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BEYOND THE *BARI*

Gender, Groups, and Social Relations in Rural Bangladesh

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ABSTRACT

This paper uses a longitudinal data set from rural Bangladesh to analyze the factors that affect men's and women's ability to participate in groups and to engage in relationships with powerful and influential people. Unlike studies from other countries that find group membership to be positively correlated with wealth, this study finds that group membership, which is driven mostly by women's membership in NGOs, is progressive, with higher participation rates among the poor and those with smaller sizes of owned land. This is in large part due to the targeting mechanism and pro-poor orientation of NGOs. In contrast to group membership, however, the strength of relationships with most types of influential persons increases with human and physical wealth. Consistent with a collective model of household decision-making, husband's and wife's human and physical assets do not have the same influence on group membership and relationship strength. Indicators of relative bargaining power within marriage also have differential effects on group membership and social relations. Women who bring more assets to marriage, who live closer to their natal villages, and who have sons are more likely to belong to a group. Assets at marriage and distance to village of husbands and wives also have differential effects on relationship strength, indicating that spouses may not share the same preferences nor pool their resources when investing in relationships with powerful and influential people.

Keywords: Gender, group membership, social relations, Bangladesh

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BEYOND THE *BARI*

Gender, Groups, and Social Relations in Rural Bangladesh

Agnes R. Quisumbing¹

1. INTRODUCTION

The boundaries of the *bari*—the homestead, or “cluster of households around the common yard accommodating families whose heads are related by blood or affinal connections” (Caldwell et al. 1982:36, fn. 3, cited in Foster 1993)—have traditionally defined private and public spaces for rural Bangladeshi women. Yet these boundaries have continuously been challenged owing to social and economic circumstances. Female seclusion has always been selectively observed, with poor women unable to observe *purdah*, even if they may want to, because of the necessity of earning a living. Even if culture and tradition confine poor rural women’s activities to their homesteads, increasing landlessness and poverty push them into outside employment (Sultana and Thompson 2008). Over time, development interventions, economic growth, industrialization, rural-urban migration, and social mobilization by nongovernmental organizations (NGOs) and other actors have created more opportunities for women’s participation in the public sphere, even if support for such gains has not been unanimous.²

What factors affect men’s and women’s ability to engage with social and political institutions in the public sphere? Do resources controlled by households affect poor people’s ability to engage in relationships with powerful and influential people? Do resources controlled by men and women exert different influences on their ability to build social and political capital and to invest in relationships with powerful and influential people?

This paper examines how resources controlled by individuals and households affect the probability of joining groups and forming relationships with powerful and influential people in rural Bangladesh, based on a new longitudinal household study. Using both quantitative and qualitative data collection methods, the initial phase of this study focused on perceptions, causes, and determinants of chronic poverty (Davis 2007; Quisumbing 2007; Baulch and Davis 2008). Because groups and networks are viewed to play an important role in poverty reduction (di Gregorio et al. 2008; Dikito-Wachtmeister 2001), the study team also collected detailed information on group membership and relationships with influential persons. In addition, further qualitative work was conducted to examine a range of complex everyday (formal and informal) collective activities identified by field researchers during the qualitative phase of our research project, in six villages in four districts

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² For example, acid violence (or acid-throwing) is a relatively recent phenomenon, with the first documented acid violence case occurring in 1967. According to a news article by Nabi (2009), the growing number of acid assaults in Bangladesh reflects an epidemic of gender violence and is a reaction to women’s advancing economic and social status
<http://nation.ittefaq.com/issues/2009/06/30/news0500.htm>.

(Davis et al. 2009). Similar to Davis et al. (2009), this paper does not focus exclusively on collective action, but examines a wide range of social relationships with local government officials, traditionally influential persons such as landowners and businessmen, and persons who represent nontraditional civil society institutions, such as NGOs. This is in contrast to previous studies in Bangladesh that focus more narrowly on impacts of formal forms of collective action, particularly NGOs providing microfinance to poor women, on a variety of outcomes, including women's empowerment (for example, Schuler, Hashemi, and Riley 1998; Kabeer 1998; Pitt and Khandker 1998; Pitt et al. 2003; Khandker 2005).³

Empirical results show that participation in groups is driven mostly by women's participation in NGOs. Unlike studies from other countries that find group membership to be positively correlated with wealth, this study finds that group membership in Bangladesh, which is driven mostly by women's membership in NGOs, is progressive, with higher participation rates among the poor and those with smaller sizes of owned land. This is in large part due to the targeting mechanism and pro-poor orientation of NGOs. In contrast to group membership, however, the strength of relationships with most, but not all, types of influential persons increases with human and physical wealth. The size of land owned increases relationship strength with police or armed servicemen and landowners, but weakens relationships with NGO officials.

Consistent with a collective model of household decisionmaking, husband's and wife's human and physical assets do not have the same influence on group membership and relationship strength. Husband's years of schooling strengthen relationships with local officials, judges or lawyers, doctors, headmasters, big businessmen, and big landowners, while wife's years of schooling exert a positive influence on relationships with judges and lawyers, doctors, and NGO officials. Indicators of relative bargaining power within marriage—assets brought to marriage and distance from one's natal village—also have differential effects on group membership and social relations. Women who bring more assets to marriage, who live closer to their natal villages, and who have sons are more likely to belong to a group. Assets at marriage and distance to village of husbands and wives also have differential effects on relationship strength, indicating that spouses may not share the same preferences nor pool their resources when investing in relationships with powerful and influential people.

2. BACKGROUND AND MOTIVATION

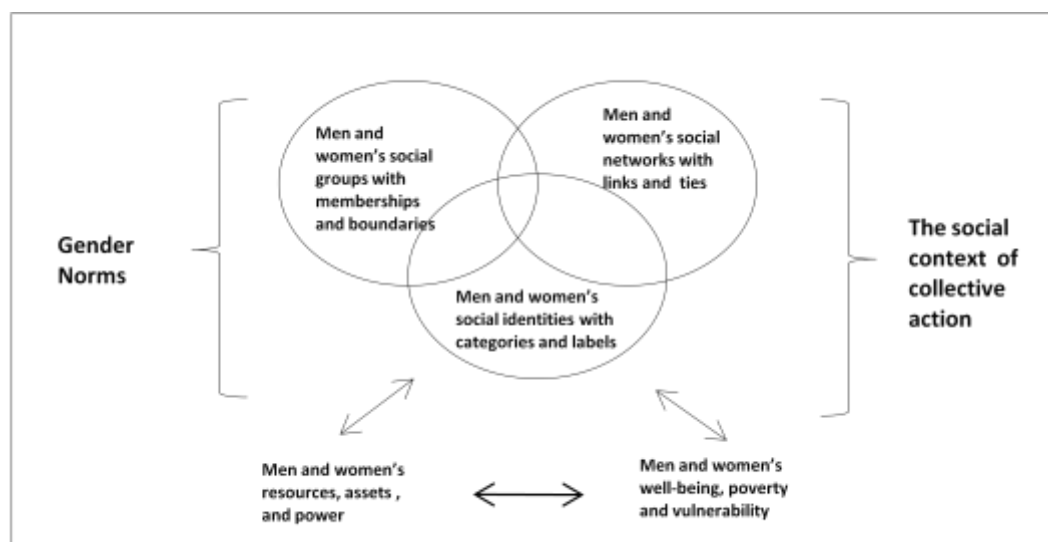
Conceptual framework

A useful conceptual framework to motivate the analysis found in this paper is found in Figure 1, which draws upon the conceptual framework discussed at the project launch workshop held in Dhaka in July 2007 (Davis et al. 2009), but has been modified to highlight the gendered nature of resources and social relationships. It depicts the link between men's and women's assets/resources and wellbeing

³ Interestingly, participation in NGOs may not necessarily be viewed as participation in collective action in Bangladesh. During this project's launch workshop in August 2007, participants pointed out that many NGO members join groups simply to avail themselves of credit.

through the social context of groups, networks and identities in which collective action occurs. Gendered definitions of identities are particularly important in rural Bangladesh, and thus, where possible, the analysis will examine differences between men and women in assets and resources, and their differential ability to join social groups and to establish social networks.

Figure 1. Engendering the social context of collective action: Linking power-resources to poverty and wellbeing



Source: Davis (2008)

The concepts in this diagram are closely related to the conceptual framework in Di Gregorio et al. (2008), which examines the relationships among property rights institutions, collective action, and poverty reduction. The authors argue that, while assets, risks and vulnerability, legal structures and power relations are important in defining the initial conditions of poverty, both poor and non-poor actors can use the tangible and intangible resources they have to improve their livelihoods and change the institutions that govern their lives. Whether actors are, in fact, able to change institutions depends on power. In their framework, power operates at two levels—at the level of the broader power structure of society, and at a more local level, the level of the “action arena,” where actors have different power endowments and resources with which to act. (This is similar to “resources, assets, and power” in the lower left corner of Figure 1).

Both levels of the power structure interact with each other. A recent study in Bangladesh vividly describes how both the broader power structure of society and the local power structure interact. Lewis and Hossain (2008) describe and analyze the formal institutions of governance which operate locally, including the administrative authorities, elected political bodies and the forces of law and order. The authors examine how such formal institutions interact with informal institutions at the village level, and find that poor people face a wide range of constraints in rural Bangladesh, including inefficient local institutions, relatively weak collective bargaining positions, and a range of exclusionary social norms, including those related to gender. Di Gregorio et al. (2008) point out that the poor have fewer

resources compared to the less poor, placing them at a relative disadvantage in any situation. Because social networks often are inclusive of their members and exclusive toward outsiders, and since the poor often lack the resources to invest in reciprocal social relationships that go beyond their own spheres, they are often not part of those powerful networks (di Gregorio et al. 2008: 36-37).

