the local government’s perspective, the CPC chairperson stated that:

“The piped water network has stimulated us to be more proactive and determined in taking action for positive changes in the locality. Our water project’s establishment and development over the past decade already proved that a locally built and owned project was doable. Our leaders believed that we could not keep waiting for the city government’s investment in the locality when we had favorable conditions to create positive changes for the local residents and for the locality. We could do another similar project and so do other local governments. Our residents have recognized our efforts and devotion to the changes in the commune. What we did not do well to sustain the project can be invaluable lessons for other communes should they wish to do something similar. If we did not push hard to make this project happen, we might not be granted a new water supply project from the city government.” (Interview #45)

Knowledge could be generated from lived experience. The lived experience of the local government of Co Nhue in steering, enabling, and facilitating the development and operation of its local water supply system demonstrated that the project was a learning process for them to strategically mobilize residents’ participation, build leadership, and foster inter-organizational relations.

6.1.4 Commitment of responsible citizens

The emergence of Co Nhue’s locally built piped water supply system required and attracted the involvement and commitment of responsible citizens. Selected to be in charge of establishing the project, providing service, and monitoring the piped network, Co Nhue’s residents demonstrated their highest responsibilities. Some intentionally devoted their energy and contributions to the commune, while others simply wanted to be accountable to the local government and the residents who had previously chosen them with their trust and respect. These people cared much about positive change in their community. They also cared about the community and sincerely wanted it to be a more livable place. They were vital stakeholders who showed (deeper) commitment (than others) and formed collective efficacy
for the project. Others performed multiple roles regardless of their seniority, such as hamlet head, accountant, or assistant to the water management unit head. They served their hamlet by supervising the piped network and engaging with the local households every day. Their commitment was voluntary.

The voluntary participation of such responsible residents in the piped water supply project set up a good model for citizen participation in the commune’s project and, therefore, fostered the participation of others in the community. Their active participation in everyday monitoring and management of the network increased the accountability of the billing and technician staff oversight of the water management unit in their daily work, as well. Their participation in community meetings (at the hamlet level) also inspired others to be more active in raising their concern over the project’s quality of service and staff performances. Unintentionally, these responsible residents’ efforts connected and encouraged others to gain a more powerful voice in the community.

6.1.5 Access to resources and asset building

Although the communal water supply collapsed, both the local government and the residents of Co Nhue learned how to mobilize available resources and how to build internal assets for the development and implementation of its project. Mentioned earlier in this chapter, the project activities created opportunities for strengthening social ties among local residents. To establish the project, the local government mobilized its local budget, municipal government’s budget, and initiated a partnership with the Hanoi Water Business Company. At the commune level, the government mobilized its available assets, i.e., staff and accountable citizens, the head of hamlets, and grassroots level agencies, to join its efforts by monitoring and managing the piped system and partnering with Cau Giay WSF to retail water services to the local residents (See Figure 6.1). These local actors collaborated to achieve a shared goal, which was rendering piped water accessible to local residents.
Through collective effort, the engaged local actors gained more knowledge on collaboration for their common interest and what worked and did not work through the collaboration process. Such collaboration became an asset that was not previously used, but would be used for future community projects. This asset building process took place during everyday operation of the network and at community meetings where engaged actors coordinated with each other to respond to local residents’ needs and concerns or to reach consensus on water tariff increase plans. Although various local institutions, citizen’s associations, and gifts of individuals already existed in Co Nhue (Green and Haines 2002), these actors would not have automatically connected together without coordination efforts of the local government and the first WMU principal. For this reason, the asset building, in essence, was a process for bridging the existing local agencies and individual actors; and with assistance and support of these agencies and actors (shown in Figure 6.1) the water management unit was able to distribute service to the local users regardless of their economic status or residency.

Figure 6.1 Resource Mobilization and Asset Building in the Co Nhue Water Supply Project
6.1.6 The importance of inclusive leadership

The Co Nhue water infrastructure project development and operation did not target individual leadership development as the majority of people serving in the water management unit were on the verge of retiring. Nor did the project focus on cultivating any particular members in the commune either. The best lesson learned in the development and management of this local infrastructure system was the inclusive leadership style that could and should be widely adapted to various levels in the locality. Although the water management unit was a sole institution designated by the CPC in the locality, its management and operation of the infrastructure system were inviting to the entire local residents. Residents were invited to participate in meetings and were consulted about the optimal method to work with the public water supply company. They were also consulted in any decision-making process relating to changes in the water tariff. Low-income and migrant families were not initially eligible for connections to the piped network due to a lack of contribution in local development. However, they were supported by hamlet heads and the WMU principal, ultimately receiving approval from the CPC for the water service. One example of the inclusive leadership style applied by the water management unit in its operating and monitoring of the local water supply system was its gala event, organized for the water users. Sharing this experience, the former unit principal said:

“We once held a gala event for users. Over 300 clients and members of the People’s Committee attended the event. That was our token of appreciation for their trust in our services. We took this opportunity to share with our clients how water was serviced every day and how the commune water system had been maintained. We called for their co-management and maintenance of the system because the water infrastructure belonged to the entire community. We presented illegal connection incidents and highlighted tremendous impacts on the water system sustainability as well the service they would receive. The attending clients voiced and shared our concerns. They questioned us about our services. Both sides came close to one another. We understood that they came to our event not just for a small incentive that we gave (VND 10,000), but for good services they would seek for better understanding of our work. We felt the trust they placed in us and we received much more support from them in maintaining the water system.” (Interview #1)
Training did not contribute to inclusive leadership as none of the water management unit members and heads of hamlets received formal training in administration or leadership development. Such training courses can be effective to convey technical information and leadership skills, but not necessarily provide personal commitment, dedication, or the ability to unify local community through active listening when working with the local residents similar to the way that the water management unit and hamlet heads at the Co Nhue commune did during the 1999-2004 period (Hollander 2012). These people demonstrated their responsiveness, responsibility, and respect to local residents. In return, they received respect, recognition, and, more importantly, active co-responsiveness and co-responsibility from many other residents in the commune, who helped with supervision when the piped network was constructed, maintenance when reporting leakage and illegal connections to the network, and sustaining the business when making payments in a timely manner and voicing personal concerns for better quality of service. Although the commune of Co Nhue did not intentionally train particular residents to take leadership roles in the hamlet level, its support of inclusive leadership through the water infrastructure development project initiated a new leadership culture that could transfer from generation one to the next.

