Part Three
Community-Managed Schools and the Decentralization of Education in Guatemala: The Experience of PRONADE

Parts One and Two have shown that education constitutes an important consideration for Guatemala. While more schooling is obviously not the panacea to solve all the country’s oppressing social and economic problems, it does have a strong potential to enhance economic growth and it is, among other factors, an important element in slowing down habitat loss. The existing empirical evidence shows that basic primary education is of particular interest. Also, the conservation of the country’s natural resources is tightly linked to the human capital stock of Guatemala’s rural economy. Quantifying the potential benefits of schooling is a challenging task. Nevertheless, from a policy perspective, it is equally important to examine how a developing country like Guatemala can successfully improve both the access to and quality of its rural primary education system.

Such an inquiry proves more difficult than it may seem to be at first glance. Glewwe (2002) claims that, until recently, many economists and international organizations have said relatively little about what governments in developing countries could actually do to raise educational levels and to improve the quality of schooling. Similarly, Lockheed and Vespor (1991) argue that the Ministries of Education in developing countries are often not sure what to do to improve their schools. This lack of vision for improvement does not imply that the education system in developing countries is already operating effectively. On the contrary, low enrollment figures along with dropout rates and frequent repetitions suggest that the schooling system in these countries does not work very effectively. Quite often, institutional lack of capacity and high levels of centralization hamper the process of educational reforms. With its ethnic fragmentation and the added burdens from its past — exclusionary policies and a damaging civil war — Guatemala is no exception here. Indeed, it constitutes a most complicated case.

However, after the civil war ended in 1996, Guatemala notably increased the primary school enrollment of children in poor and remote areas. How has this been possible? Part Three shows that by contracting directly with local communities, Guatemala has employed a unique model of education decentralization that has helped to increase primary enrollment. As such, despite serious shortcomings in

74 An anecdotal observation for Guatemala should be mentioned. In one occasion, in an interview with two directors of the Ministry of Education, there was both much enthusiasm but also a lack of commitment to be felt. For example, one director said that basing decisions on education data is irrelevant to him. Another one was proud to present his office, showing technical equipment to digitize Guatemalan movie material from the 1940s.
this decentralization approach, Guatemala presents an interesting case for studying educational reform processes under very difficult circumstances. Other countries may not, of course, be directly able to replicate Guatemala’s model. Nevertheless, the country shows that it is possible to blow up small innovations into a nationwide program designed to overcome some of the pitfalls of public educational services — even for the poorest households living in remote areas.
"Es obligación del Estado proporcionar y facilitar educación a sus habitantes sin discriminación alguna..."
Constitución Política de la República de Guatemala, 1985

I. Introduction

Within the context of education reforms, commonly used arguments in favor of decentralization and community participation include the need to increase the efficiency of the education system, the need to improve the quality of education, and the need to increase parental and community participation. Maintaining large central bureaucracies diverts resources away from educational inputs, and creates cumbersome and unnecessary requirements while stifling the initiative of those who are most critical to ensuring school success, namely teachers, principals, and parents. Proposals for greater community participation in making school decisions and for controlling financial resources are usually presented as strategies to improve the efficiency, quality and accountability of the education system. However, despite a number of compelling arguments supporting school-based management, there is relatively little empirical evidence documenting its merits in developing countries.

The IDB (2000) claims that excessive centralization and lack of school autonomy have historically plagued the Latin American educational process. Consequently, efforts to decentralize the education sector and encourage a higher degree of community participation are not new. Uemura (1999) reports that since the late 1980s several countries, including Bolivia, the Dominican Republic and Honduras, have made an effort in this direction. El Salvador has been promoting expansion and decentralization since 1991 with the program Educación con Participación de la Comunidad (EDUCO) in response to their problem of low

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75 I have greatly benefited from interviews and discussions with Miriam Casteñada and Alvaro Fortín (PRONADE), Antje Begemann (International Project Consult and PRONADE), Yetilú de Baessa (Universidad del Valle), Jorge Lavarreda (Centro de Investigaciones Económicas — CIEN), Mathias Abram (German Technical Cooperation — GTZ), Fernando Rubio (Juárez and Associates Incorporation — MEDIR Project), Edgar Pineda and Evelyn de Segura (Ministry of Education), Edda Fabian (Asociación de Investigaciones y Estudios Sociales — ASIES) and Isabel Günther (University of Goettingen).

76 Of course, there are also arguments that do not favor decentralization. For example, communities may not be prepared to assume greater responsibilities. In addition, if decentralization is not part of a broader reform package, accompanied by a transfer of corresponding financial resources, unresolved educational problems may simply be passed on to the local level, see IDB (2000).
school coverage in rural areas. Jiminez and Sawada (1999) report that the program is characterized by the active participation of the local communities in the organization and daily management of the schools. Their results, one of the few empirical evaluations of community-managed school programs, suggest that the EDUCO model has been fairly successful in delivering educational services to children in rural areas. In addition, teacher and student absenteeism has decreased, and students in the EDUCO program perform at a level comparable to students enrolled in traditional schools.

Learning from El Salvador’s positive experience with community participation, Guatemala has endorsed since 1996 its own Programa Nacional de Autogestión para el Desarrollo Educativo (PRONADE). This program has a decentralizing strategy whose main objectives are to increase access to and quality of rural primary education. It is also designed to stimulate local parental and community participation in the school administration.

This study traces the origins of PRONADE, describes the structure and implementation procedures and interprets findings from evaluations of the program. In addition, a rough empirical analysis of student achievement is provided. The overall intention of the study is to find those lessons to be learned that might be useful to strengthen the program in the future. Since the experience of PRONADE is largely undocumented, this study may prove relevant for the design of similar programs in other developing countries. The study concludes that PRONADE has enhanced community and parental participation in rural schools, while significantly contributing to the expansion of educational services into rural and indigenous communities. Nevertheless, it is less clear if PRONADE has improved student achievement given the lack of bilingual teaching practices. In this vein, the quality of the program remains questionable. Despite these reservations, however, one should take into account that without PRONADE schools many of these children would probably have been illiterate.

The study is divided into five chapters. Chapter II provides the economic and social context of Guatemala at the time PRONADE emerged. Chapter III describes the structure of PRONADE, its key actors, and the implementation structure. Chapter IV summarizes the achievements of the program and outlines some of the critical issues continuing to face PRONADE. Chapter V is the conclusion.
II. The Context

This chapter traces the origins of the Programa Nacional de Autogestión para el Desarrollo Educativo (PRONADE) — Guatemala’s key strategy to increase primary school enrollment in rural areas. Section A gives the reader a brief overview of key problems in the Guatemalan education sector. Despite some recent progress, limited access to primary education service still remains a problem in many rural areas. Section B describes the education system prior to the Peace Accords. Section C argues that PRONADE emerged as a response to both the lack of access to primary education and to the high levels of educational centralization prevalent throughout the country. Section D covers some aspects of the country’s recent progress in expanding primary school enrollment, which can partly be attributed to PRONADE.

A. Key Problems of Guatemala's Education Sector

According to preliminary data from the 2003 census, Guatemala is a country of about 12 million people with a young and rapidly growing population. About 64 percent of the population is less than 25 years of age. The annual population growth rate is 2.7 percent. The country is divided into 22 Departments. The Department of Guatemala accounts for more than 20 percent of total population. Two out of 3 Guatemalans live in rural areas, and 4 out of every 10 Guatemalans belong to an indigenous group. The majority of the indigenous population resides in over 19,000 rural communities scattered throughout the country. Most of these communities are relatively small consisting of less than 200 people. Guatemala is also home to a rich variety of ethnic and linguistic communities. The main languages spoken in the country include Spanish, which serves as the official language, 21 Mayan languages, as well as Xinca and Garifuna languages.

The World Bank’s (2003a) poverty assessment reveals that Guatemala is a country of social and economic contrasts, especially between urban and rural areas. Indicators of social and economic development tend to be located in urban centers, thus attesting to the influence these centers have over the allocation of national public resources. Delivery of basic social services, including primary education, remains often unavailable or beyond the financial reach of the rural and indigenous people.

Lack of school coverage in many of the rural areas has resulted in very high adult illiteracy rates. Based on household survey data the United Nations Development Programme (UNDP 2003a) estimates that of the 2.2 million of illiterate adults, 77 percent live in rural areas and 61 percent are from indigenous groups. In urban areas, 11 percent of adults over 15 years of age are illiterate. The percentage is 31 percent in rural areas. Similarly, while 25 percent of women in urban areas are illiterate, in rural areas 50 percent are illiterate. In the Departments
of Alta and Baja Verapaz as well as in El Quiché, the percentage of illiterate women reaches 88 percent and 81 percent, respectively. Average years of schooling is only 4.3 years at the national level. This compares with more than 5 years in the Department of Guatemala, and approximately 2 years in rural Guatemala.

