POLITICAL INSTITUTIONS IN RURAL DRINKING WATER PROVISION:
THE CASE OF BAYBAY, THE PHILIPPINES

by

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Massachusetts Institute of Technology

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ABSTRACT

This thesis examines the successful rural water systems in the municipality of Baybay, the Philippines. The literature generally agrees that rural communities should be more involved and assume more responsibility to make rural water systems successful. The case of Baybay offers an example of such success. This thesis asks two questions. First, how are the rural water systems developed and maintained in Baybay? Second, what conditions induce good performance of these communities?

There exists a paradox in the ways the rural water systems are developed and maintained in Baybay. Donor agencies usually propose to levy user fees on rural residents to induce them to make informed decisions about whether they need the planned water facilities, and to regulate the water operators’ maintenance performance. Most rural communities in Baybay, however, do not charge user fees.

From the findings in 36 rural communities in Baybay, this thesis discusses how what I call “political institutions” contribute to inducing rural communities’ decision making and to regulating water operators, despite the absence of user fees. These political institutions are the popularly elected community councils and their interactions with municipal elite.

This thesis also identifies the conditions which enable the political institutions to work and make good performance of rural water systems possible in Baybay. These conditions include the abundance of spring water in Baybay, the effects of the decentralization policy of the Philippine national government, the organizational structure of community councils, and local prestige and influence enjoyed by the municipal officials.

Finally, the thesis draws a few policy implications from this case study concerning both community-based rural water projects particularly and decentralization of public services generally.
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ACKNOWLEDGMENTS

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Finally, I would like to extend my gratitude to my paternal grandfather, Hajime Ariga, who worked for the government of my hometown, especially for its drinking water systems, and originally evoked my interest in local governments and their water systems in developing countries.
CHAPTER 1

INTRODUCTION

Water supply projects for rural communities in most developing countries have suffered from inadequate maintenance. Installed water supply systems have frequently broken down and remained in disrepair. In some cases, rural residents do not use newly constructed water facilities and prefer traditional water sources. Evaluation of rural water projects report abundant failures. For example, Churchill et al. (1987) describes that “in country after country [rural water] systems are going out of operation almost as fast as they are being built” (p.3).

The literature has increasingly focused on the issue of sustainable use and maintenance of rural drinking water facilities in developing countries since the late 1980’s, when some seminal works emerged on this issue (Churchill et al. 1987, Briscoes and de Ferranti 1988, Kleemeier 1988, Therkildsen 1988). These works attributed the failure of past rural water policy primarily to the negligence of communities. Government agencies provided water facilities without fully consulting with rural residents. As a result, the facilities did not meet the residents’ demands. The existing literature on rural water generally agrees that rural communities should be more involved and assume more responsibility in development and maintenance of water systems. The issue remains, however, about how rural communities should be involved and what conditions induce good performance from these communities.
This thesis examines successful rural water systems in the municipality of Baybay, the Philippines. In Baybay, rural communities are deeply involved in the development and maintenance of water systems. Consequently, the rural residents in Baybay use and maintain their water systems well. This thesis asks two primary questions. First, how are the rural water systems developed and maintained in Baybay? The thesis specifically deals with how the rural communities are involved. Second, what conditions induce good performance of these water systems?

1.1. How Are the Water Systems Developed and Maintained?

I found a paradox in the ways the systems are developed and maintained in Baybay. Donor agencies usually propose to levy user fees on residents to encourage sustainable use and maintenance of rural water systems. Most rural communities in Baybay, however, do not charge user fees.

User fees are expected to address the following two considerations for rural water systems. First, water facilities must reflect the demands of rural communities. Residents do not use and maintain the water facilities unless these facilities are appropriate to their needs. It is expected that charging user fees induces rural communities to make informed decisions about whether the planned water facilities reflect their demands. Second, there must be a monitoring mechanism for the performance of those who maintain water facilities. Without such a mechanism, they do not properly maintain the

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1 A recent example can be found in Katz and Sara (1997, pp.5-6). They are concerned with the first consideration to user fees in my discussion.
facilities. Charging user fees makes water operators dependent on users’ payments for their salaries and therefore stimulates the operators’ good maintenance performance.

Most rural communities in Baybay, however, do not levy user fees on their residents. What is an alternative mechanism in Baybay to reflect the communities’ demands and to regulate the water operators’ maintenance performance? As elaborated in the third chapter, my findings from 36 rural communities in Baybay indicate that “political institutions,” the popularly elected community councils and their interactions with the municipal elite, contribute to the sustained use and maintenance of water facilities. First, the community councilors take the initiative in planning their water systems and lobby the municipal politicians for these systems. Consequently, the water systems reflect the demands of the communities. Second, each community council assigns one councilor to maintain its water system. The councilor maintains the system well because the maintenance performance affects his or her chance of reelection. I also found that technical help from the municipal engineers and friendly relations with them are crucial for the rural communities. Despite the absence of user fees, these political institutions contribute to reflecting communities’ demands and to regulating water operators’ maintenance performance.

1.2. What Are the Conditions for Good Performance?

Finding the function of the political institutions leads to the second question of this

---

2 Municipalities are divided into communities, locally called barangays in the Philippines. The municipality of Baybay consists of 92 barangays. All municipalities and communities have their own popularly elected councils. See Chapter 2 for more details about the local government system in the
thesis: what conditions enable these political institutions to work in Baybay? This question is important because such mechanisms rarely seem to work as well as they do in the case of Baybay. The thesis specifically asks the following four questions.

First, why is the municipal elite in Baybay not an obstacle for the rural communities in taking the initiative to develop water facilities? Local elite often obstructs the development initiative of the communities to serve their own personal interests rather than these communities' interests. Steffes (1997), for example, shows that private contractors and municipal politicians take over the planning stage of rural water facilities for communities in Brazil and Ecuador.3 Similarly, local politics in the Philippines are often portrayed as dominated by local elite.4

Second, what enables the rural communities in Baybay to take the initiative in developing water systems? Some authors rhetorically advocate that “the community itself must be the primary decision maker” (Briscoe and de Ferranti 1988, p.1). Their emphasis, however, is on the providers of water systems. The literature focuses on how the water providers can involve communities in deciding the type of water systems or how the providers can take communities’ preferences into account. Rural communities seldom take the initiative by themselves.

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3 Another example is Serrano (1996). He also shows how outsiders, such as the state government, local politicians, and private firms, influence the communities’ decision-making in a demand-driven program in the state of Ceará in Brazil.

4 Local politicians in the Philippines, though popularly elected, are often alleged not to serve their constituency but to pursue their own interests. For example, Hutchcroft (1991) illustrates that the Philippine political economy is dominated by oligarchs and cronies who abuse resources of the weak state apparatus for their own interests. He points out that this illustration is also applicable to local politics in the Philippines (p.450).
Third, what makes the election of rural community councilors in Baybay an effective performance-monitoring mechanism? Elected councilors are not necessarily accountable to the residents. They may respond only to the powerful constituents in their communities. In such a case, many parts of the community may be left unserved by adequate public services. Dillinger (1995) points out that “even in countries with well-established electoral processes, supplementary measures are typically needed.... Moreover, the view that local elections always perform well in this role [to hold elected politicians accountable] does not stand up to scrutiny” (p.64).

Fourth, why do the municipal engineers in Baybay wish to work for the municipal government? Many local governments in developing countries suffer from the lack of technically capable personnel. Since more lucrative jobs are often available outside, skilled engineers seldom choose to work for the municipal government.

This thesis illuminates the abundance of spring water, the effect of the decentralization policy, the organizational structure of community councils, and the local prestige enjoyed by the municipal officials, as conditions for successful performance of the rural water systems in Baybay.

1.3. Organization of Thesis

The next chapter briefly describes the background of rural water systems in Baybay and the methodology applied in this research. The third chapter describes how rural communities in Baybay develop and maintain water facilities. It illustrates the function of what I call the political institutions. The fourth chapter aims to explain what
conditions enable these political institutions to work in Baybay. It specifically answers the four questions raised in this chapter. The last chapter concludes my argument by providing a few policy implications derived from the case of Baybay.
2.1. The Case: The Municipality of Baybay

The municipality of Baybay is a large rural town, with a land area of 460.5 square kilometers, located along the west coast of the Leyte province in the Eastern Visayas Region, which is the second poorest region in the Philippines. Baybay has the largest population (86,179 for 1995) among municipalities in the province. In spite of its closeness to the sea, most of the land area in the municipality is mountainous. It has a small urban center, locally called Poblacion, and many rural communities scattered over the mountain (See Appendix for a map of Baybay). Its primary economic base is agriculture, mainly the production of coconut and abaca. There is no big industrial establishment, although there are a number of small business establishments, mostly employing less than ten workers (Municipality of Baybay 1995).

Baybay municipal government consists of ten popularly elected officials (a mayor, a vice mayor, and eight councilors) and approximately 200 employees. The municipality

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5 Local governments of the Philippines consist of 77 provinces (first tier), 65 cities and 1,542 municipalities (second tier), and 41,926 communities, locally called barangays (third tier). Some cities, called Highly Urbanized Cities, have equal status as provinces. All tiers of local governments have popularly elected chief executives and councilors. The Philippines is also divided into 16 regions which are administrative units of the national government (Brillantes Jr. 1996).

6 The island of Leyte is one of the major islands in the Philippines and is divided into two provinces, Leyte and Southern Leyte. Leyte province consists of two cities and 41 municipalities. Leyte province is one of the six provinces of the Eastern Visayas Region. In terms of per capita Regional Gross Domestic Product in1995, the Eastern Visayas Region is the second poorest region in the Philippines.
is further divided into 92 communities (with a median population of 142 households), locally called barangays, each of which has eight popularly elected officials (a captain and seven councilors).

As shown in Table 2.1, different organizations run urban and rural water systems respectively in Baybay. Baybay Water District (BWD), a locally established water corporation, constructs and maintains a large integrated urban water system, which exclusively serves 23 barangays in the Poblacion and 14 barangays surrounding the Poblacion. On the other hand, the municipal government is responsible for the construction of water systems in 55 rural barangays, and respective rural barangays maintain their own independent water systems. The focus of this thesis is these rural water systems.

I chose the municipality of Baybay for my case study because Baybay was well known in the Philippines as a municipality successfully providing drinking water facilities to rural barangays. Baybay won the Galing Pook Award, a national award annually given to 20 local governments that show excellent performance in public administration, for its rural water projects in 1995.\textsuperscript{8} It was, in fact, the only local government that won the award for rural water projects at the time of this field research. The Philippines has been in the process of devolving responsibilities for rural drinking water provision from the national government to local governments since the enactment

\textsuperscript{7} Two cities in the Leyte province, however, have larger populations than Baybay.
\textsuperscript{8} Galing Pook or Gantimpalang Pang-lingkod Pook awards (Excellence in Local Government Awards) started in 1994. Programs of 20 awards-recipients are publicized in Innovations: Excellence in Local Governance published by Local Government Academy of the Philippine national government each year. Rural water projects of Baybay are included in its 1995 edition. For a brief introduction of Galing Pook
of the new Local Government Code of 1991. Most municipalities, however, have not been able to assume the responsibilities due to insufficient technical and financial capabilities. Baybay is among a few successful municipalities. The ratio of rural population having access to potable water in Baybay slightly exceeds the national average (Table 2.1).

**TABLE 2.1.**

**Water Systems in Baybay**

<table>
<thead>
<tr>
<th>Access to Potable Water in 1996 (National Average in 1995)</th>
<th>Urban</th>
<th>Rural</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barangays Served</td>
<td>91% (61%)</td>
<td>79% (70%)</td>
</tr>
<tr>
<td>Barangays Served</td>
<td>23 urban &amp; 14 outskirts</td>
<td>55</td>
</tr>
<tr>
<td>Population</td>
<td>36,633</td>
<td>49,546</td>
</tr>
<tr>
<td>Median # of Households per Barangay</td>
<td>152</td>
<td>138</td>
</tr>
<tr>
<td>Organization in charge of Capital Investment</td>
<td>Baybay Water District (BWD)</td>
<td>Municipal Government</td>
</tr>
<tr>
<td>Organization in charge of O&amp;M</td>
<td>Rural Barangays</td>
<td></td>
</tr>
<tr>
<td>Water Systems</td>
<td>One large system covering all above barangays (a gravity-fed system from protected springs). Mostly household connections.</td>
<td>Small independent systems in respective barangays. Mostly gravity-fed systems from protected springs. Most households use communal faucets.</td>
</tr>
</tbody>
</table>

*% of population.

*Source: Household survey conducted by Human Ecological Security Office of the Municipality of Baybay. In its questionnaire, access is defined as “access to potable water (faucet/deep well) within 250 meters (10 minutes walk).” For a few communities for which survey results are missing, estimates made by sanitation inspectors, who regularly visit each barangay, at Rural Health Unit 1 and 2 of the Municipality of Baybay, are used.

*Source: DILG (1997).

*Excluding Metro Manila, the capital of the Philippines.

