

The Rockefeller Effect

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“THE ROCKEFELLER EFFECT”

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Abstract

Many argue that organizations of the disadvantaged create positive externalities, and in particular strengthen the position of these groups in society. A natural inference is that these organizations should be subsidized. We argue that the benefits of expanding the operations of these groups must be set against the potential costs of weakening the role of the disadvantaged in these organizations. A prospective, randomized evaluation of a development program targeted at strengthening rural women’s groups in western Kenya suggests that the program did not improve group strength or functioning as measured by participation rates, assistance to members, and assistance to other community projects. The funding did, however, change the very characteristics of the groups that made them attractive to funders in the first place. Younger, more educated women and women employed in the formal sector joined the groups, and men and better-educated and wealthier women moved into key leadership positions.

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“What is it...that the poor reply when asked what might make the greatest difference to their lives? They say, organizations of their own so that they may negotiate with government, with traders, and with nongovernmental organizations. Direct assistance through community driven programs so that they may shape their own destinies. Local ownership of funds, so that they may put a stop to corruption”

James D. Wolfenson, World Bank President, speaking to the annual meeting of the Board of Governors of the World Bank 1999 (also cited in Hoddinott, 2002).

“I’m afraid money would spoil this thing.”

John D. Rockefeller, 1940, in response to a request for funding by Alcoholics Anonymous (de Gruif, 1960).

1. Introduction

Foreign donors are increasingly funding local community organizations or the poor and disadvantaged in developing countries (Smillie and Helmich, 1999). For example, from 1996 to 2003, World Bank funding for community-driven development increased from \$700 million to \$2 billion.¹ The emphasis on assisting community organizations of the poor flows from the confluence of two intellectual traditions. One views independent community organizations with horizontal ties among members as conveying broad benefits on society as a whole (Putnam, 1993). In this view, such organizations may provide a public good in the form of an active civil society that contributes to economic development (Stiglitz, 2002). Another view emphasizes power relations, arguing that some community organizations may serve as a tool to exclude certain groups or maintain power of elites. If both views have some validity, then it

¹ From the World Bank Website: “A Changing World Bank: We Have Sharpened Our Focus” <http://web.worldbank.org/WBSITE/EXTERNAL/NEWS/0,,contentMDK:20040866~menuPK:34480~pagePK:34370~theSitePK:4607,00.html>. Accessed on February 2, 2004.

seems reasonable to stress the role of organizations of the poor and disadvantaged as a form of collective action that promotes justice and equality.

However, subsidizing indigenous organizations of the disadvantaged involves a tradeoff. While outside funding could potentially expand the activities of these groups, their organizational capacity, and the positive externalities for the disadvantaged created by these groups, it could also potentially lead to takeover of the organization by elites or transform the horizontal nature of these organizations through professionalization and the creation of hierarchies.

The oft-cited story of John D. Rockefeller and Alcoholics Anonymous illustrates the dilemma. The founding principles of Alcoholics Anonymous (AA) included anonymity, open membership, and locally organized chapters without any central administration or funding. John D. Rockefeller was a great believer in the work of AA, but refused to provide large scale funding, saying he feared that this would undermine the very basis for the organization's success (De Gruif, 1960). As Bill Wilson, founder of AA later said, Rockefeller's decision "...saved us from professionalism."²

In spite of the enthusiasm on the part of the international donor community for decentralized, community-based projects, however, there are few systematic evaluations of how development assistance affects organizational capacity of community groups or the participation of the disadvantaged in these groups (Hoddinott, 2002; Gallasso and Ravallion, 2001). The descriptive evidence that does exist is mixed. For example, Krishna, Uphoff and Esman (1997) argue that donor funding played a role in strengthening voluntary village groups of the poor in the Sahel region of West Africa and

² www.historyofaa.com/billw/services.htm

in rural Bolivia. However, several authors have interpreted evidence from case studies as suggesting that outside funding of local organizations has reduced the role of the disadvantaged within these groups. Stiles suggests that outside support of nongovernmental organizations (NGOs) in Bangladesh has biased their activities away from poverty alleviation and development (2002). Garforth (1994) argues that government funding of rural people's organizations in Thailand led to new patterns of exclusion of the rural poor as well as increased dependency of grassroots organizations on the government and donor agencies. Finally, Howes (1997) argues that when a project in central Kenya provided water tanks to self-help groups and other community organizations, local self-help groups were particularly vulnerable to elite takeover and dominant members of the groups were able to appropriate water tanks for their private use.

A key difficulty in studies examining the impact of funding on local organizations is distinguishing the direction of causality. A correlation between outside funding and elite capture, for example, may arise because funding attracts elites or because elites are more successful at securing funding. Similarly, a correlation between groups' organizational strength and outside funding could arise because better groups attracted more funding, because funding led to stronger organizations, or because of some third factor.

We assess the impact of a development program explicitly targeted at strengthening organizational capacity among rural self-help women's groups in western Kenya. Since the nongovernmental organization (NGO) that implemented the program had limited financial and administrative resources, the program was phased in gradually

and the order of phase in was determined randomly. Differences between program groups and groups that had not yet participated in the program should therefore be attributable to the effects of the program.

We find the funding program we study provided little benefit in terms of improving organizational strength, but that it changed those characteristics of groups that made the groups attractive to funders in the first place. The program increased entry into groups and into leadership positions by younger, more educated women, by women employed in the formal sector, and by men. If funders believe there is some positive externality when grassroots organizations of the disadvantaged are managed by the disadvantaged themselves, these results suggest a downside to outside funding of these organizations. Moreover, as far as we can see, new entrants did not compensate exiting members for the full value of project benefits, suggesting that these original group members did not have enforceable property rights in group membership or that recipients valued project benefits at far less than their cost.