B. Education System prior to Peace Accords

The Peace Accords signed in 1996 brought the needs of the indigenous and under-served populations of the country to the head of the national development agenda. A renewed interest in education ensued. Universal primary school coverage for the first three years was declared a national objective. The Acuerdos de Paz (1998) set the benchmark for a nationwide development agenda and insist on carrying out an extensive overhaul of the education system. The main objective until now remains to increase access to schooling for rural and indigenous people, as well as to modernize and decentralize the education system. The agenda seeks not only to make primary education available to all Guatemalan children, but also to foster democratic values, and to incorporate the ethnic, cultural and linguistic diversity of the country into the education curriculum.

Prior to the Peace Accords, according to the World Bank’s (1995c) education study, the indicators for educational access in Guatemala were very unfavorable. Compared to the Latin American average, the data for Guatemala revealed low student enrollment rates and poor indicators of efficiency. In 1994, the net enrollment rate for primary education was 69 percent, the repetition rate reached 16 percent, and the dropout rate stood at 8 percent annually. Educational attainment was low, but it was particularly low for rural and indigenous groups. While the non-indigenous rural population completed on average 2.4 years of schooling, indigenous groups completed only 1.3 years. Net school enrollment rates were lowest in geographical areas with high concentrations of indigenous children. The number of primary school age children outside the school system was estimated at 415,000 in rural areas and 122,000 in urban areas. These figures indicate that during the mid-1990s close to 50 percent of the children living in rural areas and close to 20 percent of children in urban areas were not enrolled in school.

Public investment in education was also low. In 1994, the Guatemalan government budgeted only 1.3 percent of GDP for the education sector compared to an average of 3.6 percent in the Latin American region during that time. The allocation by sectors showed that only 51 percent of the budget was allocated to primary education, but as much as 16 percent to higher education, 10 percent to secondary education, 11 percent to administration, and 12 percent for other purposes. At the primary level, the inequitable distribution of resources was favoring the urban areas.
The World Bank (1995c) assessed the administrative structure of the Ministry of Education (MINEDUC) as highly centralized and often making decisions without integrating local concerns. The education system lacked flexibility and was hampered by the lack of administrative and financial capacity. Overall, the Ministry of Education’s project implementation capacity was considered to be weak. In addition, measuring learning achievement was not feasible given the absence of a national student assessment system.

Valerio and Rojas (2000) argue that the centralization of teacher recruitment by the Ministry of Education contributed to the inefficiency of the system, and hindered its ability to reach beyond urban areas. A single salary schedule, which guaranteed salary increases every 5 years regardless of teachers’ classroom performance, did not create incentives to improve teaching practices. Similarly, incentives to attract teachers to work in rural areas did not exist. Fadul (1996) reports that teacher development was considered to be inadequate, especially among teachers who catered to the needs of bilingual children in rural areas. School supervision was equally troublesome with school supervision posts allocated according to length of service — seniority determining advancement — rather than educational level, background or expertise. Supervisors were usually hampered by the lack of transport, low budget allocations and outdated per diem ceilings for operational travel.

C. Searching for Successful Education Delivery Models: Origins of PRONADE

Against this background, the Commission for Education Reform, a temporary task force established under the Ministry of Education, was given the task of realizing the objectives stated under the Peace Accords. The Commission searched for an education delivery model that would be effective in increasing access to the first 3 years of primary education in rural areas. The Commission for Education Reform (1999) highlighted the importance of a program specifically set out to increase rural access to primary education.

PRONADE became an appealing program for at least three reasons. First, the program had been implemented as a pilot project since 1993 and had thus already been tested in communities. Although a formal evaluation was lacking, it appeared to be successful. Second, in order to increase schooling rapidly, communities would need to be actively involved, making the decentralized nature of the program

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77 In writing this section, I have benefited from the interviews with PRONADE staff and other informants listed in the introduction of this study. Key references also include MINEDUC (2003; 1999) and Comisión Consultiva para la Reforma Educativa (1999).
attractive. Third, according to Valerio and Rojas (2000), PRONADE’s objectives — emphasizing decentralization, community participation and indigenous inclusiveness — were in line with the Peace Accords as well as with the ‘strategic’ direction of the Guatemalan government during that time.

Box 7. Other Educational Models for Guatemala: Multi-Grade and Bilingual Education Methodologies

Besides PRONADE, Guatemala has implemented various other educational models for disadvantaged rural and indigenous children. Anderson (2001) reports that, in the past 10 years, the two most important models have been multi-grade teaching and bilingual education methodology. With the assistance of the United States Agency for International Development (USAID) the first schools of both models began operating in the early 1990s. There are also various pilots combining these two methodologies.

The multi-grade education model — known as New Multi-grade School or Nueva Escuela Unitaria (NEU) — is children-centered, based on learning principles that stress collaborative learning, peer teaching, the use of self-instructional guides, and participation in student government. In the classrooms of NEU schools, children of various ages play together and cooperate on lessons and projects sitting at common tables instead of individual desks. The principle of self-directed learning that prevails in New Multi-grade Schools allows students to work at their own pace and develop time-management skills. Collaborative projects help students develop communication skills, and the incorporation of cultural themes into those projects means that what the students are learning is relevant to their lives. A pilot evaluation from Chesterfield (1994) made a positive assessment of student achievement in NEU schools.

To address the specific needs of the indigenous students, Guatemala also began a process of creating bilingual schools in Departments with a high concentration of Mayan population. These school are managed by the Ministry of Education’s Directorate General of Bilingual and Intercultural Education. The Dirección General de Educación Bilingüe Intercultural (DIGEBI) is located outside the Ministry. Due to chronic under-funding it operates in a run-down office environment. One of the main tasks of DIGEBI is to supply bilingual schools with books. However, de facto most schools do not have bilingual textbooks. Moreover, while teachers do speak an indigenous language, they are frequently illiterate in indigenous languages, and are as such not adequately trained to provide formal bilingual education to the children.

PRONADE originally began in 1993 with the objective of administering two government funds that had been specifically established to increase access to
education in rural areas. The available funds were expected to finance community organizations offering educational support services.

Supporters of PRONADE argue that the program is originated as a solution to the problem of insufficient school coverage in rural areas. In 1993, the first school emerged as a small pilot program. Within months, the program expanded to a dozen other schools in communities nearby. CIEN (1999) reports that in these early stages the program was called *Saq’bé*, a Kaqchikel word that translates into ‘path of light.’

When a new government administration (Ramiro de León Carpio) came into office in 1993, it established PRONADE within the Ministry of Education. Basically, PRONADE continued administering the two funds, although legal challenges and funding shortages delayed its broader implementation. Full implementation of the program did not take place until 1994 when the Social Investment Fund provided financing for a pilot program in additional 45 comunidades. With the financing of the Social Investment Fund, the program expanded rapidly, covering about 200 communities within two years.

In an effort to increase PRONADE’s effectiveness, another government administration (Álvaro Arzú Irigoyen) coming into office in 1996, built on a major re-vitalization of the program. All school infrastructure matters were delegated to the Social Investment Fund. Authority over administrative and non-infrastructure matters was given to PRONADE’s Implementation Unit. According to MINEDUC (1999), other important features included the creation of a legal framework for community participation, the establishment of a trust fund within the Ministry of Public Finance (MFP) to channel PRONADE’s budget, and the incorporation of NGO-led experience into the program. In 1997, the Ministry of Education gained the authority to recognize the legal status of the local Education Committees. These are key elements of PRONADE and administer the local school program (see Chapter III).

As other Latin American countries, Guatemala has experimented with a number of education reform proposals and various pilot programs over the years. According to the World Bank (1997), some staff from the Ministry of Education first perceived PRONADE as ‘yet another program’ designed to increase access to education in rural areas. They expressed their doubts about the mode of delivery and predicted that the program would be short-lived. Despite such skepticism, PRONADE succeeded in drawing public attention of the pilot program to the

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78 For the period 1990-2000, *Foro Interuniversitario* (2000) list more than 60 proposals for education reform. IDESAC (2001) includes a bibliography list of about 150 contributions to the Guatemalan education reform process, including numerous descriptions of pilot programs.
public. In late 1996, PRONADE was officially selected as Guatemala's strategy to increase educational access in rural areas. With the support of the German Development Bank (KfW), the World Bank and the Inter-American Development Bank (IDB) the program expanded across the country.

D. Education System after Peace Accords

Has Guatemala made substantial progress in its education system since the signing of the Peace Accords? Edwards (2002) finds a persistently large education gap between the non-poor and the poor, as well as between the Ladino and indigenous population. In 2000, the primary gross enrollment ratio reached 99 percent and primary net enrollment 79 percent. For primary education, the gross enrollment rate of the non-poor is 110 percent and net enrollment 90 percent, compared to the corresponding figures of 93 percent and 72 percent of the poor (see Table 34).