*These are mostly access to publicly-used wells (see Table 4.1) whereas figures in urban systems are mostly access to individual household connections. Rural water facilities have been constructed by the national Department of Public Works and Highways (DPWH). In Baybay, DPWH also constructed deepwells in some rural barangays, but the municipality replaced most of them with gravity-fed systems from springs.

**2.2. Methodology**

I conducted field research in the Philippines for two months, from July to August.
1997. I spent six weeks in Baybay and two weeks in the national capital, Metro Manila.

During my six-week stay in Baybay, I spent four weeks visiting rural barangays to observe their own water systems. In each barangay I interviewed at least one of the elected officials (captain or councilor); walked around the community to observe its water system including water intake tanks, reservoirs, distribution networks, and public faucets; and interviewed people using public faucets elsewhere. I visited a total of 36 rural barangays out of 55.

In choosing the rural barangays visited, I tried to cover various types of barangays to grasp a comprehensive and accurate picture of rural water systems in Baybay. I chose the barangays using the three criteria: geographical characteristics, the ratio of population having access to potable water, and the number of households per barangay. I visited more barangays along national roads than those in the mountain because of accessibility; nevertheless, I also covered the latter barangays fairly (Table 2.2). I visited barangays from those having little access to potable water to those having complete access (Table 2.3). My field visits cover all the sizes of barangays in terms of the number of households (Table 2.4). Appendix, a map of Baybay, shows a geographical distribution of the barangays visited.

TABLE 2.2.
Geographical Characteristics of the Barangays Visited

<table>
<thead>
<tr>
<th>Area</th>
<th>Total Number of Rural Barangays</th>
<th>Number of Barangays Visited</th>
</tr>
</thead>
<tbody>
<tr>
<td>Along National Roads (Coastal Area)</td>
<td>14</td>
<td>12</td>
</tr>
<tr>
<td>Along National Roads (Mountainous Area)</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td>Interior of the Mountain</td>
<td>32</td>
<td>15</td>
</tr>
<tr>
<td>Total</td>
<td>55</td>
<td>36</td>
</tr>
</tbody>
</table>
TABLE 2.3.
Access to Potable Water in the Barangays Visited

<table>
<thead>
<tr>
<th>% of Population Having Access to Potable Water</th>
<th>Total Number of Rural Barangays</th>
<th>Number of Barangays Visited</th>
</tr>
</thead>
<tbody>
<tr>
<td>≤ 25%</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>26 - 50%</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>51 - 75%</td>
<td>10</td>
<td>7</td>
</tr>
<tr>
<td>76 - 100%</td>
<td>36</td>
<td>24</td>
</tr>
<tr>
<td>Total</td>
<td>55</td>
<td>36</td>
</tr>
</tbody>
</table>

Source: see note b of Table 2.1.

TABLE 2.4.
Number of Households in the Barangays Visited

<table>
<thead>
<tr>
<th>Number of Households per Barangay</th>
<th>Total Number of Rural Barangays</th>
<th>Number of Barangays Visited</th>
</tr>
</thead>
<tbody>
<tr>
<td>≤ 100</td>
<td>22</td>
<td>9</td>
</tr>
<tr>
<td>101 - 200</td>
<td>16</td>
<td>12</td>
</tr>
<tr>
<td>201 - 300</td>
<td>9</td>
<td>7</td>
</tr>
<tr>
<td>301 - 400</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>401 - 500</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>501 - 600</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>601 - 700</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>701 - 800</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>55</td>
<td>36</td>
</tr>
</tbody>
</table>


In the remaining two weeks in Baybay, I conducted interviews at the municipal government with the municipal mayor, the vice mayor, the municipal councilors, and the employees of the various offices of the municipal government. In addition to these interviews, I accompanied the municipal engineering staff as they assisted three barangays one day and sat in on at the municipal council once. I also interviewed the congressman elected from this municipality and the employees in the field offices of various departments of the national government. Besides public officials, I interviewed different people everywhere in the municipality, including local businessmen, bankers,
teachers, pastors, housewives and so on. Furthermore, I took part in several events in the
municipality, such as fiestas of two rural barangays. Such experience helped me
understand the social, economic, and political lives in the municipality and helped me
think about their implications for rural water projects. The details of the questions I
asked in the interviews are unfolded as my arguments are developed in the following
chapters.

During another two-week stay in Metro Manila, I interviewed the relevant officers
of some departments of the national government and several development assistance
agencies, such as the World Bank and the Asian Development Bank, to gather
information about the overall picture of rural water supply facilities in the Philippines.
This information allows me to compare the case of Baybay with average situations of
rural drinking water provision in the Philippines.
CHAPTER 3

GOOD MAINTENANCE OF RURAL WATER SYSTEMS IN BAYBAY:
HOW DOES IT WORK?

This chapter describes how the rural water systems in Baybay are developed and maintained, and how the rural communities there are involved. The first section details the rural water systems in Baybay and its good performance. The second section introduces a paradox. It shows that most rural communities in Baybay do not levy user fees despite the fact that donor agencies propose to charge users to encourage good performance of rural water systems. The following two sections describe an alternative mechanism in Baybay to induce good performance. The third section details how the rural water systems are developed. The fourth section elaborates how the systems are maintained. The key institutions in this mechanism are the popularly elected rural community councils and their interactions with the municipal elite, i.e. the municipal politicians and engineers. The fifth section names these “political institutions.”

3.1. Rural Water Systems in Baybay and Their Performance

The municipal government started its annual household survey in 1996 to gather statistics regarding basic human needs, including access to potable water. The data in 1996, the only data available at the time of my visit, shows that the ratio of population having access to potable water in 55 rural barangays is 79%. This figure slightly
exceeds the national average of 70% in 1995. The rural water systems in Baybay fairly cover its rural population.9

Through my field visits to 36 rural barangays, I confirmed that these figures10 generally represent the current situation of the water facilities in the rural barangays of Baybay,11 though I identified the need for modified interpretation for two barangays among those I visited.12 Table 3.1 summarizes my findings in the field visits to 36 sample barangays. For barangays that I did not visit, I assume that the municipality’s data generally represents the current status of rural water facilities in these barangays.13

9 Table 2.3 in the previous chapter presents the distribution of different levels of access to potable water across the rural barangays in Baybay.
10 These figures must be confirmed by field visits because there are some possible misrepresentations and inaccuracies. For example, the water facilities were functioning at the time of the survey but may have broken down since then. Some of the access to potable water is not access to the government-provided water facilities but access to private water vendors. See Brookshire and Whittington (1993) for more discussion of possible misrepresentations and inaccuracies in these figures regarding access to water.
11 The best way to confirm the municipality’s data is to conduct another household survey; however, due to a limited time frame of my field research, I could not engage in such a survey. Instead, I confirmed the accuracy of the municipality’s figures through my observations on the water systems while walking around each barangay and through my interviews with people in these barangays.
12 The first modification concerns the barangay Hilapnitan, which records 99% access in the municipality’s data. Water facilities in Hilapnitan broke down due to the typhoon in the late 1996 and remained in disrepair at the time of my field visits. Hilapnitan was planning to develop new water facilities and proposing the plan to the municipality. Hilapnitan is reclassified as “barangays with broken systems” in Table 3.1. The other modification regards the barangay Can-Ipa, which records 51% access in the municipality’s data. In Can-Ipa, most people bought water from private vendors because a protected spring in Can-Ipa produced little water and water from other sources, such as rivers, was contaminated. My interviews at Can-Ipa revealed that the municipality’s figure on Can-Ipa included access to water from private vendors. Can-Ipa is reclassified as “barangays with no system or systems with little coverage” in Table 3.1. Apart from these, my observations in other barangays were consistent with the municipality’s data.
13 There are two justifications for this assumption. First, the municipal government officials knew that the water systems in Hilapnitan were broken, and they told me that there were no other rural water facilities which were totally broken down. The rural barangays in Baybay report to the municipal government and seek its assistance when major problems occur in their water facilities. If there were other barangays whose systems broke down, the municipal officials must have known them. Second, there is little possibility of the presence of private water vendors in these barangays because the vendors in Can-Ipa are not professional water vendors but the residents of this barangay, and they fetch water by handcarts from the households in the Poblacion where the Baybay Water District provides water. This is possible because Can-Ipa is just a few minutes away from the Poblacion. All the barangays which I did not visit, however,
TABLE 3.1.

Maintenance Performance of Water Facilities in the Rural Barangays Visited

<table>
<thead>
<tr>
<th>Number of Rural Barangays Visited</th>
<th>36</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barangays with Functioning Water Systems</td>
<td>31</td>
</tr>
<tr>
<td>Barangays with no system or systems with little coverage $^a$</td>
<td>4</td>
</tr>
<tr>
<td>Barangays with broken systems $^b$</td>
<td>1</td>
</tr>
</tbody>
</table>

$^a$ Barangays with less than 25% access in the municipality’s data plus barangay Can-Ipa.
$^b$ Barangay Hilapnitan.

What type of water systems do the rural barangays in Baybay use? Most barangays use springs for their water sources and adopt gravity-fed distribution networks (Table 3.2). Even in the two barangays that primarily use wells, my interviewees told me that they also plan to develop gravity-fed systems using springs. Indeed, many rural barangays relied on deepwells before, but they replaced them with spring water systems (Table 3.3). Because of unacceptable quality of water,\(^{14}\) eleven barangays abandoned their wells or used them only for non-drinking use, such as washing and watering plants. In another six barangays,\(^{15}\) rural residents prefer to use spring water facilities because they perceive water from spring is better than that from deepwells. They use deepwells only when spring water systems do not supply enough water. Municipal officials told me that most barangays that I did not visit also use gravity-fed systems from springs. On the whole, rural water facilities in Baybay are gravity-fed systems from springs.

---

$^{14}$ My interviewees in these barangays told me that water from their deepwells contain mud or salt water.
$^{15}$ Of which, one barangay (Hilapnitan)’s water system was broken at the time of my field visit.
TABLE 3.2.

Rural Barangays with Functioning Water Systems by Type of Systems

<table>
<thead>
<tr>
<th>Barangays with Functioning Water Systems among Those Visited</th>
<th>31</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protected springs with gravity-fed distribution networks</td>
<td>28</td>
</tr>
<tr>
<td>Protected springs to which communal faucets are attached (no distribution network)</td>
<td>1</td>
</tr>
<tr>
<td>Wells</td>
<td>2</td>
</tr>
</tbody>
</table>

TABLE 3.3.

Rural Barangays with Abandoned and Occasionally Used Wells

<table>
<thead>
<tr>
<th>Barangays with spring water systems</th>
<th>29</th>
<th>9</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barangays with functioning wells</td>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Barangays with no system or systems with little coverage</td>
<td>4</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Barangays with broken systems</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>36</td>
<td>11</td>
<td>6</td>
</tr>
</tbody>
</table>

* includes wells used only for non-drinking purpose.

How about the level of service of these gravity-fed systems in Baybay? In each rural barangay I visited, I asked how many households use public taps and individual connections respectively. Table 3.4 summarizes the result for the 28 barangays with distribution networks. As shown in this table, more than two thirds of these barangays predominantly rely on public faucets for their water delivery. Only four out of 28 barangays mainly use individual household connections. Most of the rural residents in Baybay use public taps.

TABLE 3.4.

Rural Barangays with Gravity-fed Water Systems by Level of Service

<table>
<thead>
<tr>
<th>Barangays with Gravity-fed Distribution Networks</th>
<th>28</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public faucets only</td>
<td>8</td>
</tr>
<tr>
<td>Public faucets for most households and individual connections for a few households</td>
<td>12</td>
</tr>
<tr>
<td>Public faucets for about a half of households and individual connections for the remaining half</td>
<td>4</td>
</tr>
<tr>
<td>Individual connections for most households</td>
<td>4</td>
</tr>
</tbody>
</table>
As evidenced in the fact that many rural barangays replaced their deepwells with gravity-fed systems from springs, they are willing to fetch spring water because of its cleanliness.\textsuperscript{16} Besides deepwells, there are some other traditional water sources for the rural barangays, such as rivers and unprotected wells. The rural residents in Baybay, however, primarily rely on spring water facilities because they perceive spring water is better than water from other traditional sources.

The rural water systems in Baybay had been operated at least for a year as the municipality conducted the aforementioned household survey one year before my field visits. My interviews at the rural barangays, moreover, revealed that these systems had been in operation for many more years (Table 3.5). In a few barangays, these water systems sometimes deliver less water especially during dry seasons. It is because, however, of the capacity of springs rather than of faulty maintenance of the systems.\textsuperscript{17} In general, the rural barangays in Bayabay show good performance in maintaining their water systems.

\begin{table}[h]
\centering
\begin{tabular}{|c|c|}
\hline
Number of Barangays with Functioning Water Systems among Those Visited & 31 \\
\hline
Up to 3 years & 17 \\
Up to 5 years & 5 \\
Up to 10 years & 7 \\
More than 10 years & 2 \\
\hline
\end{tabular}
\caption{Length of Operation of Water Facilities in the Rural Barangays Visited \textsuperscript{a}}
\end{table}

\textsuperscript{a} These lengths are the numbers of years passed since the last significant improvements in water systems. The significant improvements here refer to the new construction of the entire system and the expansion of capacity of the existing system to serve more populations.

