



*Social Capital Initiative
Working Paper No. 20*

DOES DEVELOPMENT ASSISTANCE HELP BUILD SOCIAL CAPITAL?

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The World Bank
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March 2000

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FOREWORD

There is growing empirical evidence that social capital contributes significantly to sustainable development. Sustainability is to leave future generations as many, or more, opportunities as we ourselves have had. Growing opportunity requires an expanding stock of capital. The traditional composition of natural capital, physical or produced capital, and human capital needs to be broadened to include social capital. Social capital refers to the internal social and cultural coherence of society, the norms and values that govern interactions among people and the institutions in which they are embedded. Social capital is the glue that holds societies together and without which there can be no economic growth or human well-being. Without social capital, society at large will collapse, and today's world presents some very sad examples of this.

The challenge of development agencies such as the World Bank is to operationalize the concept of social capital and to demonstrate how and how much it affects development outcomes. Ways need to be found to create an environment supportive of the emergence of social capital as well as to invest in it directly. These are the objectives of the Social Capital Initiative (SCI). With the help of a generous grant of the Government of Denmark, the Initiative has funded a set of twelve projects which will help define and measure social capital in better ways, and lead to improved monitoring of the stock, evolution and impact of social capital. The SCI seeks to provide empirical evidence from more than a dozen countries, as a basis to design better development interventions which can both safeguard existing social capital and promote the creation of new social capital.

This working paper series reports on the progress of the SCI. It hopes to contribute to the international debate on the role of social capital as an element of sustainable development.

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ABSTRACT

There is by now a large literature on the importance of social capital in explaining social, political and economic outcomes. What is less well researched, however, is the question of whether development assistance can promote social capital, whether it can interfere with it, and whether projects specifically designed to promote social capital do so. This paper examines the impact of development projects on social capital formation among rural women's groups and primary schools in western Kenya using the results of a prospective, randomized evaluation. We examine three development projects: two that are designed explicitly to promote social capital and one that is not. The paper finds that outside funding designed to promote organizational capacity and strengthen women's groups had no clear effect on social capital formation among the women's groups. A grant program that provided funding to governing committees at primary schools led to increased parental participation in school development projects, but had no other significant effects. A project that provided textbooks to primary schools had largely positive affects on school social capital and organization. Textbook provision increased the participation of parents and school committee officials at school meetings, improved teacher effort in school, and increased the involvement of government "teacher support" personnel. Thus, among these three projects, those which were most participatory and most explicitly designed to build social capital had the least impact on social capital.

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ACKNOWLEDGMENTS

The authors would like to thank the Danish government for its support of this work through the Social Capital Initiative at the World Bank. In addition, the efforts of numerous individuals in both the U.S. and Kenya made this work possible. The authors thank the staff of International Christelijk Steunfonds (ICS), in Busia, Nairobi, and the Netherlands for their efforts in support of this project. Ted Miguel, Robert Namunyu, Ashok Rai, Sylvie Moulin, Stacey Nemeroff, and Maureen Wechuli all provided helpful advice and comments. Any errors are our own.

INTRODUCTION

There is by now a large literature on the importance of social capital in explaining social, political and economic outcomes (see Coleman, 1990; Putnam, 1993; Woolcock, 1998, among others). On a micro-level, social capital effects have been used to explain the success of irrigation projects (Ostrom, 1996), micro-finance institutions (Woolcock, 1997) and the development of civil society (Fox, 1996). What is less well researched, however, is the question of how social capital might be produced. Is social capital determined exclusively by long-run historical, cultural, and economic forces, or can it be influenced in the short run by policy? In developing countries, many donors are actively trying to support the development of civil society through their funding programs. This funding from governments and NGOs could play an important role in the production (or the dismantling) of social capital stocks.

This paper examines the impact of development funding on social capital formation among rural women's groups and primary schools in western Kenya. We examine these projects using a prospective randomized evaluation. The paper finds that, at least in the short run, outside funding has no strong effect on social capital formation among women's groups, in spite of the explicit goal of the funding to increase the organizational capacity and solidarity of the groups. Although this funding did not appear to promote social capital, it also did not erode social capital in any way that we could measure. In primary schools, we examine two forms of funding: textbook provision and block grants to schools. In schools receiving block grants, participation in school projects increased, but there are no other statistically discernable effects after one year. Funding in the form of textbook provision had largely positive affects on school social capital and organization. In these schools, funding increased the participation of parents and school committee officials at school meetings, improved teacher effort in school, and increased the involvement of government "teacher support" personnel. We note that the textbook funding, which had no specific goal of increasing school capacity or organizational strength, may have had the most positive affects on school social capital.

The organization of the paper is as follows. This first section gives a brief background on the project area, methodology, and the organizations being studied. Section two reviews the results for women's groups and section three discusses the primary school projects. Section four compares the results and draws conclusions for future work on social capital.

I. BACKGROUND AND METHODOLOGY

I. A. Background

Many papers in this series examine the impact of social capital variables on particular development outcomes. This paper takes a different approach and instead tries to examine the impact of development funding on social capital in western Kenya in two settings: women's community groups and community primary schools. The evaluation takes place in Busia and Teso districts in western Kenya. These are densely populated rural districts, with a combined population of approximately 500,000. The economic base consists primarily of small-scale farming for subsistence and local market trade. There is some limited cash crop production of cotton, tobacco and sugarcane. The majority of the population in both districts lives below the poverty line of \$1 per day. The ethnic composition of the districts is relatively distinct, with Teso being largely composed of Teso-speaking Nilotic groups, and Busia of Luhya-speaking Bantu groups. Busia is larger and relatively better off than Teso, though both districts are poor in comparison to the national average. The projects we evaluate were conducted by ICS (Internationaal Christelijk Steunfonds), a Dutch NGO that has been working in the area since 1995.

The choice to evaluate both primary schools and women's groups was made initially by the funding priorities of ICS, which chose to fund these types of organizations because of their fundamental importance and prevalence in the area. Fortunately for our purposes, both primary schools and women's groups constitute centers for social capital in rural areas in Kenya. They are part of the "self-help" movement begun by Kenya's first post-independence president, Jomo Kenyatta. The motto of his administration was "*Harambee!*", a Swahili expression that means "let's pull together." This expression was chosen to unify an ethnically diverse country and to encourage its new citizens to work together and take responsibility for developing the country. *Harambee* became the term used to describe the community-organized and funded schools, clinics, and other facilities that began to be built across the nation. More recently, *harambee* has come to mean a community fundraising event held to raise funds for a school, clinic, church or other public institution. Since independence, *harambees* have taken on a political meaning as politicians use them as a method of distributing patronage. In spite of the more recent political overtones of the concept of *harambee*, however, the spirit and concept of self-help is clearly established in the minds of Kenyans.

I. B. Methodology

The methodology of this study is unusual in the social sciences: to explore the impacts of assistance the research makes use of a prospective evaluation in which funded groups are evaluated against comparison groups. Because the assistance was allocated randomly between these two groups, any difference between two groups should be, on average, attributable to the assistance, this being the main difference between them. This approach is particularly useful in minimizing problems of endogeneity, which are so prevalent in

the study of social phenomena. In the absence of a prospective study, if we compared groups and found that development funding was associated with stronger and more successful groups, it would be difficult to tell if this was because high quality groups attracted more funding, or because funding created higher quality groups. In a pure experimental format, a double-blind format would be used where neither the participants nor the evaluators were aware of who constituted the treatment group. The current setting clearly does not meet that standard. The women's groups, the primary schools, and the evaluators were aware of which groups had received funding. In addition, the groups and schools in the comparison set will receive assistance from ICS in the future and were aware of this opportunity. We are therefore comparing one group receiving treatment to another group that expects to receive funding in the future.

To test for the impacts of assistance on women's groups and primary schools, we run OLS or probit regressions on the dependent variable of interest. We include separate dummy variables for the groups that received assistance. The OLS coefficients on the assistance dummy can be interpreted as the difference between the average value of the dependent variable for the comparison groups, and the average value of the dependent variable for the assisted schools. Each regression also includes variables to control for the regions in which the groups are located. This is the basic regression used to test the effects of assistance. We then add various socioeconomic variables to control for the differences in wealth, educational attainment, and so on.