In Bangladesh, a third level of the power structure—the household—is very important. Power and power relations are central to gender relations (White 1992). Women in Bangladesh have fewer assets than men within the same household (Quisumbing and Maluccio 2003), face restrictions on their mobility, and are more disadvantaged in obtaining access to these powerful networks. However, it is misleading to assume that gender relations—both within and outside the household—are immutable. Examples cited by Lewis and Hossain (2008), drawn from their fieldwork in Greater Faridpur district, show that some people, including women, manage to use existing structures and relationships to try to increase their influence, access resources and further their economic and social goals, for example by utilizing a range of outside opportunities which arise from the activities of local administrators, NGOs, party political activists, or other powerful patrons. White's (1992) landmark study of gender and class in Bangladesh cautions that the characterization of men's and women's spheres as polar opposites (men outside, and in the market; women inside the bari, concerned with domestic work) leads one to accept gender relations as set and specifiable. Rather, White argues that gender is a "contested image," and that women and men can shift and manipulate definitions of identity in accordance with their own interests (1992:26).

Gender and collective action

Collective action is defined as voluntary action taken by a group to achieve common interests (Marshall 1998; cited in Meinzen-Dick et al. 2005). Groups can be organized both formally (for example, cooperatives or microfinance groups) or informally (for example, rotating savings and loan associations). Such collective action programs are increasingly being used as a vehicle for reaching development and poverty-reduction goals (Meinzen-Dick et al. 2005). Participation in collective action, particularly formal membership in groups, has increasingly been promoted as a way for the asset-poor to invest in another type of asset—social capital. International organizations, governments, and NGOs have enthusiastically embraced the social capital as an alternative to government or market-based approaches, with the World Bank hailing it as "the missing link" in development (Dikito-Wachtmeister 2001). Working through groups also reduces the cost of delivering services to many individuals, making the outreach of programs more cost-effective.

However, achieving development goals through collective action activities may not always work. For example, Amin, Rai, and Topa's (2003) study of two villages in Bangladesh found that while the Grameen Bank is successful in reaching the poor, it is less successful in reaching the vulnerable, and unsuccessful in reaching those most prone to destitution, the vulnerable poor. Participation in groups is not costless—networking takes time, especially when formal group meetings are required, and many groups require fees to participate. Social inequality and ethnic differences may also create barriers to social capital accumulation (Alesina and La Ferrara 2000), with some barriers differentially

affecting women. Women in poor households face particularly serious time constraints because of their various livelihood activities and childcare responsibilities. Membership fees may create a further barrier to participation by poor women, who have limited control over cash resources. Although both men and women with low levels of education may feel awkward about participating in groups, the fear that they will be perceived as “ignorant” or as having nothing to contribute may be more acute for women when cultural norms discourage women from speaking up in public or from socializing with men. Thus, women may decide that it is not worth their time and effort to participate in group meetings if they believe they will not be heard (Dikito-Wachtmeister 2001).

While most studies suggest that the poor—and poor women in particular—are less able to participate in groups and to invest in social networks (Pandolfelli et al. 2008), the rise of NGOs in Bangladesh, which have an explicit mandate to reach the poor, and specifically poor women, might provide an example of successful targeting, or of a new way of creating a parallel social structure in which participation of the poor is an explicit objective. For example, previous work in Bangladesh in the same study sites as this study (Hallman et al. 2007) shows that households with more land outside their homestead are less likely to be members of an NGO; it is likely that these wealthier households have less demand for NGO services and that NGOs target and serve

Microfinance programs, most of which work through groups in Bangladesh, have been the subject of a growing literature. In Bangladesh, among the best-studied programs are microfinance programs directed to poor women, in which group liability acts as a substitute for personally-owned assets that can be used as collateral (see, for example, Sharma 2001; Morduch 1999, 2000 for reviews). Various evaluations have examined several aspects of microfinance programs. Hashemi, Schuler, and Riley (1996), for example, have found that Grameen Bank and Bangladesh Rural Advancement Committee (BRAC) programs have had significant effects on a variety of measures of women’s empowerment, including mobility, economic security, control over income and assets, political and legal awareness, and participation in public protests and political campaigning. Kabeer (1998), using participatory evaluation techniques, found that despite increased workloads due to receipts of credit, women feel empowered by it, clearly feeling more self-fulfilled and valued by other household members and the community. Pitt and Khandker (1998), using data collected during 1991-92 from 87 villages in Bangladesh, found that welfare impacts on the household were significantly better when borrowers were women—increases in household consumption, improved nutritional status for both sons and daughters, and increased investment in nonland assets. Using panel data from the same households in 1991-92 and 1998-99, Khandker (2005) found that microfinance contributes to poverty reduction, particularly for female participants, and to overall poverty reduction at the village level. Pitt, Khandker, and Cartwright (2003) explore the gender dimension further. They find that credit program participation leads to women taking a greater role in household decision making, having greater access to financial and economic resources, having greater social networks, having greater bargaining power vis-à-vis their husbands, and having greater freedom of mobility. Female credit also tended to increase spousal communication in general about family planning and parenting concerns. The effects of male credit on women’s empowerment were, at

best, neutral and at worst, decidedly negative. Male credit had a negative effect on several arenas of women's empowerment, including physical mobility, access to savings and economic resources, and power to manage some household transactions.

Beyond participation in formal groups, particularly microfinance, relatively less is known about the gendered impact of collective action, in general, and its long-term impact, in particular. This gap in knowledge may be a particular feature of research on collective action in Bangladesh, since most studies have focused on evaluating the determinants of participating in specific types of groups (such as microfinance groups), as well as the impact of those types of groups, rather than understanding the broader landscape of collective action in general. The broader literature on collective action, however, is richer in terms of studies that have examined gender differences in motivations to engage in collective action than it is in areas of the effectiveness and impact of collective action. For example, a review of the literature on gender and collective action highlights differences in the reasons why men and women join different types of groups in Nigeria, Central Kenya, Eastern Kenya, the Philippines, and Ethiopia (Meinzen-Dick et al. 2005). The same review points out that there is limited evidence on how gender affects the effectiveness of collective action programs, meaning the ability of groups to meet their immediate purposes. A number of studies indicate that gender composition matters, but there has been little systematic assessment of how, and under what conditions. While there is some evidence on the impact of collective action in terms of changing gender relations and achieving broader objectives such as poverty reduction, many of these studies do not satisfactorily account for the endogeneity of participation in collective action activities when evaluating impact. That is, it is possible that women who are more "empowered" to begin with, perhaps because of greater wealth, higher levels of schooling, or better social connectedness, are those who join collective action programs. Without taking into account the effects of endogeneity of participation, estimates of program impact will be biased. Studies such as those by Pitt and Khandker (1998), Pitt et al. (2003), and Khandker (2005) use eligibility criteria for participation to control for endogeneity of program participation; others, such as Bouis (2000) and Hallman et al. (2007), use "with" and "without" comparisons based on treatment and control groups.

Intrahousehold bargaining, groups, and social relations

While studies evaluating the impact of microfinance programs have documented their impact on women's empowerment and bargaining power within households, there has been relatively little investigation of whether women's initial bargaining power vis-à-vis their husbands matter, in terms of participation in groups or in terms of investing in social relations. One could argue, for example, that groups and social networks can be viewed as private and public goods within the household. Investments in some types of groups and networks could yield benefits only to the individual who participates, and thus would be considered a private good. Investments in other types of social relationships could also generate positive spillover effects to other household members and would therefore have some public goods aspects. In some cases, decisionmakers within the household may share the same preferences regarding investment in a particular type of social relationship (say, both husband and wife agree that it is good to be on good terms

with the local police); in others, decisionmakers may disagree (for example, the husband does not like his wife to participate in an NGO, because she will have to leave the family compound to attend meetings, and potentially leave the village to attend training activities).

This paper takes advantage of information collected on assets brought to marriage, an indicator of bargaining power, as well as distance to the husband's and wife's natal villages, to test a collective model of decision-making with regard to investments in social relationships. This draws on a large and growing literature that tests the unitary versus the collective model of household behavior and that examines the impacts of spousal bargaining power on intrahousehold allocation (Chiappori 1992; Thomas 1990, 1994; see Strauss and Beegle 1996, Haddad, Hoddinott and Alderman 1997, Behrman 1997, and Schultz 2001 for reviews).

Consider a household with two decisionmakers (husband and wife), and consider the case in which preferences are altruistic such that the husband cares about the wife's allocation so that her private consumption increases his welfare, and vice versa.⁴ This leads to individual-specific utility functions in which both members' consumptions appear:

$$U_i (\mathbf{x}_i, \mathbf{x}_j, \mathbf{x}_p ; \boldsymbol{\gamma}) \text{ with } i = f, m \text{ and } j = m, f,$$

where x_i, x_j are private goods consumed by the husband and wife, respectively, x_p is a public good that is non-exclusive and jointly consumed by both spouses (say, child health, or good relationships with local officials), and $\boldsymbol{\gamma}$ is a vector of household characteristics. Then, for all Pareto-efficient outcomes, there exists some weight μ for which the household's optimization problem can be written as:

$$\text{Max } \mu U_m (\mathbf{x}_i, \mathbf{x}_j, \mathbf{x}_p ; \boldsymbol{\gamma}) + (1 - \mu) U_f (\mathbf{x}_i, \mathbf{x}_j, \mathbf{x}_p ; \boldsymbol{\gamma}) \quad (1)$$

subject to the budget constraint in equation (2)

$$\mathbf{p} \cdot \mathbf{x} = Y = y_j + y_m + y_f \quad (2)$$

where total income Y is the sum of joint income y_j , and male and female incomes, y_m and y_f , respectively. The unitary model is a special case of this more general model; the former obtains either when the individual utility functions U_m and U_f are identical (common preferences) or when μ is equal to zero or one (there is a household dictator). The general model yields demand equations that are functions of the weight μ in addition to prices, incomes, and household characteristics:

$$x_i = x_i (\mathbf{p}, Y, \mu ; \boldsymbol{\gamma}). \quad (3)$$

The above derivation has a useful interpretation as a two-stage budgeting process. In the first stage, household members pool all their income and allocate it according to the weight, or sharing rule, μ . This sharing rule is likely to be related

⁴ This draws on Quisumbing and Maluccio (2003), but has been modified to consider a public good in addition to private goods enjoyed by husband and wife.

to individuals' relative bargaining power within the household; a more powerful individual would command a greater share of the household's resources. In the second stage, each individual maximizes his or her utility given his or her income share.