6.1.7 Collaborative and communicative efforts through bridging with external institutions

Even though the water supply network of Co Nhue was initiated within the community (by the local government), the project operation and implementation required collaborative effort between the local government/institution (water management unit and the Co Nhue People’s Committee) and external agencies (the Cau Giay WSF, Hanoi Water Business Company, Department of Transportation and Public Works) (see Figure 6.2).
The business partnership between the water management unit and the Cau Giay WSF could not have been possible without their close collaboration in water distribution to local users. Over the nine years of operation, members of the water management unit became experienced in how to do business with a public utility in service provision. It was not simply a supply-demand relationship. Rather, it was a learning process of coordination with the business partner on many aspects, such as (i) to improve the quality of services to users, (ii) to prevent and mitigate non-revenue water losses through technical and administrative management, (iii) to advocate the utilization of a clean water source for daily life of local residents, and (iv) to educate the local people about the costs associated with production and distribution of water services and the importance of sharing responsibility in maintaining and preserving the piped network. In such business relations, the community institution learned how to negotiate over the contract terms and how to seek technical assistance to reduce operating and maintenance costs.
In contrast to the 1999-2004 period, the 2005-2009 period was notable for the managerial deficiency of the local infrastructure system and in the provision of water services to the Co Nhue residents, exemplified via a reduction in the service coverage, high incident of non-revenue water, tension between the water management unit and the local users, and tension between the unit and the Cau Giay WSF over the unit’s water arrears. Analysis in chapter 5 identified causes of these deficiencies and challenges, such as the physical deterioration of the pipes, and other causes, such as unstable staffing, changes in the local institution leadership, lack of enforcement of the institutional regulations, lack of mutual support from the public utility (the Cau Giay WSF), and lack of concern by the municipal government of Hanoi. Many of the changes were caused by the new leadership style, which had loose supervision and insufficient management of the infrastructure, ineffective service delivery, and increasingly high rate of water arrears over the time.

Although the WMU continued receiving support from the local government in negotiating with the Cau Giay WSF for no disruption in the service provision, the staff had to admit the unit’s lack of technical and managerial experience and capability in operating and monitoring the local piped network. The institution frequently missed monthly payments to the Cau Giay WSF, terminated service supply to some local users without advance notification, and failed to show transparent bookkeeping and financial reports to its direct supervisor, the local government of Co Nhue. To cope with the high percentage of physical water loss, the unit was willing to terminate the access of some of the local users. Its performance dwindled in accomplishing their mission of meeting local water needs. The unit members lost trust with the local residents, the local government, as well as the Cau Giay WSF. They failed to organize the commune residents around the local water supply network. In other words, they failed to contribute to the local community capacity.

6.2 The Making of Participatory Governance at the Locality

The formation and development of Co Nhue’s piped water supply is a non-traditional pathway of service provision in the context of Vietnam. The arrival of this infrastructure indicated the participation and contributions of local stakeholders in the service provision and
their responses to the Vietnamese government’s policy on multi-stakeholders’ participation in service provision at the locality. Unlike many other community-based programs, which were initiated by community-based organizations autonomous from the local government, the piped water network in Co Nhue was initiated by the local government, operated and managed by local residents. The residents and leaders of Co Nhue unified to contract with the public water supply utility of Hanoi. This section explores the extent to which the Co Nhue residents and leaders’ collective action fostered the making of participatory governance in the locality – the process in which the formal state apparatus welcomes the increasing involvement of the voluntary and private sectors and interact with them on a variety of issues (Mitlin 2004; Chhotray and Stoker 2009).

Co Nhue’s water supply project reflects a decentralized service provision in Vietnam. Water service coupled with electricity and other services were predominantly supplied by the public sector. In Hanoi, each city has at least one public water supply company, designated to serve city residents. Although the Hanoi piped water network was not extended to the Co Nhue commune, the major water supply public utility of Hanoi (Hanoi Water Business Company), was willing to collaborate with the Co Nhue government under the stewardship of Hanoi municipal authority to make water service available to the local residents. The local government, to make its plan work, had mobilized its resources, staff members, and community assets to build and operate the local water infrastructure system.

According to Doornbos (2004), governance as a concept understands the institutional dimensions of state-society relations. Participatory governance from a common perspective necessarily entails and enables the collaboration of the general public with the state. Participatory governance in its process of formation can make for better citizens, better decisions, and better government (Cownwall 2002) because it establishes new voice mechanisms for citizens and other engaged stakeholders. In establishing and implementing the water infrastructure project for the first time, the Co Nhue residents and government had to unify to closely collaborate with the HWBC. Regardless of managerial, technical, and resource constraints, these local actors were appreciative of the city government and other public agencies for giving the local government a chance to take responsibility for addressing one of the many social complexities in the locality – water accessibility. The local leaders
asked for ‘spaces for participation’ (Gaventa 2004; Cornwall 2002) in the water provision; these spaces used to be predominantly secured by the public water supply utility. This demonstrated the decentralized water supplies and the shift from state-centered activities to a proliferation of multiple-stakeholder’s (civil society organizations, the private sector, and others) participation (Chhotray and Stoker 2009).

In Co Nhue, the People’s Committee and the People’s Council coordinated with citizens and civic organizations to operate, monitor, and maintain the local water supply infrastructure. During the project formation and implementation, these actors learned how to make decisions collectively, ensure transparency in expenditure and information sharing, gain equitable service provision for local residents, and take upward and downward accountability to the city government and the local residents, respectively. Although the local leaders showed more involvement in the project establishment stage and less intervention during the operational and maintenance stages, they were seen as the major actor that contributed the most to the arrival of the infrastructure system and the creation of a new political culture in the commune.