The rest of the paper proceeds as follows. Section 2 provides background on women's groups in Kenya. Section 3 presents a simple framework to motivate our empirical analysis of how outside funding affects the activities, composition, and leadership of women's groups. Section 4 discusses the project we study and presents the empirical data. Section 5 examines the groups' choice of who to send for training. Section 6 discusses the project's impact on group the agricultural and financial activities. Section 7 discusses the program's impact on group cohesion, community interaction and externalities. Section 8 discusses how the program affected group composition and leadership, and the final section concludes.

2.0 Women's Groups in Kenya

Sub-Saharan Africa is reported to have the most extensive female solidarity organizations of any developing region in the world (Staudt 1986 as cited in Thomas, 1988). In Kenya, a country with a very rich set of community organizations, women's groups may well be the most widespread form of secular community organization that does not rely on support from the government or foreign donors. Women's groups are particularly prevalent in densely settled agricultural areas of Kenya, such as the setting for this project, where it estimated that half of all adult women belong to a women's group (Hammerslough, 1994 as cited in Udvardy, 1998).

Women's groups in Kenya have their roots in a long tradition of community self-help groups, such as funeral and rotating labor clubs. Many groups undertake income-generating projects, typically agricultural. Most groups engage in labor exchange. Most groups provide insurance in the form of emergency assistance to members in the face of adverse financial shocks. The majority also run rotating savings and credit associations.

Women's groups arguably create positive externalities for non-participants, particularly women, in a variety of ways. Many contribute to community fundraising events (*harambees*), that remain a key mechanism for raising local funds for public goods such as schools and health clinics in Kenya (Miguel and Gugerty, 2003; Thomas, 1988). Women's groups in Kenya have been critical in campaigns to reduce deaths from the brewing of illegal liquor and in the prevention of violence against women (United Nations, 2003; Kahler, 2000). Miguel and Kremer (2003) argue that women's groups in western Kenya may play an important role in technology diffusion. Anderson and

Baland (2002) argue that women's rotating savings and credit associations in Kenya improve women's bargaining position within the household.

Women's groups also arguably exemplify the type of horizontal organization emphasized by Putnam. Most women's groups in Kenya have a similar structure. The executive officials - chairlady, secretary and treasurer - organize and chair meetings, set meeting agendas, and represent the group at community events. These executive officials are almost always women. In addition to the executive officials, most groups typically have a large number of other officials, relative to membership size. In our sample, on average 32% of the group members hold some kind of official position. Group leaders are unpaid, rather than professionals, and key group decisions are made by consensus or by a vote of local members. Leaders are typically selected by members, either through a voting procedure or by discussion and consensus. Women's groups are required to register with the government, but most groups receive no outside funding or government support, apart from occasional visits by Community Development Assistants (CDAs) employed by the Ministry of Culture and Social Services who are supposed to provide organizational support. Some authors argue that politicians and the government have tried to replace the horizontal ties among women's group members with vertical patron-client relationships with the state by using these groups to mobilize votes, for example through the *Maandeleo wa Wanawake* (Progress for Women) organization, established in the colonial period and later made part of the KANU ruling political party. However, in the area we study rural women's groups do not seem to be part of the political structure consistent with Kabira and Nzioki (1993) and Ahlberg (1988).

The groups we study had been in existence for some time prior to the NGO funding project. Prior to the intervention, the average group had been in operation for 6.7 years and had 21 members. The average member was 40 years old and had approximately 5 years of formal education; 32 percent of members on average had no formal schooling. 57 percent of members report no income source other than their farm; only 14 percent of group members have a regular income from a job or business. In our sample, roughly 20% of group members are male. They are typically the husbands of female members. The recruitment of men into women's groups appears to be a common practice in Kenya (Srujana, 1996).

3.0 Analytical Framework

We assume individuals choose whether to devote resources to home production or to production through a community organization, such as the women's groups that are the focus of this study. Output (Y) depends on the amount of land (T), labor (L), capital (K), and human capital (H) invested in each sector. Outside NGO assistance can provide additional capital and can also be seen as providing an additional input, N , such as connections. A key justification for aid to organizations of this type is that they provide some type of collective benefit beyond what could be achieved by giving resources to members individually; again we will assume that groups create externality benefits X_g , and that these tend to accrue to people outside the group with the same socio-economic status as group members or leaders. For example, when women's groups agitate against illegal brewing of alcohol, this presumably helps other rural women.

We also assume that members and officers of the organization obtain private benefits P_i through group membership or leadership. For example, some women may appreciate the chance to socialize with other women in a structured, socially sanctioned way outside of kin groups or church, without husbands running the show. Others may value the opportunity to attend a training session in the district headquarters or see involvement in the group as a springboard to a political career or as a way to get a job with an NGO at some point. The nature and extent of these private benefits are likely to vary with the person's characteristics: older women with little education are unlikely to have much hope of a career in politics or a position with an NGO, but may well value the opportunities for social interaction afforded by women's groups. The educated, the young and the male may have relatively more career benefits from group membership or leadership. Provision of outside funding by an NGO is likely to enhance career-related private benefits, but do less for socialization benefits. As an example, among the women's groups we study, one group leader from a funded group was promoted to the position of assistant chief, the first female to ever hold such a position in the area. Her management of her women's group was cited as a key factor in her appointment.

An individual's income from individual and household production is given by $Y_{h,i}$. We assume that output of the group (Y_g) is owned by the members. We are agnostic on who has the right to decide on who is admitted to the group. This may be the existing members. But it may also be difficult for existing members to exclude prominent people in the community from joining.

Individual home production for person i is given by

$$Y_{h,i} = f(T_i, L_i, H_i, K_i).$$

Group production is given by

$$(X_g, Y_g) = g(T_g, L_g, H_g, K_g, N_g).$$

Private benefits to agent i from the group are

$P_i = h(T_g, L_g, H_g, K_g, N_g, S_i)$, where S denotes the socioeconomic status of person i .