\textsuperscript{16} See 4.1. for more discussion about clean spring water in Baybay.

\textsuperscript{17} Springs in the rural barangays in Baybay are generally small.
3.2. Financing of Rural Water Systems without User Fees

User fees can be levied in various ways. First, there are variations in the extent of costs to be recovered through user fees. In some cases, only operation and maintenance (O&M) costs are recovered, whereas in other cases, both capital and O&M costs are recovered. In the rural water facilities in Baybay, there is no attempt to recover capital costs through user fees. The few barangays levying user fees aim to cover O&M costs only. Second, variations occur with regard to whether volumetric or fixed fees are charged. In Baybay, the rural barangays that charge fees levy monthly fixed fees with only one small exception.

Table 3.6 summarizes my findings about user fees in the rural barangays with functioning water systems. As shown in this table, about two thirds of these rural barangays do not charge user fees at all. In the remaining 12 barangays, a third of them levy user fees only on households with individual connections. Since less than half of the households have individual connections in these barangays, collected fees are not enough to cover even minor repairs. For the remaining eight barangays levying fees on entire households, only less than half record high collection efficiency, and only two

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18 Many rural residents in Baybay, however, provide labor without receiving wages or with less-than-market wages. These residents partially cover capital costs in kind.

19 The only exception I found in my sample barangays is a small fraction of the barangay Caridad. Twenty households in Caridad which have individual connections are levied metered fees, but these households constitute only 3% of the entire population of Caridad. The remaining households using public faucets in Caridad do not pay any fee at all.

20 Throughout this thesis, “minor repairs” or “minor maintenance” refers to easy and low-cost maintenance such as replacement of faucets, sealing of leakage in distribution pipes/tubes, and partial replacement of these pipes/tubes. In contrast, “major repairs” means complicated and costly maintenance such as larger replacement of distribution pipes/tubes, and rehabilitation of water intake tanks and reservoirs.
barangays answered that they could cover costs for minor repairs from user fees. For major repairs, none of the barangays visited could generate sufficient resources only from user fees.

**TABLE 3.6.**

<table>
<thead>
<tr>
<th>User Fees in the Rural Barangays with Functioning Water Systems</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td>Number of barangays</td>
</tr>
<tr>
<td>---------------------</td>
</tr>
<tr>
<td>Barangays with high collection efficiency of user fees</td>
</tr>
<tr>
<td>Barangays earning enough revenue for minor maintenance from user fees</td>
</tr>
</tbody>
</table>

\(^a\) In these three barangays, share of households in total number of households are respectively 3\%, 15\%, and 50\%.

As is clear from these findings, the maintenance budgets of the rural barangays in Baybay rely primarily on financial sources other than user fees. In fact, these barangays utilize funds from intergovernmental transfers from the national government.\(^21\) Table 3.7 shows three examples of how much transfer funding the rural barangays in Baybay received in 1995. My interviews indicated that the rural barangays in Baybay use three to ten percent of their total transfers for maintenance of water systems, and this amount is enough for minor maintenance. In addition, salaries for those who maintain water systems\(^22\) also come from these transfers.

\(^21\) See 4.2 for more details about the intergovernmental transfers in the Philippines.

\(^22\) They are the popularly elected barangay councilors. 3.4 illustrates this point further.
TABLE 3.7.
Intergovernmental Transfers from National Government to Rural Barangays in Baybay in 1995

<table>
<thead>
<tr>
<th>Barangays</th>
<th>Butigan</th>
<th>Banahao</th>
<th>San Juan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Households</td>
<td>74</td>
<td>173</td>
<td>219</td>
</tr>
<tr>
<td>Amount of Intergovernmental Transfers (US$) (^a)</td>
<td>6,309</td>
<td>7,441</td>
<td>8,034</td>
</tr>
<tr>
<td>Intergovernmental Transfers per Household (US$) (^a,b)</td>
<td>85</td>
<td>43</td>
<td>37</td>
</tr>
</tbody>
</table>

Source: Brangay Bookkeepers Office of the Municipality of Baybay.
\(^b\) Per household transfers decrease when the number of households increases. Because of the fixed allocation formula, total transfers increase less than proportionally to the number of households. See note 48 in Chapter 4.

According to the standard public finance theory, users need not be charged volumetric fees if the marginal supply cost is considered negligible. In the case of natural gravity-fed systems from springs, additional service unit consumption costs nil unless water scarcity intensifies. Given that most water systems in Baybay are natural gravity-fed systems, absence of volumetric user fees is justified for the marginal cost pricing principle. A natural gravity-fed system still entails recurring O&M costs, however. These O&M costs can be financed through either fixed user fees or taxes. It should be noted, nonetheless, that charging user fees is a norm in practice for many rural water projects regardless of type of water systems. In the Philippines, for example, the national government and donor agencies set the principle that operation and maintenance costs for rural water systems should be recovered through user charge.\(^23\) This principle is adopted for all types of rural water facilities.

There are several reasons to prefer user fees to tax financing. One such reason is an attempt to match benefits and costs (benefit principle).\(^24\) Since those who benefit

\(^23\) For example, see Asian Development Bank (1996).
\(^24\) Another reason is financial autonomy and sustainability. If O&M costs of community water systems
from the system are easily identifiable, the benefit principle of pricing can be applied to natural gravity-fed systems. According to this principle, user charge is considered more efficient than tax financing whenever it can be applied. Why is it more efficient? First, all taxes impose efficiency costs. If subsidies are provided from taxes for services whose costs can be charged to users, higher levels of taxes might be raised than if tax revenues are used only for services that cannot be otherwise financed. Second, more importantly for the discussion here, user charge induces informed decision making of the rural communities. If the rural residents are not required to shoulder any cost of the systems, they do not seriously consider whether the planned systems reflect their demands or not. User charge is regarded as a means to encourage the communities to participate in the decision making and to reflect their demands.25 Third, also importantly here, user charge stimulates efficient performance of water operators. By charging user fees, the revenue of water operators becomes dependent on users’ payments. Users now have the option of not paying if they feel that the performance of water operators is not worth the price. This consumers’ option of nonpayment threatens the water operators and induces better maintenance performance.

The rural barangays in Baybay, however, mostly rely on transfers from the national depend on subsidies from the government, communities may sometimes suffer from non-disbursement of subsidies from the government. Communities can avoid such a situation by relying on revenues from user fees instead of subsidies. One more reason is equity consideration. Some empirical studies show that when rural water systems are subsidized, those who benefit from subsidy are usually not lower-income households but upper- or middle-income households. Concise but thorough discussion of the reasons for user charge/cost recovery in rural water systems is found in Briscoe and deFerranti (1988, Box 9).

25 Some authors propose that both capital costs and O&M costs should be fully recovered from within the rural communities for them to make an informed decision making about water systems. They advocate that cost recovery of only O&M costs induces inefficient choice of the type of water facilities (Briscoe and deFerranti 1988, pp.17-18; Churchil, et al. 1987, p.40).
government (tax financing) for their maintenance, instead of user fees from within the communities. In such situations, user fees cannot encourage an informed decision making and cannot work as a monitoring mechanism of water operators. What is an alternative mechanism in the rural barangays in Baybay to reflect the residents’ demands and to regulate the water operators’ performance? The following two sections answer this question.

3.3. Initiative of Rural Communities in Planning and Development of Water Systems

This section details how the rural water systems are developed in Baybay. The key actors involved are the rural barangay councils, the municipal politicians, and the two offices of the municipal government. Each barangay has a council formed by a captain and seven councilors who are popularly elected. These rural barangay councilors take the initiative in planning and development of water systems and lobby the municipal politicians for the systems. Two offices of the municipal government technically help the barangay councils’ initiative. These two offices are the Municipal Development and Planning Coordinator’s Office (MPDC Office) and the Municipal Engineering Office, both of which are headed by licensed engineers.

To illustrate how these actors interact with each other, my findings are detailed

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26 The MPDC Office plans and coordinates any activity of the municipal government. The Engineering Office designs infrastructure and buildings in the municipal projects and supervises construction of them. Both Offices work together for capital investment projects.

27 They supervise approximately five paraprofessionals in the MPDC Office and ten in the Engineering Office. In addition to these paraprofessionals, both offices have a few secretaries.
below in three stages of the development process of rural water systems. The first is the planning of water facilities in respective barangays. The planning here refers to deciding whether to construct new water facilities and whether to improve existing water systems. The second concerns investment decisions by the municipal government. The municipality has to decide which barangays receive the projects to develop or improve their water facilities. The third regards design and construction of water facilities.

### 3.3.1. Planning of Water Facilities

Table 3.8 shows the number of barangays that were planning new development or improvement of water systems at the time of my field visits. Some planned to develop new springs to increase the amount of water distributed. Others planned to improve the capacity of distribution networks. In these barangays, I asked the questions as to who formulated the plan and how.

<table>
<thead>
<tr>
<th>Barangays Planning Major Improvements</th>
<th>Barangays with functioning systems (31)</th>
<th>Barangays with systems with little coverage (4)</th>
<th>Barangays with broken systems (1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barangays planning to develop new springs</td>
<td>8</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Barangays planning to improve distribution networks</td>
<td>7</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>TOTAL</td>
<td>15</td>
<td>3</td>
<td>1</td>
</tr>
</tbody>
</table>

In all the barangays planning new springs, the residents or councilors identified the prospective springs to be developed. These springs were located inside the mountains, and the people usually found them during their agricultural work. In each barangay, the
barangay council first discusses the plan to develop new springs, and then the barangay assembly authorizes the plan.²⁸ Once authorized in the assembly, the barangay councilors propose the plan to the municipality. The Municipal Engineering Office dispatches its staff to confirm the feasibility of the springs, if the municipality seriously considers the proposed plan.

In the barangay Zacarito, for example, the barangay council proposed two prospective springs to be developed. I accompanied the staff of the Engineering Office to confirm whether the amount of water produced by the springs was enough for water systems. One barangay councilor brought us to the springs far inside the mountains and told me that one of the residents found these springs while he harvested coconuts.

In the barangays planning improvements in distribution networks, the process is the same. The barangay councils discuss where new pipes should be laid, where new public faucets should be installed, and where new reservoirs should be constructed. The barangay assemblies, then, discuss and authorize the plan. In the barangay Gacat, for example, the barangay captain showed me the rough design, developed by the council in April 1997, of new distribution networks running across the barangay. He explained to me that the assembly, which was held a few weeks before my visit, authorized the plan and that he would propose the plan to the municipality soon.

In all the barangays visited, I asked the same questions on the past development or improvement of water systems. Although some interviewees were not familiar with

²⁸ Local Government Code of 1991 mandates all the barangays to hold the assemblies at least twice a year (See Sec. 397 and 398 of the Code). The Code specifies that each barangay assembly consists of residents thereof who are over 15 years of age. According to my interview in the rural barangays in Baybay, their
the past projects, answers were generally the same about the last significant improvements mostly made during the past decade\textsuperscript{29} as in the case of the new projects. In brief, the elected councils of the rural barangays in Baybay plan water projects and propose the projects to the municipality.

3.3.2. Investment Decisions of the Municipal Government

How does the municipality decide which barangays' projects should be implemented after they receive the proposals? The official procedure is that the MPDC Office recommends which barangays' projects should be included in the investment plan to the municipal council and the council makes the final decision. The head of the MPDC Office explained to me that its recommendations are based on the technical, financial, and social considerations. For example, natural gravity-fed systems are given more priority than the systems which require electric pumps and elevated tanks because maintenance of the latter systems is more complicated and costly. Barangays which do not have water systems are given more priority than those which already have some systems.

There were some observations contradictory to his explanation, however. The barangay San Agustin, for example, had no water system although, according to the barangay councilors, there were a lot of prospective springs in the barangay which assemblies are usually attended by heads of households.

\textsuperscript{29} See note \textit{a} of Table 3.5 for the definition of “significant improvements.”
could be developed as natural gravity-fed systems.\textsuperscript{30} The barangay councilors told me
that they asked for the help of the municipality many times but the municipal
government never responded to them. On the other hand, the municipality already
approved the development of distribution networks which needed an electric pump in the
barangay Bubon. Furthermore, many other barangays which already had water systems
received funding for the improvement of their systems.

A local businesswoman told me that San Agustin did not receive the assistance
from the municipality because the leaders of the barangay had been politically opposed
to the current mayor's family. This family has held the mayoralty for almost three
decades, except for a brief period of the transition between the Marcos's authoritarian
regime to the current regime. The businesswoman said that such political relations
mattered in the investment decisions of the municipality. Some other interviewees
confirmed her claim. Some municipal employees, for example, told me that good
barangay councilors actively visited the municipal politicians and the high-rank officials
of the municipal government to lobby for their projects and maintained close
relationships with these prominent figures to get their projects approved. The barangay
councilors in Villa Solidaridad also confirmed the importance of close contact with the
local elite of the municipal government and blamed the former barangay councilors of
Villa Solidaridad for not being active lobbyists. In fact, I frequently saw many barangay
councilors at the town hall visiting the municipal politicians and the high-rank officials

\textsuperscript{30} This story of the barangay councilors was plausible because the neighboring barangays on both sides of
San Agustin had gravity-fed water systems from springs. The natural circumstances were unlikely to be
different in these barangays.
to promote their projects.\textsuperscript{31}

3.3.3. Design and Construction of Water Facilities

In all the 31 barangays with functioning water systems in my sample, I asked who designed the facilities in the latest significant improvements\textsuperscript{32} and who and how constructed them.

