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**Nicaragua’s School Autonomy Reform: A First Look**

Nicaragua Reform Evaluation Team**

October 15, 1996

Poverty and Human Resources Division
Policy Research Department
The World Bank

**The Evaluation Team consists of: at the World Bank -- Elizabeth M. King, Laura Rawlings and Berk Ozler; in Nicaragua -- Patricia Callejas, Nora Gordon, and Nora Mayorga de Caldera, with Liliam Lopez, Reyna Lopez, Zaida Rugama Lopez, and Adolfo Huete.**

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Nicaragua's School Autonomy Reform: A First Look

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ABSTRACT -- This is a first report on the impact of Nicaragua’s recent education reform on how schools operate. A school-household survey was conducted in December 1995 which collected initial data on schools that became autonomous in the past few years and those that did not. The report focuses on differences in the decision-making environment in different types of school and summarizes the views of members of the academic community with respect to the level of their influence in key decision-making areas such as pedagogy, salaries and incentives, and infrastructure. The data indicate systematic differences between autonomous and non-autonomous public schools and private schools, but it would be premature to interpret these differences as the full impact of the reform. Education indicators such as achievement test scores are not yet available. The impact of the reform will undoubtedly be felt over the next few years. The current analysis is only the first step in an assessment of its impact.

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Acknowledgements
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1. Introduction

1.1 The Policy Reform

In a bold move to increase enrollments and improve student learning, Nicaragua is changing its public schools in fundamental ways. At the heart of the reform is a process of transferring key areas of the management of public schools to their directors, teachers and parents. The change echoes national initiatives elsewhere in Latin America and other parts of the world which call upon local stakeholders to take part, through voice and vote, in school decision-making. The reform is aimed at raising the efficiency of use of ever more scarce public funds and at mobilizing local resources to supplement those funds.

The Government launched its school autonomy reform in 1993 through a pilot program which transformed the traditional school councils (Consejos Consultivos) into school management boards (Consejos Directivos), thus creating “autonomous” public schools. Each school’s Consejo Directivo possesses greater control than do the traditional council over personnel decisions, the use of centrally allocated resources, and the generation of local resources. In 1995, the program was expanded nationally; today, the reform has reached over 500 public schools.

1.2 The Evaluation

Now three years into the program, the government is eager to assess the progress of the reform and measure its benefits. In mid-1995, an Evaluation Team consisting of representation from the Ministry of Education (MED), staff of two education projects, our team was formed to undertake the assessment. The evaluation has three principal components: (a) a school-household survey which collects information from school principals, teachers, council representatives, and students and their parents; (b) student achievement tests, and (c) a process evaluation which uses interviews and direct observation methods to assess change in the schools (See Figure 1.) These three components will be supplemented by a close monitoring of other programs being implemented in schools which are unrelated to the decentralization. Of these three components, only the first has been analyzed and is the subject of this report.

The school-household survey was launched in October 1995 and covered the autonomous schools as well as traditional, non-autonomous schools which serve as a comparison group. A similar follow-up survey of the same schools and households will be applied at the end of the 1996 school year, and yet again at the end of 1997 in order to monitor changes in both groups of schools and to identify the impact of the school-autonomy reform. Achievement tests were meant to be given to students at the beginning and at the end of the 1996 school year, but will be conducted only once towards the end of the school year because the tests were not ready to be applied at the beginning of the year. They will be applied to the set of students who were interviewed for the school-household survey. The process evaluation began in May 1996 and will take place throughout 1996. The 1995 school-household survey provided guidelines for the selection of the subsample for the process evaluation.
Figure 1. *Elements of the Evaluation Strategy*

<table>
<thead>
<tr>
<th>Phase I</th>
<th>Phase II</th>
<th>Phase III</th>
</tr>
</thead>
<tbody>
<tr>
<td>School-household survey I</td>
<td>School-household survey II</td>
<td>School-household survey III</td>
</tr>
<tr>
<td>10/95-12/95</td>
<td>9/96</td>
<td>10/97-11/97</td>
</tr>
<tr>
<td>Cost and expenditures from MEN</td>
<td>Achievement tests I</td>
<td>Achievement tests II</td>
</tr>
<tr>
<td>9/95-10/95</td>
<td>9/96</td>
<td>11/97</td>
</tr>
<tr>
<td>Process evaluation</td>
<td>Process evaluation</td>
<td></td>
</tr>
<tr>
<td>5/96 - 8/96</td>
<td>5/97 - 8/97</td>
<td></td>
</tr>
<tr>
<td>Monitoring of reform and contemporaneous programs</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

This initial report on the reform presents some findings from selected aspects of the Phase I (1995) school-household survey. We have chosen as our focus the responses by different members of the school community to questions about the decision-making environment in their schools. We summarize their views with respect to the level of their influence in key decision-making areas such as pedagogy, salaries and incentives, and infrastructure. The data indicate systematic differences between autonomous and non-autonomous public schools and private schools, but it would be premature to interpret these differences as the full impact of the reform. The impact of the reform will undoubtedly be felt over the next few years. Ultimately, its true test will be improvements in the level of learning in the schools. The current analysis is thus only the first step in the assessment of its impact.

2. An Overview of the Reform

Nicaragua’s decentralization reform has been a dynamic, evolving process. In general, the forms which autonomy takes vary by the location, level and size of the school. When the government embarked on the reform, it contemplated implementing two models -- the autonomous school model and the municipal education council model. Eventually, however, it became obvious that the first, rather than the second, model elicited greater support from the academic community and has been adopted much more widely.  

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1 So far, four departments have subscribed to the municipal education council model, with one department (Matagalpa) having signed up ten of its municipalities under the program, and three others with one participating municipality each. These decentralized municipalities have 481 primary schools among them.
In 1993, 20 secondary schools, all urban and generally the largest of secondary schools, became autonomous schools. These schools were not selected randomly but were hand-picked by the Ministry of Education. On the theory that the larger schools are likely to benefit more from the reform, the government chose to invite first the largest schools (with a few exceptions). In 1994, 33 more secondary schools became autonomous, but by the end of 1995, participation had increased to about 100 schools. The larger, urban secondary schools were the first schools to become autonomous, with the smaller, rural primary schools being generally latecomers.

The reform was extended to primary schools in 1995. To suit the circumstances presented by the smaller, rural schools, the autonomous school model itself took on two forms: one for urban schools which is similar to the secondary school model, and another for rural schools. For rural schools, a new model of autonomy, the Nucleos Educativos Rurales Autonomos (NER), was introduced. A NER is a group of schools formed around one center school; together, they act as an autonomous school with a shared council. The Consejo Directivo is based in the center school which is usually the largest in the group and the only school to have a director. As of December 1995, there were over 200 single autonomous primary schools and 42 NERs consisting of two to four schools each.

2.1 The School Council

An autonomous school’s Consejo Directivo consists of the school director, teacher representatives, and parent representatives, all of whom vote in the council. Student representatives can participate but cannot vote (see Figure 2). To become autonomous, schools sign a contract with the Ministry of Education (MED) giving each school’s Consejo Directivo direct authority over the daily management of the school. This transfer of authority over various aspects of how a school operates marks a dramatic break from past policies. In becoming autonomous, public schools begin to share many features with private schools (Figure 3). The Nicaraguan model introduces an experiment in school-based management whose features place it in the league with Chicago’s school reform program, El Salvador’s EDUCO program, and other experiments on choice-oriented reforms. Two areas that have remained unchanged are the MED’s authority over educational norms and standards, and the existing laws governing teachers’ salaries and pension benefits.