Letting a_m and a_f represent proxy measures for bargaining power (for the man and woman, respectively) that influence μ , demand functions ignoring price variation can be expressed as

$$x_i = x_i (Y ; \mu (a_m, a_f) , \gamma). \quad (4)$$

Holding household income constant, the effect of individual bargaining power on demand for good i can be interpreted as the effect of changing the share (μ) of household income allocated to each household member. Because income pooling implies that the identity of the income earner, or person in control of the resources, is irrelevant, these effects should be zero:

$$Mx_i / Ma_j = 0 \text{ with } j = m, f \quad (5)$$

This provides a straightforward test of the unitary model by including proxy measures for male and female bargaining power in the estimation of demand equations. In our specific application, our proxy measures of bargaining power are assets brought to marriage and distance from natal villages; the goods i and j that we consider are men's and women's membership in groups, while the public good examined is the strength of social relationships with different powerful and influential persons within the village.⁵ It would be easier, a priori, to identify non-pooling of resources for private goods, although it is possible that men and women have different preferences regarding which type of social relationships in which to invest. Thus, the paper also tests whether husband's and wife's resources have different impacts on the strength of the household's social relationships with different individuals.

3. DATA AND DESCRIPTIVES

Survey design

The data used in this paper come from ongoing work by the Chronic Poverty Research Centre (UK), Data Analysis and Technical Assistance, Ltd. (Bangladesh), and the International Food Policy Research Institute (IFPRI). Approximately 102 villages and 1800 households first surveyed by the International Food Policy Research Institute (IFPRI) in 1994, 1996, or 2000 were revisited in 2006-2007 to ascertain how their living standards have changed over the intervening period and which factors, institutions and processes have trapped certain households in chronic poverty while allowing others to escape from it. A unique feature of this study is that it combines both a long-term and comparative assessment of these interventions and mixed qualitative/quantitative methods. The design of the

⁵ Most groups in Bangladesh are single-sex groups, although there are also groups that allow members of both sexes.

longitudinal study has been extensively described in Quisumbing (2007); only a brief summary focusing on the agricultural technology study sites is presented here.

The agricultural technology study originally surveyed 47 villages in three sites in Bangladesh in 1996-97, each site chosen as part of an impact evaluation of programmes disseminating new agricultural technologies.⁶ Commercial vegetable technologies were disseminated in Satura *thana*, Manikganj district, referred to below as Satura; polyculture fish production technologies were provided in two sites, Jessore Sadar *thana*, Jessore district, referred to below as Jessore, and Gaffargaon *thana*, Mymensingh district and Pakundia and Kishoreganj Sadar *thanas*, Kishoreganj district, referred to as Mymensingh below, in combination with specific extension programmes for disseminating these technologies. Satura and Mymensingh are located in the central part of Bangladesh, whereas Jessore is in the west, close to Calcutta and the Indian border. In two sites (Satura and Jessore), technologies were introduced through non-governmental organization (NGO) programmes targeted exclusively to women, who were provided training and credit. At the third site (Mymensingh), the Mymensingh Aquaculture Extension Project (MAEP) and 15 Department of Fisheries' extension agents provided training to relatively better-off households, and training with credit to relatively poorer households, directed at both men and women, but men more often than women. The primary distinction between the two polyculture fish production sites is that, in Jessore, the NGO (Banchte Shekha) had arranged long-term leases of ponds that are managed by groups of women (ranging in number from five to 20). In Mymensingh, ponds are owned and managed by single households or households that have shared ownership. The NGO programmes in Satura and Jessore are still operational, though with several modifications, but the aquaculture extension programme in Mymensingh has ended and has been absorbed by the regular Department of Fisheries extension system.

In designing the original evaluation surveys, careful attention was paid to establishing both intervention and comparison/control groups so that single difference estimates of short-term project impact could be derived. In the agricultural technology evaluation, villages were selected randomly to include those with and without the intervention. An equal number of households were interviewed in villages which had and had not benefited from the dissemination of three different technologies (improved vegetables, group fishponds and individual fishponds). A village census was used to draw up the sampling frame, and both adopters and non-adopters of the technologies were selected randomly from the relevant sampling frames and strata. The agricultural technology study also included a cross-section of all other non-adopting households representative of the general population in the villages.

Table 1 summarizes the sample for each of the three types of agricultural technologies included in the original evaluation survey, and lists the number of program and control households in each site. For households in each of these groups, a four-round survey in 1996-97 collected detailed information on production and other income-earning activities by individual family member, expenditures on various food, health and other items, food and nutrient intakes by

⁶ The description of the 1996-7 survey draws on Quisumbing and de la Brière (2000).

individual family member, time allocation patterns and health and nutritional status by individual family member. In the second round, information on parental and sibling background was also collected for both the husband and wife. Between the second and third survey rounds, a parallel study using qualitative methods was also conducted in a pair of villages (one adopting, or 'program', village and one non-adopting, or 'control', village) in each of the three sites to elicit group members' views on the effects of the NGOs and the new technologies on incomes, education and health of children, women's status and empowerment, among others (Naved, 2000). We drew on the results of the qualitative study to formulate questionnaire modules on pre-marriage assets, transfers at marriage, inheritance and indicators of women's mobility and empowerment, which were then fielded in the fourth survey round.

Table 1. Sample sizes of treatment and control groups, by intervention

Intervention/year	Treatment	No. of households	Control	No. of households
Agricultural technologies				
Improved vegetables (1996-97, 2000 and 2006-07)	NGO members in villages where improved technologies were disseminated	110	NGO members in villages where improved technologies had not yet been disseminated	110
Individual fishponds (1996-97 and 2006-07)	Individual pond owners in villages where improved technologies were disseminated	110	Individual pond owners in villages where improved technologies had not yet been disseminated	110
Group fishponds (1996-97 and 2006-07)	NGO members in villages where improved technologies were disseminated	110	NGO members in villages where improved technologies were disseminated	110

Note: The agricultural technology sites also include 110 other households randomly selected from non-NGO members in each site.

In order to obtain information on micronutrient deficiencies across the agricultural year, the agricultural technology households were surveyed on four occasions between 1996 and 1997. Then, in 2000, IFPRI and DATA conducted a follow-up study in one of the three agricultural technology sites (Saturia, in Manikganj district) as part of a study on linkages between agriculture, nutrition and women's status. All sites were visited in 2001 as part of a separate study evaluating the social impact of the agricultural technologies (Hallman et al., 2007). Finally, in 2006, IFPRI, DATA and CPRC began a major project to resurvey all the households surveyed in each of the three evaluations. While the focus of this study was on understanding the drivers and maintainers of chronic poverty in rural Bangladesh, the intervention and comparison groups were maintained from the previous study. In addition, children who had left the original household and set up their own households were tracked as long as they had not migrated from their district. We

call the original households with heads and spouses that were re-interviewed “core households” and those separate households formed by children “split households.”⁷

Family and kin networks

The term *gusti* refers to the local lineage group composed of several related families within a village, which has traditionally formed the basis for the organization of agricultural labor and systems of reciprocity in Bangladesh (Lewis and Hossain 2008: 59).⁸

Owing to the importance of the *gusti* in rural life, we begin by characterizing potential family and kin networks of husbands and wives of core households in the agricultural technology sites in Table 2, and of husbands and wives in split households in Table 3.⁹ We present these descriptive statistics for the sample as a whole, and also by baseline wealth terciles, based on the combined value of land, livestock, and other assets in 1996-97. Baseline wealth terciles of split households are those of their parents in 1996-97 (when they were still part of the parental household).

Table 2. Family and kin networks of husbands and wives in core households, by wealth tercile in 1996¹

	Core households							
	Husband's familial networks				Wife's familial networks			
	All	Lowest tercile	2nd tercile	Top tercile	All	Lowest tercile	2nd tercile	Top tercile
<i>Potential familial networks</i>								
Whether father is alive	0.12	0.21	0.08	0.06	0.33	0.33	0.30	0.35
Whether mother is alive	0.41	0.51	0.35	0.35	0.59	0.63	0.59	0.54
Number of living brothers	2.47	2.39	2.53	2.50	2.25	2.26	2.13	2.36

⁷ Attrition rates across survey sites differ, with a low attrition rate of 4 percent in the improved vegetables site to 11.1 percent in the individual fishponds site over the ten-year survey interval. All in all, attrition per year is relatively low, at 0.4 percent per year. In these sites, attrition is age related: households with a larger proportion of persons older than age 55 were more likely to leave the sample. Unobserved locational effects were also important determinants of attrition. Households in Sauria are significantly less likely to leave the agricultural technology sample, probably reflecting the ease of interviewing in Manikganj, which is close to Dhaka, and where NGOs have been working for a long time. In contrast, the Mymensingh site, which is traditionally more conservative, has a much higher attrition rate. See Quisumbing (2007) for details.