Although both the government and communist party of Co Nhue commune retain the power in the decision making process for local issues, the decision making process in the water infrastructure development project was made collectively. Because supplying water for local residents were not written in the tasks and responsibilities of both the People’s Committee chairperson and the party secretary the former two leaders had to exchange their ideas on the necessity and rationale for constructing a piped water infrastructure for the local citizens’ benefit to the entire People’s Committee and People’s Council for approval. Such meetings were not organized at the hamlet level for the participation of all local residents. However, representatives of the local residents, who served in the People’s Council, were informed of and were consulted about the project rationale and financial plan. They were also asked for recommendations for the Project Management Unit and Water Management Unit staff recruitment subsequently. Both the minutes and results of such meetings were filed at the CPC’s headquarters and disseminated to the hamlet head. They were also responsible for overseeing issues at the hamlet level for further dissemination at community meetings.
To ensure the effectiveness of the local water supply project, the local government mobilized all civic and grassroots organizations’ participation and contributions. At the hamlet level, the representative of such organizations worked with staff members of the WMU under the instruction and leadership of the hamlet head. These organizations contributed to the development and maintenance of the water infrastructure and served as intermediary reporters who relayed their members’ reflections on the service quality to the hamlet head and staff members of the WMU. They reached out to local households to advocate for the work of the WMU members and the protection as well as maintenance of the piped network.

To operate and maintain the local water infrastructure, the local government did not demonstrate its absolute power in controlling the performance of the water management unit. Instead, the local government granted autonomous decision-making to the unit regarding how the infrastructure system should be operated and maintained and what was the most optimal way to distribute services to local households. The government only guided and steered the unit to ensure that there was no discrimination against any particular group of local residents in water service provision and that any proposal on water tariff changes needed to be publicly deliberated at the community meetings with the general community members. The government backed up the unit’s decision in sanctioning violation commitments of the water users and irresponsible action of the unit staff members. Even though the local government delegated decision-making authority to the WMU, the former was still accountable to the inefficient and ineffective performances of the latter, most apparent when negotiating with the Cau Giay WSF to not discontinue service despite the unit’s water arrears.

As the local budget was used for the water infrastructure development, the government and the water management unit were well aware of and demonstrated their accountability to the general community members in financial transparency. The decision to use VND 4 billion from the local budget as a matching fund for the water supply system development was collectively made by the People’s Committee; and the People’s Council members and the decision was disseminated to members at the hamlet level. Progresses in the piped network construction, financial conditions, and performances of the WMU were periodically and annually reported to local residents’ representatives at meetings and disseminated to the entire community via a public radio system. Additionally, financial records of the unit were
filed and kept at the local government’s headquarters and publicly displayed upon requested. These reports were routinely produced due to established bookkeeping at the water management unit for all billing staff members.

To meet the local residents’ needs for clean water, both the government and the water management unit were mindful of equitable service provision when considering accessibility to service of the local economically disadvantaged and migrant households. Since the WMU was a financially independent institution, it charged water users regardless of socio-economic status. Poor or rich, locally born or newly settled in the commune, all had to pay for the service. However, poor and other disadvantaged households arranged to make multiple installments for their connection fees and water meter. That was a considerate arrangement, as commented on by poor and migrant respondents. In this case, the local government and WMU tried their best to assure equitable service for local residents. Drawing from the Co Nhue actors’ efforts in demonstrating financial transparency and equitable service provision for the local users, it is possible to conclude that these actors were accountable to the local residents.

The participatory governance in water service provision at Co Nhue provided social learning lessons for the involved local actors. For water management unit members, there were lessons of technical competence, managerial experience, and relationship building with clients and the service provider. They had learned that being passionate in order to address social complexities in the locality and serve local residents was insufficient. To be capable of managing an infrastructure like a piped water network and maintaining service in the most efficient and effective manner, i.e., stabilizing and mitigating administrative and physical water losses, members of the management units had to be technically trained in piped network construction and management. To be capable of leading an institution, the leader should have administrative and managerial experience. In addition, the leader should have been creative, self-motivated and dedicated to the institution. They should be capable of developing strategies for institutional adaptation to contextual changes. Adopting a relevant leadership style, i.e., inclusive or collaborative, to engage users in the co-management process and collaborate with other stakeholders (the local government and the public water
supply utility, for example) was also equally important in sustaining the institution and monitoring the service system.

For the local government of Co Nhue, participating in the service provision sector might require not only financial investment and other resources mobilization, but also the consideration of various participatory methods to influence the construction of the local residents as citizens, community members, beneficiaries, or clientele. It would be equally important to think about the existing political culture, which might (not) support the unconventional participation in service provision.

Although the Co Nhue water supply system collapsed after more than a decade of development and implementation, the local residents and government of Co Nhue’s participation in water service provision created a new political culture at the commune level. For the first time an infrastructure development project, initiated by the local government and invested by the communal and city budget, was handed over to a local institution, which was subsequently established for the project operation and sustenance. Also for the first time, the local government had to build and maintain external collaboration with a public utility and internal relations with civic organizations and responsible citizens to monitor its infrastructure system. Such collaborative efforts coupled with equity, transparency, and participation values were nurtured and facilitated by dialogue, negotiation, and communicative action. These collaborative efforts set a precedent and new culture for developing similar efforts that took aim at addressing common issues in the commune.

Both the residents and leaders of Co Nhue commune expressed their sadness with their unsuccessful efforts to sustain the local water infrastructure in their interviews. They never thought that the system could deteriorate or become economically inefficient. For some involved individuals the collapse was a disappointment in the capabilities of some individuals in the WMU (Interviews #2, 8, 50). For others, the collective efforts of the Co Nhue residents and government were not wasted because of the knowledge gained from the entire process.
7.1 Empirical Findings

This qualitative study explores lived experience of the Co Nhue residents and other engaged agents in the process of development, operation, and maintenance of a local water infrastructure system involving the communal government, grassroots organizations, and the public utility of Hanoi. The case of drinking water supply, operated and managed by a local institution – the water management unit - in Co Nhue commune is illustrative of how the adoption of a non-conventional pathway of water service provision in the locality not only impacts water accessibility of the local residents, but enhances community capacity building and local governance process.

This research used in-depth interviews, participant observation, and desk-study data collection methods to answer two questions: (1) how did the community of Co Nhue initiate and implement its water supply project to meet the local need for clean water? And (2) to what degree did the collective efforts of the Co Nhue community contribute to the community building and local governance process? The study found that: the development and evolution of the piped water infrastructure in Co Nhue (from the early 1990s to the end of the 2000s) responded to the local residents’ pressing concerns over the quality and unmanaged extraction of surface and ground water resources, and potential health risks associated with the lack of a reliable piped water source. The arrival of the community piped water system, partially financed by the communal local budget, operated and monitored by representatives from the local residents, demonstrates that both the (local) government and citizens found a common voice and a shared vision in addressing the local need for water. Unlike many other self-determination or self-help efforts, this program is illustrative for the participation of multiple agents vertically across the neighborhood/district/city administrative levels, e.g., the municipal government, Department of Transportation and Public Works, Tu Liem People’s Committee, Hanoi Water Business Company, and Cau Giay WSF. The project was developed by the government at the commune level, supported by the district
government of Tu Liem and then approved by the municipal government of Hanoi, administratively and financially.