II. PROJECT FUNDING AND SOCIAL CAPITAL IN WOMEN'S SELF-HELP GROUPS

We measure social capital in these women's groups along three dimensions. First, we look at internal social capital in terms of the organizational structure and solidarity of the groups. How does funding and training affect participation in group activities? How does funding affect the type of organizational strategies these groups employ, such as the use of fines or other sanctions on members? Second, we look at how funding affects social capital in terms of the labor and time commitment of members to the group, including their mutual assistance activities. Are project groups more successful in mobilizing the time and savings of their members, or does assistance crowd out member contributions in some way? Do project groups have higher levels of assets? Finally, we examine how funding affects the social capital of groups in terms of the strength of their external ties. How does assistance affect the ties of groups to the wider community and government? We find relatively little change in group rates of participation or in the structure or use of sanctions. We do find that assisted groups are more likely to change leadership in response to funding. In the time frame of this study, there is little affect of funding on the group finances. Funding does appear to strengthen groups' networks with individuals and organizations outside the group.

II. A. Background

Women's groups have their roots in a long tradition of community self-help groups such as funeral and rotating labor clubs. While women's groups are locally initiated and formed, they are also supported by the government administration through the Ministry of Culture and Social Services. Each administrative district has a Community Development Assistant whose job is to visit the various groups and provide them with organizational support. Although this support is minimal, it is important in providing a sense of identity and legitimacy to women's groups.

In 1996, ICS began funding community self-help groups in the school communities they serve in Busia and Teso districts in western Kenya. ICS's goal was to strengthen community organizations and improve agricultural practices and nutrition in the area. The project area is primarily composed of farming communities; most farms are smallholder family operations that produce mainly for subsistence and limited trade. The bulk of crop husbandry is done by women, who are also largely responsible for managing family food stocks, so women's groups seemed an ideal point of entry into the community. This funding was consciously designed to promote social capital in the form of group solidarity, participation, and strengthened links between groups and the wider community.

Using lists provided by the Ministry of Culture and Social Services and through discussions with local Community Development Assistants, several hundred groups operating in the area were identified. From these, 80 groups were selected as eligible to

participate in the project. The main criteria for eligibility in the project were that the groups met regularly and were engaged in group-based agricultural activity. Once the 80 groups were selected and a baseline survey was undertaken, the groups were stratified by administrative division and half of them were randomly selected to receive funding and training in 1998. The composition of the agricultural assistance was determined by ICS agricultural officers working in conjunction with extension officers in the Ministry of Agriculture and consisted of the following:

- 2 days of group management and leadership training for three group officials
- 5 days of practical and experiential training on agricultural practices and husbandry for four group officials
- Agricultural inputs: seeds, agricultural implements, fertilizer, and herbicides.

Appendix A gives a full listing of the value of funding and training received by groups. The value of assistance was approximately U.S. \$737 per group, or \$28 for the average member. For the average person in this area, this represents roughly 1.5 months of income. For larger groups, of course, the average individual benefit is lower.

Three sets of surveys were administered to the groups. A baseline survey was undertaken in July and August of 1997 before the randomization was done or funding was given. At the end of the project in September and October of 1998, a second survey was administered to assess the impacts of the assistance. Follow up surveys were also administered to complete the records of agricultural information. Appendix B gives the details on these survey rounds. Because of the detail and complexity of the surveys, the completion of one survey often took the better part of the day. During the major survey rounds, therefore, both the assisted and the comparison groups were given a small set of tools in compensation for their time. The impacts of assistance should therefore be thought of as the impact conditional on the groups having received farm implements, which had a total value of \$63 per group, or on average \$3.00 per group member. Throughout the analysis we refer to those groups that received funding and training from ICS as funded groups, and those that did not as comparison groups.

II. B. Characteristics of Groups and Pre-funding Comparison

Table 1 provides a pre-treatment comparison of the two sets of groups. The groups do not differ from each other in any systematic way. The average group has approximately 20 members, and over 80% of group members are women. The average member is 40 years old and has five years of formal education. Fifty-seven percent of members report no source of income apart from their farm. The average group is seventeen kilometers from a bank. Over 90% of the groups in our sample had a group farm at the beginning of the project period. 55% of the groups keep some sort of livestock or animal, and 41% have assets for use in group projects. Most of the groups also run rotating savings and credit associations (Roscas), known in Kenya as merry-go-rounds. Merry-go-rounds are a clear example of social capital in action, as it is the on-going relationship among group

members that sustains the process and helps to prevent members from defaulting on their contributions.

In addition to rotating savings associations, many groups also run rotating labor groups during the peak agricultural seasons. In these groups, members visit one another's farms in succession, usually to help with weeding or harvesting. Just as in the rotating savings associations, these rotating labor groups also rely on the trust and cooperation of members to insure the continued functioning of the club. In addition to these rotating clubs, many groups also provide emergency assistance to members in the case of adverse financial shocks. Groups often take up collections in the case of illness or death, and visit the member's home to provide extra labor. Many groups also undertake some kind of income generating project, including agriculture.

II. C. Effect of Funding on Social Capital

The next three sections examine the impact of funding on the formation of social capital among funded groups. The first section reviews the results on group organization and functioning, the second explores the effects of funding on group finances, and the third looks at the impact of funding on groups' relations with the external community.

II. C. 1. Group organization and internal social capital

There is no significant difference in the change in group size over the project period, but member turnover is higher among funded groups. Groups that received funding accepted more new members and more members left funded groups during the project period. Both sets of groups report slightly smaller numbers of active members at the end of the project period in 1998. On average comparison groups had 2.7 fewer members, and assisted groups 2.0 fewer members. To be considered active, a member must have attended at least one meeting or event during the current year. Tables 2 and 3 examine the changes in membership for assisted and comparison groups. We examine changes in membership over the project period, rather than comparing levels. While the net change in group size in funded groups was not significantly different from comparison groups, funded groups did accept more new members during the project, as shown in Table 3. Column 1 indicates that funded groups accepted 1.5 more new members than comparison groups and this is significant at the 5% level. Column 3 shows that the average level of group education is negatively related to group entry. Ethnic heterogeneity is strongly negatively related to the entrance of new members, shown in column 4. At the mean value of the largest ethnic groups size (.68), six fewer members entered each group. Column 5 shows that funded groups also had more members leave, though this is not significantly different. Group size is positively related to group exit; larger groups shed more members. Thus while overall group size was unchanged, groups that received assistance experienced greater turnover. Larger groups became slightly smaller, driven by a larger number of members leaving those groups. Larger groups also tended to admit fewer new members. Diversity is negatively related to group entry; more homogenous groups appear less likely to allow new entrants.

One of the ways in which women's groups maintain order and discipline is through issuing fines for various offenses. Late arrival or missing a meeting is often subject to a fine. Interestingly, assisted groups are less likely to charge a fine for missing a meeting than comparison groups. Table 4 shows that assisted groups are on average 15% less likely to have an institutionalized fine for missing a general group meeting. Group heterogeneity appears to play no role in the setting of fines, nor does proximity of members to each other, or the group's distance from a market or bank. The number of couples in a group is positively related to the use of sanctions, as is a having larger proportion of members over 50 years of age. There was no difference between the two sets of groups in terms of any other type of fine, including being late for a meeting or missing a farm work meeting.

One might expect that project groups would have higher attendance rates at group meetings. Absenteeism, however, is higher for groups that received funding, though this effect is not strong as shown in Table 5. Absence is defined missing a meeting without advance notice or permission. Rates of attendance were ascertained by randomly selecting six members and tracking their attendance at the two most recent meetings. For general meetings, groups that received assistance have a higher rate of absenteeism, though the difference is not significant. Table 6 shows the rates of absenteeism for group farm work. Funded groups have significantly higher rates of absenteeism for farm work; the rate of absenteeism is 9% higher for these groups. This may be due to increased frequency of meetings to undertake farm work as a result of the assistance, and future work will try to address this issue. In addition, groups that received funding also received training in group management and record-keeping and the interviews suggest that funded groups do indeed have higher quality records. This may lead to a more accurate count of attendance in these groups.