We assume that inputs are complements in the production function and that f , g , and h are homogeneous of degree less than one. This would be the case, for example, if some activities, such as growing vegetables, are particularly well suited to private production; others, such as some religious celebrations, are best done communally; and still others, such as insurance provision, fall in between. The first order conditions for productive efficiency imply that the marginal product of each input, including private benefits, should be the same across private and group production. We will assume the bargaining process governing group activity generates a fixed ratio, λ , between the marginal product of resources inside and outside the group. In the extreme case, if the group perfectly solves the free rider problem, the marginal product of inputs will be equalized across private and group production, so λ will be equal to one. However, one could imagine that free rider problems within the group would lead people to invest suboptimally in group activities. If individuals are in a Nash equilibrium of a one-shot non-cooperative game, the marginal product in a group with z members will be z times greater than in private production.

Now suppose an outside NGO supplies capital and perhaps an additional input, N , to the group. If other inputs are not adjusted, the ratio of the marginal product of capital inside the group to that in private activities will be greater than λ . Under the assumed

complementarity of the production function, the ratio of marginal products for other inputs will be less than λ . To satisfy the first order conditions, individuals must choose either to invest more labor, human capital, and land in group production or take capital out of group production and put it into private production. Note also that if outside assistance is complementary with members' or leaders' human capital, or if it creates greater private benefits for members or leaders with higher socio-economic status, people with more human capital or higher status may join the group or obtain leadership positions.

Which effect dominates is an empirical question. If returns decline only gradually in household and group production, then groups may respond to an increase in capital by transferring in more resources to group production. On the other hand, if there are sharply diminishing returns to scale in both household and group production, then groups will not expand activity much in response to outside assistance.

If there is strong complementarity between external assistance and member human capital or socio-economic status, then groups receiving outside assistance will bring in new members and leaders with higher human capital and status. The distribution of benefits among group members from this process will depend on the initial assignment of property rights. If the original group members hold enforceable property rights in membership, elites who wish to join may find a way to pay for group membership and the welfare of the original members may be improved although externalities to non-members might decrease. If group leaders have the power to appropriate group property without compensating members, and higher status people have the power to obtain

leadership positions in the group, outside funding of groups could make them more attractive takeover targets to the detriment of the poorer members of the group.

Even if group members are compensated for allowing elite entry into group membership and leadership, increased elite participation in groups may not benefit the poor and disadvantaged overall if there are positive externalities for the poor from participation in and leadership of organizations by disadvantaged groups. If groups create positive externalities for people with characteristics similar to those of their members and leaders and if group activity does not expand much in response to outside assistance, then external assistance could potentially make the poor worse off. This model therefore suggests that outside assistance may involve a tradeoff between expanded operations and the involvement of the disadvantaged.

4.0 The Women's Group Project

The projects we evaluate took place in two poor, densely populated rural districts in western Kenya: Busia and Teso. The districts are poor even by Kenyan standards; in Busia, it is estimated that 60% of the population lives below the poverty line (Bishop-Sambrook, 2003). The local economy is based primarily on small-scale farming for subsistence and local market trade, with some limited cash crop production of cotton, tobacco, and sugarcane. There is virtually no irrigation. Humans are the principal source of farm power for almost all operations in the area and rates of cattle ownership have declined significantly over the last decade, limiting the area that each family can cultivate. For these reasons, the area has a relatively large amount of fallow land, with estimates in Busia District that as little as 55% of arable land is under cultivation (*ibid*).

Average farm household landholdings in Busia district range from 4-6.5 acres of land. According to our data, 74% of the land used by groups for agricultural activities was made available by members without charge. Agricultural productivity in this region of Kenya has been declining in recent years and poor quality hand tools have been identified as an important source of low productivity (Bishop-Sambrook, 2003).

A Dutch nongovernmental organization, International Christelijk Steunfonds (ICS), which had previously worked on education projects in the area, began a program to fund women's groups in these districts with the goals of strengthening women's community organizations and improving agricultural practices, income, and nutrition in the area. The program was designed by ICS in consultation with women's groups and the local Ministry of Agriculture office. Each group received the same package of training and inputs.

The project had two components. The first was designed to strengthen the organizational and managerial capacity of the group. Three group leaders were trained for two days at a seminar in the district capital. A Kenyan trainer specializing in community organizations conducted the training, which emphasized leadership skills, group management techniques, book-keeping, and project administration. Funds for travel, food, and accommodation were provided to the leaders.

The second component was agricultural and included both agricultural inputs and training. Each group received a set of agricultural inputs that included hoes and other implements, certified seeds for six crops, fertilizer, and pesticide/herbicide sprayers. These were intended for use on collective group farms but were stored at the homes of individual members since few groups own any collective property. In addition to inputs,

three executive officials and one additional member were funded to travel to the district capital for five days of classroom instruction and experiential training on agricultural practices and husbandry at the farmer training center at the Ministry of Agriculture.

The value of assistance was quite large relative to per capita income in the area. The project spent \$737 per group or an average of \$37 per member. The World Bank reports per capita GDP in Kenya in 2000 was \$328; estimates of per capita GDP in Busia district are substantially lower.³ Half the total value of assistance was accounted for by agricultural inputs, 16 percent by organizational and group management training, and 34 percent by agricultural training.

4.1 Group Selection and Phase-in

The NGO identified 100 operational women's groups in the area through lists provided by the Ministry of Culture and Social Services and interviews with local Community Development Assistants. Of these 100 groups, 80 met eligibility criteria for the project, which required that the groups met regularly and were already engaged in group-based agricultural activity.⁴ Some wealthier groups located in the district capital were excluded.

Once the 80 eligible groups were selected, the groups were stratified by administrative division, ordered alphabetically, and every other group was selected to receive funding and training; we call these groups program groups. At the time of recruitment, the remaining forty groups were notified that they would not be funded

³ The Busia District office, for example, estimates per capita income in the district in 2002 was \$170 (Bishop-Sandbrook, 2003).