The establishment and development of the piped water supply project in Co Nhue was a result of the local leadership’s strong determination and dedication to the betterment of the general community. The project was a response to the central government’s policy on the mobilization of multiple stakeholders in service provision. To serve its citizens and for the betterment of the locality, the local government, for the first time, played the role of a service provider by collaborating with the city water supply company. The process included planning, lobbying, and requesting the city government’s approval, constructing the piped system, signing a business contract with the city water supply company, and institutionalizing the operation and management of the local water supply infrastructure. The local government of Co Nhue literally demonstrated its multiple roles, i.e., a gate-keeper, an enabler, and a facilitator.

The emergence of Co Nhue’s water infrastructure was made possible by the municipal government of Hanoi, which administratively approved and financially sponsored Co Nhue’s plan. Moreover, the city government steered the Department of Transportation and Public Works to specifically assist the project by selecting construction companies for the construction of the system and to oversee the economic collaboration between the local government of Co Nhue and the Hanoi Water Business Company. What was seen as unique in this case is that the municipal government approved a costly infrastructure development plan/project with minimal consideration of the feasibility of the project, and examination of whether the local commune had necessary capacity to operate the project while maintaining both economic efficiency and social justice. No information collected from interviews with representatives of the Co Nhue government, the public water supply utilities of Hanoi or Cau Giay WSF indicated that the municipal government took measures to request and evaluate a business plan, supervise the plan and/or provide the Co Nhue government and residents with necessary training.

The Co Nhue water supply system, initiated and paid for by the local government and operated and managed by a local institution, was similar to many other cases elsewhere in the developing world in which decentralized/community participatory water supplies were
promoted and the role of community level institutions was heightened (Cotton and Tayler 1995; Narayan 1995; Silkin 1998; Keener, Luengo, and Banerjee 2000; Kleemeier 2000; Isham and Kähkönen 2002; Krishna 2003; Prokopy 2005; Kiteh 2011). The WMU of Co Nhue was delegated financial autonomy to maintain the infrastructure and serve local residents. In the capacity of a service provider, the WMU staff acquired experience and skills via collaborating with the local grassroots organizations and the city water supply utility to run and maintain the water infrastructure and service provision.

Unlike many other infrastructure service provision systems that are usually small in size, simple in design, cheap, poor functioning, and deteriorating (Kleemeier 2000; Krishna 2003; Ibem 2009), the water supply system of Co Nhue was expensive and lasted for over a decade (since its first establishment in 1993 and collapse in 2009). The system was successfully operated for the first five years (1999–2005) when the infrastructure was newly built, put into use, and well maintained; during this initial period, the management unit team was trusted and respected by the local residents. Determinants of the initial success were (i) the dedication of the management team members and effective institutional arrangements, (ii) creative and enthusiastic leadership of the WMU institution, (iii) participation and support of the local civic organizations and water users, and (iv) the nature of the infrastructure which was newly constructed.

One important example of the project’s strengths was the active participation of the local residents. They actively shared responsibilities with the water management unit staff in monitoring and maintaining the piped system. They provided reflections and feedback to the unit’s services and tariff change proposals. Such interactions and exchanges also occurred at community meetings, the water management unit’s office, and inside and outside the users’ residence. Because both the unit staff members and leaders at the hamlet level created and maintained such varied platforms, citizen participation became inviting to all users. The users, service provider, and local leaders developed a sense of ownership over the newly built water supply system because all were concerned about the quality of services and the endurance of the infrastructure. This finding is consistent with Narayan’s (1995), Isham and Kähkönen’s (1999), Doe and Khan’s (2004), Prokopy’s (2005), and Commins’ (2007)
conclusions on the role of users’ participation in the effectiveness of community-based infrastructure development projects.

The period between 2005 and 2009 marked the demise of the Co Nhue water system and the ineffectiveness of the local institution. The local users complained about the quantity and quality of service while the water management unit frequently failed to pursue monthly payments and was indebted to the service provider (the Cau Giay WSF). Also documented in this period were several termination warnings, the actual termination of water service provisions from the Cau Giay WSF to the Co Nhue water users, and tensions between the local users and both the WMU staff and CPC leaders. Members of the WMU were blamed for long-lasting high percentages of non-revenue water and unaccounted-for water. However, four major factors contributing to the demise and decline of the water supply system, as indicated by the majority of respondents in the community, were changes in the institutional setting (changes in the leadership, unstable staffing, ineffective enforcement of the institution’s rules and regulations to free-riders, opportunistic behaviors of some WMU members), limited technical capabilities and incompetency and managerial inexperience of the WMU staff members, lack of supervision of the local government, and unwillingness to provide support from the public utility (the Cau Giay WSF).

Specifically, technical incompetency among water management unit staff members prevented the unit’s ability from reducing physical water losses during the operation and maintenance of the system. This limitation was attributed to high operating and maintenance costs of the unit, increasing the water tariff and compromising the quality of the water service. Additionally, the WMU’s unstable staffing, unaccountable leadership, and ineffective enforcement of the institutional sanctions and regulations against free-riders and other forms of violations were seen as detrimental to the capability of managing the institution and significantly affecting the levels of trust and respect of the local residents. Relationships between the users and the WMU became worse when the latter terminated service provision in certain areas without advance notice and explanation; dialogue between the users and provider disrupted; and reflections of users were not taken into consideration. Tensions arose and became substantial at many community meetings during this period as users frequently criticized the quality and availability of water and the WMU’s proposal water tariff increase.
as a means to make up its high operational and maintenance cost and water arrears to the Cau Giay WSF. The local government did not offer any better measures to mitigate the tension, improve the WMU’s performances. All this actor did was requesting the Cau Giay WSF to not terminate service while providing technical assistance to the WMU staff to mitigate the non-revenue water rates and minimize the operational costs. Due to unreliable quality of service and unaccountability of the service provider, users stopped relying on this water source and turned to groundwater as an alternative. In the face of unstable staffing, high rate of non-revenue water, and continued financial water arrears to the Cau Giay WSF, the water management unit was not able to make sufficient changes in the institution to adapt to the turbulent context, such as enhancing monitoring of the infrastructure system, motivating the staff’s performances, or prioritizing collaboration with the business partner to improve technical capacity of the staff members.