2.2 Financial Aspects of Autonomy

Funding for autonomous schools is a combination of monthly lump-sum transfers from the central government and locally generated resources collected from student fees, community contributions and school activities. The monthly lump-sum transfer is based on the previous year’s budget, but a new allocation formula based on student attendance and on average per-student operating costs for rural or urban schools will soon be introduced. These lump-sum transfers are expected to cover base salaries and expenditures associated with routine maintenance of the school.
Figure 2. A Quick Guide to Autonomous Schools

Directive Councils

Membership: The Council is composed of the school director or principal, teachers, parents and students. If the school has 500 students or more, the Council has seven core members, consisting of the school director; two teachers (the "best teacher" and the teacher with the longest tenure or a substitute elected by the Teacher's Council); four parents (the elected head of the parents' association; the runner up in the head of the parents' association election; a parent elected from among the parents of the best students; a parent appointed by the municipal government). If the school has fewer than 500 students, it has five core members consisting of the school director; the "best teacher"; three parents (the elected head of the parents' association; a parent elected from among the parents of the best students; a parent appointed by the municipal government); two students are non-voting members of the council; the president of the student council; and the "best student" who is elected by the parents of the best student in each grade.

Authority: The council has: pedagogical responsibilities: choosing textbooks; establishing the schools' curricular and extracurricular work program; establishing the school's hours and calendar; setting norms for evaluating students; administrative responsibilities: the directive council acts as the employer with authority over hiring and firing the director; veto power over the director's decisions in hiring and firing teaching and administrative personnel; veto power over the director's sanctions against students; modifying the rights of students and teachers; and financial responsibilities: setting and administering the school budget; setting voluntary fees above and beyond those established by the Ministry of Education; informing the educational community and the Ministry of Education about the state of the school's finances.

School Director

Authority: The director has administrative responsibilities, consisting of the hiring and firing of teaching and administrative personnel; and implementing sanctions against students.

All secondary schools are encouraged to collect a fee of ten córdobas per month (equivalent to US$1.22) from each student. Certain students, however -- the children of teachers and veterans, poor students and students with outstanding academic records -- can be exempted from the fees. For exempt students, the schools receive a subsidy of five córdobas per month per student. That the subsidy is less than what the school could have charged reduces the incentives of schools to grant exemptions. Autonomous schools are authorized to retain these fee revenues, while traditional public schools must return one-half to MED. The constitutional provision guaranteeing free primary education prevents primary schools from charging student fees. However, it is customary for primary schools to collect a "voluntary" fee of five córdobas per month per student.

The average monthly fees collected by each type of school and the percentage of students exempted from these fees are presented in Table 1. The average fees in public secondary schools are not significantly different than the recommended ten cordobas, but the average fees in primary schools are twice the customary "voluntary" fee. The fees in subsidized private schools are thrice those in public schools; the fees in non-subsidized private schools are six times as large. NER schools have the largest proportion of students who are exempt from paying the "voluntary" fees.
Table 1. Monthly School Fees and Exemptions

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Primary Autonomous</th>
<th>NER Autonomous</th>
<th>Traditional Primary</th>
<th>Secondary Autonomous</th>
<th>Traditional Secondary</th>
<th>Private Secondary with Subsidies</th>
<th>Private Secondary without Subsidies</th>
</tr>
</thead>
<tbody>
<tr>
<td>School fee in 1995</td>
<td>11.4</td>
<td>10.4</td>
<td>12.4</td>
<td>12.8</td>
<td>10.4</td>
<td>32.5</td>
<td>68.2</td>
</tr>
<tr>
<td>School fee in 1994</td>
<td>12.5</td>
<td>8.2</td>
<td>14.1</td>
<td>13.2</td>
<td>10.9</td>
<td>30</td>
<td>60.7</td>
</tr>
<tr>
<td>% of students exempt from fee</td>
<td>3</td>
<td>36.2</td>
<td>14.9</td>
<td>9.2</td>
<td>12.7</td>
<td>6.8</td>
<td>9.3</td>
</tr>
</tbody>
</table>

Figure 3. Previous v. Present Regime: Comparing Autonomous, Traditional and Private Schools

<table>
<thead>
<tr>
<th>Function</th>
<th>Previous Regime</th>
<th>Present Regime</th>
<th>Autonomous Schools</th>
<th>Private Schools</th>
</tr>
</thead>
<tbody>
<tr>
<td>Structuring the education system</td>
<td>Ministry</td>
<td>Ministry</td>
<td>Ministry</td>
<td>Ministry</td>
</tr>
<tr>
<td>Setting the curriculum</td>
<td>Ministry</td>
<td>Ministry</td>
<td>Ministry</td>
<td>Ministry</td>
</tr>
<tr>
<td>Formulating the annual pedagogical plan</td>
<td>Ministry</td>
<td>Ministry</td>
<td>Directive Council</td>
<td>School</td>
</tr>
<tr>
<td>Hiring and firing of teachers</td>
<td>Ministry</td>
<td>Ministry</td>
<td>Directive Council</td>
<td>School</td>
</tr>
<tr>
<td>Promotions policy</td>
<td>Ministry</td>
<td>Ministry</td>
<td>Ministry</td>
<td>Ministry</td>
</tr>
<tr>
<td>Setting classroom hours by subject</td>
<td>Ministry</td>
<td>Consultative Council and teachers</td>
<td>Directive Council</td>
<td>School</td>
</tr>
<tr>
<td>Setting equivalencies*</td>
<td>Ministry</td>
<td>Ministry</td>
<td>School's Teachers</td>
<td>School</td>
</tr>
<tr>
<td>Evaluating students</td>
<td>Ministry</td>
<td>Ministry</td>
<td>Directive Council</td>
<td>School</td>
</tr>
<tr>
<td>Establishing pedagogical methods</td>
<td>Ministry</td>
<td>School's teachers by consensus</td>
<td>School's Teachers</td>
<td>School</td>
</tr>
<tr>
<td>Setting school fees</td>
<td>Ministry</td>
<td>Ministry</td>
<td>Directive Council</td>
<td>School</td>
</tr>
</tbody>
</table>

Note: *This pertains to academic requirements that must be fulfilled in order to determine the academic level of students who transfer schools.
As part of the reform, the government plans to introduce an incentive system that would be based on augmenting teachers' base salaries by up to 25 percent, depending jointly on teachers' and students' attendance. This aspect of the reform is yet to be implemented.

3. **Phase One of the Impact Evaluation of School Autonomy**

3.1 **Evaluation approach**

There are three main types of impact evaluations: (i) experimental or randomized control designs which randomly assigns the intervention itself, thereby creating equivalency between the treatment and control groups; (ii) matched comparisons or case control designs, a quasi-experimental approach that relies on selecting a comparison group to match the treatment group and controlling for the differences between the treatment and comparison groups; and (iii) reflexive comparisons that rely on the longitudinal study of the treatment group to determine the effects of the program, without the benefit of a comparison group (Freeman, Rossi and Wright, 1979). Which methodological approach is appropriate depends on how the policy under evaluation is being carried out.

The particular strategy chosen for our evaluation has been influenced by several features of the reform. First, as discussed in the previous section, participation in the reform has not been random; schools volunteer to participate in the program. An experimental evaluation strategy is thus out of the question. Secondly, early in the reform process, the government focused its promotion campaign primarily on the larger secondary schools; hence, the entry of schools into the program has tended to be correlated with their enrollment size. Lastly, the reform was implemented without collecting baseline data from schools. By the time our evaluation effort began, almost a hundred secondary schools had already signed the autonomy contract with nearly half of them having been autonomous for at least one year. Given these features, we chose a mixed evaluation strategy of matched and reflexive comparison methods.

How does this strategy work? According to the size of enrollment, the secondary schools which became autonomous in 1993 and 1994 are more similar to each other than to the 1995 and post-1995 schools. The (unweighted) average number of students in the 1993 decentralized schools is 1,900, while the average in the 1995 schools is 632. We took advantage of the similarities between 1993 and 1994, since a matched comparison of these schools could estimate the impact of the reform in the third year of implementation relative to the impact in the second year of implementation. A smaller set of the ten largest schools which became autonomous in early 1995 also matches some of the early schools in size and location, thus, providing measures of the impact of the reform in the first year of implementation. We thought this perspective with respect to change over time could be very valuable to the evaluation since there may be a lag in the realization of the benefits of the reform.