Table 34. Guatemala: School Enrollment by Ethnicity and Level of Poverty, 2000 (in percent)

<table>
<thead>
<tr>
<th>School level</th>
<th>Total</th>
<th>Non-poor</th>
<th>Poor</th>
<th>Ladinos</th>
<th>Indigenous</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross enrollment ratios</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Preprimary</td>
<td>26</td>
<td>42</td>
<td>18</td>
<td>30</td>
<td>21</td>
</tr>
<tr>
<td>Primary</td>
<td>99</td>
<td>110</td>
<td>93</td>
<td>103</td>
<td>94</td>
</tr>
<tr>
<td>Secondary</td>
<td>31</td>
<td>54</td>
<td>14</td>
<td>41</td>
<td>19</td>
</tr>
<tr>
<td>Tertiary</td>
<td>20</td>
<td>38</td>
<td>2</td>
<td>29</td>
<td>8</td>
</tr>
<tr>
<td>Net enrollment ratios</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Preprimary</td>
<td>23</td>
<td>39</td>
<td>16</td>
<td>28</td>
<td>18</td>
</tr>
<tr>
<td>Primary</td>
<td>79</td>
<td>90</td>
<td>72</td>
<td>84</td>
<td>72</td>
</tr>
<tr>
<td>Secondary</td>
<td>25</td>
<td>44</td>
<td>10</td>
<td>33</td>
<td>14</td>
</tr>
<tr>
<td>Tertiary</td>
<td>9</td>
<td>16</td>
<td>1</td>
<td>13</td>
<td>3</td>
</tr>
</tbody>
</table>

Source: Edwards (2002). a/ Due to the reliance on household survey data, the numbers here differ slightly from the Ministry of Education’s official data. b/ The poverty line refers to a person’s average minimum caloric requirement (estimated at 2,172 kcal/day) and adjustments for ‘wasted-food’ as well as for non-food consumption, see World Bank (2003a). c/ Ethnicity according to self-identification.

This persistent divide between the ‘rich’ and ‘poor’ as well as between urban and rural areas is manifested by the enrollment gap between Ladino and indigenous children. The gross enrollment rate of indigenous children is 94 percent, while that of Ladino children is 103 percent. The corresponding figures for net enrollment rate
is 84 percent, and 72 percent, respectively. In secondary and tertiary education the gaps are even more pronounced. The large difference between the net and the gross ratio represents grade-by-age misalignments and indicates inefficiency. 79

Figure 16. Guatemala: Net Enrollment, Repetition and Dropout Rates in Primary Schools, 1996-2001 (in percent)

![Graph showing net enrollment, repetition, and dropout rates in primary schools from 1996 to 2001.](image)


Nevertheless, Figure 16 shows that Guatemala has made substantial progress in expanding educational coverage. 80 Within only 5 years primary net enrollment grew by about 15 percent for boys, and 18 percent for girls, respectively. According to CIEN (2000b) it is plausible to argue that the increased enrollment rates can be attributed to the massive expansion of PRONADE schools in rural Guatemala (subject to Chapter IV). The expansion was also made possible by

79 When students repeat grades, gross enrollment ratios inflate. Recall that the primary gross enrollment ratio is defined as the ratio of all enrolled primary students to the population of the age group 7-12. By contrast, the primary net enrollment ratio is defined as the ratio of primary students in the designated age group to the total population of this age group. Consequently, net enrollment ratios understate enrollment if there are over-age children in the class.

80 Using additional indicators, equally Anderson (2001) as well as Marqués and Bannon (2003) come to the conclusion that Guatemala has shown considerable progress.
increased public educational expenditures. According to UNDP (2003a), as a percentage of GDP, government education expenditures rose from 1.3 percent in 1995 to 2.6 percent in 2002. As such, education expenditures are in line with the quantitative targets set by the Peace Accords from 1996. In absolute terms, however, they still represent a modest figure compared to other Latin American countries.

Figure 16 shows that dropout and repetition rates have remained constant at relatively high levels. Equally, UNDP (2003a) reports that lack of assistance to primary schooling remains of concern. Table 35 suggests that, on average, about 16 percent of all Guatemalan children did not attend school in 2002. Non-assistance is particularly pronounced for rural and indigenous areas. Taken together, these numbers suggest low efficiency and low quality of the education system. Can this be confirmed empirically?

Table 35. Guatemala: Primary School Children Absenteeism, 2000-2002 (in percent)

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>2000</th>
<th>2002</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sex</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Girls</td>
<td>20.5</td>
<td>19.3</td>
</tr>
<tr>
<td>Boys</td>
<td>15.4</td>
<td>13.1</td>
</tr>
<tr>
<td><strong>Area</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urban</td>
<td>11.1</td>
<td>10.8</td>
</tr>
<tr>
<td>Rural</td>
<td>21.3</td>
<td>18.9</td>
</tr>
<tr>
<td><strong>Ethnic group</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>K’iche’</td>
<td>24.3</td>
<td>20.9</td>
</tr>
<tr>
<td>Q’eqchi</td>
<td>37.9</td>
<td>18.0</td>
</tr>
<tr>
<td>Kaqchikel</td>
<td>20.1</td>
<td>22.5</td>
</tr>
<tr>
<td>Mam</td>
<td>19.9</td>
<td>21.6</td>
</tr>
<tr>
<td>Ladino</td>
<td>13.0</td>
<td>10.5</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>17.8</td>
<td>16.2</td>
</tr>
</tbody>
</table>

Source: UNDP (2003a) based on household survey data. a/ For the age group 7-12 years.

In 1997, the Ministry of Education launched a National Program of Evaluation of School Achievements (PRONERE) to monitor and measure quality of schooling.

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81 Educational quality is here defined as the extent to which children learn basic skills and knowledge necessary to function in society and utilize these skills in their life. For a discussion see IDB (2000).
The evaluations were carried out on 3rd and 6th graders in reading and mathematics. The data, however, has never been made available to the public. CIEN (2002) summarizes the evidence and finds that student achievement in Guatemala is generally low. Test competence is barely sufficient to answer \(\frac{1}{2}\) of the test items in reading — and less than \(\frac{1}{2}\) in mathematics. Moreover, quality improvements over time are found to be negligible.

The variations within groups and between groups are large. In reading, the most prominent difference in average test scores is between Ladinos and indigenous students. Indigenous children score more than 1 standard deviation below the Ladino students. Urban school students perform significantly above rural school students. The differences between rural and urban test scores, however, are not too pronounced and rather show that both urban and rural schools perform unsatisfactory. In mathematics, the difference between Ladino and indigenous student test scores is narrower than in reading. This indicates that indigenous students are not inherently low performers, but are likely to suffer from linguistic barriers.

Bratsberg and Terrell (2002) carried out an interesting study that allowed them to compare the quality of the Guatemalan education system with that of other countries. Using data from the U.S. census, they estimate country-specific returns to education among male immigrants in the U.S. labor market. Since immigrants are competing in the same market without being affected by their home countries’ labor market conditions, their rates of return are useful pointers to the educational quality of their home country. Male immigrants educated in Central America registered the lowest returns among all immigrants,\(^{82}\) falling behind the African immigrants in the sample. Western Europe and Japan registered the highest return. Given that the workers’ characteristics and distance to home countries are controlled for, what accounts for the variations in the returns is the education quality of the home countries. The returns to education of male immigrants educated in Guatemala were only about 2 percent and well below the average returns to immigrants from Central America. Consequently, it may be inferred that the quality of Guatemala’s education system during the past decades was lower than for countries with a similar level of development.

The assumed low quality of the Guatemalan education system is of serious concern. First, students who receive poor quality education learn little and tend to repeat classes and drop out earlier. As such, they do not stay in the system long enough to complete primary education and later enroll in secondary school. Second, enrollment expansion per se, without ensuring that children acquire basic skills in reading and mathematics, is unlikely to enhance productivity or enhance

\(^{82}\) Except Haiti and the Dominican Republic.
the chance to find a job in the ‘high-productivity’ non-farm sector. Third, public resources are used more efficiently if the number of repeaters decreases. When there are fewer repeaters in the system, more students have the chance to graduate with the same number of teachers being employed, classrooms being built, and other support services being provided.

To summarize, Guatemala’s education system has shown improvements since 1996. However, the available data and qualitative assessments suggest that, particularly for the first grades of primary education, the system still suffers from limited coverage, inequities, low internal efficiency and low quality. At all levels, there are fewer females enrolled, and the indigenous females are the most disadvantaged.