The findings above indicate the importance of capacity/skills building for the local institution as well as institutional adaptation to contextual changes (unstable staffing, changes in leadership, physical deterioration of the piped network, etc.), incentivizing the participation of the engaged agencies, especially the local government, which should have played a critical role in facilitating collaborations among the engaged agencies and supervising performances of the local institution. All of these factors contributed to the collapse of the service and the demise of the community’s collective efforts in capacity building and developing good local governance. Regarding the important role of capacity/skills building for the local institution as well as institutional adaptation to contextual changes, the finding echoes Keener, Luengo, and Banerjee (2010) and others’ arguments about the community level institution staff’s impact on the effectiveness of the community efforts’ program. By emphasizing the significance of incentivizing the participation of the engaged agencies, especially community residents, community residents only stick together when activities bring benefit to the community as a whole or individually. When the WMU failed to legitimize the provision of water service to the Co Nhue residents, it failed to unify the community and jeopardized the potential for capacity building in the community (Shirlow and Murtagh 2004).

While the Co Nhue government played an important role in the development of the local water supply system and the formation of the local institution at the initial stage of the
project, it failed to supervise the performance of the WMU in the later stage and was
deficient in facilitating collaborations between the unit and the city water supply utility. The
government’s poor supervision of the WMU’s performance created opportunities for
unaccountable action of the WMU staff and indirectly led to unreliable service provision.
The government should have asked for a thorough examination and assessment of the unit’s
performance to find out causes of ineffectiveness and inefficiency from the beginning (in
2005). The government also did not advocate for its community level institution because it
did not mobilize or facilitate assistive services from external sources, such as the municipal
government and the Hanoi Water Business Company for the WMU staff’s capacity training
or technical assistance. The vital role of the local government in providing a supportive
environment for the effectiveness and endurance of community-managed programs has been
well recognized and underlined in the literature. For example, Kingsley, McNeely, and
Gibson (1997) propose a community-local government partnership to address local issues.
More specifically, Witten-Hannah (1999) argues that local government can support and
encourage community initiatives by providing technical assistance and equipment,
coordinating and facilitating communication, organizing skills workshop, and being willing
to listen and open to change. Moriarty, Patricot, Bastemeijer et al. (2002) emphasize the
importance of providing policy, regulatory, financial, and political environments for the
operation and evolution of community governance projects. Douglass et al. (2002) stresses
the significance of democratic practice at the local level. Although the local government of
Co Nhue had put much effort in establishing the project, there was no clear mandate
supporting the community program which caused a downward accountability to the local
residents (for not having close supervision of the WMU’s operation and performance) and
upward accountability to the city government (for inefficient utilization of resource).

The fact that the WMU staff was technically incompetent leads to the realization of the
importance of technical skills and capacity training for community level institution members.
McCommon, Warner, and Yohalem (1990) indicate the dilemma of the differing objectives
of the communities and external agencies in partnerships/collaborations. Interviews with
utility representatives revealed that the Hanoi city water supply utility had no interest in
assisting its economic partner. In other words, the utility did not have any support for the Co
Nhue community initiative – one form of collaborative governance in service provision that
has been promoted by the Central government of Vietnam. The utility should have been grateful as a community like Co Nhue was helpful in taking some of its burden in providing water services. Its unwillingness to provide technical assistance training to the WMU staff simply showed that the utility lacked belief in community participation for water provision and did not appreciate the model.

Through the sixteen years of its establishment and implementation, the community water supply program of Co Nhue provided opportunities for interaction between local residents and government. The project was seen as the glue that held community residents and the local government together (Potapchuk, Crocker, and Schechtler 1997) The project attracted the participation of local residents (water users), leaders at the hamlet level (heads of hamlets), grassroots organizations, i.e., the Women’s Union, Farmer’s Union, Veteran’s Association, Youth’s Union, under the instruction of the local government by creating a platform for contribution during its initial stage (1999-2004). The project was a test for the Co Nhue residents and government in realizing the gaps and drawbacks in the community capacity for implementing and managing a built infrastructure system. The emergence and operation of the community level institution in water service provision provided an opportunity for the community members to learn managerial, technical, social and human, communication skills, as well as planning, collaborative and decision-making skills which potentially contributed to building and enhancing the community capacity. However, the end result of the project significantly affected the perception and evaluation of the respondents on the question – to what extent does the community-managed water supply program affect the community capacity building of Co Nhue? The following aspects were presented to demonstrate the mixed perception of the respondents on the Co Nhue commune’s capacity building process:

(i) Participation: The emergence of the community-managed waters supply project expanded participation of the local residents and other actors in the locality. Under this program’s arrangements, local residents recommended members of the WMU based on their respect and trust. They supported the unit staff members in the operation and maintenance by providing feedback and reflection of the quality of service. However, the project also
discouraged community residents to participate when the local institution – WMU – failed to incorporate or consider voices from users into its business and management plan. When local users continued receiving unreliable services, i.e., intermittent water supply, polluted quality, malfunctioning water meters, and unresponsiveness of the staff, their trust and respect toward the new water supply system and people who were in charge of the infrastructure monitoring and management became eroded.

(ii) Leadership development: Playing the role of service provision required both the local government and the water management unit to experience new leadership culture. For the first time leading the development and implementation of an infrastructure system, the local government worked with various agents in the locality to establish the project. The government delegated the authority to WMU by institutionalizing the unit for the purpose of providing water services and maintaining the local water infrastructure. For WMU, who joined the community efforts without proper managerial experience and technical competency, operating and monitoring a cumbersome infrastructural system like piped water supply was very challenging. Learning by doing, the unit staff learned to institutionalize their management and to collaborate with other engaging actors, but lacked the ability to restructure and render their institution to adapt to changes emerged from within, e.g., the change in leadership, and caused from outside, e.g., insufficient support from the local government and the business partner.