At the primary level, since public schools became autonomous only in 1995, a similar type of comparison is not useful. Instead, the survey identified non-autonomous schools that would serve as matches for those that were autonomous by the time of our survey. And since the reform differs for urban and rural primary schools, comparisons will have to be made accordingly. Single autonomous schools are located in urban areas and are larger than those located in rural areas, on average; while NER schools are generally small, rural schools, including one-classroom schools. Thus, no one control group can be defined as a match for both single autonomous and NER schools at the primary level.

Private schools were treated also as comparators at the secondary level. There are 275 private secondary schools, one-fourth of which receive some form of subvention from the
government. How autonomous public schools differ from private schools which receive state funding can be an important lesson for policymaking. Choice-based reforms aim to shift the balance of power away from the central government toward the school and local community, thereby creating public schools that share many features with private schools, as was illustrated in Figure 3. Private primary schools were not included in the first survey because of limitations in survey capacity at the time; they will be covered in the second survey.

This report presents the results of the matched comparisons. It must be noted that the Phase I data on autonomous and non-autonomous schools will also serve as reference points against which future school data can be compared. For the schools which become autonomous after the Phase I data collection, the currently available data provide pre-reform indicators. Follow-up data on these same schools will demonstrate the effect of becoming autonomous, while for the schools which adopted the reform early, subsequent data collection will measure further changes due to the reform.

3.2 Sampling design

The sampling design reflects the non-random process of decentralization. A stratified random sampling method was used to recognize the way in which schools participated in the reform. Table 2 presents the sampling frame for the secondary level and the realized samples after the completion of the fieldwork. More schools than originally planned were selected for both the treatment and comparison groups because of our concern that initial problems in the field operations by the contracted survey firm and problems with non-response could result in smaller samples than desired.²

The sampling design for primary schools is given in Table 3. At the primary level, all 25 single autonomous (non-NER) schools that signed the autonomy contract before September 1995 when the sample was selected were to be included in the treatment group. In defining the comparison group, the autonomous schools were grouped according to size (as defined by number of students), and the comparison group selected accordingly from urban schools.³ All NERs as of September 1995 were also to be covered by the survey. From each NER, all nucleus (or center) schools and two randomly selected "satellite" schools were supposed to be included, a total of 39 schools. For the comparison group, three other rural schools from the same municipalities as the NERs were to be randomly selected. These comparison schools were to be matched to the NER schools according to

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² The sample of secondary schools for the evaluation was chosen as follows: First, from the 1993 category, the fifteen schools with the largest enrollments were chosen. This criterion eliminates a few outlier small schools and makes the 1993 sample more homogeneous in size. The 1994 sample was then chosen to match the 1993 sample as closely as possible. From the list of schools which became autonomous in 1995, the ten largest schools were selected to match the earlier sets of schools. An additional 20 schools from the 1995 category were randomly selected from the remaining schools. This random sample is expected to match a sample of randomly selected 20 schools from the category of public schools which were not yet autonomous in October 1995, the control group.

The control group also consists of 20 randomly selected private schools. One-half of this group belongs to schools that receive subvention from the government, and the other half, to schools that do not receive any public subsidy.

³ The schools were divided into three categories: "large", "medium", and "small". ("Large" pertains to schools with 1,000 or more students; "medium" pertains to schools with 700-999 students; the rest are "small".)
size of enrollment. In cases where there were no other schools besides the NER schools within the same municipality, comparison schools were to be selected from neighboring rural areas.

**Table 2. Evaluation samples for secondary schools**

<table>
<thead>
<tr>
<th>Evaluation Category</th>
<th>Type of School</th>
<th>Planned Sample</th>
<th>Actual Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatment</td>
<td>Autonomous in 1993</td>
<td>15</td>
<td>17</td>
</tr>
<tr>
<td></td>
<td>Autonomous in 1994</td>
<td>15</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>Autonomous in 1995</td>
<td>30</td>
<td>36</td>
</tr>
<tr>
<td></td>
<td><strong>Total Treatment</strong></td>
<td><strong>60</strong></td>
<td><strong>73</strong>*</td>
</tr>
<tr>
<td>Comparison</td>
<td>Traditional Public</td>
<td>20</td>
<td>21</td>
</tr>
<tr>
<td></td>
<td>Private with Subvention</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Private w/o Subvention</td>
<td>10</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td><strong>Total Comparison</strong></td>
<td><strong>40</strong></td>
<td><strong>43</strong></td>
</tr>
<tr>
<td><strong>Total Secondary</strong></td>
<td></td>
<td><strong>100</strong></td>
<td><strong>116</strong></td>
</tr>
</tbody>
</table>

* Several of the schools selected as comparison schools became autonomous at the end of 1995 after the sample selection and before the survey was undertaken.

**Table 3. Evaluation samples for primary schools**

<table>
<thead>
<tr>
<th>Evaluation Category</th>
<th>Type of School</th>
<th>Planned Sample</th>
<th>Actual Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatment</td>
<td>Regular Autonomous</td>
<td>25</td>
<td>31</td>
</tr>
<tr>
<td></td>
<td>Within a NER</td>
<td>39</td>
<td>49</td>
</tr>
<tr>
<td></td>
<td><strong>Total Treatment</strong></td>
<td><strong>64</strong></td>
<td><strong>80</strong>*</td>
</tr>
<tr>
<td>Comparison</td>
<td>Traditional Public</td>
<td>64</td>
<td>46</td>
</tr>
<tr>
<td></td>
<td><strong>Total Comparison</strong></td>
<td><strong>64</strong></td>
<td><strong>46</strong></td>
</tr>
<tr>
<td><strong>Total Primary</strong></td>
<td></td>
<td><strong>128</strong></td>
<td><strong>126</strong></td>
</tr>
</tbody>
</table>

* Several schools selected as comparison schools became autonomous at the end of 1995 after the sample selection and before the survey was undertaken.

The realized samples of schools detract somewhat from the design described above. Because the reform was proceeding rapidly, many of the schools that were originally selected to be in the comparison group had become autonomous by the beginning of the field operations. This expanded the number of schools in the treatment group reduced the comparison group, especially in the case of primary schools. Re-drawing the comparison group became problematic because of the difficulty in finding non-autonomous schools of similar size to the autonomous schools. Furthermore, an epidemic in rural areas and severe flooding in parts of the country at the time of the field work limited the areas from which comparison schools could be drawn.

From each sample school, one section was randomly selected from the third grade (in the case of primary schools) or from the second year (in the case of secondary school). Survey questionnaires were applied to school directors, two teachers who teach the chosen section, an

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4 At least one of these teachers must be either a Spanish or mathematics teacher; the second teacher is randomly selected from other subject areas.

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average of 10-15 students in that section\textsuperscript{5} depending on size of school, their parents or guardians\textsuperscript{6}, and one voting representative to the Consejo Consultivo (in the case of non-autonomous schools) or to the Consejo Directivo (in the case of autonomous schools)\textsuperscript{7}. As NER satellite schools do not customarily have directors, a short form of the director instrument asking questions specific to the satellite school was administered to the head teacher or director of the nucleus school.

For various reasons, the anticipated number of questionnaires was not completed. For example, instead of having 228 director and NER satellite questionnaires, only 185 were obtained. There were problems in completing the planned number of responses because of the poor preparation of the survey firm at the beginning of the field operations. With respect to the match between parents and students, the size of the student sample exceeds the parents sample partly because the student sample includes siblings.

<table>
<thead>
<tr>
<th>Table 4. Number of Completed Surveys</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of Interview</td>
</tr>
<tr>
<td>Director/School Information</td>
</tr>
<tr>
<td>NER School Information</td>
</tr>
<tr>
<td>School Council Members</td>
</tr>
<tr>
<td>Teachers</td>
</tr>
<tr>
<td>Students</td>
</tr>
<tr>
<td>Parents</td>
</tr>
</tbody>
</table>

3.3 Survey Instruments

Specific questionnaires for school directors, teachers, and members of the school councils were developed to obtain information on the characteristics of the school and the school community, such as the school's facilities; education and experience of school personnel; school-level grade repetition; attendance and dropout rates; level of school resources and expenditures; incentives given to teachers and students; and the problems the school faces and the means by which they are usually resolved. A questionnaire to elicit information on decision-making in the school was also applied to the respondents. This particular instrument inquired about the primary decision-maker in aspects such as budget allocations, hiring and firing of school personnel, pedagogical methods, and choice and distribution of textbooks. It was designed also to detect perceptions by various members of the

\textsuperscript{5} For schools with 1,000 or more students, the survey drew 20 students; for schools with less than 400 students, 10 students were randomly selected; for schools with enrollment in between these two groups, the size of the student sample is 15.