Finally, funding increases the likelihood of groups electing new officials. In 1997, only 10 groups held elections for officials; 44 groups held elections in 1998. Table 1 shows that in 1997, comparison groups were 5% more likely than funded groups to hold an election (though this difference is not statistically significant). Columns 1-3 of Table 7 show probit regressions for the probability of a group holding an election for any official. At the end of the project period, funded groups were 20% more likely to hold an election.

II. C. 2. Group finances

Funding does not appear to have significant impacts on group finances as measured by group assets, member contributions, and the value of group projects. Project groups have somewhat higher levels of project assets, including animal stock, project inputs, capital and so forth, but this difference is not significant, even at the 10% level, as is indicated in Table 8. These figures do not include the value of seeds in the ground or crops not yet harvested. There is no difference in the amount contributed at merry-go-rounds between the comparison and the funded groups (not reported). Average contributions and attendance rates at merry-go-rounds are similar among comparison and funded groups (not reported). Payment rates are no different among funded groups, though funded groups do have lower levels of debt owed to the group, suggesting that group

management may have improved. Funded groups are no more likely to visit members' homes to give assistance, as shown in Table 9. Wealthier groups are more likely to give assistance (either cash or labor), and this is particularly true for wealthier assisted groups. Groups where members belong to different churches are more likely to give each other assistance at home, perhaps because they are less able to rely on their churches to do so.

The very preliminary data on the value of agricultural production shows agricultural production in funded groups was no higher than comparison groups, as shown in Table 8a. This is surprising, given the relatively high value of seeds and inputs these groups were given. There may be several reasons for this. First, Kenya was adversely affected by the El Niño weather patterns in early 1998 and many regions in western Kenya experienced flooding during the normal planting season. Second, there was a nation-wide problem of poor quality seeds being put on the market by the parastatal seed company, and many of the groups reported quite low germination rates for various crops. ICS replaced the poor quality seeds where possible, but in some cases the new seeds were delivered too late for timely planting. Each funded group received almost nearly 20,000 Kenyan shillings worth of inputs that comparison groups did not receive, while these very preliminary estimates of the total difference in the value of harvest between the two groups is roughly 395 Kenyan shillings, or about \$50.

Training and agricultural funding do not appear to have any large effects on the mobilization of resources in other areas of group activity. In part, this may be due to the relatively short time frame of the study. The impacts of training and better group organization might not be found after only one year. There is also a learning curve involved in implementing new agricultural practices and planting new crops that implies that improvements might not be seen in the space of one agricultural cycle. In addition, the problems with flooding and poor seed quality mean that project impacts for agriculture were limited in 1998.

II. C. 3. External relations

Groups that receive external funding receive more visits from external groups and individuals, including other self-help groups, non-profit organizations, government officials, and neighbors. Our indicators of external interaction include group contributions to community fundraising, and the number of visits and assistance received by the groups. Groups that received funding do not have higher contributions at community fundraising events, but do receive a greater number of visits and technical assistance/advice.

Project groups do not contribute to a larger number of community fundraising (*harambees*), nor do they contribute more to *harambees* than comparison groups (not reported). Project groups report a much higher level of visits from outside groups and individuals than do comparison groups as reported in Table 10. These visits include government officials, NGO representatives, church officials, and other women's groups. Not surprisingly, groups with a higher number of male members who have official government or community positions received more visits than those who did not. Groups

located in zones with a higher level of ethno-linguistic fractionalization received a lower number of visits, as did groups with higher age heterogeneity in the group.

In summary, funding has no strong impact on social capital in these women's groups after one year. Funding does not appear to erode social capital among groups. Funded groups receive more visits from outside organizations and individuals. In addition, funded groups are more likely to re-organize, electing new officials to manage the group. Project funding does not significantly affect the mobilization of resources among groups. There may be a lag between funding and such effects, however, and our time frame may be too short to capture these effects. Funding does not appear to have strong effects on the use of sanctions or attendance rate of members at group activities; it may be that absenteeism is determined less by levels of motivation than by random events such as funerals and other emergencies.

III. PRIMARY SCHOOL FUNDING AND SOCIAL CAPITAL

This section of the paper investigates the impact of funding on social capital formation in primary schools. We measure social capital by parental and community support for schools, within-school effectiveness and staff motivation, and school interaction with local government officials and the local educational administration. As with the women's groups, the research uses a prospective evaluation to evaluate funded schools relative to their unfunded peers.¹ We evaluate the impacts of two types of support for schools: textbook provision and block grants to school governing committees. We find that in schools receiving grants, parental participation in school projects is higher, but there are no other strong effects. In schools receiving textbooks, funding increased the participation of parents and school committee officials at school meetings, improved teacher effort in school, and increased the involvement of government "teacher support" personnel. The first part of this section provides background on the schools in the sample. The next three sections examine the impacts of funding on the three components of social capital.

III. A. Background

School based research in both developed and developing countries indicates that social capital plays an important role in creating effective schools. Recent work in Nigeria, for example, indicates that trust between parents and teachers, the effectiveness and involvement of the local PTA, and the support and effectiveness of the governmental administration are key components in producing effective schools. (Francis, et al, 1998). A recent review of the literature on school effectiveness in developing countries also indicates that social capital is a crucial component of student outcomes in developing countries (Heneveld and Craig, 1996). There is less evidence, however, on how development assistance or outside funding affects social capital production in schools, the subject of this section of the paper.

Busia and Teso districts together have a total of 333 primary schools and a total enrollment of 124,000 students. Primary schools in the area are generally in poor physical condition and one-third of classes take place outside. Approximately half the students can sit at desks; the remainder sit on the floor. Schools usually have textbooks for teachers to use, but there are few textbooks for children. The national government hires, transfers and pays teachers, while parents finance school construction, equipment, supplies, and students' uniforms, which are mandatory for attendance. Total parent financing is roughly \$7.00 per student per year. Local school committees, composed primarily of parents, are responsible for raising funds from parents. The school committee sets fees at the beginning of the year, but, in practice, parents often do not pay the full fee. Students who have not paid the mandatory fees may be sent home from school, but often return with only a fraction of the required fee and are nonetheless

¹ Both project and comparison schools received chalk as a compensation for their involvement in the project.

readmitted. While the school administration clearly desires that fees be paid, they also have an interest in maintaining enrollment as a signal of school quality.

In late 1995, the Ministry of Education district office selected 100 schools in Busia and Teso districts to participate in ICS's School Assistance Program (SAP). These schools were chosen because they were considered to be particularly in need of assistance, but had not been assisted by an earlier World Bank textbook assistance program that targeted the neediest schools. The one hundred SAP schools were randomly divided into four groups to determine which groups would receive funding and when as follows. Schools were first grouped according to their geographic division within Busia. From this list, every fourth school, beginning with the first, was assigned to group one. Similarly, every fourth school beginning with the second was assigned to group two.² Group one schools received textbooks at the beginning of 1996 and again in 1997. Group two schools received a grant at the beginning of 1997.

The data used in this paper comes from surveys administered at the schools in early 1998. The surveys were administered to the schools by ICS field officers; the respondent is generally the headteacher or deputy headteacher. At this time, the first 25 schools (group 1 schools) had received textbooks,³ while the second 25 schools (group 2 schools) had received grants to the school committees.⁴ In this paper the 50 schools in groups one and two will be compared to the 50 schools that had not yet received assistance in 1998. Group one is referred to throughout as "textbook schools" and group two as "grant schools." The effects of assistance for each group are evaluated distinctly, and, indeed, we find that they affect schools in different ways. We should also note that 1997 was the second year of funding for textbook schools and this may help to explain the stronger results for textbook schools.

² The 100 schools were divided into four groups. Group three schools received a grant in March of 1998, and group four schools will receive assistance in 2000. This paper uses data from early 1998, and so group three and four schools form the comparison group.