(iii) Skills building for individuals: To operate and maintain the infrastructure, members of the WMU gained skills and became experienced in practicing how to fix the piped network when it leaked, how to document records of water users, how to communicate and respond to feedback as well as the reflections of water users on the water service. The unit principal held greater responsibilities and liability when governing the whole system and guiding the operation of the whole unit. These organizational, human, and
technical skills as well as leadership development were practiced and learned by the water management unit staff. By providing assistance to the WMU’s operation and maintenance of the local water supply infrastructure and service, the head of hamlet level and representatives of the mass organizations experienced in documenting local households’ needs. When the city water supply utility planned on building a new piped water supply system to replace the community’s existing system, those key informants at the hamlet level organized community meetings to build a list of prospective clients and their respective demands. Another example is the WMU former staff that nominated themselves as a liaison for the city water supply utility at the commune. Given their earlier experience with the community water supply system, these staff members proposed to work as a billing staff.

(iv) Resource mobilization: During the implementation of the program, both the government and the WMU learned how to mobilize available resources and assets in the community for the effectiveness of the program. The ability to request financial investment from the city government and the use of grassroots organization, head of hamlets, and other responsible citizens in the development and operation of the infrastructure are highlighted as illustrations.

(v) Internal and external linkages: It was expected to have the community level institution extend its bridging internally and externally. However, the end result of this program apparently implied that the program was not successful, especially the local institution’s efforts in collaborating with the city water supply utility.

Regarding the making of local governance, the local residents learned to be engaged in decision-making process and translate values of equity, inclusiveness, transparency, and deliberation into practice through the organizational arrangement, operation, and
maintenance of the infrastructure system to meet their own needs. However, the relationship and collaboration between the local government of Co Nhue and the WMU did not go well in the later stage of the project. The former failed to closely supervise the performance of the latter, while the latter was upwardly unaccountable by not reporting its performance and finance routinely. Local government representatives from Co Nhue indicated that strong determination of the government and the WMU’s volunteerism and goodwill were necessary, but not sufficient to sustain the water service and infrastructure system. The unit staff members have to be technically trained and possess managerial experience for controlling the non-revenue water situation and satisfying the users demands. The community level institution is unable to technically train its staff members, but should reach out for help. In the case of Co Nhue, since the water management unit represented and received back-up from the CPC, the WMU could ask the local government to facilitate bridging to the external networks.

By making investment in the local water supply system in Co Nhue and directing the partnership between the Co Nhue government and Hanoi Water Business Company, the municipal government of Hanoi had already demonstrated its role as an enabler for the emergence of a non-traditional water supply system. The city government, however, could have also played to role of facilitator for that partnership. In such capacity, the city government could ask the Hanoi Water Business Company to provide technical support to its business partner. Specifically, the Company could have been involved in the design and construction stage with the Co Nhue People’s Committee. The company could have also recommended to the CPC the best material for the pipeline system and reliable water meters. Prior to the operation and maintenance of the system, the company could have provided additional support by training the WMU staff in managing the pipeline system and controlling physical water losses. The company could have introduced to the CPC and the WMU a relevant technology applicable to this particular water infrastructure system to control physical water losses. Given that the business partnership between the CPC and the company had no liability to provide any assistance except selling water in bulk to the pipeline of the Co Nhue’s infrastructure system, the municipal government of Hanoi should have played a more important role than just being the enabler.
Lack of strict enforcement of the water management unit’s rules, regulations, and sanctions was one of the detrimental factors causing the collapse of the Co Nhue’s water supply system and damaging the unit. Thus, regardless of homogenous or heterogeneous characteristics of the local community, the local institution had to maintain its strong rules and regulation enforcement. Although rules and regulations of an institution can be modified to match with the institutional or contextual changes, rule enforcement must be strictly implemented with no exceptions. In so doing, the members are required to be responsible for their action and behaviors.

7.2 Theoretical Discussions

The narration and analysis of the Co Nhue community-managed water supply system and its influence in Co Nhue community capacity and the process of developing good governance at the locality was contextualized based on the various agents’ voices and perspectives. Section 7.1 provided primary highlights of the story that features the local government’s determination in establishing water infrastructure and delegating a local institution to manage the infrastructure. It was recorded that the Co Nhue community managed water supply system was effectively operated to meet the local needs for a clean water source for a few years before falling apart. However, the impact of this unconventional water supply pathway on community building and local governance in the locality was not completely realized due to the collapse of the infrastructure and the failure of the community governance. This section, therefore, discusses the extent to which this study contributes to contemporary discourse on the role of community collective efforts in addressing the needs for water at the locality and in building community capacity for local development. First, the story of Co Nhue community’s water infrastructure development adds to the continued discussion about the role of community in service provision and to a broader debate on the governance of service provision. The residents and government of Co Nhue within two decades have experienced two different forms of water accessibility: self-provision and public provision and both relate to various debated interpretations on forms of state-community relations.
In the first form, the community acts as both a service provider and client. The community members directly participate in the planning, implementation, and maintenance of the service with or without external support. Being labeled as “self-determination,” “self-help,” or “self-reliance,” the community breaks the dependence culture on the government by self-securing necessary services as well as self-addressing their own issues. Although the community is able to mobilize resources from within and institutionalize its efforts for a targeted program, the results were mixed in terms of both effectiveness and practicability. If the community managed infrastructure program is not technically supported and taken over by the public utility, the infrastructure program will deteriorate. Through this lens, the collapse of the Co Nhue water supply system is just another example to add to the existing list of unsustainable and ineffective cases. However, these cases have been highlighted in the planning debates not because of the end result, but their processes and values embedded in the processes of self-determination. These values are: the ability to solve problems, the ability to mobilize diverse and inclusive participation from within, commitment, leadership development, and sense of community. They are also highlighted because of the emphasis on components of shared responsibility, gender participation, and democratic principles in the decision-making process. Another highlight is that the community program reflects actual demands and preferences of the local community for a particular type of service because it originates from within.

What makes Co Nhue different from other case studies is that the local water supply system was planned and constructed with the strong engagement of the local government under administrative and regulatory support of the municipal government. The local government opened up opportunities for the local residents to contribute to the program in various fashions. In this case, the government did not separate from the community and was not alienated from the local residents. Instead, the local government worked with the community residents for accountability to address the need of the latter. In such a relationship, the local residents could be seen as citizens and as clients. Although the infrastructure system was not sustained, the local residents did not blame their local government. In this sense, the Co Nhue case illustrates what Evans (1997) calls community-state synergy. The case is also consistent with Goss’ (2001) and Krishna’s (2003) perspective when they argue that the local
state and community-based organizations can work in support of one another, contributing to increased performance from each actor.