⁴ 90 percent of women's group activities in Kenya in the 1980's were agriculturally based, largely in the production of cereals and legumes (Njonjo 1984).

immediately, but that the NGO would try to fund them in the future; we refer to these as the comparison groups. Although no guarantees were given, comparison groups presumably felt future funding was likely given the NGO's positive track record in the area. In fact, the comparison groups were funded after two years. In addition, some of the original 80 groups received assistance after the end of this project. 38 groups in total received subsequent funding: 14 groups received irrigation equipment worth \$120; 11 received training and seedlings for an agricultural project; and 13 groups received both forms of funding. Program and comparison groups were equally likely to benefit from this subsequent funding, which was determined largely by the amount of land groups had to cultivate and the suitability of the land for pump-based irrigation.

To the extent that members and potential members of comparison groups expected to receive funding in the future, they may have begun to change their behavior during the first year of the project. This would likely bias estimates of program impact toward zero, making it more difficult to identify program effects. We nonetheless find significant differences between program and treatment groups in a relatively small sample.

Three sets of surveys were administered to the groups. A baseline survey was conducted at the start of the project, before the randomization was done or funding provided; the data from this survey are referred to throughout as pre-intervention data. Fourteen months later a second survey was administered to assess the impact of the assistance. Follow-up surveys were administered six months after that. These data comprise the post-intervention data. Unless otherwise noted, the post-intervention period includes the two main agricultural periods in western Kenya, the "long rains" (the main

planting season) and the “short rains,” which are the shorter, secondary season. Groups received organizational training approximately 4 months before the long rains began. Agricultural training occurred at the beginning of the long rains season. Both the assisted and the comparison groups were given a small set of tools at the inception of the program to compensate them for their time. The impacts of assistance should therefore be thought of as the impact conditional on the groups having received farm implements worth about \$63 per group (about \$3 per group member).

Prior to the project, the treatment and comparison groups did not differ systematically in any of the outcome variables discussed below (Table 1).⁵

5.0 Training

According to the program rules, executive officials (chairperson, treasurer and secretary) were to receive training because of the important leadership role they play in the groups. In practice executive officials did not fully utilize the training opportunities in many groups and groups were allowed to send substitutes. Men were particularly likely to receive training. Many of those who received training later assumed leadership roles in the groups.

5.1 Organizational Training

The first training session consisted of organizational management and leadership training intended for the three executive officials. In all, 104 people were trained, or an average of 2.5 individuals per group. Most of these were executive officials. But 22

percent of those trained were not executive officials, and 70 percent of those non-executives held no official position whatsoever in the group. The post-intervention data show that by the end of the second year of the program, 56 percent of those non-officials that attended organizational management training were promoted to an executive position within the group.

5.2 Agricultural Training

The second component of the training was agricultural. Program groups were invited to send four individuals for training: the three executive officials and one additional member of their choice. On average, however, groups sent only 2.9 people for training. Over half of those trained were not executive officials, and 48 percent held no official position in the group at the start of the funding program. This is striking, considering that the typical group has 7-10 official positions and only 20 members.

A high proportion of men received agricultural training relative to their proportion in the group. 25 percent of the individuals trained were men. If the groups had sent their executive officials for training and then randomly selected one additional member for training, that number would have been 12 percent.⁶

Members who underwent the agricultural training appear to have increased their stature in the group. After 18 months of program participation, 31 percent of the non-

⁵ Program group members had higher rates of debt to the group than did individuals in comparison groups; this difference, however, does not change over the course of the project and appears unrelated to any other outcomes.

⁶ Only 8% of executive officials before the project were male. If only executives had been trained in the first three slots, 8% or .24 individuals on average would have been male. If groups had randomly selected a 4th person to be trained, that person had a 23% chance of being male, since women comprise 78% of group membership. If groups had followed this process 11.5% of trainees would have been male.

officials who had attended agricultural training held an official position in program groups. Men in particular benefited. Of the male group members who attended the agricultural training, 35 percent held official positions at the start of the project, while that number had increased to 61 percent after 18 months of participation in the program. In contrast, 63 percent of the women who attended the training held official positions at the start of the project, and 18 months later, this had only increased to 72 percent. Training was also a point of entry into the group for men: seven non-member men were sent for training and subsequently became group members. No non-member women received training.

Men and younger women may have been more likely to attend training because of older women's difficulties in obtaining childcare for their families to allow them to travel away for several days and because older women were less likely to be literate. Post-program surveys conducted with the groups indicate that literacy and home obligations were important considerations in the selection for training: 45 percent of the groups reported that ability to travel was an important training selection criterion and 55 percent said that literacy was an important criterion. The criterion of literacy would tend to benefit men: on average in treatment groups men have 7.9 years of education, as compared to 4.3 for women. Overall, those who received training had 8.2 years of education. Table 2 shows that controlling for their status (official v. non-official), women are less likely to participate in agricultural trainings in program groups. Education is positively associated with being selected for training (column 2), while age is negatively associated with training.

6.0 Agricultural and Financial Outcomes

In spite of the large value of the agricultural tools and seed provided to program groups, there was relatively little increase in complementary land and labor inputs. Output increases were small relative to the value of inputs provided. Many groups distributed collective inputs to individual members, consistent with our framework.

While inputs provided were sufficient to cultivate at least 3.5 acres of land, on average program groups in the main agricultural season planted only 1.3 total acres of land, while comparison groups planted 0.8 total acres (table 3, column 1). The increase of half an acre over the area cultivated by comparison groups represents only 14% of the 3.5 acres that could have been cultivated by program groups using the additional inputs provided by the project.