⁸ Lewis and Hossain (2008) point out that this is a fairly flexible rural institution; it is common for poorer families to seek membership in order to claim benefits while wealthier households may seek to limit membership in order to safeguard resources (Jansen 1987).

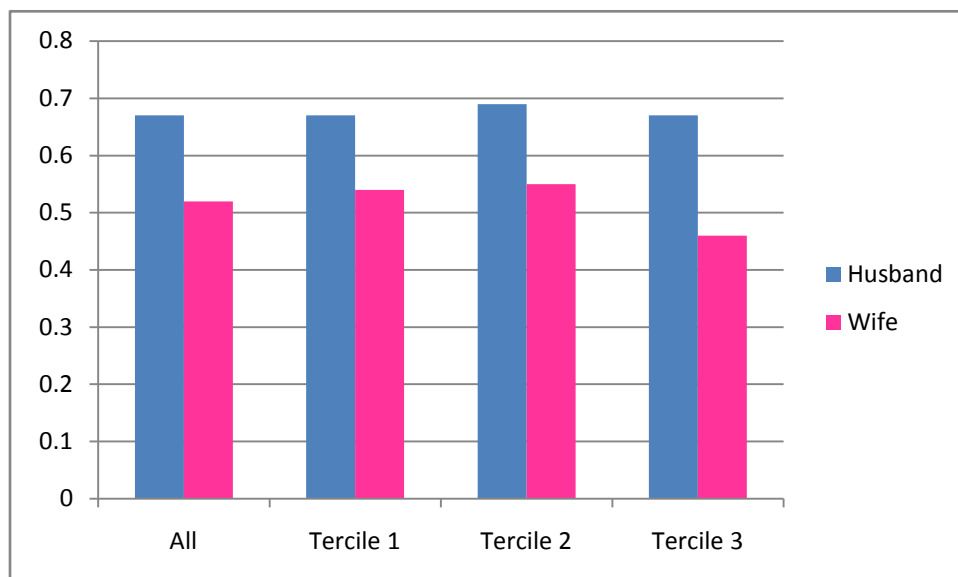
⁹ Strictly speaking, these are potential rather than actual networks because not all relatives will actively be involved in providing mutual support, and because our data do not allow us to examine the closeness of relationships with kin.

Number of living sisters	1.77	1.76	1.68	1.90	2.35	2.29	2.40	2.35
<i>Village familial networks</i>								
Years lived in this village	47.72	42.26	49.64	52.05	30.05	27.35	31.17	31.93
Distance to parents' village (km)	2.90	4.60	1.26	2.63	11.37	11.96	9.66	12.56
Whether has relatives in the village	0.67	0.67	0.69	0.67	0.52	0.54	0.55	0.46
Number of relatives in village in other households	1.95	2.00	1.93	1.92	1.41	1.52	1.48	1.21
Brothers living in the village	1.43	1.33	1.51	1.46	0.37	0.49	0.34	0.25
Sisters living in the village	0.39	0.47	0.33	0.37	0.21	0.24	0.23	0.15

Note: ¹Core households are those who were originally interviewed in 1996-97. Wealth terciles are defined based on the sum of the values of land, livestock, and assets in 1996-97, in 2007 taka

Reflecting the tendency for husbands to be older than wives in their parents' and the current generation, only 12 percent of husbands' fathers and 41 percent of their mothers were still living, compared to 33 percent of wives' fathers and 59 percent of wives' mothers (Table 2). Possibly reflecting the relationship of life cycle stage with wealth, husbands in the lowest wealth tercile in 1996-97, who are likely to be younger, had a higher proportion of their parents who were still living, in comparison to those in the higher terciles. Husbands, on average, had 2.47 living brothers and 1.77 living sisters, while wives had 2.25 living brothers and 2.35 living sisters. In general, husbands have easier access to their familial support networks because they do not typically leave their parents' village to marry. On average, husbands had lived in the survey village for almost 47 years, compared to wives, who had lived in the village for 30 years. Possibly reflecting wealth accumulation over the life cycle, husbands who had lived longer in the village also belonged to higher wealth terciles in the baseline year. Reflecting residential patterns associated with village exogamy, husbands also are physically closer to their parents' village, living on average 2.9 kilometers away, while wives live on average 11 kilometers away from their parental villages. Indeed, about two-thirds of husbands have a relative living in the survey village, compared to half of wives (Figure 2), with no clear pattern between having a relative in the village and baseline wealth, although wives in the highest tercile have the lowest proportion of relatives within the same village. Also owing to the practice of village exogamy, husbands have more brothers living in the same village than sisters, while wives have fewer of both.

Figure 2. Proportion of husbands and wives with relatives in the village by baseline asset tercile, core households



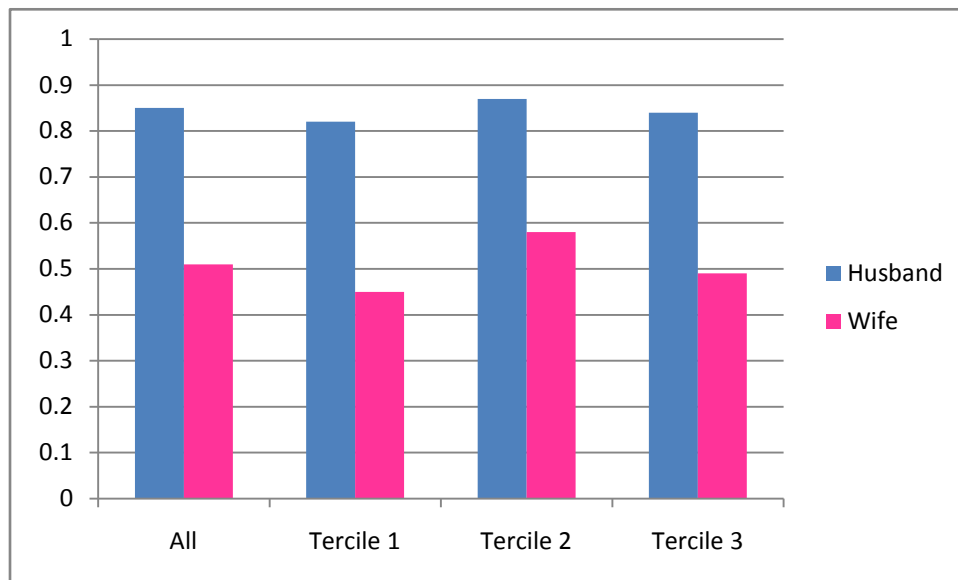
Split households—children of original households who had formed separate households within the same district—have very similar familial networks (Table 3). Because these respondents are younger, a higher proportion will have parents who are still living, although, as expected, wives are more likely to have two living parents, and fathers are more likely to be deceased than mothers. Husbands, on average, have lived in the survey village for thirty-two years, while wives, who move to their husbands’ natal village upon marriage, have lived in the village only for twelve years. Similar to their parent’s generation, husbands live close to their parents’ village—only 1.32 kilometers, on average—while wives live 16.44 kilometers away from their own parents. While 85 percent of husbands have relatives within the village, only 50 percent of wives have relatives within the village (Figure 3); interestingly, the gap between husbands and wives in terms of access to relatives is larger in this generation than in their parents’. Again, reflecting the practice of village exogamy, and the tendency for brothers to inherit most of their parents’ immovable property and settle in the same village, husbands have 2.11 brothers in the same village, and only 0.44 sisters; in contrast, wives have 0.21 brothers and 0.17 sisters in the same village. All in all, regardless of generation, these results point to women’s fewer local sources of social support compared to men’s.

Table 3. Family and kin networks of husbands and wives in split households, by wealth tercile in 1996¹

	Split households							
	Husband's familial networks				Wife's familial networks			
	All	Lowest tercile	2nd tercile	Top tercile	All	Lowest tercile	2nd tercile	Top tercile
<i>Potential familial networks</i>								
Whether father is alive	0.57	0.67	0.61	0.48	0.75	0.77	0.74	0.75
Whether mother is alive	0.84	0.94	0.86	0.76	0.88	0.90	0.88	0.88
Number of living brothers	3.25	2.76	3.16	3.60	2.00	1.74	1.95	2.20
Number of living sisters	2.00	1.69	1.62	2.50	2.11	1.99	2.11	2.19
<i>Village familial networks</i>								
Years lived in this village	32.02	28.03	31.50	34.93	12.09	9.45	12.61	13.18
Distance to parents' village (km)	1.32	5.01	0.09	0.13	16.44	13.79	14.71	19.48
Whether has relatives in the village	0.85	0.82	0.87	0.84	0.51	0.45	0.58	0.49
Number of relatives in village in other households	2.87	3.14	3.03	2.58	1.85	1.90	2.22	1.50
Brothers living in the village	2.11	1.77	2.18	2.25	0.21	0.18	0.17	0.26
Sisters living in the village	0.44	0.45	0.42	0.46	0.17	0.17	0.21	0.15

Note: ¹Split households are those formed by household members who set up separate households within the same district since the last survey round. They are assigned to the 1996-97 wealth terciles of their original households.

Figure 3. Proportion of husbands and wives with relative in the village by baseline asset tercile, split households



Group membership

Membership in groups is one way that households invest in social capital. Across both core and split households, households belong on average to one group, with the number of groups to which core households belong declining as wealth increases (Figure 4). There is no monotonic relationship with wealth for split households; the relationship is more like an inverted U-shaped curve (Figure 4). The decline in group membership as wealth increases differs from studies conducted in other countries that find that the poor are less able to participate in groups and to invest in social networks (Pandolfelli et al. 2008), but can be understood upon closer examination of the types of organizations to which households belong.