The MPDC Office and the Engineering Office usually design the systems, since the design of water facilities requires technical knowledge. In particular, water intake tanks and reservoirs are designed solely by these offices. The distribution networks, however, are designed with more inputs from the barangays. As described in 3.3.1, the rural barangays prepare their rough designs of distribution networks including locations of public faucets. The design is finalized with technical advice of the two offices of the municipality.

Table 3.9 shows who constructed the facilities in the last significant improvements in the 31 barangays. As is clear from this table, the most barangays relied on their residents to construct the facilities. In some cases, the residents worked without wages. The barangay councilors in Maybog, for example, asked their residents through notices on a bulletin board and household visits to work with them. They incrementally built their reservoir every weekend. The councilors prepared meals for the volunteers but did

\textsuperscript{31} I asked them why they came to the town hall when I saw them there.

\textsuperscript{32} See note a of Table 3.5 for the definition of “significant improvements.”
not pay wages.\textsuperscript{33}

\begin{table}
\centering
\caption{Those Who Construct the Water Facilities in the Rural Barangays Visited}
\begin{tabular}{|l|c|}
\hline
Barangays with Functioning Water Systems among Those Visited & 31 \\
\hline
Residents work as laborers (without the wages) & 29 (15) \\
Private contractors or skilled labors & 7 \textsuperscript{a} \\
N. A. (Informant did not know) & 1 \\
\hline
\end{tabular}
\end{table}

\textsuperscript{a} Of this, only one barangay solely relied on the private contractor. For others, private contractors or skilled labors share the tasks with residents. For example, in the barangay Sabang, the private contractor built a spring and reservoir, and residents installed distribution tubes without wages.

The barangay councilors also take the initiative in supervising the construction. The barangay Bitanhuan, for example, was constructing a new reservoir to increase the amount of water distributed when I visited the barangay. The barangay councilor in charge of water systems was supervising the construction activities of their residents. He was assisted by the Municipal Engineering Office. He relied on the blueprint made by the Engineering Office and asked advice of the Office periodically. He told me that the head of the Engineering Office visited the barangay and gave the councilor detailed advice in the morning before I visited there.

\subsection*{3.3.4. Technical Help from Municipal Engineers}

As is clear from the above discussion, the MPDC and the Engineering Offices always help the initiative of the rural barangays. Technical knowledge of both offices is crucial in the development process of the rural water systems. A few barangays that failed to rely on technical help from the both offices exemplify the importance of their

\textsuperscript{33} This meal was financed from the transfer funding from the national government.
The barangay Banahao designed and constructed a water intake tank without asking for technical help from the both offices. The barangay councilors in Banahao misplaced the water intake tank so that it could not store spring water efficiently. As a result, this water intake tank could not supply enough water to distribution pipes. Staff from the Engineering Office inspected the cause of malfunctioning of the intake tank, and based on its recommendation, the intake tank was expanded to cover the right place of the spring. In another example, the barangay Mapgap did not ask the municipality’s assistance either when it upgraded distribution pipes at a lower elevation of the distribution network. The barangay councilors installed a pipe with a larger diameter than that in a higher elevation of the network. These councilors did not know that this made water pressure go down. If they had asked for the Engineering Office’s advice, they could have avoided this mistake.

Given this importance of technical help from the municipality, it is inevitable for the rural barangay councilors to keep close relationships with the MPDC and the Engineering Offices.

### 3.3.5. Reflecting Communities’ Demands

The rural barangay councilors take the initiative in the planning and development of their water facilities in Baybay. They decide whether to develop and improve water systems by themselves and lobby for these systems at the municipality level. They are also very active in designing and constructing water systems. Some rural barangays
even went beyond the recommendations of the MPDC and the Engineering Offices. They installed household connections or constructed elevated tanks with electric pumps whereas the MPDC and the Engineering Offices discouraged both practices.\textsuperscript{34} If the barangays successfully lobby municipal politicians for their projects, contradicting recommendations of the technical staff of the municipality do not prove a hindrance.

The fact that the rural barangays take the initiative has an important implication for sustainability of the systems; that is the rural water systems reflect the residents’ demands. One primary reason of unsustainability of past rural water projects is that water facilities frequently do not meet the demands of the residents. The popular lesson from past experience is to duly involve rural communities in the decision-making and development process of rural water systems. The case of Baybay exactly matches this lesson. Because of the initiative of the rural community councils, the rural water systems in Baybay successfully reflect the demands of the rural residents.

It is hard to say, however, whether the rural water systems in Baybay precisely meet the preferences of the rural residents only from the evidence presented here. It is especially difficult to see whether the level of service of the water facilities meet the preferences of the residents; that is a choice between public faucets and individual household connections. The fact that a few barangays went beyond the recommendations of the municipal technical staff and installed individual household connections.

\textsuperscript{34} Heads of both offices told me that they usually recommend public faucets to rural barangays because they believe that individual connections induce excessive use of water, which generates the water scarcity problem, given that most of rural barangays do not meter the water use nor charge user fees. They also recommend not to build elevated tanks with electric pumps because of prior experience in which such facilities did not work efficiently due to difficulty and high-cost in maintenance.
connections indicates that these barangays prefer individual connections. But it is not clear whether other barangays prefer public taps to individual connections or they use public taps despite their preferences for individual connections for some reasons.\textsuperscript{35} It is nonetheless clear that the rural water facilities in Baybay still reflect the residents’ demands. They prefer their spring water systems to deepwells and other traditional water sources. Public faucets may not be the best solution for the residents, but spring water systems are at least more improved solution for them than deepwells or traditional sources.

The initiative of the rural barangay councils also explains the paradox concerning the user fees raised in the previous section. Charging user fees is expected to induce rural communities to make informed decisions about whether to develop water systems. In the case of Baybay, even without user fees, the rural barangays are able to make such decisions through the popularly elected councils.

3.4. Elected Barangay Councilors as Responsive Water Operators

This section details how the rural water systems are maintained in Baybay. As is similar to the development stage, the key actors involved are the rural barangay councils and the two offices of the municipal government, the MPDC and Engineering Offices.

3.4.1 Election As a Monitoring Mechanism

As described previously in 3.2, the user charge does not function as a monitoring

\textsuperscript{35} One possible reason is that their springs are so small that individual household connections are
mechanism of maintenance performance in the rural barangays in Baybay. These barangays, however, maintain their water facilities well. This section explores an alternative monitoring mechanism functioning in Baybay.

In all the 31 barangays with functioning water systems in my sample, I asked who maintains the systems. Table 3.10 summarizes the result. As shown in this table, popularly elected barangay councilors assume maintenance responsibilities in these barangays. In each rural barangay in Baybay, respective barangay councilors are assigned to particular tasks, such as peace and order, health, and social welfare. In the majority of these barangays, one councilor is assigned to maintain water systems. If necessary, other barangay councilors and residents help him. The councilors in two barangays collectively maintain the systems. In three barangays, the councils hire residents from within the communities to maintain the systems, and the barangay councilors supervise these maintenance crews. Even in the two barangays that primarily use wells and where users themselves maintain their wells, the councilors told me that when the gravity-fed systems are completed, they would be in charge of maintaining the systems. In fact, in all the barangays with functioning water systems examined, popularly elected barangay councilors primarily assume (or plan to assume) maintenance responsibilities of rural water systems. In each barangay, a councilor assigned to its water system is in charge of not only maintenance but also planning of the system. Therefore, this councilor played a major role in the planning and development process described in 3.3 as well. Sometimes, this councilor is in charge of infrastructure technically unfeasible.
as a whole, including water systems, *barangay* halls, basketball courts, and so forth.

**TABLE 3.10.**

<table>
<thead>
<tr>
<th>Water Operators in the Rural <em>Barangays</em> with Functioning Water Systems</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Barangays with Functioning Water Systems among Those Visited</td>
<td>31</td>
</tr>
<tr>
<td>One assigned <em>barangay</em> councilor maintains the system.</td>
<td>23</td>
</tr>
<tr>
<td><em>barangay</em> councilors collectively maintain the system.</td>
<td>2</td>
</tr>
<tr>
<td>Maintenance crews supervised by <em>barangay</em> councilors maintain the system.</td>
<td>4</td>
</tr>
<tr>
<td>Users of the particular well collectively maintain the well they use.</td>
<td>2</td>
</tr>
</tbody>
</table>

*The *barangays* which primarily use wells.*

The *barangay* councilors in charge frequently inspect their water systems and conduct minor repairs, such as replacement of communal faucets and sealing of leakage in water distribution pipes/tubes with rubber strips. These councilors are quite accountable. While I inspected water systems in respective *barangays* with them, these councilors pointed out numerous portions of water systems that they repaired. Many people fetching water from communal faucets at the time I visited told me that these councilors worked conscientiously. In the *barangay* Butigan, the *barangay* councilor who took me around found a leakage in a distribution tube and immediately repaired the leakage with rubber strips after my interview.

What mechanism disciplines their maintenance performance? I asked the *barangay* councilors why they work conscientiously to maintain the systems. Their answers generally attributed their performance to the fact that they were popularly elected to serve their constituents. A councilor of the *barangay* Maybog, for example, told me that councilors are willing to serve constituents who elect them because serving constituents is the responsibility of those elected. I also ask the same questions to some
residents fetching water at the time of my visit, and their answers are generally the same as the councilors. Their answers suggest that popular election functions as a monitoring mechanism of maintenance performance of the councilors.

3.4.2. Technical Help from Municipal Engineers

The rural baranagys cannot fulfill maintenance tasks solely, however. Technical help from the MPDC and the Engineering Offices is also important for maintenance of water facilities. As discussed before, barangay councilors can conduct minor maintenance only. Typical minor maintenance are replacement of public faucets, repair of leakage of distribution pipes/tubes, partial replacement of these pipes/tubes, and cleaning of inside of water intake tanks and reservoirs. Barangay councilors need to rely on the MPDC and the Engineering Offices for more complicated problems, such as rehabilitation of water intake tanks and reservoirs. In barangay Higulo-an, for example, a barangay councilor in charge of water systems found leakage in one of their reservoirs a few days before my visit. The captain of the barangay told me that they would ask the Municipal Engineering Office to inspect the reservoir because its repair was beyond the barangay councilors’ knowledge. Since major repairs often cost much more than minor ones, the municipality usually fund these repairs through the same process as described in 3.3. For example, the barangay Hilapnitan, whose water facilities are destroyed by the typhoon, asked the Municipal Engineering Office to inspect their broken facilities. They were proposing the municipality to rehabilitate their facilities based on the diagnosis of the Engineering Office.
Close contacts with these municipal offices are important for timely help in major repairs. These offices are preoccupied with various responsibilities. It is not easy for them to respond to all the requests timely. The closer relations a barangay maintains, the more likely it enjoys a timely help from these offices. I accompanied a staff of the MPDC Office in my visit to the rural barangays. He pointed out how kindly the rural barangay councilors welcome and entertain us. He told me that these councilors knew the importance of keeping friendly relations with the MPDC and the Engineering Offices.

3.5. Political Institutions: Rural Community Councils and Their Interactions with Municipal Elite

This chapter describes how the rural water systems in Baybay are developed and maintained. It particularly illustrates an alternative mechanism in Baybay to reflect rural communities’ demands and to regulate water operators’ performance in the absence of user fees. The primary actors involved in this mechanism are the popularly elected barangay councils, the municipal politicians, and the two technical offices of the municipal government.

The barangay councils take the initiative to plan and develop water systems and lobby the municipal politicians for the systems. Their water systems thereby reflect the barangay residents’ demands. Election of barangay councilors functions as a monitoring mechanism of the councilors’ performance in maintaining the water systems. Technical help from knowledgeable engineers in the municipal government help the
rural barangays develop and maintain the systems.

The key institutions in these mechanisms are the popularly elected rural barangay councils and their interactions with the municipal elite, i.e. the municipal politicians and engineers. Because of their political nature, I would like to call them “political institutions.” The functioning of these political institutions led to the good performance of rural water systems in Baybay.

This finding leads to the second question of this thesis: what conditions enable these political institutions to work in Baybay? Answering this question is the task of the next chapter.
CHAPTER 4

EXPLAINING GOOD PERFORMANCE:
WHAT ENABLES POLITICAL INSTITUTIONS TO WORK?

This chapter explains what conditions enable the political institutions to work in the rural water systems in Baybay. It particularly addresses the four questions raised in the first chapter: Why is the municipal elite not an obstacle to the rural communities' initiative? What enables the rural barangays to take the initiative in developing water systems? Why are the rural barangay councilors accountable? Why do capable engineers wish to work for the municipal government?