The case of Co Nhue is also relevant to the discussion of planning and decentralization of service provision in the global South where the central state has been implementing policies encouraging infrastructure development outsourcing, decentralization, and privatized service provision. Unlike the governments of some neighboring countries in the region, i.e., Indonesia, Philippines, and Malaysia, the central government of Vietnam does not allow privatization of water services. To make up for the drawbacks of the public utility, mostly in the area of inadequate finance and investment, the central government of Vietnam has called for the Socialization of Infrastructure Provision (Xã hội hoá cung ứng dịch vụ hạ tầng) or multi-sector participation in infrastructure provision (chapter 4). The government has created favorable business conditions for domestic private entrepreneurs and companies to join the effort, so that the construction and development of infrastructure and environmental services distribution do not have to solely rely on the state-owned infrastructure companies. Local (financial) initiatives (Spencer 2008b) including various forms of community-based infrastructure development programs are highly promoted as part of the decentralization of public services strategy of the central government. It is important to situate a decentralized service provision strategy within the context of the broader political economy to understand whether the strategy stems from the central state’s asking the local government and the community to share its responsibility or the central state shifting its resources for national growth-oriented development strategies.

Second, the story of community water supply in Co Nhue echoes the normative perspective of the contribution of community participation in addressing local issues (Ledwith 2005). The case of Co Nhue proves that organizing a community around a target of infrastructure development and service provision can actually contribute to the building of some components of community capacity. For example, by participating in the development, operation, and maintenance of the local infrastructure system, the local residents became more aware of their capabilities in addressing local issues. The community program also generated an inclusive leadership style and motivated the local residents to mobilize existing assets to establish the program and community institution. In addition, the program created
an opportunity for community solidarity among diverse groups and organizations in the community while bridging the community institution to external agents.

The study’s discussion about the impact of the Co Nhue’s community program on local community capacity building reinforces the claim that the building of community capacity is a process rather than an end result. It would be naïve to conclude that the participation of a community level institution in service provision certainly strengthens the capacity of a community. This study has raised the proposition that community capacity can be enhanced via the members’ skill achievement, leadership development, and/or local organizational collaboration; yet, such components are subject to being changed when there is no more opportunity to bring people together or when the community faces contextual changes, such as switching leadership or the leader’s departure from the community. Therefore, it is important to build a platform and/or lay a foundation, such as the making of local good governance from which the community capacity can be gradually enhanced.

Third, the story of community water supply in Co Nhue contributes to discussions about governance in planning. The Co Nhue government strengthened its ties to the local community by establishing a new infrastructure to meet the local needs and delegating the management power to the local residents. The local government successfully built trust and encouraged citizen participation by sharing its vision with and showing its accountability to the local residents. By delegating the authority in decision-making and financial management to the local community institution, the government of Co Nhue created a platform for the local residents to gain experience, skills, and lessons in leadership and collaboration. Creating an inclusive leadership that valued the diverse participation of the local population and opened an opportunity for the local people to access information on the program finances, the local government, through its development of the new water supply system, had built a participatory platform for the local residents. That, seemingly, is the creation of good governance at the locality.
7.3 Limitations of the Study and Recommendation for Future Research

This section identifies various gaps encountered throughout research design, data collection, and analysis stages of the study and recommendations of what could be done differently in the course of future research.

First, this study examined the development of a form of community collective efforts in the provision of an infrastructure service and the possible impacts of the community level institution form on its capacity building process and the making of its local governance. The study chose Co Nhue community’s water supply program as a single case study. The study was conducted during the stage in which the program was on the verge of being terminated because the water service was frequently disrupted, low quality of service, high water tariff charge, and high tensions between the local water management unit with the main service provider – the Cau Giay Water Supply Factory – due to the former’s water arrears to the latter. The local water users continued to experience water service intermittence while there had been a great number of meetings, negotiations between the local government, the infrastructure system management unit, the Cau Giay Water Supply Factory, the Hanoi Water Business Company, and, on occasion, representatives of the Department of Transportation and Public Works and the Hanoi Municipality government. Negative feelings toward the local water supply infrastructure and the management unit, which took charge of the system operation and maintenance were prevalent in every informal conversation, interview, and meeting with local water users, members of the management unit (existing and former), representative of the Cau Giay WSF, and some representatives of the local government. The negative feelings toward the performance of the local water management unit and the effectiveness of the local water supply program clouded almost every interview conducted for the research. It was very hard for the respondents to recall and share their happy experiences associated with the local water service. Thus, it was challenging to ask and collect information on the positive side and achievements of the program.

In addition, while the future of the local water supply infrastructure was undecided, the Hanoi Business Water Supply Company started off its construction of a new water supply system in Co Nhue. The construction firms and the Company representatives worked with the CPC and heads of hamlets to survey willingness to connect within local households. This
action significantly concerned the local system management unit members, the local government, and the local residents. The local residents could not stop comparing the local water supply system with the new one soon to be implemented, which was to be directly developed and managed by the Hanoi Water Business Company. This context influenced the interviews. Respondents often had to be re-asked about any positive impacts of the local water supply system when they steered the interview in another direction. This happened during many of the interviews, not just in occasional cases.

The single case study design also imposed certain limitations faced during data analysis. The water supply program lasted 16 years from its establishment to its termination, but this study was conducted when the program was about to come to an end. It was obvious that this was not a longitudinal study as the research did not follow the entire process of the program’s development to its demise to gain a better understanding of the degree to which the Co Nhue community capacity changed. Since fieldwork and observation only occurred at the final stage of the program, the process of (re)examining community capacity within its own evolution completely relied on the narratives of the program stakeholders and other respondents as well as available secondary data to learn about the Co Nhue’s water supply program and community building process in Co Nhue prior to the program’s arrival. Thus, time constraints are another limitation of this study.

Another concern was the respondent data validity based on their memories and storytelling of the community building of Co Nhue before the water supply program arrived. To maximize the validation of the collected information, the field study required careful attention to crosschecking the quality of information provided by one respondent by repeating the same set of questions when interviewing others. The same process was used for data analysis. However, constant reassessment of these methods helped ensure sufficient data collection techniques and analysis.