Households' responses to the types of organizations to which they belonged were classified into six categories: (1) national NGOs, which refer to any Bangladeshi NGO working in three or more districts, such as BRAC, ASA, PROSHIKA, and the Grameen Bank¹⁰; (2) international NGOs, which are those working in several countries, such as Save the Children and CARE; (3) local NGOs, which work in a small number of districts, typically three to four districts in close proximity; (4) service groups, or work/trade-related groups, such as an agricultural workers samity (association), or a shopkeepers association; (5) community-based organizations, which collect funds from the Government of Bangladesh or from other NGOs to deliver services to their clientele, for example, the National Nutrition Program delivers most of its services through CBOs; and (6) any other group (Md. Zahidul Hassan, personal communication, November 3, 2009).

¹⁰ Strictly speaking, BRAC is now an international NGO, but has been classified as a national NGO because its origins are in Bangladesh.

The bulk of groups to which households belong are national and international NGOs (Table 4). Almost 60 percent of core households belong to a national NGO, and about 22 percent to an international NGO. Smaller percentages of core households belong to local NGOs, service groups, and community organizations—7 percent, 2 percent, and 1 percent, respectively. Among split households, 63 percent belong to a national NGO and 23 percent to an international NGO, with similarly small proportions belonging to local NGOs, community-based organizations, and service/trade groups. For both national and international NGOs, but not the other types of organizations, the probability of being a member declines as baseline household wealth increases (Table 4 and Figure 4); this decline is most evident for the core households. (The correspondence for split households is not as tight because the wealth classification is based on their parents' wealth as of the baseline).

Table 4. Membership in groups, by type of group, and wealth tertile in 1996¹

	Core households ²				Split households ³			
	All households (n=916)	Lowest tertile (n=326)	2nd tertile (n=308)	Top tertile (n=282)	All households (n=326)	Lowest tertile (n=78)	2nd tertile (n=114)	Top tertile (n=134)
<i>Whether household is a member of:</i>								
National NGO	0.59	0.67	0.59	0.48	0.63	0.71	0.70	0.53
International NGO	0.22	0.26	0.23	0.16	0.23	0.22	0.27	0.21
Local NGO	0.07	0.08	0.06	0.05	0.07	0.03	0.10	0.07
Service group	0.02	0.02	0.02	0.02	0.03	0.03	0.04	0.02
Community-based organization	0.01	0.00	0.01	0.01	0.02	0.00	0.04	0.01
Other group	0.00	0.00	0.00	0.00	0.01	0.00	0.02	0.00
Any group	0.59	0.69	0.60	0.48	0.63	0.72	0.70	0.53
<i>Number of groups to which household belongs</i>								
Minimum	0	0	0	0	0	0	0	0
Maximum	5	5	5	5	6	4	6	5

Notes: ¹Wealth tertiles are defined based on the sum of the values of land, livestock, and assets in 1996, in 2007 taka

²Core households are those who were originally interviewed in 1996-97.

³Split households are those formed by household members who set up separate households within the same district since the last survey round. They are assigned to the 1996-97 wealth tertiles of their original households.

Figure 4. Number of groups to which households belong, by baseline asset tercile

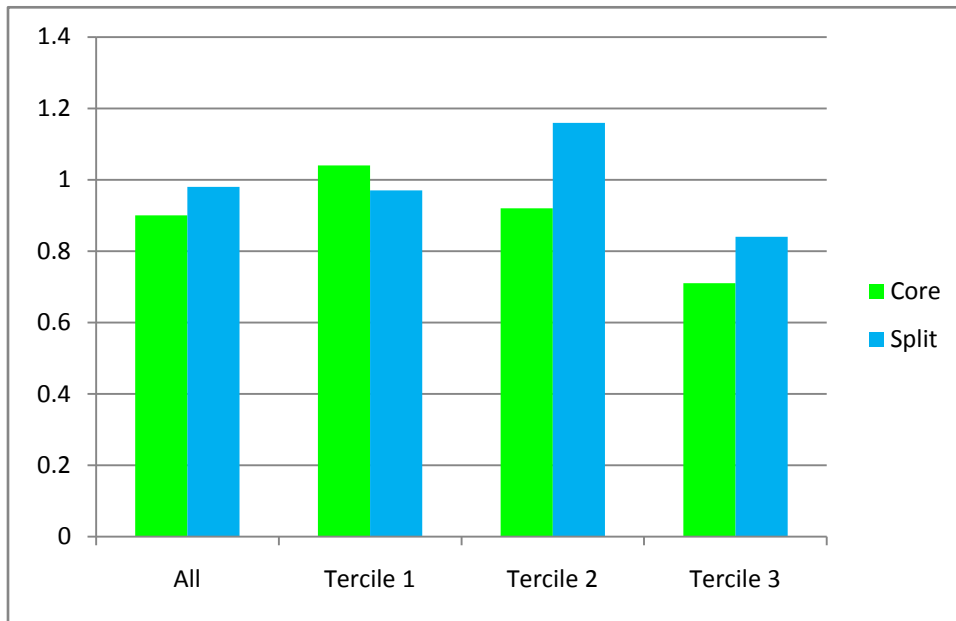


Table 5 presents information about group operations and procedures, by type of group. On average, groups have 31 members, but NGOs have smaller membership than the other types of groups. Service or trade-related groups have 70.9 members on average, and community organizations, 62.6. About half of all the groups to which households belong have a membership fee, including NGOs. Service groups have the lowest initial contribution of 12.5 Taka, and “other” groups, the largest. International NGOs have larger initial contributions compared to local and national NGOs. On average, 64 percent of groups are same-sex groups, but this proportion is higher among NGOs, with around 98 percent being same-sex groups. Very few groups, however, seem to require having the same age or activity.

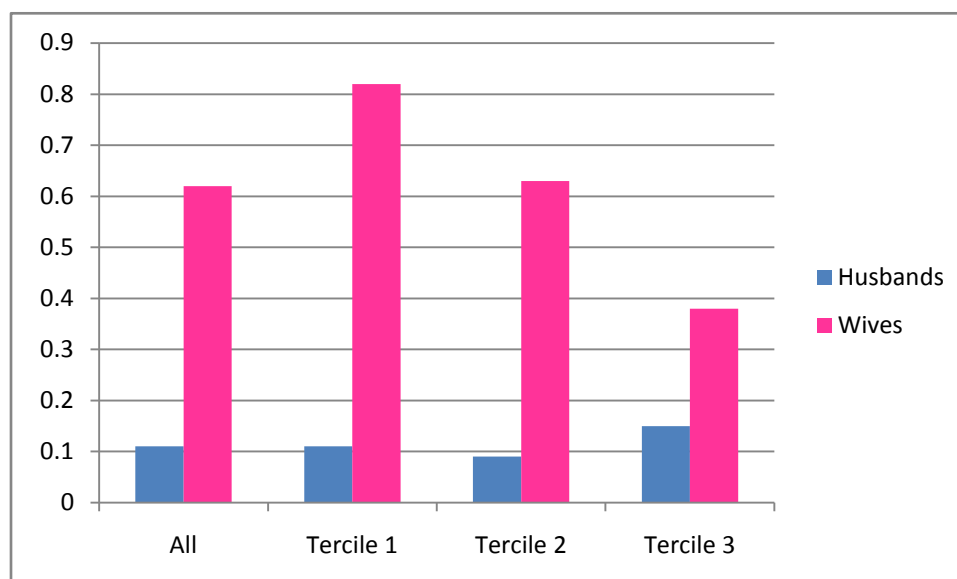
Table 5. Group operations and procedures, by type of group , 2006-2007

	All groups	National NGO	Inter-national NGO	Local NGO	Service group	Community organization	Other
<i>Groups to which the household belonged</i>							
Size of group (number of members)	30.97	23.10	24.46	23.47	70.93	61.56	45.19
Whether group has a membership fee	0.53	0.77	0.86	0.93	0.43	0.59	0.45
Amount of initial contribution (Taka)	69.03	30.61	66.33	41.09	12.50	180.60	219.29
Whether group members are:							
Of the same sex	0.64	0.97	0.98	0.98	0.79	0.69	0.73
Of the same age	0.02	0.02	0.02	0.03	0.21	0.02	0.08
Have the same activity	0.03	0.04	0.04	0.05	0.14	0.04	0.10

Because the subsample of split households is relatively small, we focus the remainder of the analysis on core households. Figure 5 presents membership in groups by husbands and wives in core households, disaggregated by baseline wealth terciles. Unlike husbands' membership in NGOs, which shows no clear relationship with wealth tercile, wife's NGO membership declines monotonically as wealth increases. Thus, unlike in other countries where group membership may discriminate against the poor, NGOs in Bangladesh seem to be successful in targeting the poor. Some caveats, however, need to be mentioned. In focus groups conducted in the same study villages in 2001, Hallman et al. (2007) found that while membership in NGOs and other organizations is weighted toward the poor, asset ownership and power also allow some non-poor households (though not the wealthiest) to become NGO members. There were also some very poor households who found themselves excluded from NGO membership because they were asset-poor.¹¹

¹¹ These poor households felt that they may be unable to keep up with loan repayments or did not have the necessary collateral assets or documentation (Hallman et al. 2007: 122).

Figure 5. Number of groups to which husbands and wives belong, by baseline asset tercile, core households



Membership in groups is driven mostly by wives: while 47 percent of wives belong to at least one group, only 9 percent of husbands belong to a group (Table 6). Moreover, group membership by wives is mostly in national NGOs (43 percent of wives are members of a national NGO), followed by international NGOs (15 percent). Only 6 percent of husbands belong to a national NGO and 3 percent to an international NGO.