According to the World Bank (2003a), the education system has, compared to other countries in the Latin America region, inadequate financing. Without adequate financing, services are limited for many children, and this is of particular concern. UNDP (2003a) reports that more than 60 percent of Guatemala’s population is below 15 years of age. Consequently, with a young and rapidly growing population of annually 2.7 percent, the education system has to continue to expand rapidly only to keep up with the increasing demand. In this vein, the following chapters analyze the role of the community-managed school approach.

83 Table 2 in Part One compares recent data on public spending on education in Guatemala with its Central American neighbors.
III. Objectives, Key Actors and Implementation of PRONADE

Before assessing the impact of PRONADE, the aim of this chapter is to provide an insight into the institutional structure of PRONADE. Sections A and B shed light on the program's key objectives and its organizational structure. Section C explains the implementation process at the community level. Section D describes the transfer of funds to the Education Committees.84

A. Objectives and Structure

According to Valerio and Rojas (2000), PRONADE is a decentralized, community-led program that seeks to increase access to schooling and to improve the quality of primary education. A key focus is rural areas and areas dominated by indigenous communities. Rural communities with no access to education services receive financing directly from the Ministry of Education to get new schools.

Communities qualify to participate in the program if they meet at least four criteria. First, the community must find a site for the school and demonstrate the ability to and a genuine interest in managing a new school. Second, the community must be located at least 3 kilometers away from the nearest public school. Third, the community must have at least 25 primary school-age children. Fourth, the community must not have any teachers already on the official government's payroll.

Financing for the program is allocated to communities to cover teacher salaries, learning materials and school snacks, and Instituciones de Servicios Educativos (ISE) to cover administrative training and educational support services. The Service Institutions are NGOs that have specialized in education and community development. They are contracted by PRONADE and receive payment for their services. Financing is contingent on extensive community participation related to the school. School affairs managed by the Committees usually range from hiring teachers to setting the local school calendar. A Comité Educativo (COEDUCA) represents each community. The Education Committee is elected locally by the community and is composed of parents and community members.

PRONADE schools are run besides the traditional schooling system. At the national level, the program is coordinated by a relatively small Implementation Unit with a staff of less than 60, located in the capital. This unit is responsible for...
strategic planning, financial management, monitoring, and evaluation. The unit coordinates closely with the Social Investment Fund on school infrastructure matters, and on educational policy and assessment issues with the Ministry of Education. In keeping with the decentralized nature of the program, the Implementation Unit leaves all school administration and managerial decisions in the hands of the Education Committees. The local Committees receive technical assistance and overall advice from the participating NGO-backed Educational Service Institutions.

PRONADE’s main objective is to open up educational opportunities for the thousands of out-of-school children until full primary school coverage has been attained. The immediate goal is to ensure that the majority of the primary school-age children in every Department receives educational services. Priority is given to Departments that have not yet reached a minimum coverage otherwise. These are also the Departments with the highest proportion of indigenous population with over 60 percent of the population monolingual in one of the Mayan languages. Today, PRONADE provides its services to children in virtually all regions of the country.

**Figure 17. Institutional Structure of PRONADE**

Source: Adopted from Valerio and Rojas (2000).

CIEN (1999) reports that along with achieving quantitative expansion, PRONADE claims specific *learning goals* for its students (beyond the standard
Objectives, Key Actors and Implementation of PRONADE curriculum). For example, with the completion of the first three years at the program, PRONADE students are expected to work well individually and as a team, respect school and private property, value their cultural identity, express ideas with confidence and self-esteem, and appreciate the country. In addition, students who live in multicultural contexts are expected to be bilingual in a Mayan language and in Spanish, value their cultural background, and respect the environment and natural resources.  

B. Key Actors

The implementation structure of the program is illustrated in Figure 17. There are three main actors in the implementation of PRONADE, namely the Education Committees, the Educational Service Institutions, and PRONADE’s Implementation Unit. Drawing from MINEDUC (2003), the respective duties of these actors are explained in the following sections.

1. Education Committees

The Comité Educativo is at the heart of the implementation structure. The Committees are established as legal entities and are formally entrusted with administering the program on behalf of the community. The Committees are composed of parents and community members irrespective of their level of education. They are responsible for seven key administrative functions: the contracting and paying of teacher’s salaries, maintaining accounting records, monitoring teachers and student attendance, defining the school schedule and calendar within the existing national legal framework, buying and distributing school materials, monitoring school libraries, and organizing school breakfast programs. The Committees receive funds directly from Ministry of Education. Technical assistance and administrative training is provided by the Service Institutions.

2. Educational Service Institutions

PRONADE’s Implementation Unit contracts the Instituciones de Servicios Educativos. They are NGOs and are expected to fulfill five main tasks. These include identifying educational needs in the communities, assisting the Education Committees in obtaining their legal status, providing financial and administrative training for the Committees, providing teacher development courses on multi-grade

85 There is no information available on the de facto achievements of this goal. See ASIES (1988) for a loose proposal on an environmental education strategy for Guatemala.

86 However, at least two members of the committee are required to be literate.
and bilingual classroom practices, and maintain updated information on the schools and students under their supervision.\textsuperscript{87}

In order to qualify for a contract with PRONADE, the Educational Service Institutions must have had at least 3 years of experience in community development. In theory, the Service Institutions are required to have a legal standing, have an office in the locality, be willing to participate in staff training, have bilingual staff ready to interact with people from the local community, and to be willing and able to work with a minimum of 5 communities. MINEDUC and PRONADE (2000a) show that about 80 percent of the NGOs have already worked before on community and social development projects, and concentrate their activities in a specific geographical area of the country.

In order to receive funds from PRONADE, the Educational Service institution must respond to a call for proposals put out by PRONADE’s Implementation Unit. The Service Institutions submit a proposal package that provides information about their technical strengths as well as on the estimated costs of rendering their services. PRONADE’s Implementation Unit evaluates the proposals and makes funding decisions by weighing technical strength slightly above economic aspects. Once the contract is awarded, a successful NGO receives a 25 percent advance on their services and the remaining 75 percent upon signature of a contract between PRONADE and the Education Committee. CIEN (2000a) reports that on average about $\frac{1}{3}$ of the Educational Service Institution’s budget comes from PRONADE resources. In 1995, there was only 1 NGO participating in the program. By 1998, the number of Educational Service Institutions had increased to 25. In 2000, the number has been reduced to 16 but eventually increased again (see Table 36). The decline in the number of the NGOs was partly due to the implementation of a more rigorous selection process.\textsuperscript{88}

3. \textit{Implementation Unit}

The implementation unit headquartered in the capital is responsible for seven key activities. These include outlining the general framework of the program,
determining the geographical areas that receive support, and signing the legal covenant with the Education Committees. Other tasks involve identifying, selecting, contracting and supervising educational service institutions, monitoring and evaluating the program, transferring funds to the Education Committees, and coordination with the Ministry of Education and other institutions. PRONADE is monitored by a steering Committee composed of the Minister of Education, an executive director of the ministry, 3 councils, and 2 members from the private sector. The Implementation Unit also works closely with the Social Investment Fund in all matters regarding upgrading or building new school infrastructure facilities.

C. Implementation Process

This section provides insight into the execution of PRONADE and explains how PRONADE is implemented at the community level. The following paragraphs, as illustrated in Figure 18, refer to three specific stages. Overall, the Ministry of Education’s duty is to execute the program and to ensure that education reforms are advanced. The ministry also assists with the initial general identification of communities that have little or no access to education, and provides recognition for the legal status of the Education Committees.

1. Community Identification

The first step in the process of carrying out the PRONADE goals is to identify those communities that are in need and without educational services. This is done by the educational service NGOs that receive a contract to do so from PRONADE. On average, it takes about 45 days to identify and evaluate the needs of a community. In 1996, PRONADE required only 1 contract with an NGO to carry out the three stages of the program. This changed in 1997 when PRONADE required two contracts with the educational service institutions, one for promoting community development and another for follow-up. In 1998, PRONADE decided to have three separate contracts: one contract encompasses community identification, another one entails the organization and legalization of the Education Committees, and the final one is for program follow-up.

Educational service institution may select whether to bid for one, two or all three contract phases based on their technical expertise and geographical location. Educational service institutions are granted a time frame of 45 days to identify a community, outline its needs, and submit appropriate information to PRONADE. Once PRONADE verifies the information and the needs of the community, the service institution receives an average of about 200 U.S. dollars per community identified. In order to control the identification process, PRONADE has established
a ceiling on the number of communities that may be identified by an individual service institution.