\textsuperscript{6} If the student resides with either or both parents, either parent was interviewed, depending on availability. In the case of students not residing with any parent, the guardian who is responsible for the child was interviewed.

\textsuperscript{7} In order to maximize the diversity of survey respondents, teachers who teach the third grade in the case of primary schools or the second year in the case of secondary schools and who were already given the teacher questionnaire were considered ineligible for the council member questionnaire.
school community of their role in how decisions are made. The results from this last questionnaire are central to this report.

A student questionnaire was applied to a randomly selected sample of students from each school. This instrument inquired about students’ background, time allocation, and perceptions of their school. Each student’s parent or guardian was also interviewed to obtain information on the student’s household, including socioeconomic background, and parents’ participation in school events and involvement in their children’s academic work.

All of the instruments used in the school-household survey are included in Annex I.

4. Traditional v. Autonomous Schools: A Comparative Perspective

Which public schools have participated in the reform and which have not? How do autonomous public schools differ from the traditional public schools and from private schools? This section presents differences and similarities among the sample schools without attributing any of the distinguishing characteristics to participation in the reform. Many of the observed differences among schools are, in fact, initial conditions that determine both their propensity to participate and their success in achieving the objectives of the reform. In addition, these characteristics reflect the fact that the government promoted the reform first among the larger, more urban schools. In the comparisons, it must also be noted that the NER autonomous schools are (relatively) homogeneously rural, and so must be compared with other rural schools. Finally, caution is needed when comparing types of primary schools. Autonomous primary schools are classified into NER autonomous and single autonomous schools which complicates the comparison of either of these categories with traditional public schools which are relatively more heterogeneous than either group.

4.1 School Characteristics

As mentioned above, size of enrollment was an important factor in the campaign to solicit participation in the reform because it was supposed that larger schools could benefit more from autonomy by being able to generate more local resources to help finance and implement school-level programs. Indeed, autonomous schools are generally much larger than the traditional schools. As shown in Table 5, the average enrollment of autonomous secondary schools is 918 while that of traditional public schools is 390. And if one were to break down the list of autonomous secondary schools by duration of autonomy, mean enrollment ranges from 1,700 students for the schools that had been autonomous for at least two years by the end of 1995 to 819 students for schools that had been autonomous for less than one-half year. With respect to size, the smallest autonomous schools are more similar to the subsidized private schools than to traditional public schools. The average enrollment in these private schools is 788 students. A similar pattern regarding school size holds at the primary level where the mean enrollment in single autonomous schools (but not in NER schools) is significantly larger than the average enrollment in traditional public schools.

Although the largest autonomous secondary schools are predictably located in urban areas, autonomous schools in general are not any more likely to be located in an urban area than are their traditional school counterparts. On the whole, 65 percent of the autonomous schools are urban; the same fraction applies to traditional schools. This number, however, belies the fact that 86 percent of the secondary schools which became autonomous first are urban, as compared with only one-half of

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8 The following results from our data and those contained in Tables 4 and 5 reflect sampling and non-response weights.
the most recent participants. It would seem that the better comparators for the early autonomous
schools are the subsidized private schools (of whom about three-quarters are urban) rather than the
other public schools. On the whole, however, these differences by type of secondary school are not
statistically significant.

Besides enrollment size and location, there are other characteristics which distinguish
autonomous schools from traditional public and private schools. First, the mean student-teacher ratio
in secondary schools is larger in autonomous schools than in other schools -- 38 versus 31 in
traditional schools and less than 28 in private schools. The difference between autonomous and
traditional public schools is not statistically significant, but the difference with private schools is.
At the primary level, although the differences appear large -- 50 in autonomous schools versus 40 in
traditional schools -- these disparities are not statistically significant because of the large variation
among schools; thus we cannot conclude that autonomous schools have a less favorable student-
teacher ratio in general. How important is this indicator for learning is not clear. According to the
education literature, there is not much difference in learning achievement in classes that range in size
from 40 to 50 students (Lockheed, Verspoor and others, 1991). A more important concern for policy
is that teachers are adequately prepared to teach large classes.

The training and experience of teachers and directors are likely to affect their effectiveness in
the school and the classroom. At the secondary level, teachers and directors in autonomous schools
appear to have, on average, the highest level of education. This apparent advantage is not statistically
significant, however, and we conclude that, on average, the four types of secondary schools are
similar in this regard. At the primary level, university education is uniformly rare among teachers in
the different types of schools. Directors have higher education levels than do teachers but the
observed differences across types of school are not significant.

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A cautionary note is warranted here with respect to the definition of urban or rural location.
There is understandably room for ambiguity in this dichotomy. It would seem that the term rural is
applied to some peri-urban areas while the term urban is applied to more densely populated rural
areas. To illustrate, at the primary level, although the autonomous model is supposed to include
only urban schools, the data indicate that only 62 percent of autonomous primary schools are
reported to be located in urban areas, with the rest being in rural areas. Similarly, four percent of
NER autonomous schools are reported to be in urban areas even though this model is supposed to
apply only to rural schools. Whether the confusion is simply a measurement error or an error in
implementation of the reform is not clear. Our conjecture is that there is some of both errors.
Table 5. A Comparison of Schools’ Mean Characteristics by Type of School

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Primary Autonomous</th>
<th>NER Autonomous</th>
<th>Traditional Primary</th>
<th>Secondary Autonomous</th>
<th>Traditional Secondary</th>
<th>Private Secondary with Subsidies</th>
<th>Private Secondary without Subsidies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enrollment</td>
<td>521**</td>
<td>288</td>
<td>304</td>
<td>918**</td>
<td>390</td>
<td>788</td>
<td>323</td>
</tr>
<tr>
<td>Student-teacher ratio</td>
<td>50.2</td>
<td>29.6</td>
<td>40.0</td>
<td>38.2**</td>
<td>31.4</td>
<td>27.8</td>
<td>21.7</td>
</tr>
<tr>
<td>Directors’ years of experience</td>
<td>18.8**</td>
<td>12.6</td>
<td>14.3</td>
<td>18.9</td>
<td>17.4</td>
<td>24.9</td>
<td>20.5</td>
</tr>
<tr>
<td>Teachers’ years of experience</td>
<td>11.7**</td>
<td>7.9</td>
<td>9.6</td>
<td>12.2</td>
<td>12.1</td>
<td>10.5</td>
<td>17.6</td>
</tr>
<tr>
<td>% of schools with a library</td>
<td>14.8**</td>
<td>9.7</td>
<td>1.0</td>
<td>54.1*</td>
<td>50.0</td>
<td>87.5</td>
<td>42.8</td>
</tr>
<tr>
<td>% of schools with poor infrastructure</td>
<td>29.6</td>
<td>21.5</td>
<td>13.8</td>
<td>16.9</td>
<td>21.4</td>
<td>12.5</td>
<td>14.3</td>
</tr>
<tr>
<td>% of teachers with 4+ years of higher education</td>
<td>0</td>
<td>0</td>
<td>0.8</td>
<td>57.3</td>
<td>48.4</td>
<td>40.0</td>
<td>50.9</td>
</tr>
<tr>
<td>% of directors with 4+ years of higher education</td>
<td>7.4</td>
<td>9.9</td>
<td>14.2</td>
<td>69.4</td>
<td>64.3</td>
<td>62.5</td>
<td>57.1</td>
</tr>
<tr>
<td>Location: % urban</td>
<td>61.5**</td>
<td>3.7</td>
<td>16.2</td>
<td>57.2</td>
<td>64.3</td>
<td>75.0</td>
<td>75.0</td>
</tr>
</tbody>
</table>

Notes: Joint statistical tests of the differences between means were estimated separately for primary schools and secondary schools. Results are indicated as follows: ** means statistical significance at better than 5 percent; * means statistical significance at better than 10 percent. Significance test results for pairwise comparisons are discussed in the text.