Table 6. Membership in groups by husband and wife, core households, by wealth terciles in 1996

	Husbands				Wives			
	All house holds	Lowest tercile	2nd tercile	Top tercile	All House-holds	Lowest tercile	2nd tercile	Top tercile
<i>Whether a member of:</i>								
National NGO	0.06	0.04	0.05	0.10	0.43	0.57	0.42	0.29
International NGO	0.03	0.04	0.02	0.04	0.15	0.19	0.16	0.07
Local NGO	0.01	0.02	0.01	0.01	0.04	0.05	0.04	0.02
Service group	0.01	0.01	0.01	0.00	0.00	0.00	0.01	0.00
Community-based organization	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00
Other group	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Any group	0.09	0.09	0.07	0.12	0.47	0.61	0.46	0.29
<i>Number of groups to which person belongs</i>								
Minimum	0	0	0	0	0	0	0	0
Maximum	4	4	4	4	5	3	5	4

Relationships with influential people

The social relationships module asked core households what types of relationships they had with influential people—whether they were family or kin, non-kin but with specific relationships (such as neighbors, landowners, employers, and so on), or persons with whom they have “good relations,” but no specific relationship. Table 7 shows that types of relationships differ widely across types of influential people.

Table 7. Types of relationships with influential people, core households

Influential person	Percent of households reporting		
	Family or kin	Non-kin relation	Good relation
Union <i>parishad</i> member (male)	12.66	43.01	41.16
Union <i>parishad</i> member (female)	6.44	30.46	38.43
Union <i>parishad</i> chair	8.84	22.27	58.08
Municipal council member (male)	0.44	1.09	8.08
Municipal council member (female)	0.44	0.33	4.48
Municipal council chair	0.76	1.42	10.37
Government official	2.51	0.98	7.10
Other political figure	2.84	14.08	12.88
Police	13.21	2.62	3.93
Armed serviceperson	24.89	4.91	2.73
Doctor	5.02	1.86	21.72
Lawyer or judge	4.80	2.07	16.92
Headmaster	6.66	10.81	40.28
Big businessperson	13.10	12.55	22.93
Big landowner	16.16	25.87	14.85
NGO official	2.40	3.93	45.52
Other influential person	2.73	11.68	4.91

Among the most influential people in a village are local government representatives. The lowest rung of local government is the union, each of which has an elected council or *parishad* (Lewis and Hossain 2008).¹² The union *parishad* (UP) existed as a local institution since the British colonial period and currently has thirteen members, including three seats which are specifically reserved for women. In the past decade, the union has become the key focal point of local government. Through its twelve formal committees, the union has responsibilities for

¹² In each of Bangladesh’s 64 Districts, a Deputy Commissioner (DC) co-ordinates overall development activities via 460 sub-districts, known locally as upazilas.

implementing a range of centrally-funded development projects, such as road building and maintenance, relief services, rural development, education, law and order, local roads and market revenue collection and allocation (Bode 2002, cited in Lewis and Hossain 2008). Members of the union council also decide on allocations for disaster relief or poverty programs, such as cards that entitle the holder to free distribution of food.

A sizeable proportion of core households in our sample report having non-kin relationships or being on good terms with union *parishad* members, whether male or female, as well as the union *parishad* chair. For example, about 22 percent and 60 percent of households report having non-kin relations and good relations, respectively, with the union council chair.

Only a small proportion of core households are related to these local officials by kinship. Reflecting the lower representation of women on the union council, a smaller proportion of core households report that they have non-kin relations or good relations with female union council members. In contrast, much lower proportions of households report being related through kinship, non-kin relationships, or even being on good relations with municipal council members or the municipal council chair. This is probably because most day-to-day dealings of households are with the closest local government unit, whereas the municipality seat may be some distance away.

Similarly, relatively low percentages of households report being related in any way to government officials or political figures. Less than 3 percent of households are related to either government officials or other political figures by way of kinship. Less than 1 percent report having non-kin relationships and only 7 percent report having good relations with government officials. A slightly higher proportion reports having relationships with other political figures—14 percent are non-kin relations, and about 13 percent have good relations with other political figures.

Although relationships with political figures are weak, much stronger familial relationships exist with police and members of the armed services. Thirteen percent of core households are related to policemen, and almost 25 percent have relatives in the armed service. Aside from these family relationships, low proportions of core households report having non-kin relationships or good relations with the police or armed services. If enforcers of law and order are related to rural people mainly through kinship, it is questionable whether such enforcers would be able to be impartial arbiters of disputes.

Although relatively low proportions of core households report being closely related to doctors, lawyers, or headmasters—who are influential in their own domains in rural Bangladesh—they enjoy good relations with them. About 22 percent of households report having good relations with doctors, about 17 percent with lawyers, and 40 percent with the headmaster. Larger proportions of households report being related to big businesspersons (13.1%) and big landowners (16.2%) as well as having close non-kin relations (12.5% and 25.9%) or good relations (22.9% and 14.8%) with them. Finally, while NGO officials are related by kinship or through other non-kin relationships to a low percentage of households, about 45 percent of households report having good relations with them.

To gauge whether the strength of relationships with influential people was influenced by one's own wealth, we tabulated the proportion of households reporting a strong relationship with various influential people against their baseline wealth (Table 8). Without exception, whether or not the household reports having a strong relationship with influential persons increases with baseline wealth. We will explore whether this relationship is robust to the inclusion of other correlates of relationship strength using regression analysis.

Table 8. Strength of relationships with influential persons, core households, by wealth quartile in 1996

Whether household has strong relationship with influential person	All	Lowest tercile	2nd tercile	Top tercile
Union <i>parishad</i> member (male)	0.20	0.13	0.20	0.27
Union <i>parishad</i> member (female)	0.13	0.08	0.14	0.18
Union <i>parishad</i> chair	0.16	0.09	0.15	0.24
Municipal council member (male)	0.03	0.02	0.03	0.04
Municipal council member (female)	0.03	0.02	0.02	0.04
Municipal council chair	0.03	0.02	0.02	0.05
Government official	0.03	0.02	0.02	0.06
Other political figure	0.10	0.06	0.10	0.16
Police	0.09	0.05	0.09	0.13
Armed serviceperson	0.15	0.08	0.15	0.24
Doctor	0.07	0.02	0.05	0.13
Lawyer or judge	0.07	0.02	0.05	0.13
Headmaster	0.13	0.05	0.13	0.21
Big businessperson	0.16	0.07	0.18	0.23
Big landowner	0.15	0.06	0.15	0.25
NGO official	0.07	0.03	0.07	0.10
Other influential person	0.05	0.02	0.05	0.07

4. EMPIRICAL SPECIFICATION

Determinants of group membership and social relations

The basic specification for the group membership regressions consists of two basic reduced form equations, estimated separately for husband and wife. The first is a probit equation that examines the probability of belonging to a group $\Pr (G_j)$

$$\Pr (G_j) = \beta_0 + \beta_1 X_m + \beta_2 X_f + \beta_3 X_h + \beta_4 C_v + \beta_5 I_h + \beta_6 S_m + \beta_7 S_f + \beta_7 Z_{sij} + \epsilon, \quad (6)$$

where X_m and X_f are vectors of husband (m) and wife (f) baseline characteristics, such as age, age squared, and years of schooling; X_h is a vector of baseline household characteristics, such as the log of land area owned; the log of the value of nonland assets; dummy variables for the lowest and second lowest nonland wealth terciles; household size; and the proportion of the household in

various age and sex categories; C_v is a vector of covariate shocks at the village level (here, the proportion of households affected by floods in 1997-2001 and 2002-2006); I_h is a vector of idiosyncratic shocks and positive events experienced in the past 10 years, 1997-2006; S_m and S_f are the number of living siblings of husband (m) and wife (f); z_s are dummy variables indicating characteristics such as location; ε is a stochastic error term; and β 's are parameters to be estimated. Variables related to the size of owned land, the value of nonland assets, and wealth terciles are indicators of household wealth; household size and the proportion of the household in different age-sex categories are demographic variables that may affect the probability of joining a group. Shocks variables are included to account for the possibility that group membership is motivated by risk-smoothing considerations; if groups provide some form of insurance; one would expect group membership to be higher among households that have experienced shocks. Finally, the number of living siblings of both husband and wife is included as a proxy for familial support networks. Previous work using this data set (Quisumbing 2008) has shown that sibling support networks are very important to current household wealth and wellbeing, with the number of the husband's living brothers contributing positively to asset holdings and the number of the wife's living brothers associated with higher per capita consumption.¹³ Note that the number of male or female living siblings represents only potential family networks, because it is possible that one may not have good relationships with one's siblings. However, the size of potential (rather than actual) family networks is used as a regressor because it is exogenous to behavior that may influence current network formation.

We use a similar reduced form specification for a Poisson regression model that models the number of groups to which the husband or wife belongs - G_j (7), where j indexes the individual (Greene 1993). We use a Poisson model for count data because the number of groups to which either husband or wife belongs takes on integer values, and the largest number is small (six at maximum). The Poisson model can be written as:

$$\text{Prob}(G_j = g_j) = (e^{-\lambda_j} \lambda_j^{g_j}) / g_j! \quad , \quad g_j = 0, 1, 2, \dots \quad (7)$$

Writing λ_j as $\ln \lambda_j = \Gamma' X_j$, where X_j is a vector of the j 'th individual's baseline characteristics (here defined, for simplicity, to include individual and household characteristics as in (6)), it can be shown that $E[g_j|x] = \text{Var}[g_j|x] = \lambda_j = e^{\Gamma x_j}$, so

$$\partial E[g_j|x] / \partial x_j = \lambda_j \Gamma.$$

¹³ Such social support does not come without costs. Wives often give up their inheritance in return for their brothers' support (Subramanian 1998; Quisumbing 2008). Regressions not reported here show that parental wealth (which influences current wealth of households) and distance from the natal village are such important determinants of the size of one's potential familial network within the village. Thus, we do not use the number of brothers or sisters within the village as explanatory variables in the succeeding regressions, since they may be endogenous to other decisions made by households. Rather, we account for potential sibling support networks by using the number of living brothers and sisters in all succeeding specifications, and control further for the differences in bargaining power (proxied by assets at marriage and distance to natal villages) in one set of specifications.