Before these questions are addressed, the first two sections provide the necessary background for the explanation. The first section describes the history of the development of water systems in Baybay. The second section introduces the current decentralization policy and its effects on the Baybay municipal government. The following four sections deal with the above four questions respectively.

4.1. History of Water Systems Development in Baybay

The history of the development of water systems in Baybay must start with the description of its natural endowment of spring water because this particular condition shapes the historical development of water systems in this municipality.

Almost all the rural water systems in Baybay are gravity-fed systems from
protected springs (Table 3.2). This is unique, compared with other rural areas in the Philippines. Unlike those in Baybay, most of the rural residents in the Philippines rely on groundwater for their water sources (Table 4.1). Even compared with its neighboring towns, Baybay is relatively well endowed with spring water. Though data has been gathered about urban water systems only, Table 4.2 demonstrates that Baybay is better endowed with spring water than other towns in the same province.36

<table>
<thead>
<tr>
<th>TABLE 4.1.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access to Potable Water in Rural Areas of the Philippines by Type of Water Systems in 1995</td>
</tr>
<tr>
<td>Total Rural Population Having Access to Potable Water</td>
</tr>
<tr>
<td>Wells with Hand Pumps</td>
</tr>
<tr>
<td>Wells driven by Diesel Pumps</td>
</tr>
<tr>
<td>Gravity-fed Systems</td>
</tr>
<tr>
<td>Other Sources such as Rainwater Catchments and Unprotected Wells and Springs</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TABLE 4.2.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Sources of Water Districts (WDs) in the Leyte Province</td>
</tr>
<tr>
<td>Total Number of WDs in the Province</td>
</tr>
<tr>
<td>WDs with Springs only</td>
</tr>
<tr>
<td>WDs with Wells (Groundwater) only</td>
</tr>
<tr>
<td>WDs with Surface Water only</td>
</tr>
<tr>
<td>WDs with Springs and either Wells or Surface Water</td>
</tr>
</tbody>
</table>
Source: National Water Regulatory Board
a including Baybay Water District.

Not only is spring water abundant in Baybay but its quality is also good. The water quality of the urban water system run by the Baybay Water District (BWD) passed the quality standard set by the World Health Organization (WHO). During my stay in Baybay, I consumed water from taps of the urban system and had no health problem.

36 Most of my interviewees in Baybay were also eager to point out that Baybay is blessed with abundant
This is a rare situation in the Philippines. Foreigners are usually advised not to drink water from taps because of the fear of contamination. Water quality of the rural systems in Baybay as a whole is also generally acceptable, according to the water and sanitation inspectors of the municipal government who periodically conduct water quality testing in the rural barangays.\(^{37}\) The springs for these systems exist far inside the mountains and at higher elevation than do residences. Therefore, they can be free from contamination by human wastes and other domestic wastes.\(^{38}\)

The environmentalist tradition in Baybay also contributes to non-contamination of spring water by discouraging large-scale industrial activities, such as mining, which potentially contaminate spring water. This tradition stems from the second biggest national agricultural college in the Philippines, Visayas State College of Agriculture (VISCA), located in Baybay. With assistance from the national government and foreign donor agencies, VISCA runs many environmental research and conservation projects, such as community forest and fishery management. The faculty there, including foreign experts, is concerned about preservation of the natural environment. VISCA is highly respected by residents of Baybay, and the VISCA faculty's concerns are largely shared.

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\(^{37}\) Even in some rural barangays whose spring water is judged unsafe by the inspectors, the residents still continue to drink spring water from their systems. For example, the residents in the barangay San Juan told me that they still fetch water from their water system even though its water quality has been judged unsafe. According to these residents, water from the system still tastes better than water from other sources.

\(^{38}\) I visited water sources of the urban system and ten rural systems. Their spring water is very simply treated because spring water itself is clean at its source. For the urban system, spring water is regularly chlorinated, and it does not need more complicated treatment. As for the rural systems, among the 31 barangays with functioning systems I visited, only 15 barangays chlorinate their spring water, and most of those do so only occasionally. I looked inside the water intake tanks and found that their spring water was generally very clear.
with the residents. For example, during the municipal council session in which I sat, municipal councilors discussed the proposal for mining activities by the state-owned corporation and resolved to oppose the proposal in spite of possible economic benefits of the mining activities.³⁹

This natural endowment of abundant and clean spring water led to an early development of water systems in Baybay. As early as 1925, during the American rule, the municipal government constructed its first urban piped water system with assistance from the national and provincial governments. The system served the *Poblacion* and its surrounding *barangays* through a few household connections and public faucets. This gravity-fed system has been gradually upgraded since then and has become the current system run by BWD (Vega 1989).

Following the development of this urban water system, some rural water systems emerged after the second World War and the independence of the Philippines. Table 4.3 shows the history of the development of rural water systems for my sample of 28 *barangays* which have gravity-fed systems.⁴⁰ As shown in this table, the rural gravity-fed systems appeared in the 1950’s and have gradually expanded in number and coverage since then. As early as the 1960’s, half of these sample *barangays* had some sort of spring water system, although most of them served much lesser percentage of the

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³⁹ There were competing positions about this issue, however. In the municipal council session, one councilor pointed out economic benefits, such as creation of new employment, of the mining proposal. A local businesswoman, in my interview, also mentioned the need for investment from outside the town to boost the backward economy of the town. On the other hand, the captain of the *barangay* Pangasugan, where VISCA is located, lobbied for the opposition on the grounds of environmental conservation.

⁴⁰ In these *barangays*, I asked when respective parts (i.e. each spring, reservoir, and distribution network) of the water system were constructed. Table 4.3 summarizes the result.
population than they do today. It was not until the 1990’s, however, that the rural water systems reached the current coverage of beneficiaries. Among 28 sample barangays, only three systems served in 1980’s the same population that they are serving today. The remaining 25 barangays significantly improved their water systems in the 1990’s. Among these 25 barangays, five had no spring water system in the 1980’s. Another five had only one or a few springs each and did not have distribution networks. The remaining 15 barangays had gravity-fed distribution networks, but their coverage was limited.

**TABLE 4.3.**

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Barangays having developed/protected springs with partial distribution networks.</td>
<td>0</td>
<td>3</td>
<td>9</td>
<td>14</td>
<td>15</td>
<td>12</td>
<td>0</td>
</tr>
<tr>
<td>Barangays having developed/protected springs with full distribution networks. b</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td>6</td>
<td>28</td>
</tr>
<tr>
<td>Total (Barangays having some sorts of spring water systems)</td>
<td>2</td>
<td>6</td>
<td>14</td>
<td>20</td>
<td>23</td>
<td>23</td>
<td>28</td>
</tr>
</tbody>
</table>

a After the current decentralization policy was implemented.  
b “Full distribution network” here refers to the distribution networks which has the same coverage as that of today.

Although exact figures of the coverage of these rural water systems in the 1980’s were not available, several interviews confirmed that significant improvement occurred
and the coverage dramatically increased during the 1990’s. According to the vice mayor elected together with the current mayor in 1988, less than ten rural barangays had water systems which covered a significant part of their population in the end of 1980’s. A separate interview with the head of the MPDC Office confirmed the vice mayor’s claim. He told me that when he conducted a preliminary survey to identify the situation of rural water facilities in 1991, only about ten barangays had water systems with sufficient coverage. One question inevitably follows: why were rural water facilities in Baybay significantly expanded in the 1990’s? Table 4.3 shows that the most improvements occurred after 1992, when the current decentralization policy of the Philippine government was set in place. To see the relations between the decentralization policy and the significant expansion of the rural water systems in Baybay, the next section details the background of the current decentralization policy of the Philippine government and its effects on the municipal government of Baybay.

4.2. Current Decentralization Policy of the Philippine Government

The current decentralization policy originated from the restoration of the democratic regime in 1986 after the collapse of the authoritarian rule of President Marcos. Marcos’s rule is characterized as the period toward political centralization since

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41 There exist many books and articles on the current decentralization policy of the Philippine government. Only a few examples are listed here. For a comprehensive account of the Local Government Code of 1991, see Tabunda and Galang (1992), which was a detailed primer of the Code. A brief but thorough account of history of local governments in the Philippines, main features of the current decentralization policy, and the effects of the first few years of implementation of the policy is Brillantes, Jr. (1997). USAID conducts annual survey of the effects of the current decentralization policy, and the results are distributed as *Rapid Field Appraisal* every year.
he suspended the election of local officials and exercised the power to appoint these officials under martial law (1972-1981). President Aquino, who came into power in 1986, restored regular elections at both national and local levels and declared a policy to devolve greater power to local governments. After pilot projects and a few years’ deliberation in the congress, the new Local Government Code, the base of the current decentralization policy, was approved in the congress in 1991 and implemented from 1992.

This decentralization policy is said to be “by far the most radical and far reaching” (Brillantes, Jr. 1997, p.7) among the past attempts to decentralize public administration in the Philippines. One prominent feature of this policy is the transfer of several public service responsibilities and regulatory powers from the national government to local governments. These public services include primary health and hospital services, social welfare services, environmental management, agricultural extension, and rural infrastructure including rural water systems. The regulatory powers include approval

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42 Although he increased the central control of local governments, Marcos created regional offices of the national ministries and thereby “deconcentrated” the national government administration (de Guzman, Reforma, and Panganiban 1988).

43 After Marcos declared the martial law in 1972, local elections were held once under his regime (in 1980 for provincial, city, and municipal elections, and in 1982 for barangay elections). It was not until President Aquino came into power, however, that regular local elections were restored. Since then, three local elections have been conducted (in 1988, 1992, and 1995 for provincial, city, and municipal elections, and in 1989, 1994, and 1997 for barangay elections). Local Government Code of 1991 regularized local elections every three years. The next provincial, city, and municipal elections are scheduled in May, 1998.

44 The 1987 Constitution promulgated by President Aquino declares that “the state shall ensure the autonomy of local governments” and that “the congress shall enact a local government code which shall provide for a more responsive and accountable local government structure instituted through a system of decentralization.” Local Government Code of 1991 was enacted following this provision of the Constitution.

45 Other infrastructure include local roads, school buildings, public housing, and tourism facilities. The responsibility for rural water systems was officially transferred by this decentralization policy, although
of real estate subdivisions, reclassification of agricultural lands, enforcement of building

codes and environmental laws, and so forth. Accordingly, a large number of personnel

were transferred from the national government agency to local governments.\(^46\)

Another prominent feature is the significant increase of intergovernmental

transfers, which are officially referred to as the Internal Revenue Allotments (IRA).

Under the new Local Government Code, 40\% of the national government’s “internal

revenue”\(^47\) is transferred to local governments as unconditional grants. This 40\% share

of the internal revenue is automatically distributed among different levels of local
governments according to a fixed allocation formula.\(^48\) IRA significantly increased

compared to before 1991, when only 20\% of the internal revenue was allocated to local
governments. IRA quadrupled in real terms from 1991, before the current
decentralization policy, to 1996 (Table 4.4). As a result, the share of local government

expenditure to total government expenditure increased from 6.0\% in 1991 to 22.5\% in

1995 (Cuaresma and Ilago 1996, Figure 1.4). Local governments have discretion

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\(^{46}\) The numbers of personnel transferred from the national government departments to local governments are 45,945 for primary health and hospital services, 4,127 for social welfare, 895 for environmental management, and 17,823 for agricultural extension (Brillantes, Jr. 1997).

\(^{47}\) “Internal revenue,” which is defined in the National Internal Revenue Code, includes sales tax, specific tax, tax on financial institutions, etc. This does not include all the government revenues. For example, import duties are not included. In any particular year, 40\% of the internal revenue of the third preceding year is transferred to local governments.

\(^{48}\) The 40\% share of internal revenue is first divided among four categories of local governments: provinces altogether receive 23\% of the total transfers; cities receive 23\% of them; municipalities share 32\%; and barangays have 20\%. Within each category of provinces, cities, and municipalities: 50\% of the total amount is distributed proportionally to population; 25\% is distributed proportionally to land area; and 25\% is distributed equally. For barangays, 60\% of the total amount is distributed proportionally to
regarding how to spend these transfers except for the requirement that a minimum of 20% of IRA should be spent for “development projects,” which primarily means capital investments. Though the minimum spending is required, the local governments can determine what projects are to be included.\textsuperscript{49}

\begin{table}
\begin{center}
\begin{tabular}{|c|c|}
\hline
Year & Intergovernmental Transfers  \\
\hline
1991 & 288,188,211  \\
1992 & 612,362,149  \\
1993 & 972,857,540  \\
1994 & 1,165,326,986  \\
1995 & 1,230,704,731  \\
1996 & 1,212,132,966  \\
\hline
\end{tabular}
\end{center}
\caption{Intergovernmental Transfers from the Philippine National Government to Local Governments at 1990 Constant Price in US$\textsuperscript{a,b}}
\end{table}

As a result of this decentralization policy, the municipal government of Baybay assumes greater public service and regulatory responsibilities compared to before. The municipal government accepted staff and facilities of two primary health care offices, a social welfare office, and an agricultural extension office from the national government. In addition, the municipality created a few new offices to exercise its increased responsibilities. For example, it created the Municipal Engineering Office, whose function had previously belonged to the MPDC Office.