Figure 18. Implementation Stages of PRONADE

<table>
<thead>
<tr>
<th>Stage 1</th>
<th>Stage 2</th>
<th>Stage 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community identification by Educational Service Institution</td>
<td>Organization and legalization of Education Committee by Educational Service Institution</td>
<td>Follow-up service to Education Committee</td>
</tr>
<tr>
<td>Average duration: 45 days</td>
<td>Average duration: 3 months</td>
<td>Average duration: 12 months</td>
</tr>
<tr>
<td>Average costs: US$ 200 per community</td>
<td>Average costs: US$ 500 per Education Committee</td>
<td>Average costs: US$ 240 per Education Committee</td>
</tr>
</tbody>
</table>


2. Organization of Local Education Committees

During this second stage, the Educational Service Institution enters into another contract with PRONADE to provide technical support to the communities. More specifically, the role of the Service Institutions is to ensure that the communities establish the Education Committee, elect a provisional board of directors, and obtain legal status. Once the committee is legally established, the Service Institution provides a 3-day training in administration and financial management. The average time frame for the committee to obtain legal status is about 3 months. The average unit cost for the Service Institutions is about 500 U.S. dollars per Education Committee established.

3. Follow-Up Services

The third type of contract between the Educational Service Institutions and PRONADE is a 12-month contract to provide follow-up services to the Education Committee. In order to participate in this stage, in addition to the requirements necessary to participate in stages 1 and 2, the NGO must meet several new requirements. Namely, the staff of the Service Institution must have experience in teaching and pedagogical methods, and has to be fluent in the Mayan language of the local community.

In principle, a background with pedagogical methods and a fluency in the local Mayan language are essential for providing the necessary training to teachers and representatives of the Education Committees. The committees receive a total of 9 days of training. Teachers receive 22 days of training during non-school working
periods. Usually teachers are given a 10-day training course in the 1\textsuperscript{st} trimester, 5 days in the 2\textsuperscript{nd} trimester and 7 days in the 3\textsuperscript{rd} trimester. In theory, these activities are meant to improve the quality of educational services in PRONADE schools. The NGOs are required to make periodic visits to the school to ensure effective implementation of the program and to monitor results that are, then, submitted to PRONADE’s monitoring and evaluation unit. The Service Institutions receive about 250 U.S. dollars per community per month to perform these follow-up activities.

Transfers to the Education Committees are paid out every 3 months prior to rendering services. Although funds flow from PRONADE directly to the committee, the Service Institutions provide input in developing the budget and ensuring that funds are spent according to the categories established with PRONADE. The Education Committee makes all payments out of their local checking account. The Educational Service Institutions and PRONADE’s financial and administrative unit is responsible for supervising this process.

Valerio and Rojas (2000) report that the Education Committees receive funds to pay for teacher salaries equivalent to about 240 U.S. dollars per teacher per month. In 2000, the Committees also receive about 40 U.S. dollars per student per year to buy school materials, teaching supplies, and to provide a daily school breakfast. In addition, PRONADE claims to supply new schools with curriculum materials, mini libraries, and other didactic materials.

D. Transfer of Funds

PRONADE established a trust fund to administer resources and streamline payments to the Education Committees and the Educational Service Institutions. Consistent with an agreement that establishes PRONADE as a legal entity, the Ministry of Public Finance is required to allocate resources to the trust fund to ensure a smooth implementation of the program. The Agreement requires the Ministry to disburse funds every 3 months to a local Guatemalan bank (\textit{Bancafé}) according to the statements of expenditures submitted by PRONADE.

However, in practice, obtaining the funds is subject to a very bureaucratic process. CIEN (1999) as well as Valerio and Rojas (2000) report that it takes on average up to two months for the deposit to become effective. The bureaucratic process may be one reason for the frequent claims of teachers’ salaries being paid late and of overdue disbursements for school materials that hamper the execution of the program.

PRONADE’s Implementation Unit first requests funds from the Ministry of Education to make a single purchasing order with payment in the order of to \textit{Bancafé}. The Ministry of Education then approves the request and sends the order to the Ministry of Public Finance. Next it submits the order to the National
Controllers Office for approval. Upon approval, the Ministry of Public Finance sends a notice to PRONADE. The program’s administrative unit then presents notice to Banco de Guatemala. The Central Bank then issues a check payable to PRONADE's trust account with Bancafé. Finally, Bancafé deposits the approved payments in local branches to be available to the Educational Service Institutions and the Education Committees. Bancafé then submits payment reports to the Ministry of Public Finance, the National Controllers Office and PRONADE’s administrative unit. PRONADE’s administrative unit sends the Ministry of Public Finance at the end of each trimester reports on the execution of the funds.
IV. What Has PRONADE Delivered?

Much to the surprise of the staff from the Ministry of Education — which in the beginning considered local communities unable to organize and run their schools — the PRONADE project demonstrates that rural and indigenous communities can be trained to manage their schools, even with low levels of formal education. In addition, the PRONADE experience in Guatemala is proving a showcase for an offensive decentralization measure meant to be successful. Former isolated rural and indigenous communities have been empowered to administer and manage local schools. Although public resources come from the Ministry of Education, the local communities have received authority and other powers.

More specific achievements are discussed in the following paragraphs. Section A and B show that PRONADE has achieved some of its main goals: quantitative expansion, decentralization and an improved parental participation in school decisions. However, section C shows that evaluations of the quality of program have come to critical conclusions. Finally, section D includes a rough empirical analysis and discusses the quality of PRONADE’s educational service.

Table 36. Expansion of PRONADE, 1995-2003

<table>
<thead>
<tr>
<th>Year</th>
<th>Primary school children</th>
<th>Preschool children</th>
<th>Primary school teachers</th>
<th>Education Committees</th>
<th>Educational Service Institutions</th>
<th>Department s</th>
</tr>
</thead>
<tbody>
<tr>
<td>1995</td>
<td>2,902</td>
<td>0</td>
<td>82</td>
<td>45</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>1996</td>
<td>67,734</td>
<td>0</td>
<td>808</td>
<td>327</td>
<td>6</td>
<td>13</td>
</tr>
<tr>
<td>1997</td>
<td>118,392</td>
<td>0</td>
<td>1,635</td>
<td>892</td>
<td>15</td>
<td>15</td>
</tr>
<tr>
<td>1998</td>
<td>179,442</td>
<td>8,900</td>
<td>3,769</td>
<td>1,990</td>
<td>25</td>
<td>20</td>
</tr>
<tr>
<td>1999</td>
<td>221,739</td>
<td>27,700</td>
<td>6,777</td>
<td>2,815</td>
<td>24</td>
<td>20</td>
</tr>
<tr>
<td>2000</td>
<td>294,041</td>
<td>40,900</td>
<td>9,305</td>
<td>3,437</td>
<td>16</td>
<td>21</td>
</tr>
<tr>
<td>2001</td>
<td>310,119</td>
<td>N.D.</td>
<td>10,091</td>
<td>3,423</td>
<td>17</td>
<td>21</td>
</tr>
<tr>
<td>2002</td>
<td>321,629</td>
<td>N.D.</td>
<td>10,560</td>
<td>3,419</td>
<td>19</td>
<td>21</td>
</tr>
<tr>
<td>2003</td>
<td>372,068</td>
<td>N.D.</td>
<td>12,023</td>
<td>4,119</td>
<td>26</td>
<td>21</td>
</tr>
</tbody>
</table>

Source: Author’s elaboration based on MINEDUC and PRONADE (2000a), CIEN (2000b) and MINEDUC (2003). N.D. = no data available.

A. Quantitative Expansion

In a relatively short time period, PRONADE has moved from a small pilot program to a nationwide project. The quantitative expansion of the program can be observed in Table 36. In 2003, about 372,000 children were enrolled in primary schools of PRONADE. The program has succeeded in organizing and approving close to 4,100 Education Committees and has hired more than 12,000 primary
school teachers. PRONADE Schools can be found in 21 of the 22 Departments (excluding the metropolitan department). They are concentrated in the most disadvantaged regions (Departments of Alta and Baja Verapaz, Huehuetenango, and El Quiché). These 4 departments alone represent approximately $\frac{1}{2}$ of the total number of primary school children served by the program.

UNDP (2002) reports that the net enrollment rate in primary education has substantially increased in 1995-2001. PRONADE had a significant role in increasing this expansion. To illustrate the importance of PRONADE, it is important to emphasize that, in 2001, PRONADE schools represented about $\frac{1}{3}$ of all primary school enrollment in rural areas. At the national level, PRONADE schools account for more than 14 percent of total enrollment in primary education. The quantitative success of the program, coupled with the increasing demand for preschool education, has prompted PRONADE to provide a preschool program since 1998. Preschool enrollment increased from 8,900 to almost 41,000 in 2000. As such, the preschool program accounts for more than 12 percent of total enrollment in 2000 (Figure 19).

B. Decentralization and Parental Participation

Given the notable expansion of primary schooling and the community commitment to the program, CIEN (1999; 2000b) argues that education decentralization policies have been implemented in Guatemala with relative success. Of course, this success cannot be traced to one single policy intervention, namely PRONADE, but rather to a combination of favorable conditions and policies. Among these are Guatemala’s recent commitment to increase primary school enrollment in the rural areas. In addition, some regions were already familiar with their Educational Service Institution. Besides education, they were receiving support from the NGOs in various other aspects of social development. PRONADE has also enjoyed continuous ‘high-level’ government support. Finally, Valerio and Rojas (2000) argue that the program seems to be staffed by committed personnel that has continually been open for recommendations from evaluation studies.