The social relations regressions take a different form. Each household was asked to gauge the strength of relationships with each of the influential persons mentioned in Table 7. Responses were coded from zero to three, corresponding to no relationship, weak, medium, and strong (including oneself being the influential person concerned). Because responses are ordinal (ordered and categorical), an ordered probit was used in the relationships regressions (8), where the probability of observing an outcome i corresponds to the probability that the estimated linear function, plus random error, is within the range of the cut-points estimated for the outcome:

$$\Pr(\text{outcome}=i) = \Pr(\kappa_{i-1} < \delta_1 X_m + \delta_2 X_f + \delta_3 X_h + \delta_4 C_v + \delta_5 I_h + \delta_6 S_m + \delta_7 S_f + \delta_7 Z_{sij} + \theta_j \leq \kappa_i) \quad (8)$$

where θ_j is assumed to be normally distributed, the cut-points are $\kappa_1, \kappa_2, \dots, \kappa_{I-1}$, where I is the number of possible outcomes, κ_0 is $-\infty$ and κ_I is $+\infty$.

Testing the impact of bargaining power of husband and wife

To test whether husband and wife's bargaining power has a differential impact on group membership and the strength of social relations, wealth indicators at baseline are replaced with indicators of husband and wife bargaining power, controlling for overall landholding size at baseline. For example, the probit for group membership can be rewritten as:

$$\Pr(G_j) = \lambda_0 + \lambda_1 X_m + \lambda_2 X_f + \lambda_3 X_h + \lambda_4 A_m + \lambda_5 A_f + \lambda_6 C_v + \lambda_7 I_h + \lambda_8 S_m + \lambda_9 S_f + \lambda_{10} Z_{sij} + \varepsilon,$$

where A_m and A_f are vectors of resources that may affect bargaining power of husband (m) and wife (f) such as assets at marriage, years of schooling, and proximity to natal kin. After controlling for household income, the unitary model (in a static framework) predicts that individual resources of husband and wife should have no effect on intrahousehold allocations so that each element of λ_4 and λ_5 should equal zero. In a dynamic framework, however, the husband and wife's effects are no longer necessarily zero (Strauss and Beegle 1996). We therefore employ a more general test of the unitary model, examining whether the *difference* between the husband and wife's assets effects is equal to zero, that is,, that their effects are equal, but not necessarily equal to zero. Analogous specifications are used for the number of groups and for the relationship strength regressions. Means and standard deviations of variables used in the regressions are presented in Appendix Table 1.

5. REGRESSION RESULTS

Determinants of participation in groups

Table 9 presents regression results exploring the determinants of belonging to any group and the number of groups to which one belongs, for husbands and wives separately. Group membership is expressed as a function of baseline household characteristics in 1996-97, including the log of land owned and the log of the value

of nonland assets, dummy variables for the lowest and second lowest nonland asset terciles, household demographic characteristics, covariate and idiosyncratic shocks, and familial support networks or the number of living siblings of husbands and wives, and *thana* dummies. Marginal effects are presented from the probit regressions, while the incidence rate ratio (IRR) is presented for the Poisson regressions. Marginal effects show the impact of increasing the independent variable by one unit on the probability of belonging to any group, while the IRR presents the “rate” at which husbands or wives join groups. Similar to the interpretation of odds ratios, if the IRR is greater than one, the variable increases the rate at which the individual joins a group, and if less than one, the variable reduces this rate. Both the probability of belonging to a group and the number of groups to which husbands belong increase with husband’s years of schooling; the rate at which husbands join groups increases by 9.4 percent with an additional year of schooling. The number of males 5-14 years of age as of the baseline has a weak significant positive effect on group membership, while the severity of recent floods in the community decreases the probability that men join groups, but not the number of groups to which husbands belong. Landownership has a strong positive impact on the number of groups husbands join. Possibly reflecting the strength of women’s NGOs in Jessore and the less patriarchal cultural tradition in that area, husbands in Jessore are less likely to join groups and belong to fewer groups. Husbands in Mymensingh also belong to fewer groups.

Table 9. Initial wealth and other determinants of the probability of joining a group, and number of groups to which husbands and wives belong, core households

	Husbands					Wives				
	P(any group) robust SE	Probit with Marginal effects	z	Number of groups Poisson		P(any group) robust SE	Probit with Marginal effects	z	Number of groups Poisson	
				IRR	z				IRR	z
<i>Baseline household characteristics</i>										
Husband's age	0.003		0.26	0.919	-0.76	-0.014		-0.81	0.985	-0.36
Husband's age squared	0.000		-0.74	1.000	0.38	0.000		1.17	1.000	0.62
Husband's years of schooling	0.008		3.06	1.094	2.64	-0.003		-0.39	0.995	-0.32
Wife's age	-0.008		-0.73	1.007	0.05	0.051		2.63	1.107	1.84
Wife's age squared	0.000		0.93	1.000	0.08	-0.001		-3.53	0.999	-2.47
Wife's years of schooling	0.003		0.86	1.037	0.82	-0.009		-0.92	0.987	-0.55
Ln (area of land owned +1)	0.006		0.74	1.196	1.72	-0.068		-4.61	0.893	-3.27
Ln (value of nonland assets +1)	0.034		1.54	1.326	1.43	0.034		0.90	0.975	-0.33
Lowest nonland asset tercile	0.073		1.32	1.746	1.19	0.127		1.36	0.947	-0.24
Second nonland asset tercile	0.025		0.88	1.044	0.16	0.069		1.07	1.112	0.65
Household size	-0.004		-0.77	0.945	-1.07	0.014		1.91	1.037	2.16
<i>Proportion of household in age-sex categories</i>										

Males 0-4 years	0.000	0.17	1.008	0.53	0.006	2.22	1.008	1.71
Females 0-4 years	-0.001	-0.69	1.001	0.13	0.001	0.56	1.003	0.67
Males 5-14 years	0.001	1.78	1.011	1.13	0.004	2.69	1.008	2.75
Females 5-14 years	0.000	-0.06	0.999	-0.12	0.002	1.21	1.007	2.12
Males 55 and older	0.001	0.73	1.008	0.33	-0.005	-1.47	0.987	-1.43
Females 55 and older	-0.001	-0.96	0.983	-0.98	0.008	2.69	1.014	2.55
<i>Covariate shocks (proportion of households in village affected)</i>								
Floods between 1997-2001	0.001	1.06	1.006	1.09	0.001	1.60	1.001	0.64
Floods between 2002-2006	-0.001	-2.07	0.992	-1.59	0.000	-0.43	0.997	-1.48
Illness of household member	-0.016	-0.97	0.928	-0.35	0.074	2.20	1.135	1.74
Death of household member	0.000	0.01	0.983	-0.04	0.033	0.29	0.956	-0.19
Dowry or wedding expenses	-0.010	-0.44	1.219	0.71	0.000	0.00	0.977	-0.31
Remittance received	0.027	0.87	1.131	0.43	-0.023	-0.25	0.983	-0.07
Inheritance received	-0.006	-0.17	1.129	0.29	-0.154	-1.97	0.909	-0.50
Dowry received	-0.024	-1.07	0.657	-1.50	0.089	1.74	1.093	1.04
<i>Number of living siblings</i>								
Husband's living brothers	-0.006	-0.78	0.885	-1.44	0.008	0.63	1.013	0.36
Husband's living sisters	-0.011	-1.60	0.868	-1.77	0.001	0.07	0.998	-0.06

Wife's living brothers	-0.007	-1.23	0.959	-0.69	0.012	0.78	1.031	1.18
Wife's living sisters	0.000	0.09	0.966	-0.42	0.014	1.25	1.032	1.33
<i>Thana dummies (Saturia excluded)</i>								
Mymensingh	-0.037	-1.26	0.441	-1.89	-0.237	-3.16	0.428	-3.58
Kishoreganj	0.000	-0.01	0.727	-0.76	-0.215	-3.05	0.462	-4.13
Jessore	-0.095	-2.36	0.148	-3.08	-0.036	-0.45	0.772	-1.37
Constant								
<i>Joint tests of coefficients (F-statistic, p-value)</i>								
Husband's=wife's years of schooling	0.99	0.32	0.60	0.44	0.22	0.64	0.06	0.81
Age-sex categories=0	8.92	0.18	3.70	0.72	20.62	0.00	20.21	0.00
Shocks=0	15.45	0.05	10.33	0.24	22.27	0.00	10.94	0.21
Living siblings=0	3.98	0.41	6.18	0.19	2.47	0.65	4.86	0.30
Number of obs	745		745		745		745	
Wald chi2(32)	688.25		1665.7		497.07		1033.7	
Prob > chi2	0.00		0		0.00		2	
Pseudo R2	0.16		0.00		0.00		0.00	
					0.17			

Note: IRR means incidence rate ratio. T-statistics and p-values in bold are significant at 10% or better. All standard errors are adjusted for clustering in villages.

As suggested by the descriptive statistics, the wife is the household member most likely to join a group. Life cycle patterns—evidenced by age and age squared—affect both the probability of joining groups and the number of groups to which women belong. Membership in women’s groups is also progressive with respect to initial wealth, with both the probability of joining a group and the number of groups decreasing as the size of owned land increases. An additional decimal of owned land, for example, reduces the wife’s probability of joining a group by 6.8 percent. Household demographics also play an important role. Women with larger households are more likely to join a group, with the number of males 0-4 years of age, males 5-14 years of age increasing both the probability of joining and the number of groups to which one belongs. Interestingly, while the number of females age 5-14 does not affect the probability of joining groups, it increases the number of groups to which wives belong. Having an older woman in the household increases both the probability of belonging to a group and the number of groups to which one belongs, possibly because this person can take over some domestic tasks.