\textsuperscript{49} Local governments are required to report the development plans to the national Department of Interior and Local Government (DILG); however, they do not need any approval from DILG unlike before the current decentralization policy.
As shown in Table 4.5, IRA allocated to Baybay in 1996 almost tripled in real terms from 1991, before the current decentralization policy. The significant increase of IRA resulted in a great increase of the municipality’s revenue and expenditure. The dramatically improved financial status enabled the municipal government to increase its capital investments. The capital outlay of the municipality in 1996 became more than five times greater in real terms than in 1991. A sizable amount was spent for rural water systems.\(^{50}\) This increase of financial capacity made the significant expansion of rural water systems after 1992 possible.

<table>
<thead>
<tr>
<th>TABLE 4.5.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual Revenue and Expenditure of the Municipality of Baybay at 1990 Constant Price in US $ (^{a,b})</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Year</th>
<th>1991</th>
<th>1993</th>
<th>1995</th>
<th>1996</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenue</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IRA</td>
<td>177,536 (63%)</td>
<td>443,635 (82%)</td>
<td>602,386 (85%)</td>
<td>589,309 (77%)</td>
</tr>
<tr>
<td>Local Revenue</td>
<td>102,781 (37%)</td>
<td>95,059 (18%)</td>
<td>108,182 (15%)</td>
<td>114,938 (15%)</td>
</tr>
<tr>
<td>Grants and Aids</td>
<td>0</td>
<td>3,976 (1%)</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Borrowings</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>64,636 (8%)</td>
</tr>
<tr>
<td>Total Revenue (100%)</td>
<td>280,317</td>
<td>542,670</td>
<td>710,568</td>
<td>768,883</td>
</tr>
<tr>
<td>Expenditure</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Personnel Services</td>
<td>168,074 (61%)</td>
<td>249,273 (54%)</td>
<td>392,756 (54%)</td>
<td>386,233 (55%)</td>
</tr>
<tr>
<td>Operation and Maintenance</td>
<td>75,740 (28%)</td>
<td>133,038 (29%)</td>
<td>215,170 (29%)</td>
<td>159,711 (23%)</td>
</tr>
<tr>
<td>Capital Outlay</td>
<td>31,446 (11%)</td>
<td>77,728 (17%)</td>
<td>125,238 (17%)</td>
<td>160,615 (23%)</td>
</tr>
<tr>
<td>Total Expenditure (100%)</td>
<td>275,260</td>
<td>460,040</td>
<td>733,164</td>
<td>706,560</td>
</tr>
</tbody>
</table>

Source: The Accounting Office of the municipal government.

\(^{a}\) Consumer Price Index and the annual average market foreign exchange rate for each year, from IMF, *International Financial Statistics*, are used for the calculation.

\(^{b}\) Date for 1992 and 1994 were not available.

It should be noted here that Baybay benefits from the increased IRA much more than most other municipalities. Baybay consistently receives IRA about three times

\(^{50}\) See 4.3 and Table 4.7, for details about budgetary allocation to rural water systems in Baybay after the decentralization.
greater than the average amount of IRA allocated to all municipalities. This is because the allocation formula of IRA is set such that greater amounts are allocated to municipalities which have larger populations and land area than others. Because of its large population and land area, Baybay enjoys greater receipt of IRA than average. Consequently, the municipality of Baybay belongs to the third of six income (government revenue) classes determined by the national Department of Finance and to the upper 13% of all municipalities (Table 4.6). This relative affluence partly explains why the municipality of Baybay can successfully provide rural water facilities while most other municipalities fail to do so. Even this, however, does not fully explain the expansion nor guarantee the functioning of the political institutions described in the previous chapter. It should be further explored how other aspects of decentralization policy and other conditions jointly lead to the function of the political institutions. The remaining of this chapter is devoted to this task by specifically addressing the four questions listed previously.

<table>
<thead>
<tr>
<th>Income Class (highest to lowest)</th>
<th>1st (Share)</th>
<th>2nd (Share)</th>
<th>3rd (Share)</th>
<th>4th (Share)</th>
<th>5th (Share)</th>
<th>6th (Share)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Municipalities</td>
<td>30 (2%)</td>
<td>47 (3%)</td>
<td>119 (8%)</td>
<td>375 (26%)</td>
<td>608 (43%)</td>
<td>239 (17%)</td>
<td>1,418</td>
</tr>
</tbody>
</table>

Source: Legaspi, Cabo, and Joaquin (1996, Table 2)

The data cover 92% of all the municipalities.

### 4.3. Rural Water Systems As Political Means to Mobilize Electoral Support

This section aims to answer the question of why the municipal elite is not an

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51 From 1991 to 1996, IRA for Baybay ranges from 0.152% to 0.193% of total IRA for all 1,542
obstacle to the initiative of the rural communities. I claim that, because of the cleanliness of their water, the spring water systems became an important instrument for the municipal elite in Baybay to solicit electoral support from the rural communities. Therefore, the municipal elite’s interests match the rural communities’ interests in support of the rural water systems.

In the Philippines, all the municipal mayors, vice mayors, and councilors are popularly elected. These municipal politicians bring government projects to both urban and rural communities or leaders thereof to solicit electoral support. This does not always mean that the municipal politicians accountably provide public services because they tend to favor only the personal needs of the powerful supporters. Local politics in the Philippines, therefore, are often labeled “machine politics,” “clientelism,” “bossism” and the like. Whatever the consequences are, the municipal politicians have incentives to provide communities with certain kinds of constituency services to solicit electoral support.

The current national congressman from the electoral district including Baybay long assumed the mayoralty of the town from 1964 to 1980. As was the case with other local politicians in the country, he was successful in soliciting continual electoral support

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52 At the turn of this century, when popular election was introduced under the American rule, landed families ruled localities and could mobilize electoral support through their traditional patronage relationships with tenants. As electoral competition intensified, local politicians became more and more dependent on the government resources to solicit electoral support. See Machado (1974a, 1974b) and Nowak and Snyder (1974).

53 For example, “machine politics” is used by Machado (1974b), Nowak and Snyder (1974); “clientelism” is used by Nowak and Snyder (1974), Scott (1972); “bossism” is used by McBeth (1989), Sidel (1995).

54 This congressional electoral district consists of Baybay plus eight adjacent municipalities.
by providing government projects to those who could bring votes.\footnote{Municipal elections were suspended after 1972 under the Martial Law; however, the current congressman won mayoral elections three successive times before the suspension of election. One of my interviewee told me that the congressman was able to win mayoral election many times because he was very skillful and good at doing politics.} He brought various projects, such as roads, water facilities, and school buildings, to both urban and rural barangays in exchange for votes. Among these projects, water facilities were most appreciated among these barangays. I asked more than two dozen residents what was the most significant achievement of the congressman when he was a mayor. One of the most frequently cited was drinking water provision both for urban and rural\footnote{Another significant achievement often cited was the building of public market, which located in the center of Poblacion and functioned as the commercial center of Baybay and its neighboring towns. There were several others such as roads and bridges; however, urban and rural water projects as well as public market were the most frequently pointed out.} As for the urban water system, he reorganized its administration and created the Baybay Water District (BWD). After this reform, the urban water system expanded its facilities and improved its financial status.\footnote{This reform was the response to the national government initiative to reorganize urban water systems throughout the country (except for Metro Manila). The national government set up the state-owned agency to assist urban water systems, Local Water Utilities Administration (LWUA) in 1973. The function of LWUA is to provide soft loan and technical assistance to Water Districts (WDs), locally established independent water corporation. After its formation, BWD borrowed loans and received technical assistance from LWUA.} He also expanded rural water systems in several barangays. The rural gravity-fed water systems increased during the 1960’s and the 1970’s under his administration (Table 4.3). In my interviews, the residents in the barangays, where rural water systems were first constructed during this period, emphasized the initiative of the current congressman to provide water systems.

As discussed in the previous section, the expansion of rural water systems in his administration was limited. But, the rural residents appreciate the systems because of
their clean water. The early experience of providing the rural water facilities brought about important lessons for the municipal politicians in later periods. It proved that spring water facilities are the relatively easy-to-meet demands of the rural residents, and that the provision of these facilities is an effective and ready measure to solicit and maintain electoral support.

As a result of this early experience, after the decentralization increased the available funding for the municipality, a considerable amount of the budget was continually channeled into the rural water facilities. Table 4.7 shows the annual budgetary allocation of 20% of IRA, which is mandated to spend for “development projects.” Among infrastructure projects, excluding the first three rows of the table, water systems received the biggest allocation from 1992 to 1995, except for two projects for urban areas, the reclamation and the municipal government buildings. Accordingly, the number and coverage of the rural water systems significantly increased as shown in Table 4.3.

A local political condition in Baybay should be cited in this context, namely the long-term stability of the ruling family. In Baybay, the same family has held the mayoralty for almost three decades. If government services are exchanged for political support, some communities which do not support the current municipal administration would be left out and could not receive these services. Steffes (1997) reports that she

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58 The current mayor first came into power in 1988, and she was reelected twice in 1992 and 1995. She prioritized rural water projects.
59 Reclamation of the bay in the Poblacion, where a bus terminal and other buildings are planned to be built.
60 The current mayor is a sister of the current congressman.
encountered a community organizer who claimed such a situation in Brazil. Although this is also the case in Baybay, as briefly described in the previous chapter, the long-term stable rule of the same family signaled the rural barangays to understand whom they should support and lobby to receive water facilities. Consequently, most of the rural barangays successfully lobby and gain water facilities.

**TABLE 4.7.**

Annual Budgetary Allocation of 20% of IRA in Baybay at 1990 Constant Price in US $

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture &amp; Business Support</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
<td>12,477 (11%)</td>
<td>7,825 (7%)</td>
<td>5,363 (5%)</td>
<td>4,817 (4%)</td>
</tr>
<tr>
<td>Reforestation</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
<td>2,145 (2%)</td>
<td>2,676 (2%)</td>
</tr>
<tr>
<td>Training, Survey, etc.</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
<td>16,054 (17%)</td>
<td>12,474 (11%)</td>
<td>21,342 (18%)</td>
<td>16,305 (14%)</td>
<td>20,874 (17%)</td>
</tr>
<tr>
<td>Roads</td>
<td>19,621 (67%)</td>
<td>4,131 (17%)</td>
<td>0 (0%)</td>
<td>2,994 (3%)</td>
<td>6,165 (5%)</td>
<td>10,298 (9%)</td>
<td>14,808 (12%)</td>
</tr>
<tr>
<td>Rural Water Systems</td>
<td>3,679 (13%)</td>
<td>12,570 (51%)</td>
<td>16,575 (18%)</td>
<td>12,427 (11%)</td>
<td>12,094 (10%)</td>
<td>7,080 (6%)</td>
<td>4,460 (4%)</td>
</tr>
<tr>
<td>Reclamation</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
<td>25,978 (28%)</td>
<td>49,907 (43%)</td>
<td>47,426 (39%)</td>
<td>42,907 (36%)</td>
<td>35,682 (29%)</td>
</tr>
<tr>
<td>Municipal Government Buildings</td>
<td>3,986 (14%)</td>
<td>0 (0%)</td>
<td>23,327 (25%)</td>
<td>13,974 (12%)</td>
<td>11,382 (9%)</td>
<td>15,232 (11%)</td>
<td>15,343 (12%)</td>
</tr>
<tr>
<td>Barangay Buildings</td>
<td>0 (0%)</td>
<td>6,374 (26%)</td>
<td>8,642 (9%)</td>
<td>3,743 (3%)</td>
<td>8,300 (7%)</td>
<td>11,800 (10%)</td>
<td>14,537 (12%)</td>
</tr>
<tr>
<td>Sanitation (Public Toilet)</td>
<td>1,931 (7%)</td>
<td>1,364 (6%)</td>
<td>1,180 (1%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>Irrigation</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
<td>1,856 (2%)</td>
<td>1,996 (2%)</td>
<td>2,846 (2%)</td>
<td>2,145 (2%)</td>
<td>2,676 (2%)</td>
</tr>
<tr>
<td>Flood Control</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
<td>460 (0%)</td>
<td>3,244 (3%)</td>
<td>1,897 (2%)</td>
<td>3,046 (3%)</td>
<td>5,352 (4%)</td>
</tr>
<tr>
<td>School Buildings</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
<td>1,497 (1%)</td>
<td>949 (1%)</td>
<td>1,716 (1%)</td>
<td>2,676 (2%)</td>
</tr>
<tr>
<td>TOTAL</td>
<td>29,217 (100%)</td>
<td>24,439 (100%)</td>
<td>94,071 (100%)</td>
<td>115,008 (100%)</td>
<td>120,225 (100%)</td>
<td>118,038 (100%)</td>
<td>123,904 (100%)</td>
</tr>
</tbody>
</table>

Source: MPDC Office of the municipal government of Baybay.

*a Consumer Price Index and the period average market foreign exchange rate for each year, from IMF, *International Financial Statistics*, are used for the calculation.