Agricultural labor input is 27 percent greater in program groups than in comparison groups in the post-intervention period, including both the primary and secondary agricultural seasons (column 2). This represents roughly 2-3 days of additional agricultural labor per member over an annual agricultural cycle. The overall effect of the program on labor inputs, however, is small relative to the high value of inputs provided to the groups.

Output increases also appear small in program groups, relative to the value of program inputs. The point estimate of the dollar value of the program groups' reported harvest in the primary agricultural season is positive and significantly different than comparison groups; the value of harvest was \$28 higher in program groups than in comparison groups (column 3), but this is small in comparison to the more than \$700 of assistance they received, \$350 of which was direct agricultural inputs. Moreover, the

program had little impact on group assets (column 4). While point estimates suggest that program groups had slightly greater assets after one year of program participation, including animal stock, project inputs, capital, and cash, the difference is not significant, even at the 10 percent level. Moreover the point estimate of the additional increase in assets in program groups is only 11 percent of the value of assistance provided to the groups.

One explanation for the limited increase in land and labor input as well as overall output on group land is the diversion of the program groups' inputs to members for individual use.⁷ This is consistent with the analytical framework in section three. Surveys conducted after the project ended indicated that 70 percent of the program groups reported distributing project seeds to members for use on their individual farms, and 29 percent gave seeds to every member. Fertilizer was also diverted to individual plots; 57.5 percent of program groups report that project fertilizer was distributed to individual group members. The actual numbers may be higher if groups were reluctant to report this use of funds to enumerators. Implements were stored at members' homes, and there were some complaints from groups that the use of the tools was not equitably distributed in groups, as well as reports that individual members were pressuring groups to distribute the inputs to individual members. The vast majority of the program groups (88 percent) reported that members were allowed to use the group tools on their home farms and that most members did so.

⁷ Another factor is that in the first planting season some groups experienced poor germination with some of the government-certified seeds provided by ICS. However, this does not appear to be the primary explanation for the failure of agricultural output to grow in program groups. ICS replaced these seeds were replaced in time for replanting. Moreover, yields were no higher in program groups than in comparison groups in the subsequent agricultural season, when there were no germination problems. Finally, maize

7.0 Group Cohesion, Community Interaction, and Externalities

The organizational and agricultural training assistance given to group leaders was intended to develop organizational strength and facilitate community interaction as well as to increase group income and agricultural output. While group members report more positive subjective assessments to the NGO on the quality of group leadership and meetings, we find no objective evidence that internal group strength or external interaction increased as a result of the program. Members of program groups did not participate more in non-agricultural group activities than did comparison groups during the project, nor did the internal solidarity of program groups improve as indicated by objective measures of group activity. There is no evidence that program groups created more positive externalities than did comparison in terms of attendance or contributions at public *harambee* fundraisings.

7.1 Internal Interaction

One simple measure of interaction is the attendance rates of meetings. The change in attendance rates at general meetings from pre- to post-intervention is not significantly different in groups that received funding (table 4, column 1).⁸ The point estimate is actually lower. There are no other objective signs that group solidarity was enhanced by program participation. Program groups do not visit a member's home to give emergency assistance at higher rates than comparison groups, nor do they support members with

yields were no higher for program groups than for comparison groups, and maize seeds germinated without problems.

⁸ Rates of attendance were measured by randomly selecting six members and asking them about their attendance at the two most recent meetings.

higher amounts of cash assistance (columns 2 and 3). Program groups do not meet more frequently for their rosca activities than comparison groups (column 4) nor do they have higher monthly contributions (column 5). Program groups were no more likely to donate food or perform labor (such as fetching water or cooking) during home visits than comparison groups (not reported).

While we found no objective measures of increased social capital, randomly sampled non-official members in program groups are more likely to report that their leadership had improved and that meetings were conducted more effectively (columns 6-7). It is possible, however, that this positive evaluation stems from a desire to report positively to donors, since the training explicitly addressed quality of leadership and the running of meetings, highlighting the salience and importance of these outcomes to the donors.

7.2 Community Interaction

There is little evidence that the groups funded through the project did more to assist their neighbors. Program groups neither have greater participation in community fundraising events (*harambees*) (table 5, column 1), nor do they give higher amounts at such fundraisers on average (column 2).

The program had mixed effects on other forms of community interaction. One reason that the funding NGO wanted to provide assistance to women's groups was to stimulate the diffusion of information on agriculture and nutrition among the community, particularly among women. Program groups, however, did not receive any more visits from other women's groups than did comparison groups (not reported).

NGO assistance crowded out assistance from other sources for program groups, although the resources crowded out were trivial relative to those provided by ICS. Program groups received lower levels of cash grants during the post-intervention period than did comparison groups (column 3) although the average level of grants to comparison groups is only \$11 per group. Likewise, program groups on average received fewer in-kind donations (column 4) than did comparison groups in the post-intervention period, but the average number of in-kind donations in comparison groups was only 0.13 per group during this 14 month period.

The most marked impact of funding on community interaction is the increase in visits from government officials. Program groups received 75% more visits from agriculture and health extension agents than did comparison groups, representing 2.5 visits more than comparison groups in the year following the intervention (column 6). One hypothesis is that treatment groups required more advice from extension agents, since they were given access to new technologies and resources. However, program groups also received twice as many visits from local government officials (chiefs, elders, and district officials) than did comparison groups. Program groups received on average 5.5 more visits from local government officials than did comparison groups (column 7). This suggests a move towards more vertical, patron-client relationships between officials and groups.

8.0 Impacts on Group Composition and Leadership

The program led to new membership and leadership in program groups. New members in program groups were better educated and came from more advantaged backgrounds

than their counterparts in comparison groups. More new entrants, men and better wealthier individuals assumed leadership positions in program groups. Despite the greater financial benefits of membership, and the absence of any formal mechanism for cashing out membership and receiving part of the value of future assistance streams from the NGO, there was not a statistically significant decline in exit rates in program groups. There is some evidence that this is due to two offsetting effects. Member were less likely to withdraw due to the difficulty of meeting financial obligations to the group, but more likely to withdraw due to conflict within the group. New entrants were more likely to pay to join program groups, although the value of this payment appears to be far less than the per member value of assistance received from the NGO.