Parental participation has brought benefits to the community due to the close collaboration that exists between parents, students, and teachers. The ability of the local communities to solve school problems themselves has helped to increase the importance parents attach to education and school management. MINEDUC and PRONADE (1999) report that parents and community members were initially critical of the decentralized nature of the program. However, the success the program had so far in making basic education available helped to ease the parents’ discomfort. In addition, MINEDUC (1999) finds also finds that with PRONADE in place the community participates more frequently in other civic affairs. In an
ethnographic study, equally Asturias et al. (2001) find that PRONADE school services contribute to strengthen local organization skills and is a source of non-farm income, for example regarding school materials, commerce, and in terms of market integration. With the knowledge gained from school-management, communities also find the motivation to improve their physical infrastructure facilities.

**Figure 19. PRONADE School Enrollment, 1995-2001**  
(as percentage of total enrollment)

![Graph showing PRONADE School Enrollment, 1995-2001](image)

Source: Author’s elaboration based on data from the Ministry of Education.

According to MINEDUC and PRONADE’s (1999; 2000a) self-evaluations, the Educational Committees’ members are mostly parents of school children. In general, the Committees are reported to be satisfied with their new ability to make decisions. Two of their most important activities are financial management and teacher supervision. However, these self-evaluations report that the greatest challenges the Education Committee members face is to leave work to participate in training sessions and the delay in payments to some of the Committees. These issues are focused on in the next section.

**C. Mixed Results from Evaluations**

Notwithstanding PRONADE’s impressive quantitative expansion, little is known about its second main goal: the improvement of the educational quality in
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rural schools and the program’s impact on students’ learning achievements. The GTZ (2000) claims that not only per student costs, but also repetition and drop out rates seem to be higher in PRONADE schools than in traditional rural schools. Unfortunately, there is no reliable data that would allow comparing the internal efficiency between PRONADE and traditional rural schools. However, there are three qualitative evaluation reports, which provide some insights into the functioning of the program.

1. Evaluation of the Centro de Investigaciones Económicas Nacionales

The first evaluation study was conducted by a leading Guatemalan research institution. CIEN (1999) surveyed the principal actors in the program and compared traditional rural schools with PRONADE schools. Findings from this evaluation indicate that traditional schools are more likely to offer preschool services (this finding led PRONADE to incorporate preschool services into its program). In addition, they also have a larger student population. While traditional schools have between 31 and 50 students, PRONADE schools only have between 21 and 30 students.

The CIEN (1999) evaluation claims that, somewhat surprisingly, there is no difference in the language of instruction by type of school. About $\frac{2}{3}$ of the schools both traditional and PRONADE teach in Spanish, and about $\frac{1}{3}$ teach in Spanish and the local indigenous language. However, PRONADE schools have a greater percentage of teachers providing multi-grade instruction compared to traditional schools. According to the report, PRONADE teacher display a greater motivation compared to teachers in traditional schools. However, focus group interviews revealed relatively high levels of job insecurity, and teachers’ distress at receiving their salary every 3 months instead of every month. Finally, only about 80 percent of PRONADE teachers have a teaching certificate: the lack of trained personnel in some departments forced PRONADE to hire untrained teachers or promotores.

2. Self-Evaluations from PRONADE and the Ministry of Education

In order to measure the program’s progress, frequent evaluations are also carried out by MINEDUC and PRONADE (1999; 2000a). The main findings from these self-evaluations indicate that PRONADE schools offer an additional 20 minutes of instruction per day compared to similar rural schools. The report also claims that, in principle, the program ensures that students remain in school for the allotted 5 hours per day and the 180 days per year. According to the self-

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89 Given that PRONADE schools typically operate under the most difficult conditions, the problem is to make the data ‘comparable’, as pointed out by MINEDUC and PRONADE (2000b).
evaluation, the program has an impact on parents’ supervision of the teacher, the
development of the school infrastructure and parental collaboration in school
management. MINEDUC and PRONADE (2000a) also find that about 45 percent
of parents visit the school principal once a month, compared to 27 percent for
parents in traditional rural schools.

However, contrary to the CIEN (1999) evaluation, the program is found to be
less adequate in using materials in the local indigenous languages and in multi-
grade teaching. Only 1 percent of the surveyed schools had materials in Mayan
languages. This clearly contradicts the goals of the program and questions how
accountable the Educational Service Institutions are. In fact, PRONADE faces
serious problems in providing adequate infrastructure facilities and in reducing
student absenteeism. Unfortunately, the self-evaluations do not provide data on
drop-out and repetition rates. About \( \frac{1}{3} \) of PRONADE schools do not have access to
water, \( \frac{1}{5} \) do not have access to sanitation facilities, and more than \( \frac{1}{3} \) of the schools
do not satisfy ‘minimum requirements’ for effective learning. As such, the
schooling infrastructure of PRONADE is worse than in comparable rural schools.

3. Evaluation from the German Technical Cooperation

Equally a report from the GTZ (2000) comes to an critical assessment
regarding the quality of PRONADE’s education services. The report finds that only
1 out of the 16 Educational Service Institutions (in 2000) uses bilingual and multi-
grade teaching techniques. The remaining 15 institutions basically rely on
traditional monolingual teaching. This report also points out the severe lack of
materials in most PRONADE schools and the lack of teachers trained in Mayan
culture and language. The curriculum provided by most Educational Service
Institutions is found to be irrelevant to the reality of most indigenous children. In
addition, teachers are often forced to combine 2 or more grades into a class but
without being trained to apply multi-grade teaching.

Another bottleneck is the tardy disbursements of funds for teacher salaries,
school materials and educational support services. In addition, teacher’s
commitment seems to remain below the expectations of the program. Unlike the
traditional schooling scheme, PRONADE offers no job security and no competitive
social compensation structure. Parents on the Education Committees often have
difficulties in full-filling the requirement of attending training sessions since they
cannot afford to lose their daily income. Finally, inadequate communication
between municipal education offices and PRONADE schools lead to resentments.
Consequently, according to this report, it is not uncommon for municipal education
officers to question PRONADE schools their eligibility status. As such, they often
do not receive official textbooks and supporting materials.
To summarize, PRONADE has within the past years achieved a notable expansion of school services into remote rural areas. Critical issues are the quality of PRONADE schools, their integration into the formal educational system, the teachers’ salary structure, the de facto functioning of the NGO-backed Educational Service Institutions and, in particular, their failure to include bilingual and multi-grade teaching techniques in their program. Hence, the question arises if the fast expansion has come at the expense of quality.

D. Lower Student Achievement in PRONADE Schools?

This section evaluates whether moving away from the traditional and centralized education programs towards greater community involvement has an impact on student achievement in Guatemala. The following paragraphs present results from national achievement evaluations which are then followed by a rough empirical analysis of student achievement in rural Guatemalan schools.

1. Results from National Achievement Evaluations

The Ministry of Education launched a National Assessment System to monitor students’ achievement in 1997. The Programa Nacional de Rendimiento Escolar (PRONERE) is an effort measure educational quality and is run under the auspices of the Universidad del Valle. A formal in-depth evaluation of student achievement exclusively for PRONADE schools has not taken place yet. However, the tests carried out in 1999 and 2000 include a limited number of PRONADE schools in their sample. In total, the evaluations surveyed about 30,000 students, 1/2 of them located in rural Guatemala. The evaluations from Baessa (2000; 2001) are based on standardized test scores for linguistic and mathematical achievements. On a scale ranging from zero to 100, on average, students succeed in about 1/2 of the items. This can be interpreted as an indicator of the overall low quality of the country’s schooling system.90

Table 37 summarizes the results for rural primary schooling in Guatemala. Two items are of interest. First, except for PRONADE, all other programs tend to perform better in 2000 than in 1999. However, the questionnaires are not fully identical for each year. Consequently, care must be taken when interpreting these achievement scores over time. Second, the standardized average test scores on language and mathematics for students enrolled in PRONADE schools are lower

90 Personal communication with Yetílú de Baessa, Centro de Investigaciones Educativas, Universidad del Valle, June 27, 2001. She indicated that there is a lack of transfer capacity. For example, students are able to master basic numerical operations but then typically fail to apply these skills to real-day problems.
than those enrolled in traditional rural schools. Baessa (2001) finds that the differences are statistically significant for reading, but insignificant for mathematics.