*b Barangay halls, health centers, police stations, basketball courts, street lightning, etc. for both urban and rural barangays.

*c This expenditure is mostly capital outlay; however this total does not correspond to the figure in Table 4.5 because the figure in Table 4.5 is actual expenditure whereas the figure here is budgetary appropriation.
4.4. Institutionalizing Community Planning

This section deals with the question of what enables the rural barangays to take the initiative in planning water facilities. I claim that the planning support from the municipality, initiated after the decentralization policy, helped institutionalize and encourage the planning process of the rural barangays.

The decentralization policy in 1992 stimulated the planning activities of the rural barangays in two primary ways: the increased intergovernmental transfers and the support for their planning activities from the municipality.

As in the case of the municipal government, barangays also received the increased intergovernmental transfers (IRA) from the national government as a result of the decentralization policy. Before the current decentralization, barangays as a whole received 2% of the internal revenue of the national government while this entitlement increased to 8% of the internal revenue after the decentralization. 61

Municipal employees and some barangay councilors in Baybay told me that, before the decentralization, only negligible amounts remained for capital investment in the hands of the barangay councils after they deducted recurring expenditure, such as honoraria for councilors. It was not until the increase of IRA to barangays that these barangays have had enough money that they can plan how to spend for projects.

Responding to this new situation, the municipality institutionalized the planning

61 Before the Code, 20% of the internal revenue was allocated to local governments as a whole, and of this allocation, 10% was entitled to barangays as a group. After the Code, 40% of the internal revenue to local governments and 20% of this allocation to barangays. Exact figures of IRA allocated to the rural
support for barangays after the decentralization. The MPDC Office began to require all the barangays to prepare annual investment plans and started to support the barangay councilors’ preparations and implementations of their investment plans. The municipality also created a new office to help the barangays’ budgeting and accounting in 1994, the Barangay Bookkeepers Office staffed by three personnel.

Barangays can afford to finance only small projects solely on their own because the IRA to any single barangay is not large. These projects include, for example, small public buildings for barangays, repair of basketball courts, small agricultural facilities, such as drying beds, and so forth. For other projects which need more funding, the municipality finances them and as a matter of policy requires counterpart funding from the budget of the barangays which benefit from the projects. Rural water projects usually fall into the latter category.

It is in this context that the rural barangay councils take the initiative in developing their water systems. Increased financial resources became available for capital investment of the barangays. The barangay councils could exercise discretion over these increased resources and began to seriously think about how to spend them. Assistance from the municipality has helped institutionalize the planning process of these barangay councils. In sum, the decentralization policy stimulated the initiative and active lobby of the rural barangay councils.

The abundance of clean spring water and the prior experience of water facilities in barangays in Baybay before the decentralization were not available.

62 See Table 3.7 for three examples of the actual amount of IRA received by the rural barangays in
some rural barangays made water systems a logical choice for their priority in the planning. Most rural barangays in Baybay have springs feasible for water systems in their own geographical jurisdictions. Given that there were some antecedents for spring water systems, it is not difficult for the councilors in these barangays to imagine the development of the similar systems from their own springs.

It is not clear, however, how the rural water facilities were planned and developed before, for example, in the 1960’s and the 1970’s. The detailed stories of the development process of my interviewees were mostly limited to the past decade. It is clear, nonetheless, that the decentralization policy institutionalized and substantiated the planning process of the rural barangays and that most of the significant improvements of water facilities occurred after the decentralization. Some rural barangay councils, perhaps in a primitive way, might have proposed and lobbied their spring water projects even before the decentralization. It was not until the current decentralization, however, that the process became systematized and more widespread.

4.5. Organizational Traits for Accountability of Rural Barangay Councilors

This section addresses the question of what disciplines the performance of barangay councilors. The previous chapter reveals that the barangay councilors take the initiative in planning and development of water facilities and that they conscientiously maintain these facilities. Election is a natural answer to the above question, given that these barangay councilors are all popularly elected. It is necessary, however, to further
ask what conditions make popular election an effective performance-inducing mechanism because we know that there are many elected local politicians who do not bring accountable public services to their constituents.

I claim that there are three inherent organizational traits in the arrangement of elected barangay councils in Baybay, which contribute to the function of popular election as an effective monitoring mechanism. These traits are the community-wide election, the small size of the community, and the clear division of labor among councilors.

The first trait is the community-wide election. Community councilors can be elected either by district or at large. If councilors are elected by district, they concern primarily their own constituents in the districts they come from. Under such an election system, councilors are not necessarily accountable to community as a whole since they are merely representatives of certain portions of the community. A councilor in charge of water systems or powerful councilors may build water systems only for certain districts from which they are elected. A councilor assigned to maintenance of water facilities may also care about water systems in his or her electoral district only and may pay less attention to the systems in other districts. Alternatively, however, community councilors can be elected at large. In this case, the above problem can be solved because any councilor needs to solicit community-wide electoral support for his or her reelection.

In the Philippines, barangay councilors are elected at large, and therefore, there are

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*Barangay* councilors are elected at large whereas provincial, city, and municipal councilors are elected by district. All local chief executives, i.e. provincial governors, vice governors, city and municipal mayors, vice mayors, and *barangay* captains, are elected at large. See section 41 of the 1991 Local
incentives for barangay councilors to respond to the demands of all the constituents in their barangay.

The second trait is the small size of the community. Even if community councilors are elected at large, they may still respond only to the demands of powerful constituents within a community when the community is large and huge inequalities exist among community members. In Baybay, however, each rural barangay is quite small and largely homogenous within any particular barangay. The median number of households per rural barangay in Baybay is only 138. As shown in Table 2.4 in the second chapter, most barangays, approximately 70% of total rural barangays and 60% of my sample, consist of less than 200 households. Each small rural barangay is also largely homogenous within itself. A landlord living in the Poblacion told me that inequality exists between the urban communities in the Poblacion and rural barangays rather than within any particular rural barangay because most of the landlords live in the Poblacion. Separate interviews with municipal employees and field officers of the national government working in the municipality, who frequently visit rural barangays and are familiar with the situation thereof, confirmed this view. Some rural residents to whom I talked also generally agreed. In addition to relative homogeneity, most residents in the rural barangays in Baybay clustered because of the threat of communist guerrilla attacks during the past insurgency period. In these situations, constructing water facilities that can serve the community as a whole is not an impossible task.

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Government Code.

64 Agricultural extension officers and nurses for primary health care.
The small size of the community also contributes to the efficiency of residents’
monitoring of councilors’ performance in maintaining water systems. Within such a
small community, everyone knows everyone else. Those who maintain the water
systems are close neighbors to any barangay resident. Anybody can immediately
complain about deficiency of water systems to those who maintain the systems. While I
inspected water systems with councilors, residents elsewhere sometimes talked to the
councilors and complained about deficiency in water systems.

The third trait is the clear division of labor among councilors. As described in the
previous chapter, each barangay councilor is assigned to a particular task, and in most
cases, one councilor is assigned to the development and maintenance of water facilities
(or infrastructure as a whole). This arrangement helps rural residents identify to whom
they should complain about deficiency of water facilities. This, more importantly,
increases the efficacy of election as a performance-inducing mechanism by linking the
performance in particular service to an individual politician. If there is no division of
labor among barangay councilors, residents cannot identify whom to blame for
inadequate maintenance of water systems. In the case of the rural barangays in Baybay,
however, the responsibility for water systems is tied to a single barangay councilor, so
that residents can disqualify this particular councilor in the next election if they are
dissatisfied with his or her performance.

The above analysis reveals that election of rural barangay councils in Baybay is,
perhaps unintentionally, well structured to induce good performance of councilors in

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65 Department of Agrarian Reform and Philippine Coconuts Agency.
developing and maintaining water systems. These organizational traits potentially give elected community councilors the right incentives to be accountable to their constituents. For this arrangement to be workable, however, I would like to point out two additional conditions.

The first of these conditions is located in the supply side. Election can work as a performance-inducing mechanism only when councilors want to be reelected. Otherwise, they do not feel any threat of invoking dissatisfaction among their constituents by not meeting their demands. In fact, the rural barangay councilors in Baybay have incentives to become councilors because they receive adequate financial compensation. In 1995, for example, each barangay councilor in Baybay received an annual honorarium of US$408, equivalent to 74% of per capita income of the region.66 These honoraria are financed by intergovernmental transfers (IRA) to each barangay from the national government. Usually, nearly half of the total amount each barangay receives is used to pay the honoraria for councilors. Cultural norms in small rural communities also contribute to the prestige of becoming councilors. In these communities, taking care of other community residents is appreciated, and those who can do it are highly respected. Indeed, many barangay councilors told me that they were willing to serve their community members for this reason.

The second condition is about the demand side. The above monitoring mechanism does not work unless rural residents prefer to use water facilities and demand proper

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66 The average honorarium for a barangay councilor in Baybay was 10,500 pesos in 1995. The average per capita regional GDP in Region VIII, to which the municipality of Baybay belongs, was 14,206 pesos in 1995. Exchange rate used here is: US$1 = 25.71 pesos for 1995.
maintenance of the facilities. Cleanliness of spring water matters here. As previously
discussed, the rural residents in Baybay primarily rely on the councilor-run water
systems because they prefer water from the systems to other traditional water sources.
For this reason, the rural residents keep an eye on the quality of maintenance of water
systems. Without their close attention, even such a potentially effective organizational
arrangement of the rural barangay councils cannot generate the right incentives for the
councilors.

4.6. Local Prestige and Influence as Incentives for Municipal Engineers

Technical help from the municipality is important for the rural barangays in Baybay
to develop and maintain their water systems. Heads of both the MPDC Office and the
Municipal Engineering Office are key persons for this function. They are the only
licensed engineers in the municipal government, and their supervision enables their staff
to provide the rural barangays with technical assistance.

Many local governments in developing countries suffer from the lack of technically
capable personnel. Why do these engineers wish to work for the municipal government
of Baybay? Increased financial capability of the municipality as a result of
decentralization is again a part of the answer. The head of the MPDC Office told me
that his salary became adequate after the decentralization. The Municipal Engineering
Office was created in 1994 after the decentralization took place. Given that many poorer
neighboring municipalities cannot afford to create their own Engineering Offices, the
relative affluence of Baybay after decentralization is one important reason for capable
engineers to work in the municipality. My interviews with the heads of both Offices, however, reveal that there is more to their incentives than monetary rewards.

The head of the MPDC Office was born and raised in a barangay near from the Poblacion in Baybay. After he earned a civil engineering license, he worked in a private construction company in Metro Manila, capital of the Philippines. When the current mayor came into power in 1988, he came back to Baybay and began to work in the municipal government. In 1991, he became the head of the MPDC Office. He told me that working as the head of the MPDC Office in his hometown is much more interesting than working as one employee of a construction company in Metro Manila. As the head of the MPDC Office, he can be one of the very influential elite in the municipality. Especially since the decentralization, the MPDC Office has planned and implemented more and more capital investment projects. In his capacity as a planning director of the municipality, he can make significant improvements in the municipality by providing roads, water systems, a bus terminal, and so forth. Barangay councilors who want their projects to be approved and private contractors who want to engage in projects frequently lobby and depend on him. He also mentioned the pleasure of improving his locality where he grew up. This is not possible if he works in a construction company in Metro Manila. He said that, by working in the municipality, he can enjoy “the beauty of being a planner.”

The head of the Engineering Office was from a neighboring town, whereas his wife was from Baybay. He started his career as a licensed engineer in the national government’s Department of Public Works and Highways (DPWH) in 1988. He worked
in DPWH’s field office in Olmoc City, which was responsible for DPWH’s projects in Baybay and other neighboring towns. When DPWH created a new field office based in Baybay and covering nine municipalities in 1991, he moved to this new office.

Throughout his career in DPWH, he was in charge of rural water projects. This experience made him knowledgeable about rural water systems. He became the first head of the Municipal Engineering Office of Baybay in 1994. Since then, he has been highly appreciated by the rural barangays for his expertise and assistance in rural water systems. When I interviewed him, he seemed to be very proud of telling me about what he did in rural water systems in Baybay. As in the case of the head of MPDC Office, the head of Engineering Office also enjoys being influential elite in this locality.

Heads of both MPDC and Engineering Offices had already had attachment to Baybay before they assumed their positions. Baybay is a hometown for the head of MPDC Office. It is not a hometown for the head of Engineering Office, but he had already worked in this municipality for several years. For such persons with some sort of attachment to the municipality, local prestige and influence are very attractive incentives. The decentralization brought about new local prestige and influence to jobs in the municipal government, which function as incentives for those who may otherwise work outside the town to choose to work for the municipal government.

4.7. Is Rural Water in Baybay Unique?: Unanswered Questions

This chapter enumerates the conditions that enable the political institutions to work and make good performance of the rural water systems possible in Baybay. Some of
these conditions seem to be similar, if not the same, in other municipalities in the Philippines. Specifically, the decentralization policy has affected all local governments throughout the country. My interviews with officials in some donor agencies and national government departments, however, indicated that most other municipalities fail to assume responsibilities for rural water systems. What accounts for the difference between Baybay and other municipalities? This thesis cannot fully answer this question because it deals only with Baybay. Systematic comparison of several municipalities is necessary to answer the question. But it is still worthwhile examining possible explanations from available information and proposing future research to address unanswered questions.