At the primary level, the work experience of teachers and directors in autonomous schools, as measured by total years of experience in their profession, exceed those of teachers and directors in the other schools. On average, the directors in autonomous schools have 4-6 more years of experience directing a school, and the teachers have 2-4 more years of teaching experience. The observed differences at the secondary level are not significant, except that observed between traditional public schools and subsidized private schools. We also examined differences with respect to tenure in the current school for teachers and directors and found no statistically significant patterns across the schools at the primary and secondary level. On average, teachers and directors have been working in their current school for 4-6 years.

There appear to be disparities among the different schools with respect to the state of their school building but these are not statistically significant. At the secondary level, 17 percent of autonomous schools reported that their buildings and facilities were in bad need of repair as compared to 21 percent of the traditional schools and less than 15 percent of private schools. At the primary level, the corresponding percentages are 30 percent of autonomous schools, 22 percent of NER schools and 14 percent of traditional public schools. Autonomous primary schools, however, appear to have a clear edge over other schools with respect to having a school library. Nearly 15 percent of autonomous schools and 10 percent of NER schools have libraries compared with only one percent of traditional public schools. At the secondary level, public schools are worse off than private schools with respect to the availability of a school library. Fifty-four percent of autonomous schools at the secondary level have a library, as compared with 50 percent of traditional public schools. Private schools vary widely among themselves in this regard -- 88 percent of subsidized schools versus 43 percent of unsubsidized schools report having a library.
4.2 Family Characteristics

How successful schools are in educating their students depends in part on the level of motivation and support the students receive from their homes, which in turn depends on parental influences and the socioeconomic status of the family. The level of poverty has been shown to be associated with enrollment and schooling outcomes in part because it measures the amount of resources the family can devote to their children’s education. The data reveal that students in autonomous schools come from slightly better-off families than students in traditional public schools, but from worse-off families than private schools students (Table 6). One indicator of poverty is the access of families to public services. For example, 94 percent of students in autonomous secondary schools belong to households with electricity and 45 percent have access to the public sewer system. These percentages are significantly higher than those for students in traditional public schools -- 90 and 35 percent -- despite the fact that the proportion of autonomous schools located in urban areas is not significantly higher than that of traditional schools. At the primary level, 85 percent of students in the autonomous schools have electricity in their homes and 16 percent use the public sewer system, while the corresponding numbers for students in traditional public schools are much lower at 76 and 11 percent. These disparities largely reflect the fact that autonomous primary schools are much more likely to be in urban areas than are the traditional schools.

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Primary Autonomous</th>
<th>NER Autonomous</th>
<th>Traditional Primary</th>
<th>Secondary Autonomous</th>
<th>Traditional Secondary</th>
<th>Private Secondary with Subsidies</th>
<th>Private Secondary without Subsidies</th>
</tr>
</thead>
<tbody>
<tr>
<td>% of mothers literate</td>
<td>84.4**</td>
<td>72.2</td>
<td>75.6</td>
<td>90.9**</td>
<td>83.8</td>
<td>91.1</td>
<td>97.9</td>
</tr>
<tr>
<td>% of mothers with primary education</td>
<td>42.7*</td>
<td>34.6</td>
<td>41.0</td>
<td>62.2**</td>
<td>46.0</td>
<td>76.2</td>
<td>78.0</td>
</tr>
<tr>
<td>% of mothers with secondary education</td>
<td>7.8</td>
<td>7.0</td>
<td>6.9</td>
<td>12.8**</td>
<td>5.3</td>
<td>13.7</td>
<td>34.5</td>
</tr>
<tr>
<td>% households with electricity</td>
<td>85.1**</td>
<td>68.5</td>
<td>76.1</td>
<td>94.5**</td>
<td>90.0</td>
<td>99.3</td>
<td>100.0</td>
</tr>
<tr>
<td>% households with sewer systems</td>
<td>16.2**</td>
<td>3.5</td>
<td>10.6</td>
<td>44.9**</td>
<td>35.1</td>
<td>66.9</td>
<td>69.9</td>
</tr>
</tbody>
</table>

Notes: Joint statistical tests of the differences between means were estimated separately for primary schools and secondary schools. Results are indicated as follows: ** means statistical significance at better than 5 percent; * means statistical significance at better than 10 percent. Significance test results for pairwise comparisons are discussed in the text.

A factor which has universally been shown to be closely related to children’s schooling is the level of education of parents. Students in autonomous schools tend to have more literate mothers than students in traditional schools -- 91 percent as compared with 84 percent in secondary schools, and 84 percent versus 76 percent in primary schools. At the secondary level, there is no significant difference between autonomous and subsidized private schools, but mothers of students in non-subsidized private schools have significantly higher literacy rate than those in autonomous schools. The distribution of the parents by educational attainment confirms these patterns. At the secondary level, 62 percent of students in autonomous schools have mothers who had completed at least a primary education and 13 percent have completed secondary education. These percentages are significantly higher than for students in traditional schools in which the proportions are 46 percent
and 5 percent, respectively. At the primary level a higher percent of mothers in autonomous schools have primary education. We do not show the comparisons for fathers' educational attainment because they are very similar to the comparisons for mothers'.

One result of the differences in the family background among students is the amount of time children spend on school work at home and the time they spend working for pay outside the home. According to the data, in addition to time spent at school, students in autonomous secondary schools spend 8.1 hours per week doing homework. This is significantly higher than the 7.0 hours spent by students in traditional schools, but lower than more than 9.5 hours spent by private school students. This distribution of homework hours is negatively correlated with the number of hours that students spend working for pay outside the home. Autonomous school students work 3.3 hours per week and traditional school students work 3.8 hours; in contrast, private school students work less than one hour per week. At the primary level, the distinction is between students in NER schools and all other students with NER students working an average of 2.0 hours per week.

The above comparisons illustrate clear differences both in the community being served by the different types of schools and, to a more limited degree, in the resources and facilities the schools possess. These contrasts and similarities are important to keep in mind in assessing the impact of the reform which is discussed in the next section.

5. Effects of School Autonomy: Perceptions and Realities from Stage One

Has greater school autonomy improved schools and classrooms? The impact of the reform on perceptions and reality can be seen from the available first set of data from the schools, although as pointed out earlier, the process of change is far from complete and some of its repercussions are likely to be felt only over time. This section looks at the effects of autonomy by focusing on the locus of decision-making and school-based actors' perceptions of their own influence in twenty-five key areas of school administration (see Figure 4). Each respondent was first asked which entity makes each decision -- whether it is the Ministry of Education, the departmental government, the municipal government, or the school. Next, the respondent was asked about the degree of personal influence he or she exerts over each of the decisions. The questionnaire was applied to the director, teachers, and council members in the sample.
Table 4. Key Areas of Decision-making

<table>
<thead>
<tr>
<th>Salaries and incentives</th>
<th>Maintenance and infrastructure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Setting salaries</td>
<td>Maintaining the schools</td>
</tr>
<tr>
<td>Establishing incentives for teachers, students and administrative staff</td>
<td>Developing infrastructure projects</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Personnel decisions</th>
<th>Administration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hiring and firing teachers</td>
<td>Setting goals for the school</td>
</tr>
<tr>
<td>Hiring and firing the director</td>
<td>Planning and preparing school budget</td>
</tr>
<tr>
<td>Hiring and firing administrative personnel</td>
<td>Determining schools hours</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Pedagogy</th>
<th>Administration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Determining class size</td>
<td>Setting the school calendar</td>
</tr>
<tr>
<td>Designing the curriculum</td>
<td>Providing textbooks</td>
</tr>
<tr>
<td>Selecting textbooks</td>
<td>Distributing textbooks</td>
</tr>
<tr>
<td>Defining educational plans and programs</td>
<td>Accrediting new schools</td>
</tr>
<tr>
<td>Pedagogical supervision</td>
<td>Relations with teachers’ union</td>
</tr>
<tr>
<td>Evaluating teachers</td>
<td>Informing the community about school activities</td>
</tr>
<tr>
<td>Training teachers</td>
<td>Planning and preparing school budget</td>
</tr>
</tbody>
</table>

5.1 Perceptions under Autonomy: Power and Participation

Table 7 presents how many of the twenty-five decision areas rest on the school, rather than on the central or local government. Let us consider secondary schools first. Summing up over all respondents for each type of school, we see that, while private schools make sixteen out of the twenty-five decisions pertaining to school operations and management, traditional state schools are making ten, and autonomous schools, thirteen of them. At the primary level, respondents in both types of autonomous schools report that the school makes ten out of the twenty-five decisions, as compared with seven for traditional public schools. These differences among the types of schools are statistically significant. There is some variation in the responses by school directors, teachers, and council members within each school type, but these differences are not significant; thus, there is agreement among the members of the school community regarding the degree of autonomy their school possesses. The evidence suggests that the reform has indeed successfully expanded the role of the school in its governance. Perhaps as envisioned, autonomous public schools have become more similar to private schools than to traditional state schools.