³ The 25 schools in group one first received textbooks in January, 1996. English textbooks were provided in grades 3 through 7. Math textbooks were provided in grades 3, 5, and 7. Since almost half of grade 8 students already had math and English textbooks, ICS provided science textbooks in grade 8. In January 1997, grades 4 and 6 received math textbooks and grade 8 received agriculture texts. ICS also provided one copy of the accompanying teacher's guide for each set of books that was given. The books provided were published by the Kenya Institute of Education; they are the official government textbooks that follow the national curriculum. A 60 percent textbook per pupil ratio was provided in English and science, and a 50 percent textbook ratio was provided in math.

⁴ A block grant was given to each school, based on the student enrollment of the previous year. The schools received \$2.70 per student or an average of \$730 per school. The grant could be spent on any school inputs including building materials, furniture, learning materials, or supplies. The School Committee, formed of parent representatives and the headteacher, decided how the grant was to be used and the Parent Association (PTA) had to agree. On average, 43 % of the funds were spent on building materials, 47% on learning materials (generally books), 10% on furniture and 1% on supplies.

III. B. Effects of Funding on Social Capital in Schools

III. B. 1. Parental support and school governance

We find that support in the form of textbook provision has a positive affect on attendance at school meetings, but slightly negative effects on participation in school projects. Both sets of funded schools appear to experience some crowding out of funds from other sources, though the results are not statistically significant. Funding appears to lower participation in school projects at textbook schools, but to raise participation at grant schools.

Individual school policy is determined by a school committee composed of 14 members. Nine of these members are parent representatives for each grade level (including pre-primary classes); these parents are required to have a child who is a student in that grade. Three members represent the school's sponsor (usually a church) and are appointed by the sponsor, and two represent and are appointed by the district education board (DEB). Turnover among school committee members is relatively low. The average member is 49 years of age, has an average of close to three children in the school, and has served on the school committee for four years. The SC officials consist of a chairperson and a treasurer (both elected by the school committee itself), as well as the headteacher of the school. School committee decisions are usually ratified by the parent-teacher association (PTA). The PTA in Kenyan primary schools is not a distinct organization with separate officials and functions, but instead is the name given to school meetings called for parents to attend. Once the school committee has set policy (such as the fees) for the year, a parent (PTA) meeting is called. Both the PTA and the School Committee are expected to meet once per term, or three times per year. The quality of the school committee has an important effect on school organization, funding, and morale. A motivated, cooperative committee is clearly visible to the community and tends to encourage more support from parents. A divided committee can stall projects, frustrate parents, and lead to poor school performance and declining enrollments, as it is relatively easy for students to switch to another primary school.

Tables 11 and 12 summarize the data for meetings of the PTA and school committee for 1997. The tables suggest that textbook and grant schools have fewer school committee and PTA meetings; this is significant, however, only for the PTA meetings at textbook schools. The average number of meetings is just under three per year, but PTAs in textbook schools have almost one meeting less per year, on average. This seems surprising, if one expects that more meetings are equivalent to greater parental participation. In the Kenyan case, however, more meetings are often associated with higher levels of discord or more difficulty reaching consensus or obtaining parental contributions. In principle school committees and the parent association should meet three times per year. If school committees are unable to obtain parental approval for the school budget, however, or if sufficient funds have not been raised, then additional meetings will be called. Thus the lower number of PTA meetings per year suggests that school organizations in assisted schools may be functioning more smoothly.

Parental attendance at PTA meetings at textbook schools is higher than at comparison schools, though the variable is not quite significant at the 10% level. Table 13 shows that there is no significant difference in attendance at PTA meetings between grant and comparison schools. Headteachers and treasurers at textbook schools have higher attendance rates at PTA meetings, indicating a greater amount of participation and contact with parents. These officials are key members of the committee who play a crucial role in mobilizing parental support. The number of parents attending PTA meetings at textbooks schools is substantially higher (14 additional parents per school), though not quite significant at the 10% level. Overall schools committee attendance is also substantially higher, but again is not significant. Turning to attendance rates at school committee meetings themselves, the results are given in Table 14. Again, attendance rates are slightly higher than comparison schools for both textbook and grant schools, but these numbers are not significant at the 10% level. The school committee chair attends more meetings in textbook schools, and this difference is significant at the 5% level.

There is some evidence that ICS assistance crowds out assistance from other sources, though this difference is not statistically different. Table 15 shows that total reported expenditures on projects (excluding ICS assistance) is lower in both grant and comparison schools by a substantial amount, though the variance is quite large and the difference is not significant. Table 16 shows the amount of assistance received from ICS and from other sources for the textbook and comparison schools in 1996. The average value of the textbooks given by ICS was \$485. The average amount of non-ICS aid received by comparison schools was \$456, while the amount received by the textbook schools was lower, \$267. It appears that about 39% of value of the assistance provided by ICS was crowded out by a reduction in assistance from other sources.

Although the differences in non-ICS assistance reported in Table 16 are large, they are not statistically significant at even the 10% level in any of a wide variety of specifications due to the high standard errors resulting from the very large variation in the amount of assistance received from other sources. A few schools received large amounts of assistance, while most schools received nothing. Most of this funding comes from *harambees*, community fundraising events usually intended to fund school construction projects. Splitting the samples into small and large schools (based on median enrollment in the comparison schools) indicates that the difference in non-ICS assistance is due solely to differences among smaller schools. This makes sense, because it is the smaller, newer schools that are most likely to be incomplete and to still need additional classrooms.

How does funding affect other forms of participation? Table 17 shows the proportion of school committee members and parents who participated in school projects. This proportion is defined as the number of people participating out of the 16 categories of possible participants (this includes 14 school committee members, all parents as a single category, and 'other'). Participation can be in the form of management and oversight of projects or through the donation of labor or materials. Overall participation in projects is lower in textbook schools, and this difference is significant at the 10% level in two specifications. Participation is higher in wealthier areas, but lower in areas with

higher parental education. The degree of linguistic fractionalization among teachers is positively related to participation in projects. When we examine the impact of the interaction between linguistic fractionalization among teachers and textbook assistance, we find that participation is higher in textbook schools with teachers drawn from a wider ethno-linguistic spectrum. This may be because more parents have “allies” among teachers in these schools, or because more parents have a teacher with whom they feel comfortable and with whom they can communicate in their first language. Participation may be higher among grant schools because the funds given to school committees were used in large part to fund school construction projects. Often the schools request that parents assist with labor or the donation of materials for construction projects and school committee members are often given specific project management responsibilities.

Table 18 shows that more parents contribute labor to school projects in grant schools; this is significant at the 5% level. Again, this is probably a direct result of the funding being used for construction projects. Parental contribution of labor is higher at schools with a higher level of teacher ethno-linguistic diversity, perhaps again for the reasons cited above. There is no effect from including an interaction term. Parental contribution is also higher at schools with a higher level of teacher cooperation, as rated by the teachers, though this variable may again suffer from some endogeneity. Nonetheless, it appears as though teachers play an important role in mobilizing parental support in schools. None of the other social capital variables we examined were significant.

Finally, we examine the effects of assistance on the number of children that school committee members have in the school, shown in Table 19. In textbook schools, school committee members tend to have more of their own children in the school and this is significant at the 5% level. This suggests school committee members believe that assistance makes the schools more attractive and they are more likely to put their children into these schools. It may also mean that funded schools elect committee members who have more children in schools. It appears from the data, however, that turnover among school committee members is relatively low, and so this is unlikely to be the effect.

Thus textbook funding has significant effects on primary school social capital at schools receiving textbooks in terms of participation and governance. PTA meetings are fewer, but parental attendance at each meeting is higher. The attendance of school committee members at PTA meetings is higher and the school committee members are more likely to have their children attend textbook schools. Other forms of participation, however, are reduced. Parental and school committee participation in projects is lower, and the number of projects initiated is also lower. Participation in projects appears to be higher in schools with a more ethnically diverse teaching staff. The data suggest that funding in textbook schools crowds out outside assistance and lowers spending on school projects. In grant schools, funding has fewer effects. Most of the block grants were used for construction projects, and this increased participation in school projects, particularly for parents. Again, the level of participation was higher in schools with a more ethnically diverse teaching staff and in schools with higher levels of teacher cooperation. One caveat in these results is that it is difficult to distinguish here between the potentially

different effects of textbook versus block grant funding and the potential lag in the affects of assistance. The data presented here are for 1997, the second year of funding for textbook schools. Thus the higher impacts seen in those schools may be the results of lags in funding effects, rather than of higher effects for textbook funding.