The officials in donor agencies and the national government I interviewed attributed the failure of other municipalities primarily to the lack of their financial and technical capabilities. As discussed in 4.2, the municipal government of Baybay benefits from the increased intergovernmental transfers much better than most other municipalities. As a result, it was able to continually spend a sizable amount for rural water projects and to create its Engineering Office. With regard to technical capabilities, abundant spring water is also an advantage for Baybay. If it is necessary to drill deepwells, drilling rigs are needed. Most municipalities including Baybay cannot afford such expensive equipment. Given that the majority of rural residents in the Philippines relies on

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67 These donor agencies are Asian Development Bank and Overseas Economic Cooperation Fund (Japanese government agency). The national government agencies are Department of Public Works and Highways, and Department of Interior and Local Government.

68 If shallower wells are enough to improve access to water for rural residents, municipalities (or residents) are able to dig such wells.
groundwater (Table 4.1), many municipalities may not be able to assume responsibilities for rural water systems for this reason.\textsuperscript{69}

It should be noted here that the failure of most municipalities to assume responsibilities for rural water systems does not mean that most rural communities have no system. In fact, 70\% of rural population in the Philippines already has access to potable water (Table 2.1).\textsuperscript{70} Most of these systems, predominantly wells (Table 4.1), were constructed by the national Department of Public Works and Highways (DPWH)\textsuperscript{71} and are maintained by rural barangays. Is maintenance performance in these barangays different from those in Baybay? If so, why? It might be different if these barangays adopt organizations other than barangay councils for maintenance.\textsuperscript{72} Even when barangay councils maintain the systems as in the case of Baybay, organizational structure of these councils might be different in other municipalities.\textsuperscript{73} Systematic comparison among barangays in different municipalities, including both success and failure, should be conducted to answer this question. Given that both success and failure cases exist according to my interviewees in the national government and donor agencies,

\textsuperscript{69} Private contractors may drill deepwells for municipalities; however, such private contractors are not yet developed in the Philippines according to my interviews.

\textsuperscript{70} This is the official figure for 1995 provided by the Philippine government; however, I am not sure the accuracy of this figure. See notes for 3.1 in Chapter 3 for more discussion about the accuracy of figures regarding access to water.

\textsuperscript{71} Its field offices are equipped with drilling rigs. For example, the field office located in Baybay, which covers nine municipalities, has one drilling rig.

\textsuperscript{72} As a matter of policy, the Philippine national government requires the beneficiary barangays to form community water boards, called Barangay Waterworks and Sanitation Associations (BWSAs) to undertake O&M responsibilities, if the national government develop rural water facilities. The rural barangays in Baybay do not form BWSAs because their systems are not assisted by the national government.

\textsuperscript{73} For example, barangays in other municipalities may not assign a particular councilor to water systems. They also may have larger population than those in Baybay whereas the number of barangay councilors is kept constant throughout all barangays.
it is worthwhile conducting such a comparative study to know more about what organizational arrangements are likely to induce good performance in rural water systems. This comparative study should cover different types of water systems, such as natural gravity-fed systems, deepwells with hand pumps, and deepwells with electric pumps, because different types of systems may have different impacts on the structure of community organizations. Such a study may complement the finding from Baybay, which is dominated by a single type of water system.

This research confines its scope only to rural water systems. How about the performance of the barangay councils in Baybay in other public services, such as primary health care, agricultural extension, and so forth? Are the political institutions identified in this research functioning in other services as well? Particularly, the organizational structure of the barangay councils might be workable in other services. It is fruitful to conduct a comparative study of the performance of these barangay councils across different public services to know more about successful community organizations for the delivery of public services as general. 74

Although my research was not structured to fully account for the difference between Baybay and other municipalities, 75 it was structured as cogently as possible within the limited time frame to account for the encompassing mechanism and conditions for

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74 Of course, the organizational arrangement of the rural barangay councils in Baybay may not function well in other public services because different nature of other services may undermine good traits of the councils. A comparative research of barangay councils across various public services can be used to learn such different impacts of various services.

75 In the beginning of my field research, I intended to visit neighboring municipalities with poorer performance to compare them with Baybay. After I realized, however, that it took time even to well understand water systems only in Baybay, I chose to spend my limited time solely for the case of Baybay.
successful water systems throughout the rural barangays in Baybay. The following chapter concludes this thesis by proposing a few policy implications emerging from this detailed analysis of the case of Baybay.
To conclude this research, I draw a few policy implications from the case of rural water systems in Baybay. Although conditions peculiar to this locality, such as abundance of clean spring water, contribute to the good performance, I generalize three policy implications from this case. These policy implications concern both community-based rural water projects specifically and decentralization of public administration generally.

5.1. Organizational Structure for Community Water Boards

The first policy implication regards the organizational structure for rural communities in drinking water projects. As a means to involve communities in water projects, it is fairly common to organize community water boards.\textsuperscript{76} For these boards to work well, their organizational structures should be arranged to induce representatives on the boards to be accountable to community residents. The rural barangay councils in Baybay give us a few lessons for such arrangements.

First, there must be a rewards and sanction mechanism clearly linked to the performance of representatives. Being modeled on the barangay councils in Baybay, I

\textsuperscript{76} For an example in the Philippines, see note 72.
recommend the following arrangements for such a mechanism. Representatives on community water boards should be popularly elected, instead of being appointed by a higher agency, to allow community residents to replace poor performers. Election should be held at large, instead of by districts, to make representatives accountable to all community members. Each representative should be assigned a specific function to help residents judge the performance of any single representative. For example, representatives are respectively assigned to replacement of public faucets, cleaning of reservoirs, repair of leakage in a different portion of the distribution network, or maintenance of a different set of wells. Finally, adequate financial compensation should be provided to representatives as an incentive for their reelection.

Second, there must be a communication channel through which beneficiaries can immediately express their complaints about the water systems to representatives. In the rural barangays in Baybay, the small size of communities and the closeness of barangay councilors to residents contribute to this function. Following this arrangement in Baybay, I recommend that the jurisdiction of each community water board should be kept small enough to place water operators close to residents. Alternatively, maintenance responsibilities of systems should be geographically divided into small areas within which the assigned water operators are close enough to a small number of residents.

The case of Baybay reveals that such arrangements can work in the absence of user fees. Charging user fees is desirable in the rural water systems to attain financial autonomy and sustainability, and to reduce economic inefficiency caused by tax finance.
But in practice, there are cases in which a user charge is not a feasible option, at least in a short term. For example, it may be difficult to levy user fees when rural residents believe that water facilities should be provided by the government for free. Even in such a case, organizational arrangements, like the rural barangays in Baybay, can stimulate good performance of water operators. User fees could be charged later when they become feasible (e.g., when residents' ideas evolve to the point where they are ready to pay for water systems). Of course, these organizational arrangements can be adopted together with user fees from the beginning as well. In that case, both the organizational arrangements and user fees reinforce each other to encourage communities' informed decision making and to regulate water operators.

5.2. Role of Higher Levels of Government

The second policy implication concerns the role of higher levels of government in decentralization. Recent literature on decentralization emphasizes that merely transferring responsibilities from the national government to lower levels, such as local governments, communities, or Non Governmental Organizations (NGOs), does not

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77 From several case studies, The World Bank Water Demand Research Team (1993) identifies that many rural households in developing countries think that water should be provided by the government for free. The Team regards such a sense of entitlement of rural residents as a significant obstacle to charge them. The Team, however, also identifies that some rural households become skeptical about the government’s ability to deliver free water because the government failed to do so for a long time. From this finding, the Team advocates that the residents’ perception is changing (p. 58).

78 “Higher levels of government” refer to the national government and other intermediate levels of government collectively. In the Philippines, such intermediate levels are provincial governments. Although the case of Baybay does not illuminate the role of the provincial government, I prefer to use “higher levels of government” here for the purpose of generalization.

79 The term “decentralization” is often unsystematically used by many experts to mean different things; however, Cohen and Peterson (1996) identify three common typologies in the literature written by English-
work well. The assistance and monitoring role of higher levels of government has achieved growing attention (Dillinger 1995, Hommes 1996, Smoke 1993, Tendler 1997). The finding from the case of Baybay confirms these emphases in the recent literature.

First, various forms of assistance from higher level governments are crucial for local governments to undertake the decentralized responsibilities. Without the increased intergovernmental transfers from the national government, Baybay could not have expanded its rural water systems in such a significant way. The Baybay case further indicates the necessity of greater assistance from higher levels of government to the municipalities financially and technically less capable than Baybay. For such municipalities, higher level governments should provide additional funding, either through grants or loans, to enable them to finance rural water projects.80 Higher levels of government should also undertake engineering tasks that these municipalities are not able to assume. Selective transfer of responsibilities to local governments can also be arranged from the beginning as suggested in the recent literature on decentralization (Smoke and Lewis 1996).81 In that case, responsibilities for rural water systems can be transferred only to financially and technically capable municipalities while the responsibilities for other municipalities are retained by the national government. The

80 At the time of my field visit, the Philippine government and donor agencies were planning to launch the programs in which the national government assists less capable municipalities.

81 See note 63 in Smoke and Lewis (1996) for other literature advocating the benefits of selective and
retained responsibilities will be gradually transferred as the national government nurtures financial and technical capabilities of less capable municipalities.

Second, higher levels of government can offset potentially undesirable actions by the local elite. In Baybay, the provision of water systems to rural barangays includes a politicized process, i.e. lobbying by barangay councils. This process potentially disadvantages some barangays that do not support the incumbent mayor. Although long stability of the ruling family in Baybay has mitigated such adverse effects by signaling barangays whom they should support and lobby, more generally such adverse effects are likely to be the rule rather than the exception. In such cases, higher levels of government can counter the local elite’s politicization of the provision of water systems. The national government, for example, can provide grants for water systems to municipalities with a condition that these grants should be spent only for the communities with access to potable water under a certain level. By doing so, the national government can prevent rural barangays from being left out of the water services for political reasons.\textsuperscript{82}

Third, the government’s technical assistance is crucial for rural communities to assume responsibilities for their water systems.\textsuperscript{83} In the case of Baybay, the barangay councils could not have developed and maintained their systems well if the municipal

\textsuperscript{82} Tendler (1993) also points out the potential of higher levels of government to counter local elite’s interests which are against small farmers’ interests by financing agricultural programs on condition that they should include small farmers (p.1576).

\textsuperscript{83} The use of “the government,” instead of “higher levels of government,” here needs explanation. In the context of the Philippines, the supporting role to communities is still the role of “higher levels of government” because communities are regarded as the lowest tier of local governments. Communities, however, are not necessarily regarded as local governments in other countries. For the purpose of generalization, I distinguish communities from the government and refer to the supporting role of “the
technical staff had not given them adequate technical advice. The importance of assistance from the government to rural communities is also suggested in the literature on rural water projects (Briscoe and deFerranti 1988, p.16). It should be noted here, however, that those who assist communities need not be municipal governments. Steffes (1997), for example, finds in Ecuador that the national government agency with a wide network of field offices, though already disbanded, was more capable than municipal governments in assisting rural communities’ maintenance of water systems. The municipality of Baybay can assume the supporting role to communities because of its technical capabilities. If municipalities, however, are unable to assume the supporting role, higher levels of government, instead of municipalities, should undertake this role.

5.3. Enhancing Local Prestige

The third policy implication regards the role of local prestige and influence. If local governments suffer from the lack of technically capable personnel, the decentralization does not work well. This is not a rare situation in developing countries. The case of Baybay shows, however, that decentralization can be converted into opportunities to attach new local prestige and influence to the municipal employees. Such increased local prestige and influence can attract capable persons who have some sort of attachment to the municipality but may otherwise work outside the town.

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84 Briscoe and deFerranti also propose the redirection of the role of government from direct providers to facilitators (Briscoe and deFerranti 1988, p.2, pp.22-23).
85 Tendler and Freedheim (1994) highlight the strong worker commitment to the job, which was generated by local prestige, as a key to the high performance of a rural preventive health program in the state of...
Following the case of Baybay, I recommend that local governments, assuming wider responsibilities as a result of decentralization, should recruit those who were locally raised but are working outside the town or those who are locally based but are working for more lucrative jobs, such as the national government and private sector. Local prestige and influence are good incentives for such locally raised or based persons, and they are likely to work conscientiously because of their attachment to the locality.

Ceará in Brazil. See also Tendler (1997).
APPENDIX

MAP OF BAYBAY

LEGEND:

- DARAHOAY
- MATIAL ROAD
- CONCRETE ROAD
- MACADAM ROAD
- DIRT ROAD
- PROPOSED ROAD
- MUNICIPAL BOUNDARY

Name of Barangay: Rural Barangays Visited
Name of Barangay: Rural Barangays Not Visited
Others: Barangays Served by Urban Water System


Administration, University of the Philippines.