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10 One might puzzle over why there should be any divergence at all in the responses of the members of the school community since there are responsibilities and limits set down by law and policy (as indicated by Table 5). We asked respondents about where decision-making power lies precisely because we expect that members of the school community may lack information and understanding of these responsibilities and limits. While within-group responses are not significantly different in general, the responses of council members in traditional primary schools and of teachers in private secondary schools are significantly higher than those of other respondents in their group.
Table 7. **Number of Decisions Made by the School Out of a Total of 25 Areas**

<table>
<thead>
<tr>
<th>Primary Schools</th>
<th>Traditional Public Schools</th>
<th>NER Autonomous Schools</th>
<th>Autonomous Schools</th>
</tr>
</thead>
<tbody>
<tr>
<td>Directors</td>
<td>6.7</td>
<td>10.1</td>
<td>11.3</td>
</tr>
<tr>
<td>Council Members</td>
<td>8.7</td>
<td>10.0</td>
<td>10.4</td>
</tr>
<tr>
<td>Teachers</td>
<td>6.8</td>
<td>11.3</td>
<td>10.6</td>
</tr>
<tr>
<td>All Respondents</td>
<td>7.4</td>
<td>10.5</td>
<td>10.5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Secondary Schools</th>
<th>Traditional Public Schools</th>
<th>Autonomous Schools</th>
<th>Private Schools</th>
</tr>
</thead>
<tbody>
<tr>
<td>Directors</td>
<td>10.4</td>
<td>13.9</td>
<td>15.7</td>
</tr>
<tr>
<td>Council Members</td>
<td>9.1</td>
<td>13.0</td>
<td>15.5</td>
</tr>
<tr>
<td>Teachers</td>
<td>9.3</td>
<td>12.3</td>
<td>18.3</td>
</tr>
<tr>
<td>All Respondents</td>
<td>9.6</td>
<td>13.1</td>
<td>16.2</td>
</tr>
</tbody>
</table>

We next examine the level of school autonomy regarding specific decisions. Figures 5 and 6 present selected decision areas. The data show that the role of the school as decision-maker depends greatly on the type of decision being made and the kind of school involved. Among primary schools, for each of the key decision areas shown, autonomous schools do indeed have greater autonomy than do traditional schools. For example, 50 percent of respondents in autonomous schools and 61 percent in NER schools report that it is the school that plans and allocates the school budget; only 28 percent of respondents in traditional schools make the same claim. It would also appear that NER autonomous schools make significantly more decisions than single autonomous schools, but only the difference with respect to pedagogy is significant. In general, it is over decisions about the budget, the setting of salaries and incentives, and the hiring and firing of school personnel that the level of autonomy between autonomous and traditional schools is most marked.

While autonomous secondary schools appear to have realized more decision-making power than have autonomous primary schools in such areas as personnel matters and the setting of salaries and incentives, it is still the government that continues to have the greater say in public schools with respect to pedagogy and teacher training, regardless of whether a school is autonomous or not. This same observation can be made for primary autonomous schools. At the secondary level, autonomous schools have significantly greater autonomy than traditional schools in matters such as hiring and firing of school personnel, setting of salaries and incentives, and the planning and allocation of the school budget. Our findings corroborate the earlier conclusion that autonomous schools wield greater authority and responsibility for their operations than do traditional public schools. However, no type of public school exercises the same degree of decision-making power that private schools do.
Figure 5. School Autonomy: Percentage of Respondents in Primary Schools Who Claim that the School Is Decision-maker

Type of School (Traditional, Autonomous, NER)

Figure 6. School Autonomy: Percentage of Respondents in Secondary Schools Who Claim that the School Is Decision-maker

Type of School (Traditional, Autonomous, Private)
The follow-up question about each respondent's level of influence over school decisions reveals some interesting discrepancies in the perceptions of directors, teachers, and school council members. As illustrated in Figure 7, on a scale of zero to three -- representing a range of answers from "no influence" to "a great deal of influence" -- directors in autonomous schools feel that they exercise more than a little personal influence over school decisions. This is consistently higher than the authority that directors in traditional public schools perceive themselves as possessing, although the difference is not statistically significant. Directors in private schools think that they wield more influence. Council members generally do not feel that they affect school decisions much, and the slight differences in their responses across the different types of schools are not statistically significant.

Figure 7. Self-Perceived Level of Influence in School Decisions By Respondents

Like council members, teachers feel that they exert little influence over school decisions on the whole. We do not observe a statistically different pattern across types of schools, but autonomous school teachers may feel that, while the school has gained more autonomy, they have become more directly accountable to the community and so have lost some personal influence. Overall, they are not much different from private school teachers who feel they possess even less, if any, influence over school decisions.
Since teachers who are not members of the school councils are not expected to make decisions directly on administrative matters such as the allocation of the school budget, we examined in particular the responses of teachers with respect to pedagogical matters. As Appendix Figures 1-2 show, however, even with respect to pedagogical matters, teachers in both primary and secondary schools feel they have less influence than do directors.\textsuperscript{11} As expected, with respect to decisions regarding personnel, directors and council members in secondary schools, public or private, feel that they have a great deal more influence than do teachers. It is also quite clear that private school directors think they control school matters more than do directors in public schools.

The next graphs further explore these findings about school decisions and decision-making power by looking jointly at (1) whether it is the school which makes the decisions (rather than the central or local government) and (2) the degree of influence felt by various school-based actors with respect to decision-making. The scatter plots below indicate where each school category lies in a continuum representing both variables. The plotted points show whether a school is of a given type, and thus enable a comparison across traditional public, autonomous, and private schools. The x-axes in Figures 8-13 indicate the decision-making power of the school as reported by the director in primary and secondary schools.\textsuperscript{12} School autonomy is measured by the number of decisions out of twenty-five which the school makes. The y-axes represent the level of own influence felt by directors, council members, and teachers, respectively. As in Figure 7, own influence is measured on a scale of zero to three. The conjoining of the two variables as they apply to the director delineate four quadrants whose boundaries are demarcated by the median values of each variable.\textsuperscript{13} These quadrants can be interpreted according to the matrix below:

<table>
<thead>
<tr>
<th>Quadrant III:</th>
<th>Strong director’s influence</th>
<th>Quadrant IV:</th>
<th>Strong director’s influence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quadrant I:</td>
<td>Weak director’s influence</td>
<td>Quadrant IV:</td>
<td>High school autonomy</td>
</tr>
<tr>
<td>Quadrant I:</td>
<td>Weak director’s influence</td>
<td>Quadrant II:</td>
<td>Weak director’s influence</td>
</tr>
<tr>
<td></td>
<td>Low school autonomy</td>
<td>Quadrant II:</td>
<td>Low school autonomy</td>
</tr>
<tr>
<td></td>
<td>Low school autonomy</td>
<td></td>
<td>High school autonomy</td>
</tr>
</tbody>
</table>

The discussion begins with primary schools. Figure 8 shows that, at the primary level, most schools fall along a “line” or “band” stretching from quadrant I to quadrant IV. This “line” roughly traces a positive association between the level of school autonomy and the level of the director’s influence. This positively-sloped “line” states that schools which exercise little autonomy also tend to have relatively weak directors, while schools which have greater autonomy tend to have strong directors. Indeed, there is a relative preponderance of autonomous schools in quadrants II and IV, but

\textsuperscript{11} And even though council members in autonomous schools should have more influence over pedagogical matters, council members in primary schools generally do not feel that they sway decisions. In secondary schools, however, council members in private schools and traditional public schools perceive themselves to wield at least as great an influence over pedagogical matters as do directors, while in autonomous secondary schools, they do not feel as influential as do directors.