Another concern of the study was the broad interpretation of key terms, such as community capacity building and local governance, which have been measured differently by different studies. Notably, the study conclusions are constrained by its measurements of the aforementioned two key concepts. Future studies could develop a new set of indicators of
the two key concepts in their research and that could possibly come up with dissimilar research findings.

Acknowledging limitations, this study highly recommends that future research on the same topic rely on longitudinal data and be explicit about the framework that can be used to measure community capacity building and governance.
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Appendix 5: A copy of Decision on eligibility for water service connection (in Vietnamese)

Appendix 6: Applications for Human Subject Review
APPENDIX 1
IN-DEPTH INTERVIEW GUIDELINE FOR REPRESENTATIVES OF THE LOCAL GOVERNMENT

A- The establishment of the local water supply system

Why was a local water supply system necessary in Co Nhue back to the late 1990s? What was the rationale? Was there any need assessment?

Who initiated the idea of establishing the locally based water supply system?

What institution(s) was involved in the establishment process?

How was the decision made? And what was the role of the local authority in the establishment of the locally based water supply system?

Role of the chairperson?

Was the People’s Council informed and involved in the decision making process?

Were the local citizens informed and involved in the decision making process?

How was the construction of the local water supply system financed? What was the role of the People’s Committee in financing the system?

B – The Administration, Operation, and Monitoring of the water system

How was the local water supply system management unit was selected? Please describe the selection process.

What institution(s) and who were involved in the decision-making process?

How was the decision made? (via community meetings? Consensus? Or appointment?)

How and by what institution was the system operated and managed?
To what extent did the community members get involved in the process of establishment, operation, and maintenance of the system? Please describe the details with examples when relevant.

How were rules set up for the purpose of the system operation and management? To what extent did the local authority and the local people get engaged in the rule setting process? If there were any changes in the rules, how the changes were made? What were the procedure? (community meetings? Consensus-based decision making process?) Who had the power to make the decision?

Under what circumstances did community people gather to discuss the service issues with the management unit? How did they provide feedback, if any, to the management unit?

What were the contributions of the local government to the operation and management of the local water supply system?

How did the Cau Giay Water Supply Factory assist the management unit in the operation, management, and maintenance of the local water supply system?

Were there any conflicts between the water users and the management unit staff members that require the intervention from the People’s Committee?

C – The Failure of the System

Why did it fail?

Responsibilities of the local government?

Responsibilities of the water management unit? Capacity issues? Experience?

Reaction of the local people?

Responsibilities of the Cau Giay Water Supply Factory?

Collaborations between the stakeholders?
How did the People’s Committee react to the failure?

How did the local residents react to the failure?

What are primary causes?

What could have been done differently?

What are lessons for other communes if they want to replicate the model of water supply in Co Nhue?
APPENDIX 2
IN-DEPTH INTERVIEW GUIDELINE FOR REPRESENTATIVES OF THE WATER MANAGEMENT UNIT

A- The establishment of the local water supply system

Why was a local water supply system necessary in Co Nhue back to the late 1990s? What was the rationale? Was there any need assessment?

Who initiated the idea of establishing the locally based water supply system?

What institution(s) was involved in the establishment process?

How was the decision made? And what was the role of the local authority in the establishment of the locally based water supply system?

Role of the chairperson?

Was the People’s Council informed and involved in the decision making process?

Were the local citizens informed and involved in the decision making process?

How was the construction of the local water supply system financed? What was the role of the People’s Committee in financing the system?

B – The Administration, Operation, and Monitoring of the water system

How was the local water supply system management unit was selected? Please describe the selection process.

What institution(s) and who were involved in the decision-making process?

How was the decision made? (via community meetings? Consensus? Or appointment?)

How and by what institution was the system operated and managed?
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Were there any conflicts between the water users and the management unit staff members that require the intervention from the People’s Committee?

C – The Failure of the System

Why did it fail?

Responsibilities of the local government?

Responsibilities of the water management unit? Capacity issues? Experience?

Reaction of the local people?

Responsibilities of the Cau Giay Water Supply Factory?

Collaborations between the stakeholders?
How did the People’s Committee react to the failure?

How did the local residents react to the failure?

What are primary causes?

What could have been done differently?

What are lessons for other communes if they want to replicate the model of water supply in Co Nhue?
APPENDIX 3
IN-DEPTH INTERVIEW GUIDELINES FOR WATER USERS

A- The establishment of the local water supply system

Why was a local water supply system necessary in Co Nhue back to the late 1990s? What was the rationale? Was there any need assessment?

Who initiated the idea of establishing the locally based water supply system?

What institution(s) was involved in the establishment process?

How was the decision made? And what was the role of the local authority in the establishment of the locally based water supply system?

Role of the chairperson?

Was the People’s Council informed and involved in the decision making process?

Were the local citizens informed and involved in the decision making process?

How was the construction of the local water supply system financed? What was the role of the People’s Committee in financing the system?

B – The Administration, Operation, and Monitoring of the water system

How was the local water supply system management unit was selected? Please describe the selection process.

What institution(s) and who were involved in the decision-making process?

How was the decision made? (via community meetings? Consensus? Or appointment?)

How and by what institution was the system operated and managed?
To what extent did the community members get involved in the process of establishment, operation, and maintenance of the system? Please describe the details with examples when relevant.

How were rules set up for the purpose of the system operation and management? To what extent did the local authority and the local people get engaged in the rule setting process? If there were any changes in the rules, how the changes were made? What were the procedure? (community meetings? Consensus-based decision making process?) Who had the power to make the decision?

Under what circumstances did community people gather to discuss the service issues with the management unit? How did they provide feedbacks, if any, to the management unit?

What were the contributions of the local government to the operation and management of the local water supply system?

How did the Cau Giay Water Supply Factory assist the management unit in the operation, management, and maintenance of the local water supply system?

Were there any conflicts between the water users and the management unit staff members that require the intervention from the People’s Committee?

C – The Failure of the System

Why did it fail?

Responsibilities of the local government?

Responsibilities of the water management unit? Capacity issues? Experience?

Reaction of the local people?

Responsibilities of the Cau Giay Water Supply Factory?

Collaborations between the stakeholders?
How did the People’s Committee react to the failure?

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