At first sight, the differences are not surprising given that PRONADE students presumably come from the most disadvantaged backgrounds. However, it is surprising that in comparison with test scores from multi-grade and bilingual schooling programs — operating under similar conditions — PRONADE students still tend to score unfavorably. When all three programs are compared, the multi-grade schools tend to outperform both the bilingual and the community-managed schools. Unfortunately, the descriptive findings from Baessa (2000; 2001) neither control for student characteristics nor for the physical and pedagogical infrastructure of the schools. Therefore, it is unclear whether average test scores are a function of these factors or if they can be attributed to the school organization. One possibility to address this issue is to estimate an education production function.

2. Determinants of Student Achievement: A Word of Caution

Before proceeding with this kind of analysis, a word of caution is worthwhile. In an empirical review of studies on the effects of educational inputs on students performance in developing countries, Hanushek (1995) and Velez et al. (1993) for Latin America, both authors conclude that there is no clear and robust relationship between key school inputs and student performance. Also Glewwe (2002) points out that studies of education production functions generally have yielded mixed outcomes. Due to the inherent econometric problems, results should be taken with a great deal of caution. Two of the main problems can be summarized as follows.

First, along with influences coming from measurement errors and data collection issues, the scores may be determined by exogenous choices. This is particular relevant for the present study. For example, some explanatory variables that determine achievement scores, such as the type of school, may be systematically related to unobservable characteristics, which are not random. This can bias the estimates. However, the direction of the effect remains unclear. If the important unobserved characteristics are students’ motivation to learn and parents' commitment to education and these variables are positively correlated with participation in community-managed schools, empirical estimates would overestimate the role of PRONADE. However, as pointed out by Jiminez and Sawada (1999), the bias might be mitigated by the fact that community managed school explicitly target the economically and socially disadvantaged communities.

A second potential selectivity bias arises when some students are absent on the day the achievement test is administered. Students may be absent for a number of reasons. Some of these, such as illness, have nothing to do with their achievement scores. But other reasons may be tied to the school organization. A similar type of
selection problem can occur when students simply are not enrolled in school. Those who do enroll may be a biased sample of children. A series of other important but omitted variables may also be present. For example, if unobserved components of a child’s learning ability or unobserved school- and teacher-quality variables are positively correlated with observed school and teacher variables, the estimated impacts on the observed variables could be biased. One way to ‘minimize’ this kind of problem is to include a large number of variables, as is typically the case in educational production functions. However, some variables, such as teacher motivation or students ability, are difficult to measure. Moreover, in the case of Guatemala, the number of variables that are significantly correlated with achievement scores is rather limited.

Table 37. Achievement Scores for 3rd and 6th Grade in Rural Guatemala, 1999-2000

<table>
<thead>
<tr>
<th>Category</th>
<th>3rd Grade</th>
<th>6th Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Math computation a/</td>
<td>Reading comprehension a/</td>
</tr>
<tr>
<td>Traditional rural schools</td>
<td>42.10</td>
<td>47.62</td>
</tr>
<tr>
<td></td>
<td>(16.9)</td>
<td>(...)</td>
</tr>
<tr>
<td>PRONADE (community-managed</td>
<td>39.66</td>
<td>38.75</td>
</tr>
<tr>
<td>schools)</td>
<td>(15.7)</td>
<td>(...)</td>
</tr>
<tr>
<td>NEU (multi-grade schools)</td>
<td>41.54</td>
<td>47.05</td>
</tr>
<tr>
<td></td>
<td>(16.9)</td>
<td>(...)</td>
</tr>
<tr>
<td>DIGBI (bilingual schools)</td>
<td>37.60</td>
<td>39.29</td>
</tr>
<tr>
<td></td>
<td>(14.8)</td>
<td>(...)</td>
</tr>
</tbody>
</table>

Source: Baessa (2000; 2001). a/ Standard deviations in parenthesis. The standardized test ranges from zero to 100, which is the maximum score. For details see Baessa (2001).

Altogether, the application of OLS regressions can lead to biased estimates of the impact of school quality on learning. Some problems underestimate the
impacts, others overestimate them, and still others could go either way. Hanushek (1995) argues that the difficulties are so daunting that they are hard to overcome. Thus, estimates of production functions for cognitive skills should be regarded as suggestive, not definitive. For the following regressions, selection bias is likely to be a problem. Unfortunately, in terms of data availability, it seems impossible to deal with this issue empirically.\(^91\) A future analysis that allows correcting for sample selection is needed to determine whether the differences in mean student scores between PRONADE, multi-grade, bilingual and traditional rural education programs holds for richer data sets.

3. **Guatemala: Determinants of Achievement and Effect of PRONADE**

With this in mind, Table 38 presents the results from a simple OLS regression on student achievement scores in language and mathematics for Guatemala. The estimate is based on the PRONERE (2000) survey for rural primary schools for the 3\(^{rd}\) grade.\(^92\) The selection of the variables is based on a priori considerations and is in line with similar analysis of this kind of genre, for example Jiminez and Sawada (1999). The R\(^2\) of the regressions for reading comprehension shows a modest fit of 0.33, which is in line with similar studies of this genre. The variance explained for math achievement is even lower. The large amount of unexplained variance for both regressions can be attributed to innate ability, the health and nutritional status, and other factors not captured by the survey. Most of the 17 explanatory variables are highly significant, even after controlling for heteroskedasticity. They can be classified into 4 broad categories: school organization variables, student background, as well as physical and pedagogical inputs.

**(1) School organization variables.** The dummy variable that tests for the ‘PRONADE effect’ reveals an interesting outcome. Community-managed schools show a negative, albeit insignificant, effect on reading comprehension. By contrast,

\(^91\) The limited amount of variables does not allow correct identification of the sample selection terms for school choice. In addition, the number of observations for PRONADE school is small (N=81). Nevertheless, Glewwe (2002) finds that education studies that attempted to control for sample selection have found this kind of bias to be modest in magnitude.

\(^92\) I would like to thank the Centro de Investigaciones Educativas, Universidad del Valle, for making available the data set. The descriptive statistics are displayed in Appendix Three. The 3\(^{rd}\) grade is considered most relevant in the context of this study. However, the results for the 6\(^{th}\) grade would be similar.
PRONADE Schools seem to affect negatively and significantly math achievement. How to interpret this finding?

There are two potential explanations. First, since the results for reading comprehension are not significantly different from zero, one may conclude that the PRONADE effect is not different on child learning than in traditional schools. This holds even after controlling for students’ characteristics as well as for as physical and pedagogical inputs. In mathematics, however, the negative correlation may point out to the missing bilingual curriculum in most PRONADE schools. Since language skills also affect the development of complex numerical thoughts, the language barrier may prevent indigenous children from achieving higher scores. However, there are two problems with this interpretation. On the one hand, language characteristics are partly controlled for by the indigenous dummy variable. On the other hand, recall that the difference between Ladino and indigenous student math test scores is generally narrower than in reading, suggesting that the test scores are predominately affected in language achievement.

Second, an alternative interpretation would be that PRONADE’s teachers’ quality plays a role. In this vein, teacher quality would be more important for math than for language achievement. Unfortunately, there is no data to test this hypothesis. However, one should remember the discussion on the evaluation studies of PRONADE schools, equally pointing into this direction.

The effects for the two other school forms are rather straightforward. New Multi-grade Schools (NEU) are significantly and positively correlated with language achievement, but less so for math. This may point out that self-directed learning of children at various ages significantly strengthens comprehensive skills but has no effect on math achievement. The finding that students’ achievement scores is negatively correlated with Guatemalan bilingual education (DIGEBI) points out the lack of good-quality bilingual education for most Mayan students. This is a product of the situation that bilingual textbooks and formally trained teachers are virtually unavailable in most DIGEBI schools, and that the program as a whole suffers from chronic under-funding.