III. B. 2. Teacher effort in schools

One important measure of social capital in a school setting is the level of effort put forth by teachers. Our results suggest that teachers in ICS funded schools are more likely to run extra coaching for students. As shown in Tables 20 and 21, a higher proportion of both textbook and grant schools run coaching sessions for students, but this is significant only for textbook schools, where 7 to 8% more of the schools run holiday or term coaching. Teachers in schools that received textbooks may be more motivated to run extra sessions because texts are now available, though most grant schools also used some of their block grant to buy texts. The presence of extra term time coaching is associated with schools that have higher levels of teacher cooperation and school committee cooperation, as evaluated by NGO field staff.

There is some additional evidence that teacher morale and involvement is higher at funded schools stemming from earlier studies (Glewwe, Kremer and Moulin, 1999). Data for textbook schools in 1996 indicates that teachers are 13% more likely to be present in the classroom in textbook schools, and 11% less likely to be absent from school. This evidence is reported in Table 22. Most of the primary schools in the study area are quite poor, even by district standards. Teaching at these schools carries relatively low status as compared with more developed schools. Student absenteeism is often high as students are sent home for non-payment of fees, and teacher absenteeism, too, is relatively high. The effects of the extra resources provided by assistance in this case could be quite strong.

Overall the data, though limited, suggest that funding has positive impacts on social capital among teachers in textbook schools, as measured by their willingness to run extra coaching sessions and through lower absenteeism and more frequent presence in the classroom. These impacts are more limited in grant schools. There is no clear evidence that funding impacts the level of cooperation among teachers, as teachers' subjective evaluation of the level of cooperation at their school does not vary by treatment group.

III. B. 3. Interaction with community and government

How does assistance affect the interaction between schools, communities, and the government? We measure this interaction by counting the number of visits that schools receive from government and other local officials, as well as the number of times that the school compound is used for community activities. We find that textbook schools received more visits than comparison groups from teachers advisory center (TAC) tutors, but fewer visits from local government officials. The TAC tutor is a government employee whose job is to assist schools in their use of resources and teaching methodologies. TAC tutors' visits to textbook schools were significantly more frequent

than visits to comparison schools as shown in Table 23; tutors paid nearly three additional visits to textbook schools than to grant schools and this difference is significant at the 5% level. TAC tutors were probably motivated to visit to textbook schools to work with teachers in using their new texts. In contrast, the number of visits by education officials did not significantly differ between comparison schools and either textbook or grant schools. Education officials, such as zonal inspectors and education officers, usually make a plan of school visits at the start of the school year. Such visits are apparently not affected by the provision of assistance. This is probably a healthy sign of relative impartiality on the part of such officials. It is also reassuring that, assuming that visits from educational officials are a helpful event, there is no indication that ICS funding is crowding out official attention to other schools. Local government officials visited textbook schools less often than comparison schools. The reduced number of visits to textbook schools by local officials (chiefs and sub-chiefs) appears to reflect a feeling that such schools are now “taken care of,” and there is less need to visit such schools. The extent to which this effect is helpful or unhelpful to schools is unclear and may depend to a large extent on the quality of the official. It may also reflect reduced political interference in the schools. How does assistance affect community/school interaction? We use the number of times that the community uses of the school compound for community events as a proxy for school-community interaction. We find no difference between textbook, grant, and comparison schools (not reported).

IV. CONCLUSIONS

This paper finds that, at least in the short run, outside funding has no strong effect on social capital formation among women's groups, in spite of the explicit goal of the funding to increase the organizational capacity and solidarity of the groups. Funded groups are more likely to re-organize, electing new officials to manage the group. In addition, funded groups have stronger links to outside organizations and individuals. Project funding, at least in the short run, does not significantly affect the mobilization of resources among groups. There may be a lag between funding and such effects, however, and out time frame may be too short to capture these effects. Funding does not appear to have strong effects on the use of sanctions or attendance rate of members at group activities. Some funded groups did experience conflict over the distribution of these new resources, but on average there is little clear cut difference between funded and comparison groups on any dimension of organizational capacity of strength after one year of the project.

The effects of funding in primary schools are most positive in schools participating in the textbook provision program. The grant program led to increased parental participation in school development projects, but had no other significant effects. Textbook provision increased the participation of parents and school committee officials at school meetings, improved teacher effort in school, and increased the involvement of government "teacher support" personnel. The data reported here are for the second year of the project, and this may explain why the impacts are stronger. In addition, textbook funding was relatively straightforward for schools to administer and involved little decision-making on the part of the school community, since each school received the same package of textbooks. In contrast, the block grants were relatively complicated to administer, and each school had to hold meetings to decide how to use this money. There is evidence from the assessment of the NGO field officers that schools located in more ethnically diverse areas experienced more difficulty in grant management, as did schools who had previously experienced conflict over the control and use of school resources. Nonetheless, it seems clear that the school funding strategy that was most explicitly designed to promote social capital had the least impact.

The results presented in this paper suggest that social capital is not easily created and the prospects for creating social capital through funding or policy may be limited. We also find that, at least in the short run, assistance specifically designed to strengthen cooperation and participation in organizations appears to have had no such effect. Funding does not appear on balance to have eroded social capital among groups or schools. However, these results are relatively short-term and it is possible that the effects funding and training will take a longer period to be fully realized.

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TABLES

Table 1
Group Descriptive Statistics
(Standard deviation in parenthesis)

Variable (standard deviation)	Comparison Group Mean		Assisted Group Mean	
Year group began	1990	(5.36)	1990	(4.81)
Percentage of groups that have merry-go-rounds	77.5		70.0	
Average member contributions to merry-go-round (in Ksh)	97.27	(79.73)	104.53	(186.76)
Percentage of groups with group farms	92.5		90.0	
Percentage of groups that have rotating labor system	55.0		42.5	
Average number of members in group	20.43	(7.50)	21.55	(8.05)
Average number of years in the group	5.26	(3.723)	5.46	(3.88)
Proportion of members who are women	.835	(0.165)	.792	(.166)
Average age of group members	40.1	(4.16)	41.6	(6.16)
Average years of education of group members	5.25	(1.90)	5.23	(2.69)
Proportion of members with an ironroof	0.514	(0.18)	.535	(.264)
Proportion of female members who are married	.975	(0.048)	.983	(.035)
Average distance in kilometers from a bank	18.1	(18.20)	17.18	(17.79)
Proportion of group members who rely solely on farm for income	0.593	(0.266)	0.561	(0.218)
Rates of absence at group meetings	0.135	(0.137)	0.115	(0 .134)
Rates of absence at group farm work meetings	.139	(0.170)	0.133	(0.194)
Probability of group holding an election in 1997 (pre- intervention)	15%		10%	

Table 2
Change in Group Size

	(1)	(2)
	Change in Group Size	Average Group Size in 1998
Change in groups size in funded groups	.444 (0.973)	22.14 (1.604)
Change in comparison groups	-3.18 (01.84)	20.574 (3.265)
Controls for geographic dummies	Y	Y
Observations	80	80
R-squared	0.21	0.10
Robust standard errors in parentheses		
+ significant at the 10% level; * significant at 5% level; ** significant at 1% level		