8.1 New entrants

Program groups have twice as many new entrants as comparison groups. The average program group had almost four new entrants over the 18 months between surveys (table 6, column 1) while the average comparison group had two.

42 percent more people applied to join program groups than comparison groups. On average 3.1 people asked to join comparison groups while 4.4 asked to join program groups (column 2). In those groups with applicants, there was no difference between program and comparison groups in the proportion of applicants who were actually admitted to the group (not reported).

8.2 Changes in group characteristics

⁹ Of these four cases, 2 received compensation of roughly \$9, still well below the individual value of the outside assistance.

Program groups admitted women who were younger, wealthier, better educated and potentially less encumbered by family obligations or restrictions. A higher proportion of new entrants in program groups had steady employment or a regular source of income than their counterparts in comparison groups. The proportion of new entrants with a salaried or regular income was 11 percentage points higher in program groups than in comparison groups (table 7, column 1), though this is not quite significant at the 5% level. The proportion of new entrants who were married is 4 percentage points lower in program groups (column 2); female entrants were 12 percentage points more likely to have a secondary education in program groups (column 3).

The result of the entry and exit in groups is that membership of program groups shifted towards younger, better-educated, single women. Over the 18 month period in our study, the proportion of members more than 50 years of age declined by 2 percentage points more in program groups than in comparison groups (table 7, column 4). Program groups report an increase of 0.23 years in the average years of education of group members over the 18 month post-intervention period, as compared to a change of 0.02 years in comparison groups (column 5), though this difference is not quite significant at the 5 percent level. Program groups also report a 2 percentage point decrease in the proportion of members with no formal education, implying a change from 34 to 32 percent, while comparison groups report only a -0.007 percentage point drop (column 6).

The program also increased residential heterogeneity among members. Prior to the program most groups drew most of their members from a single village.¹⁰ The proportion of group members from the same village decreased by 4 percentage points more in program groups than in comparison groups, suggesting that the need for more

educated members may have caused groups to draw members from a wider geographic area than in comparison groups.

The rates of exit from program groups were no different than in comparison groups (table 8, column 1). The number of program group members leaving their groups for financial reasons was 67 percent lower than in comparison groups (column 2). Twice as many members, however, leave program groups due to conflict within the group as leave comparison groups (column 3), consistent with the possibility that outside funding led to conflict over the distribution of benefits. The point estimate for the net change in group size of program groups at the end of the program period is positive, though not significant (column 4).

8.3 Changes in group leadership

Program groups were more likely to change leadership than comparison groups. Controlling for years of education of the pre-intervention executive officials, program groups are 21 percentage points more likely to have elected at least one new executive official than are comparison groups (table 9, column 2).¹¹ Program groups are 12 percentage points more likely to have a new member as a key executive official than comparison groups (column 3).

Men, as well as better-educated women and wealthier members, were more likely to take on leadership roles in program groups. New officials were 13 to 14 percentage points less likely to be female in program groups (columns 4-5). Executive officials tend to be wealthier in program groups after funding. The change in the proportion of spouses

of executive officials that rely solely on farm income, typically poorer households, was 21 percentage points lower in program groups than in comparison groups (column 6).

8.4 Payments for Membership and Officership

There is some evidence that people paid more to join program groups and become officers in these groups, but these payments were very small relative to the per member value of the program. Almost four times as many people paid to join program groups as comparison groups (table 6, column 3), but the average payment requested by groups with new entrants was only \$4 and this entrance fee did not differ between treatment and comparison groups. On average, program groups collected \$2.74 more per individual than did comparison groups (table 6, column 4), though this point estimate is not significant. The point estimate of the total amount of entrance fees collected by groups was only \$9 greater in treatment groups than in comparison groups (column 5) and this difference is not significant.

There is some evidence that new entrants in program groups may also have paid to get into groups through non-cash means, such as donating land to be used for group cultivation. There were four new members in program groups who provided land for the group to cultivate; there were none in comparison groups and this difference is significant at the 5% level (table 6, column 6).¹²

There is some evidence that members were more likely to make in-kind contributions to the program groups in order to secure an official position. In the first post-intervention planting cycle, the probability of a group promoting at least one

¹¹ There is no statistical difference between program and comparison group's likelihood of holding an election in the pre-intervention year.

individual whose land had been used for group cultivation to an executive position was 8 percent higher in program groups; this is not quite significant at the 5 percent level (table 9, column 7). Among individuals who provided land for group cultivation, individuals in program groups are 17 percentage points more likely to be promoted to an executive position than are individuals providing land in comparison groups (table 9, column 8).

9.0 Discussion

To the extent that community organizations of the disadvantaged create positive externalities, they may be undersupplied by the market. Providing outside support to these organizations, however, involves a tradeoff. On the one hand, support for these groups might allow them to expand their activities. On the other hand, support might change the character of these groups, reducing the role of the disadvantaged in them.

The welfare consequences of bringing in less disadvantaged members depend on the political economy of the groups. To the extent that positive externalities accrue to individuals similar to members of the women's group, it may have negative implications for the disadvantaged. On the other hand, bringing in higher human capital, higher status allies could potentially improve group productivity and increase group income.

The relative magnitude of these effects is an empirical question. In the context we examine, we find that financial assistance had minimal impact on the labor input, agricultural output, or assets of groups. The project had limited measurable impact on organizational cohesion, and no impact on groups' financial commitment to their communities.

¹² Of these four cases, 2 individuals that donated land received compensation of roughly \$9.