\textsuperscript{12} As noted earlier in Table 6, there tends to be broad agreement among members of the school community regarding the locus of decision-making in 25 areas.

\textsuperscript{13} These median values have been computed using sampling and non-response weights. Reflecting the sampling design, traditional schools have greater weights and thus tend to affect the median values more. The single data points are not weighted. Median values were estimated separately for primary and secondary schools.
especially IV. In contrast, while there are as many traditional schools in quadrant IV as there are in quadrant I, traditional public schools are disproportionately represented in quadrant I.

Figure 8. School Autonomy and Influence by Directors in Primary Schools

![Graph](image)

Notes: O=traditional state schools; □ =single autonomous schools; and X=NER autonomous schools. The range of the y-axis is 0 (no influence), 1 (low influence), 2 (some influence), and 3 (a lot of influence).

The next two graphs show that council members and teachers feel differently than do directors about their own influence over school decisions, given the level of school autonomy. Although council members are supposedly empowered by the reform, most do not (yet) feel that they control school matters. This is in direct contrast to directors, as shown by the much higher density of the scatter below the dotted horizontal line which represents the median response for directors. Thus, although autonomous primary schools appear to exercise a greater degree of control over their affairs, council members’ own influence is apparently not closely related to this higher level of school autonomy. Further supporting what we have observed thus far, the scatter plot for teachers suggests a flat “line”, that is, teachers feel that they exert considerably less influence over school decisions than do directors, regardless of the level of autonomy of the school.

Figure 9. School Autonomy and Influence by Council Members in Primary Schools
Notes: O=traditional state schools; □ =single autonomous schools; and X=NER autonomous schools. The range of the y-axis is 0 (no influence), 1 (low influence), 2 (some influence), and 3 (a lot of influence).
Figure 10. School Autonomy and Influence by Teachers in Primary Schools

Notes: O=traditional state schools; □ =single autonomous schools; and X=NER autonomous schools. The range of the y-axis is 0 (no influence), 1 (low influence), 2 (some influence), and 3 (a lot of influence).

The case for secondary schools is shown in Figures 11-13. Similar conclusions can be drawn for secondary as for primary schools, except that we can also compare public secondary schools to private secondary schools. The scatter plot for directors again suggests a positive relationship between the level of school autonomy and directors’ level of influence. Relative to traditional public schools, autonomous schools are disproportionately represented to the right of the vertical median line, especially in quadrant IV, while traditional secondary schools are more clearly located in quadrant I. There are, however, quite a few autonomous schools which appear to have relatively little autonomy and weak directors, despite the reform. As expected, private schools tend to have both greater autonomy and stronger directors than do public schools on the whole, and thus, are found in greater proportion in quadrant IV.
Figure 11. School Autonomy and Influence by Directors in Secondary Schools

Notes: O = traditional state schools; □ = single autonomous schools; and * = private schools, subsidized or not.
The range of the y-axis is 0 (no influence), 1 (low influence), 2 (some influence), and 3 (a lot of influence).
As with primary schools, council members in secondary autonomous schools feel much less empowered than do directors, as shown again by the much denser scatter below the horizontal median line. Although there does not appear to be as close an association between school autonomy and personal influence over school decisions as for directors, a weak positive relationship emerges. Finally, secondary school teachers, like primary school teachers, think they have the least influence, regardless of the level of autonomy of the school.

The above scatter plots also raise an interesting and important question about the effect of the management style of school directors on other members of the school community. Having a strong director in an autonomous school could mean having a strong leader who could effectively gain the broad participation of council members, teachers and parents, and encourage them to support fundamental changes in the school. On the other hand, a strong director may resent sharing decision-making and thus (implicitly or explicitly) discourage the participation of teachers and the community. An autocratic style of management with or without school autonomy is likely to inhibit change.
Notes: O = traditional state schools; • = single autonomous schools; and * = private schools, subsidized or not. The range of the y-axis is 0 (no influence), 1 (low influence), 2 (some influence), and 3 (a lot of influence).

5.2 Changes under Autonomy

We now focus on change within schools which were autonomous by the time of the survey. In the absence of baseline data on these schools, we rely on perceptions by different members of the school community to tell us what changes -- real or not -- have occurred since the school participated in the reform program. The data indicate that autonomy is perceived as having a generally positive impact in several dimensions. Figures 14-17 illustrate the responses given by directors, council members, teachers and parents in NER, primary and secondary autonomous schools. Here we highlight on three areas of interest -- whether after autonomy students' academic achievement, teachers' attendance, and parents' participation have improved, remained the same, or worsened. The important results can be summed up as follows:

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14 The areas discussed in the interview included: academic performance, staff conduct, student conduct, teacher creativity, student creativity, teacher attendance and punctuality, student participation and parent participation.

15 For the purpose of simplification, only those responses corresponding to an improvement or worsening have been included in the graph. Since all of the responses add up to 100% the percentage of respondents who believe that autonomy had had no effect in the area under question can be deduced from the other responses.
• At the primary school level, about half of all respondents think that the reform has improved students' academic performance. Most of the rest think that academic performance has remained unchanged while a miniscule proportion think that it has worsened. Assessing which of the respondents were more optimistic in their assessment, we find no statistically significant difference in the responses.

• Still for the primary level, the data show that over half of the respondents (55-65 percent) reported an improvement in teachers' attendance and punctuality after autonomy, while the rest think that these have remained the same or worsened. The response given by teachers is significantly more positive than that of parents and council members, but it is similar to the response of directors.

• The evidence that parents' participation in school affairs has improved with the reform is weaker. About one-half of parents and teachers think that it has become stronger, but a larger proportion of directors and council members think that it has not changed, at best. Directors' responses differ significantly than parents' and teachers' responses.

• As with primary schools, over one-half of respondents in autonomous secondary schools think that students' academic performance has improved. Parents seem to be conspicuously less optimistic than are the other respondents, especially council members; 14 percent think that academic performance in the school has become worse. Of the differences in opinion, only those between parents and council members are statistically significant.

• This positive view of autonomy's effect on teacher attendance and punctuality in secondary schools is overwhelmingly shared by directors, council members, and teachers. However, parents are less enthusiastic than are other respondents, with about 35 percent reporting that they have seen no improvement and 5 percent reporting a worsening.

\[ \text{Figure 14. Perce%ed Changes After Autonomy Reform in Primary Schools} \]

\[ \text{Notes: D=directors; C=school council members; T=teachers; and P=parents.} \]

Nicaragua School Autonomy Reform
- With respect to parents' participation, directors hold a significantly more positive view than do teachers, council members, and parents. Twelve percent of teachers and 11 percent of parents think that parents have been participating less after the reform. The responses suggest that parents do not think they are any more involved in school matters than they used to be. Whether parents would want to be more active is not clear.

- Finally, comparing now the patterns we see for primary and secondary schools, we note differing views by parents and teachers, on one hand, and directors and council members, on the other. Parents and teachers seem less positive in secondary schools and more positive in primary schools than do directors and council members. Why this apparent difference exists is not yet clear to us, and is a question to be examined in the qualitative evaluation being undertaken. One conjecture is that the opposite patterns we see are illusory, since the differences among primary school respondents, while persistent, are not statistically significant. But if the pattern were real, one hypotheses is that primary schools are generally more successful in involving parents in school matters and thus are better able to raise parents' level of enthusiasm for the reform. It may also be true that parents are the most easily discouraged when the impact of a new reform is slower than expected; this may be one reason why they are less positive in the case of secondary schools which have been operating under the new autonomy program for a longer period.