Table 3
Group Entry and Exit

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Number of Members Entering Group				Number of Members Who Left Group			Mean Group Size in 1998
Difference between comparison and funded groups	1.52 (0.582)*	1.58 (0.581)**	1.58 (0.570)**	1.61 (0.550)**	1.24 (0.801)	1.06 (0.759)	1.06 (0.765)	1.57 (1.604)
Group size in 1997		-0.052 (0.040)	-0.066 (0.040)	-0.030 (0.039)		0.163 (0.053)**	0.165 (0.054)**	
Avg years of education in 1997			-0.263 (0.136)+					
Size of largest ethnic group in 1997				-6.189 (2.056)**			-0.539 (2.857)	
Mean for comparison groups	1.191 (1.183)	2.416 (1.516)	3.943 (1.682)	6.257 (1.922)	4.705 (1.630)	0.841 (1.983)	1.175 (2.670)	20.574 (3.265)
Dummy for geographic divisions	Y	Y	Y	Y	Y	Y	Y	Y
Observations	80	80	80	80	80	80	80	80
R-squared	0.26	0.28	0.31	0.36	0.06	0.17	0.17	0.10
Standard errors in parentheses + significant at 10% level* significant at 5% level; ** significant at 1% level								

Table 4
Dependent Variable: Probability that Group Levies a Fine for Missing
a Meeting During Project Period
 Probit regression with robust standard errors

	(1)	(2)
Dummy for assisted groups	-0.359 (0.309)+	-0.579 (0.333)+
Average age of members		-0.043 (0.043)
Number of married couples in group		0.098 (0.046)*
Proportion of group with 0 years of formal education		2.261 (1.104)*
Total number of community projects identified by groups.		0.362 (0.169)*
Dummy for regions	Y	Y
Per capita group wealth	Y	Y
Coefficient for comparison groups	0.373 (0.308)	0.935 (1.632)
Observations	76	74
Robust standard errors in parentheses		
Predicted probability for assisted groups	.589	.580
Predicted probability for control groups	.744	.739
* significant at 5% level; ** significant at 1% level; + significant at 10% level		

Table 5
Dependent Variable: Absenteeism Rates at Group Meetings 1997-1998
 OLS regression with robust standard errors

	(1)	(2)
		Mean Absence Rates
Dummy for assisted groups	0.046 (0.045)	0.173 (0.044)
Dummy for regions	Y	
Constant	0.048 (0.043)	0.123 (0.036)
Observations	76	
R-squared	0.08	
Robust standard errors in parentheses		

Table 6
Dependent Variable: Absenteeism Rates for Group Farmwork, 1997-1998
 OLS regressions with robust standard errors

	(1)	(2)
		Mean Absence Rates
Dummy for assisted groups	0.094 (0.046)*	0.209 (0.0450)
Dummy for regions	Y	Y
Change for comparison groups	-0.016 (0.062)	0.079 (0.079)
Observations	71	78
R-squared	0.05	0.11
Robust standard errors in parentheses		
*significant at 5 level		

Table 7
Elections of Officials
 Probit estimation with robust standard errors

	(1)	(2)	(3)
Dependent Variable: Probability of Holding an Election			
Dummy for assisted groups	0.488 (0.298)+	0.421 (0.309)	0.538 (0.314)+
Average age of members		0.000 (0.040)	-0.004 (0.045)
Average years of education of members		-0.138 (0.091)	-0.076 (0.107)
Age heterogeneity in group ¹			2.972 (1.566)+
Religious fractionalization in group ²			1.119 (0.789)
Number of years the group has been in operation			0.044 (0.038)
Dummy for regions	Y	Y	Y
Per capita group assets	Y	Y	Y
Coefficient for comparison groups	-0.264 (0.279)	0.453 (1.886)	-2.183 (2.466)
Observations	74	70	70
Robust standard errors in parentheses			
Predicted probability for assisted groups	.617	.539	.575
Predicted probability for comparison groups	.425	.410	.410

*significant at 5% level; ** significant at 1% level, +significant at 10% level

¹. Defined as the probability that 2 members drawn at random belong to 2 different age groups, based on the following categories: under 30, 30-40 years of age, 40-50 years of age and over 50.

². Defined as the probability that 2 members drawn at random belong to 2 different religions. The implication here is that members of the same religion will attend the same church services.

Table 8
Group Assets
OLS Regressions

Robust standard error in parentheses
(data in Kenyan Shillings, Ksh 58/ \$1)

	Mean for Comparison Groups	Project Groups (Mean)
Amount in bank (per member)	601.53 (130.61)	893.38 (1087.78)
Amount held with treasurer	82.59 (17.08)	-22.49 (23.45)
Members debts to group from loans and unpaid shares, per member	157.99 (50.71)	-108.93** (51.45)
Members total debt to group, including unpaid fines, per members	241.98 (68.71)	-111.05 (77.57)
Value of stock of animals	248.11 (76.45)	89.40 (116.21)
Value of projects ²	24.42 (12.81)	139.294 (100.59)
Value of project stock ²	373.50 (217.72)	-116.95 (245.09)
Total assets	248.11 (76.45)	89.40 (116.21)
N=80		

²=these 2 variables exclude the data from group 44, a project group, which had extraordinarily high levels of project assets. Even with group 44 included, however, the results are not significant.

Table 8a
Value of Harvest at End of Project Period¹

	Mean for Comparison Groups	Difference for Project Groups
Total value of harvest of all crops in long rains 1998	1064.08 (176.28)	873.12** (349.32)
Total reported value of long and short rains harvest	2204.22 (4214.51)	395.8 (742.56)

** Significantly different from constant (comparison) at the 5% level.

¹Group 27 is excluded from this regression as the value of their harvest is 20 times the average harvest value in the sample.

Table 9

**Dependent Variable: Number of Times Group Visited
a Member's Home to Give Advice or Assistance**
Ordered probit estimation with robust standard errors

	(1)	(2)
Dummy for assisted groups	0.280 (0.257)	-0.085 (0.362)
Proportion of members over 50		-1.144 (0.941)
Average members years of education		0.011 (0.083)
Per capita group assets	0.0002 (0.00008)*	0.0001 (0.00009)+
Per capita group assets * dummy for assisted		0.0003 (0.00016)+
Age of group		-0.049 (0.035)
Religious heterogeneity ¹		1.140 (0.606)+
Number of active members in group		0.024 (0.017)
Dummy for regions	Y	Y
Observations	76	76

Robust standard errors in parentheses

* significant at 5% level; ** significant at 1% level; + significant at the 10% level

¹ Defined as the probability that 2 members drawn at random belong to 2 different religions.

The implication here is that members of the same religion will attend the same church services.

Table 10
Dependent Variable: Number of Visits Received by Groups¹
 OLS regression with robust standard errors

	(1)	(2)	(3)	(4)
Dummy for assisted groups	1.131 (.627)+	1.143 (0.663)+	1.286 (0.649)*	1.190 (0.669)+
Average age of members		0.053 (0.083)	0.047 (0.078)	-0.006 (0.074)
Average years of education of members		-0.161 (0.176)	-0.107 (0.184)	-0.234 (0.298)
Ethno-linguistic fractionalization in zone			-3.613 (2.078)+	-3.591 (2.113)+
Age heterogeneity in group				-7.890 (3.127)*
Number of local elites in group				1.218 (0.311)**
Proportion of members with salaried job				-4.185 (4.458)
Dummy for regions	Y	Y	Y	Y
Dummy for assets/member		Y	Y	Y
Mean for comparison groups (constant)	4.671 (0.718)	3.480 (3.697)	4.831 (3.586)	12.107 (4.118)
Observations	76	76	76	75
R-squared	0.09	0.12	0.15	0.29

Robust standard errors in parentheses

* significant at 5% level; ** significant at 1% level, +significant at 10% level

¹ This includes visits from NGOs, government officials, churches, politicians, and other women's groups.