However, the program did change the characteristics of membership and leadership in program groups. After one year of program participation, groups receiving assistance have fewer members over the age of 50, report a larger increase in the level of education within the group, and have more members who come from outside the village. New entrants in program groups are more likely to have a steady income, less likely to be married, and have higher levels of education than in comparison groups.

Program groups are more likely to elect new officials and to have a new entrant in a key leadership position. Newly elected officials in program groups are more likely to be male and the spouses of executive officials appear to be better off than those in comparison groups.

There is some evidence that new entrants paid in some form for membership or leadership positions in program groups, but at rates far below the per capita value of the assistance.

Providing financial assistance to indigenous women's organizations did little to strengthen these organizations or provide positive externalities, but did change the very characteristics of these organizations that made them attractive to funders in the first place. The Rockefeller effect is alive and well in Kenya.

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Table 1: Women's Groups Pre-intervention Comparison

	Program group mean (standard deviation)	Comparison groups mean (standard deviation)	Program- comparison (standard error)
Proportion of female members	0.78 (0.16)	0.81 (0.17)	-0.043 (0.037)
Years in operation	7.83 (5.2)	7.55 (5.6)	-.275 (1.21)
Distance from a paved road (kilometers)	10.8 (15.8)	9.95 (10.8)	-0.87 (3.04)
Attendance rates at all meetings ^a	0.90 (0.12)	0.92 (0.12)	0.021 (0.03)
Attendance rates at group farmwork meetings	0.88 (0.17)	0.90 (0.17)	0.02 (0.04)
Total number of visits to assist group members during the pre-project period	2.91 (0.64)	2.84 (0.66)	-0.07 (0.13)
Group size	21.7 (7.71)	20.8 (7.75)	-0.90 (1.73)
Average age of group members	41.5 (6.1)	41.2 (4.06)	-0.39 (1.16)
Proportion of members who are married	0.98 (0.01)	0.98 (0.05)	-0.01 (0.01)
Proportion of members who are over 50 years of age	0.29 (0.23)	0.25 (0.15)	0.05 (0.04)
Average years of education of members	5.33 (2.74)	5.31 (1.96)	-0.23 (0.53)
Proportion of members with no formal education	0.34 (0.23)	0.32 (0.16)	0.03 (0.05)
Proportion of members with salaried job	0.17 (0.19)	0.12 (0.11)	0.05 (0.03)
Proportion of groups holding an election in year prior to pre-intervention survey	0.11 (0.03)	0.15 (0.36)	0.05 (0.08)
Average years of education of group officials	7.2 (0.35)	6.4 (0.40)	-0.75 (0.54)
Proportion of female officials	0.84 (0.18)	0.88 (0.02)	0.04 (0.03)
Proportion of executive officials who are women	0.91 (0.14)	0.92 (0.14)	0.01 (0.03)
Proportion of members living in same village	0.86 (0.25)	0.67 (0.25)	-0.01 (0.05)
Proportion of spouses of executive officials with income only from farm	0.48 (0.32)	0.51 (0.06)	0.03 (0.07)

Means are significantly different at the 90% (*), 95% (**) level.

^a Based on the records of individual attendance of 8 randomly selected members in each group.

Table 2
Individual Probability of Attending Agricultural Training

	(1)	(2)	(3)
Years in group	0.0002 (0.002)	0.002 (0.001)	0.0009 (0.001)
Female	-0.06** (0.03)	-0.009 (0.024)	-0.07*** (0.03)
Years of education		0.01*** (0.002)	
Age			-0.002** (0.0008)
If held officer position prior to intervention	0.28*** (0.03)	0.21*** (0.04)	0.27*** (0.03)
Number of observations	866	864	864

Significant at the 90% (*), 95% (**) level. Note: Dprobit estimation with robust standard errors adjusted for clustering at the group level.

Table 3: Agricultural Outcomes – Post-Intervention

Dependent variable	Acres planted during long rains ^b	Hours of agricultural labor per member ^a	Total dollar value of harvest ^b	Dollar value of group assets ^c
	(1)	(2)	(3)	(4)
Program groups	0.49 ^{***} (0.16)	13.8 ^{**} (6.67)	28.0 ^{***} (10.7)	80.9 (103)
R-squared	0.37	0.12	0.12	0.03
Number of observations	80	76	80	77
Mean of dependent variable in comparison groups	0.80	49.3	12.9	243

Significant at the 90% (*), 95% (**) level.

Note: OLS Regressions with robust standard errors in parentheses. All regressions include indicator variables for the geographic division in which a group is located.

^a Calculated for both post-intervention harvest seasons the main season, or “long rains” and the secondary season or “short rains”

^b Calculated for the first and main growing season (long rains) during the project period.

^c Calculated as total cash assets + credit – outstanding debts to group + value of project assets. One program group with exceptionally high assets is excluded from this regression. This group had a large brick-making project with a high value of equipment and stock before the project began. The results are not significant even when this group is included.

Table 4: Measures of Group Cohesion, Post-intervention

	Change in attendance rates at general meetings – pre- to post-intervention (1)	Number of times group visited members' home for emergency assistance (2)	Total amount of cash assistance members gave to other members in US\$ (3)	Average frequency of rosca meeting in weeks ^a (4)	Average dollar amount collected per month through rosca (5)	Members' evaluation: has group leadership improved? (6)	Members' evaluation: are meetings more effective? (7)
Program groups	-0.04 (0.06)	0.14 (0.49)	9.0 (11.6)	-0.19 (0.25)	3.79 (6.34)	0.21*** (0.06)	0.13** (0.07)
Number of observations	77	80	80	77	74	80	80
R-squared	0.06	0.13	0.12	0.09	0.16	0.22	0.10
Mean of dependent variable in comparison groups	-0.07	12.0	23.7	3.2	26.0	0.60	0.64

Significant at the 90% (*), 95% (**), 99% (***) level.