![Figure 15. Perceived Changes After Autonomy Reform in Secondary Schools](image)

Notes: D=directors; C=school council members; T=teachers; and P=parents.

We next discuss the differences in the perceived changes after the reform by number of years under autonomy. Since secondary schools were the first to sign up into the program, some of them as long as four years ago, the discussion that follows will focus on secondary schools. The schools fall into three categories: (1) those that became autonomous in 1993, (2) those in 1994, and (3) those in
1995 before the survey. Since the survey was conducted in late 1995, the schools that became autonomous in 1995 had been autonomous for only less than a year.

In secondary schools that became autonomous in 1993, 86 percent of the directors think that the academic achievement of students had improved, as opposed to 66 percent of the directors in schools that became autonomous in 1994 and 49 percent of those in schools that had been autonomous for less than a year (Figure 16). This pattern is consistent with responses given by these directors when asked to rate teachers’ attendance and parents’ participation. Overall, the longer the duration of autonomy, the better the directors feel about the reform and its accompanying changes. The same pattern, however, does not emerge from any of the other respondents. Indeed, duration of autonomy does not seem to affect how teachers, council members, or parents feel about the reforms.

![Figure 16. Perceived Changes After Autonomy Reform by Directors in Secondary Schools, By Number of Years Since Autonomy](image)

**Notes:** 2 years mean since 1993; 1 year means since 1994; 0 year means since 1995.

Taking just the secondary schools which became autonomous in 1993, a comparison among respondents shows that a higher percentage of directors than other respondents report improvements with respect to each of the three school indicators. This is not to say that the other respondents are pessimistic about the reform since at least 40 percent of them see improvements while only at most 15 percent see a worsening. On the whole, respondents seem to be the happiest with respect to changes in the academic performance of students and in teachers’ attendance. Of the respondents in these schools, teachers and parents are clearly the least enthusiastic.

\[16\] With respect to academic performance, the response for schools under autonomy for more than two years is significantly different than the response for schools under autonomy for less than one year (the third category), but not significantly different than the response for those under autonomy for one to two years (the middle category). Neither is the difference between the middle and the third categories statistically significant. This same pattern of statistical significance holds for responses regarding teachers’ attendance and parents’ participation.
There is a consistent pattern in our results which suggest that directors are the first group to feel the benefits of the reform. There are two hypotheses for why this might be the case. The first hypothesis is that directors may, in fact, be the primary beneficiaries of the school autonomy reform. Consider this particular anecdote: On a visit to a newly autonomous school, the director, who was sharing with us her first experiences with the reform, remarked that she already appreciates the benefits of the school's greater autonomy since she will no longer have to wait for months before finding a replacement for a teacher who had quit -- as she had to do the previous year when finding a replacement depended on the central government. An important variant of this first hypothesis is that the reform simply takes a little longer to reach the rest of the school community because the benefits to the rest of the community depends in part on actions taken by the director and the school council.

The second hypothesis has to do with the flow of information within the school community. It is easy to imagine that directors generally have easier access to information than do teachers, students or parents. However, as the reforms take root and information becomes more easily shared within the school community, then the other members of the academic community may feel as good about the reforms as the directors do. The available data do not yet allow us to test which of these hypotheses holds. The follow-up to this phase one study which involves returning to these same schools should provide evidence on this.

Two more graphs in the appendix (Appendix Figures 2a-2b) show that responses for the schools which have been autonomous for less than two years do not reveal as clear a pattern as for the earlier reformers. This difference by duration of autonomy implies that it may take more than two years for even the majority of directors to see improvements. But an alternative explanation which should be considered is that the reform may inherently have the greatest potential benefits in the larger schools. It is important to remember that the first schools to become autonomous were the largest ones in terms of the number of students. Thus, it may be the case that it is not only the duration of autonomy that matters, but also that the marginal value of the reforms may inherently be higher for large schools than for smaller ones.
6. Conclusions and Reflections

This initial evaluation of Nicaragua’s school autonomy reform has focused first on characterizing autonomous public schools in comparison with traditional public schools and private schools. As was the intent of the implementing body (the MED), the first autonomous schools were generally larger and urban, and thus tended to serve the better-off segments of the population. In the last couple of years, however, the reform has covered a broader spectrum of schools and communities. With the expansion of the reform to the primary level, more rural and smaller schools have been covered. The reform which started off as a pilot effort is now a national program.

In autonomous public schools, it is clear that directors, council members, and teachers feel that the school has more control over the management of school resources and personnel decisions. This pattern approaches more closely the sense of control of private schools. However, within the school community, it is still the director who feels the most empowered. This is not to say that council members and teachers do not see any change. In relative terms, those who are in autonomous schools do feel that they possess more influence over school decisions than those in traditional and private schools. But how far the reform itself can go with respect to raising the involvement of teachers and parents will depend also on the personal management style chosen by directors and council members. In order to engender inclusive management, appropriate management training programs should perhaps follow the signing of the autonomy contract. The capacity of parents, who themselves may have little formal schooling, to understand school issues and support changes in the way the school works also needs to be developed through information and training programs.

Whether the changes in school management lead to needed improvements in school performance and learning is yet to be seen. It is still early in the day to fully assess the impact of the reform, since the overall change in governance has to be felt within the classroom. The assessment will thus have to await the results of achievement tests which are currently being applied. It will also
have to await the results of an ongoing qualitative evaluation which involves focus group meetings and classroom observations. These qualitative results should flesh out many of the findings from the school-household survey. Nonetheless, the first stage of the evaluation which is summarized in this report signals progress in the expected direction. In general, directors, council members, teachers, and parents feel that the reform has improved students’ academic performance, teachers’ attendance, and parents’ level of participation in the school. These are indicators that must be monitored over the next months.

Finally, changes for the better hardly ever come for free. There are costs involved in the implementation of the school autonomy reform in Nicaragua, and an informed measurement of these costs is necessary to correctly assess the benefits of the reform. This is a task for a follow-up report. So far, a large part of the costs of implementation includes the costs to MED (in terms of own or donor resources) of informing and persuading public schools to sign the autonomy contract, providing the initial basic training to transform the school councils into governing bodies, developing the materials and curriculum for further training of schools about the reform, and financing the school fees for students who are exempted from making the school contributions. Autonomous schools too, of course, incur their own costs as changes in decision-making can lead to internal conflicts and displacement. To measure these costs is much more difficult, but they too must be balanced against benefits that are often equally difficult to assess.
Appendix

Appendix 1a. Self-Perceived Level of Influence in School Decisions by Respondents
Primary Schools

Notes: D=directors; C=school council members; and T=teachers.

Appendix 1b. Self-Perceived Level of Influence in School Decisions Regarding Pedagogy
Primary Schools

Notes: D=directors; C=school council members; and T=teachers.
Appendix 1c. Self-Perceived Level of Influence in School Decisions Regarding Personnel
Primary Schools

Notes: D=directors; C=school council members; and T=teachers.

Appendix 1d. Self-Perceived Level of Influence in School Decisions by Respondents
Secondary Schools

Notes: D=directors; C=school council members; and T=teachers
**Appendix 1e. Self-Perceived Level of Influence in School Decisions Regarding Pedagogy Secondary Schools**

![Bar chart showing level of influence by type of school and respondent role.]

Notes: D=directors; C=school council members; and T=teachers.

**Appendix 1f. Self-Perceived Level of Influence in School Decisions Regarding Personnel Secondary Schools**

![Bar chart showing level of influence by type of school and respondent role.]

Notes: D=directors; C=school council members; and T=teachers.
Appendix Figure 2a. Perceived Changes After Autonomy in Secondary Schools Which Have Been Autonomous Since 1994

Notes: D=directors; C=school council members; T=teachers; and P=parents.
Appendix Figure 2b. Perceived Changes After Autonomy in Secondary Schools Which Have Been Autonomous Since 1995

Notes: D=directors; C=school council members; T=teachers; and P=parents.
References


Annex I

Note: The survey instruments used are quite lengthy so they are not being distributed together with this paper. They can be obtained under separate cover upon request.