Table 11
Dependent Variable: Number of School Committee Meetings in 1997
 OLS regressions with robust standard errors

	(1)	(2)	(3)
Dummy for textbook schools	-0.351 (0.550)	-0.391 (0.554)	-0.337 (0.572)
Dummy for grant schools	-0.714 (0.551)	-0.747 (0.607)	-0.733 (0.602)
Proportion of households with iron roof, Zonal level		2.464 (2.541)	
Proportion of students in schools with fathers with post-primary education		-0.953 (1.627)	
Proportion of fathers in zone with post- primary education			-0.773 (1.890)
Proportion of households in school with iron roofs			1.667 (2.488)
Mean for comparison schools (constant)	3.217 (0.453)	3.039 (0.818)	3.127 (0.882)
Observations	91	91	88
R-squared	0.13	0.13	0.13
Robust standard errors in parentheses			
* significant at 5% level; ** significant at 1% level			

Table 12
Dependent Variable: Number of PTA Meetings in 1997
 OLS regressions with robust standard errors

	(1)	(2)	(3)
Dummy for textbook schools	-0.826 (0.330)*	-0.785 (0.313)*	-0.790 (0.323)*
Dummy for grant schools	-0.347 (0.302)	-0.322 (0.309)	-0.269 (0.337)
Proportion of households with iron roof, Zonal level	(0.328)	-2.184 (2.389)	
Proportion of students in schools with fathers with post-primary education		1.158 (2.429)	
Proportion of fathers in zone with post- primary education			-0.264 (1.461)
Proportion of households in school with iron roofs			-1.038 (2.943)
Mean for comparison schools (constant)	2.698 (0.346)	2.717 (0.933)	3.062 (0.653)
Observations	93	93	90
R-squared	0.19	0.19	0.20
Robust standard errors in parentheses			
* significant at 5% level; ** significant at 1% level			

Table 13
Attendance at PTA Meetings
 OLS Regressions with robust standard errors

Dependent Variable:	(1)	(2)	(3)	(4)	(5)
	Parent Attendance	School Committee Attendance	Headteacher Attendance	Treasurer Attendance	Chair Attendance
Dummy for textbook schools	14.716 (9.513)	1.511 (1.059)	0.047 (0.023)+	0.107 (0.050)*	0.120 (0.070)
Dummy for grant schools	2.535 (5.675)	-0.304 (0.930)	0.021 (0.043)	0.044 (0.057)	0.036 (0.074)
Proportion of households with iron roof, Zonal level			-0.132 (0.230)	0.778 (0.505)	
Proportion of fathers in zone with post-primary education			0.083 (0.295)	-0.072 (0.285)	
Dummy for divisions	Y	Y	Y	Y	Y
Mean for comparison schools (constant)	27.085 (5.694)	8.564 (1.426)	0.935 (0.094)	0.638 (0.213)	0.896 (0.065)
Observations	60	66	65	65	65
R-squared	0.16	0.24	0.07	0.25	0.16
Robust standard errors in parentheses					
* significant at 5% level; ** significant at 1% level; + significant at the 10% level					

Table 14
Attendance at School Committee Meetings
 OLS Regressions with robust standard errors

Dependent Variable	(1)	(2)	(3)	(4)
School Committee Attendance	School Committee Attendance	Headteacher Attendance	Treasurer Attendance	Chair Attendance
Dummy for textbook schools	0.028 (0.025)	0.029 (0.024)	-0.039 (0.055)	0.069 (0.027)*
Dummy for grant schools	0.026 (0.034)	0.031 (0.028)	-0.019 (0.084)	0.031 (0.043)
Mean for comparison schools (constant)	0.590 (0.030)	0.955 (0.025)	0.858 (0.071)	0.945 (0.022)
Observations	87	86	86	86
R-squared	0.12	0.06	0.11	0.08
Robust standard errors in parentheses				
* significant at 5% level; ** significant at 1%; + significant at the 10% level				

Table 15
Total and Average Costs of School Projects in 1997
 OLS Regressions with robust standard errors
 (data in Kenyan Shillings, Ksh 58/ \$1)

Dependent Variable	(1) Total cost of projects in 1997	(2) Total cost of projects in 1997	(3) Average cost of school projects in 1997	(4) Average cost of school projects in 1997
Dummy for textbook schools	-10,839 (6,421)	-10,284 (6,542)	-4,040 (4,125)	-3,320 (4,391)
Dummy for grant schools	-2,267 (8,764)	-1,127 (8,771)	-192 (3,899)	-414 (3,897)
Proportion of households with iron roof, Zonal level		-2,810 (33,298)		-35,601 (28,169)
Proportion of fathers in zone with post-primary education		-28,932 (28,366)		23,582 (15,964)
Dummy for divisions	Y	Y	Y	Y
Observations	100	100	81	81
R-squared	0.11	0.12	0.13	0.14
Robust standard errors in parentheses				
* significant at 5% level; ** significant at 1% level, + significant at the 10% level				

Table 16
Assistance Received from ICS and from Other Sources in 1996 (in U.S. dollars)

	Textbook Schools ^a	Comparison Schools ^a	Difference ^a
<i>All Schools</i>			
ICS assistance:			
Mean	485 (94)	--	--
Standard deviation	231	--	--
Non-ICS assistance:			
Mean	267 (94)	456 (154)	-189 (272)
Standard deviation	470	1330	--
Number of schools	25	75	--
<i>Large Schools</i>			
Non-ICS assistance:			
Mean	421 (153)	291 (152)	130
Standard deviation	574	923	--
Number of schools	14	37	--
<i>Small Schools</i>			
Non-ICS assistance:			
Mean	71 (50)	606 (271)	-535
Standard deviation	165	1650	--
Number of schools	11	37	--

^a Standard errors of the means are shown in parentheses.

Source: Glewwe, Kremer and Moulin, 1999.

Table 17
Dependent Variable: Number of School Committee Members and Parents¹ Who Participated in School Projects in 1997
 OLS regression with robust standard errors

	(1)	(2)	(3)	(4)
Dummy for textbook schools	-2.171 (1.429)	-2.584 (1.471)+	-2.362 (1.516)	-3.228 (1.581)+
Dummy for grant schools	2.469 (1.838)	1.795 (2.021)	1.643 (1.872)	1.654 (1.903)
Proportion of households with iron roof, school level		7.633 (7.903)	7.559 (7.901)	7.642 (7.976)
Proportion of fathers in zone with post-primary education		-4.159 (8.221)	-5.026 (8.206)	-4.332 (8.635)
Proportion of households with iron roof, Zonal level		12.155 (13.494)	10.469 (13.864)	9.977 (14.078)
Teacher ELF ²			11.460 (3.764)**	10.441 (4.162)*
Textbook * Teacher ELF				4.570 (7.602)
Mean for comparison schools (constant)	7.140 (2.622)	4.244 (5.273)	0.293 (5.541)	0.182 (5.503)
Dummy for divisions	Y	Y	Y	Y
Observations	100	97	95	95
R-squared	0.13	0.14	0.21	0.21

Robust standard errors in parentheses

+ significant at 10% level * significant at 5% level; ** significant at 1% level

¹ In this case, any parental participation is counted as a single participant, along with each school committee member.

² Measured by teacher's surveys in 1995. Defined as the probability that 2 teachers drawn at random will come from two different lingu

Table 18
Dependent Variable: Proportion of Parents Who Contributed Labor to School Projects
 OLS regressions with robust standard errors

	(1)	(2)	(3)	(4)	(5)
Dummy for textbook schools	-0.070 (0.093)	-0.090 (0.094)	-.105 (.096)	-0.070 (0.094)	-0.098 (0.096)
Dummy for grant schools	0.250 (0.107)*	0.215 (0.114)+	.236 (.109)*	0.299 (0.123)*	0.216 (0.106)+
Proportion of households with iron roof, Zonal level		0.445 (0.980)		-0.067 (1.137)	0.355 (1.077)
Proportion of fathers in zone with post-primary education		0.582 (0.938)		0.876 (1.159)	0.063 (1.216)
Proportion of fathers in school with post-primary education			.487 (.285)		0.483 (0.466)
Proportion of households with iron roof, school level			.115 (.353)		
Dummy for school with high teacher cooperation ¹				0.323 (0.163)+	
Teacher ELF ²					0.699 (0.263)*
Dummy for divisions	Y	Y	Y	Y	Y
Mean for comparison schools	0.172 (0.089)	-0.195 (0.254)	-.061 (.159)	-0.324 (0.297)	-0.439 (0.327)
Observations	100	100	97	92	95
R-squared	0.13	0.15	.16	0.24	0.22

Robust standard errors in parentheses

* significant at 5% level; ** significant at 1% level, + significant at the 10% level

¹ As self-rated by teachers in school surveys. Defined as the proportion of teachers who rated their own school as having “high” levels of teacher cooperation relative to other schools.