(2) Student’s characteristics. Another important finding here is the negative effect of the indigenous dummy variables. The effect is more pronounced for reading comprehension than for math computation. The fact that speaking an indigenous language is negatively correlated with achievement scores, and that the effect is so strong, points specifically to the importance of bilingual education. However, not only language barriers may play a role. The World Bank (2003a) finds that rural indigenous children are often affected by chronic malnutrition. In addition, given this disadvantage, children tend to enter school late: often they are physically not strong enough to walk the long distances.
Table 38. Determinants of Achievement for Primary Schooling in Rural Guatemala, 3rd Grade, 2000

<table>
<thead>
<tr>
<th>Dependent variable:</th>
<th>Reading comprehension score</th>
<th>Math computation score</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Constant</strong></td>
<td>-50.14** (19.1)</td>
<td>42.41** (15.6)</td>
</tr>
<tr>
<td>Age (years)</td>
<td>-0.396* (-2.06)</td>
<td>0.217 (1.09)</td>
</tr>
<tr>
<td>Dummy indigenous b/</td>
<td>-10.16** (-13.8)</td>
<td>-4.280** (5.56)</td>
</tr>
<tr>
<td>Dummy girl</td>
<td>-2.256** (-4.69)</td>
<td>-4.715** (-9.17)</td>
</tr>
<tr>
<td>Television (hours/day)</td>
<td>1.384** (6.53)</td>
<td>1.018** (4.69)</td>
</tr>
<tr>
<td>Father’s education (years)</td>
<td>0.306** (2.85)</td>
<td>0.351** (3.02)</td>
</tr>
<tr>
<td>Mother’s education (years)</td>
<td>0.379** (3.45)</td>
<td>0.134* (2.33)</td>
</tr>
<tr>
<td>Father’s homework assistance (hours/week)</td>
<td>0.141* (2.56)</td>
<td>0.351** (3.02)</td>
</tr>
<tr>
<td>Dummy repeater</td>
<td>-0.862* (-1.67)</td>
<td>-1.860** (-3.43)</td>
</tr>
<tr>
<td>Number of students/teacher</td>
<td>-0.059** (-2.64)</td>
<td>-0.073** (-3.12)</td>
</tr>
<tr>
<td>Number of books used in classroom</td>
<td>1.558** (3.94)</td>
<td>1.107** (2.68)</td>
</tr>
<tr>
<td>Dummy student has own books</td>
<td>-1.226* (-2.26)</td>
<td>0.272 (0.47)</td>
</tr>
<tr>
<td>Number of sanitary/student</td>
<td>0.580** (5.30)</td>
<td>0.333** (2.94)</td>
</tr>
<tr>
<td>Dummy electricity (school)</td>
<td>4.580** (7.47)</td>
<td>2.693** (4.16)</td>
</tr>
<tr>
<td>Dummy drainage (school)</td>
<td>2.216** (3.55)</td>
<td>2.227** (3.43)</td>
</tr>
<tr>
<td>Dummy PRONADE (community school)</td>
<td>-2.244 (-1.32)</td>
<td>-4.835* (-2.24)</td>
</tr>
<tr>
<td>Dummy NEU (multi-grade school)</td>
<td>3.063* (1.97)</td>
<td>1.808 (0.96)</td>
</tr>
<tr>
<td>Dummy DIGEBI (bilingual school)</td>
<td>-5.879** (-6.93)</td>
<td>-2.948** (-3.27)</td>
</tr>
<tr>
<td>Adjusted R²</td>
<td>0.329</td>
<td>0.142</td>
</tr>
<tr>
<td>S.E. of regression</td>
<td>15.24</td>
<td>16.25</td>
</tr>
<tr>
<td>F-statistic</td>
<td>64.76</td>
<td>19.56</td>
</tr>
<tr>
<td>N</td>
<td>4221</td>
<td>4221</td>
</tr>
</tbody>
</table>

Huber/White heteroskedasticity-consistent t-statistics in parenthesis.  
Significant at 10, * significant at 5%, ** significant at 1%.  
a/ Estimated by OLS. Binary variables equal 1 if response is yes. The explanatory variables include 21 Departmental dummies, of which 16 are statistically significant at 5 percent or better. b/ Ethnicity according to the speaking of an indigenous language.  
Source: Author’s calculations based on PRONERE (2000) school survey data.

The other findings can be briefly outlined. The fact that girls score on average lower than boys suggests that gender discrimination plays a role in rural
Guatemala. Repetition was weekly correlated with language comprehension scores. The effect of repetition, however, was negative for math achievement. Over-aged children score worse in reading comprehension than their average aged counterparts. This suggests that attention should be given to late enrollment. Both father’s and mother’s education is significantly associated with higher test scores. However, only the father’s assistance in homework has a significant impact on student achievement — the variable for mother’s assistance had an insignificant impact on student achievement. Consequently, it was removed from the equations. The insignificance is likely to be due to the low level of adult female education in rural Guatemala.

Finally, the daily hours of watching television had a positive correlation with both language and math test scores. This strong impact suggests that the availability of television may not only be interpreted in terms of achieving cognitive skills by watching television but in particular marking the household’s socio-economic status: the availability of television requires a connection to the electricity net.

\[3\] **Physical and pedagogical inputs.** The student-teacher ratio shows a negative correlation with student achievement. However, the quantitative effect is modest in magnitude. This is an interesting finding since the student-teacher ratio is often used as an additional indicator for quality of schooling. In Guatemala, however, it seems to be less irrelevant (this may also be an outcome of the suspected poor teachers’ quality and their often-missing commitment). By contrast, the number of books used in the classroom is positively correlated with student achievement. The effect is more pronounced for reading comprehension than for mathematics. A puzzling finding, however, is that the ownership of books has a negative correlation with student achievement. Consequently, one may ask whether these books are indeed used appropriately. Finally, the availability of schooling infrastructure such as electricity (light) as well as sanitary and drainage facilities has a very strong and significant effect on student achievement.

Overall, school organizational practices, student characteristics, and physical and pedagogical inputs have an influence on achievement. It appears that PRONADE schools have no impact on student achievement regarding language, and a negative one on mathematics. This may be used to point out the missing bilingual education component of the program. Alternatively, PRONADE teachers may underperform when compared to the traditional system. Another finding is that physical and pedagogical inputs are quantitatively among the most important determinants for student achievement. Consequently, concentrating on just a few aspects — such as sanitation, electricity, and the availability of books — may lead to substantial improvements in student achievement in rural Guatemala. However, the results should be treated with some caution. As with most studies of this genre,
the available data only explains a small amount of the variance and the equations may suffer from selectivity bias.
V. Conclusion

PRONADE has concentrated its efforts in expanding primary school and preschool enrollments. The PRONADE model has been remarkably successful in expanding educational opportunities in rural areas. Moreover, the decentralized nature of the program has been instrumental in getting families more involved in their children’s schooling. It may also have generated a number of positive externalities at the community level, such as a greater participation in civic affairs, generation of non-farm income possibilities, and the strengthening of local organization skills. But has it delivered more? This study has assessed the impact of PRONADE through summarizing key findings from evaluation studies and presented an — admittedly rough and preliminary — empirical analysis student achievement.

The main findings indicate first, that the institutional structure of PRONADE has been less beneficial than originally expected. Due to administrative and financial difficulties there have been delays in payments of teacher salaries and providing teaching materials. The non-competitive salary structure, in terms of social benefits, has hampered the teachers’ commitment to the program. Furthermore, a key invention of the program — the involvement of NGO-backed Educational Service Institution — has been thought to assist the local communities in school management and to provide inputs for multi-grade and bilingual training. The evidence reveals unfortunately that de facto only a few NGOs fulfill this expectation adequately. The dominance of few institutions also runs the risk of politicizing the project. Consequently, one challenge for PRONADE will be the integration of the program into Guatemala’s formal education system.

Second, there is evidence that community-led schools underperform on student achievement tests when compared to traditional rural schools or bilingual and multi-grade programs. This is not surprising since PRONADE students come from the most disadvantaged backgrounds. What is interesting is that, after controlling for student background and for physical and pedagogical inputs, the differences disappear for reading comprehension but not for numerical computations. Regarding reading comprehension, the results suggest that community-managed schools may have no significant impact on student achievement. Here PRONADE schools appear to be comparable with the traditional system.

However, math achievement is significantly lower than in traditional rural schools. The negative correlation may point out to the missing bilingual curriculum in most community-managed schools. An alternative interpretation would be that the teacher quality plays a role. However, there is no data available to test the hypothesis that PRONADE teachers underperform when compared to the traditional system. Despite these shortcomings, however, one should take into
account that without PRONADE schools it is likely that many children would not have had access to education at all.

In-depth evaluations of the program with richer data and more sophisticated methods are needed to determine the impact of the PRONADE program on student achievement, repetition and dropout rates, and also to determine the effectiveness of its teachers. In the past, one important feature of PRONADE has been its ability to receive feedback and adopt the recommendations from evaluations (see for example the CIEN 1999 evaluation). If this practice continues, evaluations of the program could prove a valuable input to improve PRONADE’s schools quality.

Third, community-managed schools are not a panacea to solve the complicated issues contributing to poor educational access and quality in developing countries. For the case of rural Guatemala, the empirical results clearly indicate that other issues, many of them apparently beyond the question of school organization forms, play a role. Indeed, one of the key problems needing to be addressed is the question on how to provide a good-quality bilingual education for the disadvantaged indigenous children. Solving this problem has strong implications regarding the funding of such programs, teacher training, and the elaboration and distribution of school materials.

Moreover, it appears that concentrating on only a few objectives, such as a better school infrastructure in terms of sanitation and electric light, and the de facto availability of books, is at least as important as the question of school organization form. Finally, the causes for students being absent in rural Guatemala should be thoroughly researched and analyzed. In this regard, conditional cash transfer programs, offering a potentially promising way for promoting better educational outcomes, may play a role.