Note: OLS Regressions with robust standard errors in parentheses. All regressions include indicator variables for the geographic division in which a group is located. Group attendance rates are based on group attendance records for 6 randomly selected members for each group.

^aPrior to funding, 66 groups held roscas. There is no difference pre-intervention in the number of treatment v. comparison groups holding roscas. Post-intervention 3 treatment groups did not hold roscas.

**Table 5: Community Interaction
Post-intervention**

Dependent variable	Number of contributions to community fundraising events	Amount contributed to community fundraising events in US \$	Dollar value of grants received by groups	Number of times group received in-kind donations	Number of community visits ^a	Number of visits by extension workers ^c	Number of visits by local government officials ^b
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Program groups	-1.85 (1.97)	-0.33 (3.29)	-11.1** (5.46)	-0.10* (0.06)	8.54** (3.52)	2.47* (1.39)	5.49** (2.52)
R-squared	0.18	0.09	0.28	--	0.15	0.13	0.09
Number of observations	80	80	77	77	77	77	77
Mean of dependent variable in comparison groups	4.2	12.3	11.3	0.13	13.5	3.3	4.6

Significant at the 90% (*), 95% (**) level.

Note: OLS Regressions with robust standard errors in parentheses. All regressions include indicator variables for the geographic division in which a group is located.

^a This includes visits by administration officials, Ministry of Agriculture, Health and Social Services Field Workers, other women's and community groups, religious groups, and NGOs.

^b Includes Chief and sub-chiefs, village elders, district officers and any more senior administrative officials.

^c Includes extension officers from the Ministries of Health and Agriculture.

Table 6: Entry into Groups During Post-Intervention

	Number of new entrants	Number who applied to enter	Number who paid to join	Per person dollar amount of entrance fees collected by groups	Total dollar amount of entrance fees collected	Number of new members who provided land for group
	(1)	(2)	(3)	(4)	(5)	(6)
Program group	1.88** (0.79)	1.29** (0.62)	0.79** (0.35)	2.74 (2.13)	9.1 (6.55)	0.10** (0.05)
R-squared	0.07	0.13	0.10	0.04	0.05	0.11
Number of observations	80	80	80	80	80	80
Mean of dependent variable in comparison groups	2.0	3.1	0.28	1.1	3.14	0

Significant at the 90% (*), 95% (**) level.

Note: OLS Regressions with robust standard errors in parentheses. All regressions include indicator variables for the geographic division in which a group is located.

^a Membership characteristics are calculated with data available through the end of 1998, prior to the comparison groups receiving any assistance.

Table 7: New Entrants and Changes in Group Characteristics

	Proportion of new entrants with regular income	Proportion of new entrants who are married	Proportion of female entrants with secondary education	Change in proportion of members over 50 years of age ^a	Change in years of education of group members ^b	Change in proportion of members with no formal education ^c	Change in proportion of group members from the same village
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Program groups	0.11* (0.06)	-0.04** (0.04)	0.12* (0.07)	-0.02** (0.01)	0.23* (0.13)	-0.02** (0.01)	-0.04** (0.02)
Pre-intervention level of dependent variable				-0.07* (0.04)	-0.12*** (0.04)	-0.09** (0.04)	
Mean of dependent variable in comparison groups	0.09	1.0	0.08	0.002	0.02	-0.007	0.005
R-squared	0.08	0.20	0.08	0.15	0.19	0.22	0.12
Number of observations	56	55	50	80	80	80	80

Significant at the 90% (*), 95% (**) level.

Note: OLS estimation with robust standard errors. All regressions include indicator variables for the geographic division in which a group is located.

^{a, c} Treatment status is significant at the 5% without the pre-intervention variable included.

^b Treatment status is not significant when the pre-intervention variable is excluded.

Table 8: Exit from Group in Post-Intervention Period

	Number leaving group	Number leaving due to difficulty paying fees	Number leaving due to conflict	Net change in group size
	(1)	(2)	(3)	(4)
Program group	0.12 (0.55)	-1.02*** (0.30)	0.64** (0.31)	1.34 (0.90)
R-squared	0.07	0.17	0.09	0.05
Number of observations	80	80	80	80
Mean of dependent variable in comparison groups	2.2	1.4	0.65	0.1

Significant at the 90% (*), 95% (**) level.

Note: OLS estimation with robust standard errors. All regressions include indicator variables for the geographic division in which a group is located

Table 9: Elections and Changes in the Characteristics of Group Officials^a

	Probability that group has at least one new executive official in place after one year		Probability that at least one new executive official is also a new member	Proportion of newly elected officials that are female		Change in the proportion of spouses of executive officials who rely solely on farm income	Probability of promoting at least one individual to executive position whose land was used for group cultivation	Probability of promotion to executive official, conditional on providing land to group ^b
	dprobit	dprobit	dprobit	OLS	OLS	OLS	dprobit	dprobit
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Program groups	0.18 (0.11)	0.21* (0.11)	0.12** (0.06)	-0.13* (0.07)	-0.14** (0.07)	-0.21*** (0.07)	0.08* (0.04)	0.17** (0.08)
Years of education of executive officials pre-intervention		-0.06* (0.03)						
Average years of education of members pre-intervention					0.05** (0.02)			
Mean of dependent variable in comparison groups	0.35	0.35	0.08	0.84	0.84	-0.35	0.05	0.05
R-squared	--	--		0.14	0.22	0.19	--	--
Number of observations	80	80	80	69	69	80	80	75

Significant at the 90% (*), 95% (**) level. Note: Columns 1-4 dprobit estimation with robust standard errors. Columns 5-7 OLS estimation with robust standard errors. Data used to generate columns 1 and 2 are taken from 1998 position listings in group membership roster.^a As of September, 1998.

^b Based on individual data. Represents the probability that an individual moved from a non-executive to an executive position, given that their land was used for cultivation in the second planting cycle in 1998