² Measured by teacher’s surveys in 1995. Defined as the probability that 2 teachers drawn at random will come from two different linguistic groups.

Table 19
Dependent Variable: Number of Children of School Committee Officials Attending the School
 OLS Regressions with robust standard errors

	(1)	(2)	(3)	(4)
Dummy for textbook schools	0.844 (0.297)**	0.785 (0.319)*	0.755 (0.309)*	0.705 (0.336)*
Dummy for grant schools	0.607 (0.407)	0.496 (0.385)	0.560 (0.434)	0.486 (0.424)
Proportion of households with iron roof, Zonal level		-0.930 (4.327)		-1.187 (4.096)
Proportion of fathers in zone with post-primary education		3.847 (4.972)		4.125 (4.678)
Proportion of fathers in school with post-primary education			1.201 (1.758)	0.312 (1.551)
Proportion of households with iron roof, school level			0.654 (1.506)	
Teacher ELF				-0.474 (0.874)
Mean for comparison schools	2.599 (0.293)	1.110 (2.046)	1.919 (0.887)	1.143 (2.172)
Observations	94	94	91	89
R-squared	0.11	0.13	0.12	0.13
Robust standard errors in parentheses				
* significant at 5% level; ** significant at 1% level				

Table 20
Dependent Variable: Number of Times School Held Extra Coaching During Holidays in 1997 and First Term 1998
 OLS Regressions with Robust standard errors

	(1)	(2)	(3)
Dummy for textbook schools	0.085 (0.038)*	0.074 (0.039)+	0.076 (0.039)+
Dummy for grant schools	0.044 (0.037)	0.030 (0.040)	0.031 (0.036)
Proportion of households with iron roof, Zonal level		0.502 (0.270)+	
Proportion of students in schools with fathers with post-primary education		0.011 (0.263)	
Proportion of students in zone with fathers with post-primary education			0.120 (0.188)
Proportion of households in school with iron roofs			-0.039 (0.209)
Dummies for divisions	Y	Y	Y
Mean for comparison schools	0.256 (0.030)	0.127 (0.084)	0.218 (0.074)
Observations	97	97	94
R-squared	0.18	0.21	0.20
Robust standard errors in parentheses			
* significant at 5% level; ** significant at 1% level; + significant at 10% level			

Table 21
Dependent Variable: Number of Times School Undertook Term Time Coaching in 1997 and 1998
 OLS Regressions with robust standard errors

	(1)	(2)	(3)	(4)
Dummy for textbook schools	0.165 (0.079)+	0.152 (0.083)	0.215 (0.093)*	0.177 (0.079)*
Dummy for grant schools	0.127 (0.077)	0.105 (0.079)	0.138 (0.082)	0.072 (0.063)
Proportion of households with iron roof, Zonal level		0.044 (0.721)	-0.772 (0.814)	-0.446 (0.704)
Proportion of fathers in zone with post-primary education		0.690 (0.526)	1.178 (0.664)	0.735 (0.546)
Dummy for school with high school committee cooperation ¹			0.131 (0.064)+	
Level of cooperation among teachers at school ²				0.304 (0.100)**
Dummies for regions	Y	Y	Y	Y
Mean for comparison schools	0.557 (0.059)	0.241 (0.182)	0.239 (0.223)	0.242 (0.157)
Observations	94	94	69	88
R-squared	0.11	0.13	0.26	0.25

* significant at 5% level; ** significant at 1% level; significant at 10% level

¹ As evaluated by NGO field staff for 75 primary schools. See Appendix C for evaluation criteria.

² As self-rated by school teachers in 1998 survey. Defined as the proportion of teachers who rated their own school as having “high” levels of teacher cooperation relative to other schools.

Table 22
Differences in Teachers and Student Activities across Textbook and Comparison Schools-1996

<i>Classroom Activities(as percent of total classroom time)</i>	<i>WLS-RE</i>	<i>Mean % in Comparison Schools</i>
Teacher absent from school	-11.78** (5.38)	28.4
<i>Classroom Events (whether they occurred)</i>		
	<i>RE Probit</i>	<i>Expected Change^a in Probability</i>
Teacher present	0.36** (0.18)	[+0.13]

Standard errors given in parentheses.

- * = 10% significance
- ** = 5% significance
- *** = 1% significance

Expected changes in probability are mean values of other variables (probit). For ordered probits, the figures in brackets are expected change in number of days per weeks that child takes textbook home or expected change in categorized variable of teacher staying in class.

Source: Glewwe, Kremer and Moulin, 1999.

Table 23
Dependent Variable: Visits to School by Educational and Political Officials

Dependent Variable:	Visits by TAC Tutor	Visits by TAC Tutor	Visits by TAC Tutor	Visits by Chief or Sub-chief	Visits by Chief or Sub- chief
Dummy for textbook schools	2.912 (0.739)**	2.948 (0.803)**	2.728 (0.804)**	-2.017 (0.846)*	-2.091 (0.841)*
Dummy for grant schools	1.089 (0.738)	0.862 (0.680)	0.746 (0.747)	-0.574 (1.473)	-0.848 (1.619)
Proportion of households with iron roof, Zonal level		-16.658 (11.678)			-1.012 (9.460)
Proportion of fathers in school with post-primary education		19.103 (13.337)			7.621 (10.399)
Proportion of fathers in zone with post-primary education			4.284 (4.700)		
Proportion of households in school with iron roofs			-2.017 (4.679)		
Dummies for Administrative regions	Y	Y	Y	Y	Y
Mean for comparison schools	3.166 (0.927)	-1.212 (4.434)	1.918 (1.721)	5.553 (1.120)	2.418 (3.336)
Observations	97	97	94	95	95
R-squared	0.31	0.39	0.33	0.14	0.14

* significant at 5% level; ** significant at 1% level; significant at 10% level

APPENDIX A
ICS INPUTS GIVEN TO WOMEN'S GROUPS

TOOLS GIVEN DURING SURVEY ADMINISTRATION:

TREATMENT				COMPARISON			
Initial survey		Unit value	Total value		Unit value	Total value	
	4 Jembes	200	800	4 Jembes	200	800	
	1 Pangas	200	200	1 Pangas	200	200	
	1 Slasher	210	210	1 Slasher	210	210	
	1 File	140	140	1 File	140	140	
			1350				1350
March Follow up					Unit value	Total value	
	(not given because they had received assistance)			1 Rake	150	150	
				1 Spade	200	200	
				1 H20 can	600	600	
							950
Year 2 Survey		Unit value	Total value		Unit value	Total value	
	5 Jembes	200	1000	3 Jembes	200	600	
	2 Spades	200	400	1 Spades	200	200	
	1 File	140	140	1 File	140	140	
	1 Panga	200	200	1 Panga	200	200	
	1 Spade	200	200	1 Spade	200	200	
			1940				1340

TOTALS						Compar
	Assisted total	Assited per group	Assisted per indiv	Comparison total	Compar per group	per indiv.
Value of Assistance:						
Group Training	275000	6875	264			
Agric Training	576000	14400	554			
Seeds	111440	2786	107			
Farm implements	376400	9410	362			
Fertilizer & Chemicals	240000	6000	231			
Survey:						
Initial survey	54000	1350	52	1350	1350	52
March followup				950	950	37
Year 2 survey	77600	1940	75	1340	1340	52
TOTALS- Ksh	1632840	42761	1645		3640	140
TOTAL - US \$	28152	737	28		63	2

Appendix B

Women's Group Surveys

Initial survey	June – August 1997
Group management training	October 1997
Agriculture training	February 1998
Seeds and implements given out	March 1998
Follow up survey (Harvest info for 1997)	March 1998
Observation survey	July-August 1998
Year 2 group survey	September-October 1998
Year 2 follow up (Harvest info for 1998)	April-May 1999