There is evidence that wives join groups for risk-smoothing. Women in households who had experienced illness shocks in the last 10 years are more likely to join groups and to belong to more groups. The magnitude of this impact on the probability of joining groups is not negligible: having experienced an illness shock increases the probability that a wife joins a group by 7.4 percent. Positive events have weak but conflicting effects on the probability of group membership: the household’s having received an inheritance reduces the probability of the wife belonging to a group, but if the household received a dowry, the wife is more likely to belong to a group. Finally, both the probability of belonging to a group and the number of groups to which wives belong are significantly lower in Mymensingh, which is more culturally conservative than Sauria, the omitted category. These locational effects are large in magnitude: relative to Sauria, which is closer to Dhaka and is an area with thriving NGO activity, wives in Mymensingh and Kishoreganj are 23.7 percent and 21.5 percent less likely to join groups.

Joint tests of coefficients lead to the rejection of the null hypothesis that the coefficients on shocks are jointly equal to zero in the equations for the probability of joining a group, for both husband and wife. This indicates that risk-coping may be one motivation for group membership. However, one cannot reject the null hypothesis that the coefficients on the shocks variables are jointly equal to zero in the equation for the number of groups. Household demographic composition variables also have a jointly significant effect on wife’s probability of participation as well as the number of groups to which the wife belongs, but does not affect the husband’s group membership decisions. This may be because household composition, notably the number of sons (which could increase women’s status within the home) or the number of daughters and older women (potential substitutes for the wife’s time), is a more important consideration for women than for men. Interestingly, sibling support networks are jointly insignificant for both husband and wife, and neither can one reject the null hypothesis that coefficients on husband and wife schooling are equal.

Is it the case, however, that women who are already empowered join groups? Table 10 presents similar regressions using a specification with two

indicators of bargaining power, assets at marriage, and distance to the natal village, with the area of land owned as a control for household wealth. Neither measure of bargaining power is important in the husbands' group membership regressions, but both - wife's assets at marriage and distance to the wife's natal village are significant in the wife's group membership regressions. Women who bring more assets to marriage are more likely to belong to groups and also belong to more groups (although the magnitudes of these effects are small). Probably reflecting the lack of kin support, women who live far from their natal villages are less likely to join groups. This indicates that groups do not effectively function as a substitute for familial support networks; indeed, it seems that women who can more easily draw on their familial networks are better able to join groups. Women with a larger number of living brothers are also more likely to belong to more groups, although this coefficient is only weakly significant (at 10%) and one cannot reject the null hypothesis that all sibling coefficients are jointly equal to zero. Similar to the previous regressions, women in households with young males 0 to 4 years of age, and males 5-14 years of age, are more likely to join groups, possibly because of the higher status that having a son confers on a woman.

Table 10. Bargaining power and group membership of husbands and wives, core households

	Husbands				Wives				
	P(any group) Probit with robust SE Marginal effects	z	Number of groups Poisson IRR	z	P(any group) Probit with robust SE Marginal effects	z	Number of groups Poisson IRR	z	
<i>Baseline household characteristics</i>									
Husband's age	0.011	0.89	0.980	-0.14	-0.015	-0.88	0.954	-1.58	
Husband's age squared	0.000	-1.28	1.000	-0.27	0.000	1.28	1.001	1.95	
Husband's years of schooling	0.010	3.66	1.114	3.31	-0.003	-0.48	0.986	-0.91	
Wife's age	-0.014	-1.15	0.963	-0.24	0.045	2.30	1.120	2.66	
Wife's age squared	0.000	1.28	1.001	0.34	-0.001	-3.19	0.998	-3.47	
Wife's years of schooling	0.001	0.29	1.008	0.20	-0.011	-1.03	0.993	-0.36	
Ln (area of land owned +1)	0.007	0.81	1.154	1.43	-0.071	-5.11	0.891	-3.31	
<i>Indicators of bargaining power</i>									
Ln (husband's assets at marriage +1)	0.003	1.37	1.064	2.01	-0.001	-0.23	1.006	0.62	
Ln (wife's assets at marriage+1)	-0.002	-0.40	0.985	-0.35	0.018	2.69	1.040	2.34	
Distance to husband's natal village	0.000	-0.97	0.996	-0.88	0.000	0.22	1.000	-0.08	
Distance to wife's	0.000	-0.27	1.000	-0.01	-0.002	-2.58	0.996	-1.48	

natal village

Household demographics

Household size	0.001	0.31	1.015	0.26	0.013	1.71	1.038	2.16
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Proportion of household in age-sex categories

Males 0-4 years	0.000	0.06	1.005	0.33	0.006	2.12	1.008	1.74
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Females 0-4 years	-0.001	-0.90	0.997	-0.27	0.001	0.48	1.002	0.46
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Males 5-14 years	0.001	1.79	1.008	0.88	0.005	2.90	1.008	2.65
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Females 5-14 years	0.000	-0.11	0.997	-0.25	0.003	1.49	1.007	2.14
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Males 55 and older	0.002	1.08	1.012	0.52	-0.004	-1.32	0.982	-2.18
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Females 55 and older	-0.001	-0.85	0.984	-1.07	0.010	2.82	1.015	2.49
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Covariate shocks (proportion of households in village affected)

Floods between 1997-2001	0.001	0.95	1.005	0.85	0.000	0.43	1.000	-0.20
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Floods between 2002-2006	-0.001	-1.54	0.992	-1.20	-0.001	-0.93	0.996	-1.68
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Idiosyncratic shocks and positive events, 1997-2006

Illness of household member	-0.005	-0.28	1.076	0.36	0.092	2.34	1.167	2.11
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Death of household member	-0.018	-0.41	0.771	-0.44	0.007	0.06	0.903	-0.47
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Dowry or wedding expenses	-0.002	-0.06	1.310	0.92	-0.029	-0.62	0.935	-0.79
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Remittance received	0.057	1.49	1.433	1.11	-0.042	-0.43	0.926	-0.31
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Inheritance received	-0.004	-0.09	1.050	0.09	-0.147	-1.62	0.903	-0.48
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Dowry received	-0.033	-1.58	0.581	-1.87	0.079	1.42	1.068	0.61
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Number of living siblings

Husband's living brothers	-0.002	-0.23	0.927	-0.92	0.003	0.27	1.015	0.42
Husband's living sisters	-0.011	-1.49	0.889	-1.50	-0.002	-0.12	0.986	-0.42
Wife's living brothers	-0.008	-1.51	0.958	-0.69	0.023	1.58	1.048	1.72
Wife's living sisters	0.003	0.46	1.003	0.04	0.009	0.77	1.028	1.01
<i>Thana dummies (Saturia excluded)</i>								
Mymensingh	-0.034	-1.02	0.510	-1.49	-0.249	-2.52	0.432	-3.01
Kishoreganj	-0.007	-0.15	0.760	-0.62	-0.246	-2.92	0.467	-3.49
Jessore	-0.096	-2.05	0.165	-2.78	-0.063	-0.70	0.770	-1.22
<i>Joint tests of coefficients (F-statistic, p-value)</i>								
Husband's=wife's years of schooling	3.11	0.08	2.48	0.12	0.26	0.61	0.05	0.82
Husband's=wife's assets at marriage	0.86	0.35	1.51	0.22	4.68	0.03	2.85	0.02
Husband's=wife's distance to village	0.06	0.81	0.14	0.71	4.78	0.03	1.81	0.18
Age-sex categories=0	9.21	0.16	2.81	0.83	25.77	0.00	23.79	0.00
Shocks=0	15.51	0.05	14.46	0.07	13.91	0.08	12.06	0.15
Living siblings=0	4.06	0.40	4.48	0.35	3.25	0.52	8.53	0.07
Number of obs	680		680		680		680	
Wald chi2(32)	412.93		610.14		456.91		640.86	
Prob > chi2	0.00		0.00		0.00		0.00	
Pseudo R2	0.17				0.17			

IRR means incidence rate ratio. t-statistics and p-values in bold are significant at 10% or better. All standard errors are adjusted for clustering in villages.

The results of the group membership regressions strongly reject the idea that decision-making in Bangladeshi households is unitary; husbands and wives do not necessarily pool resources nor have identical preferences. Joint tests of hypotheses reject the null hypotheses that husband's and wife's assets at marriage equally affect the wife's probability of joining a group and the number of groups to which she belongs ($p=0.03$ and $p=0.02$, respectively). Joint tests also lead to the rejection of the null hypothesis that distance to the husband and wife's natal villages have equal effects on the wife's probability of joining a group. In the specification with bargaining variables, one can also weakly reject the null hypothesis that men's and women's schooling have equal effects on the husband's probability of joining a group.

All in all, in the specification with bargaining variables, one rejects the notion that husbands and wives have equal preferences or pool resources for wife's participation in groups. We conclude that women who are empowered, by virtue of greater values of assets brought to marriage, closer access to their natal villages, or by having sons, are more likely to be members of groups.

Determinants of relationships with influential persons

We now turn to the determinants of relationships with influential persons. Table 11 presents the determinants of relationship strength with four types of influential persons in the legal or political sphere: union *parishad* council members or chairs, government officials, police or armed service persons, and judges or lawyers. Since this indicator was collected at the household level, we cannot discern whether husbands or wives are more or less connected to influential people, but we can examine whether husband's and wife's assets have a greater impact on relationship strength. As discussed in section 4.1, the dependent variable is an ordinal variable for the strength of the relationship ranging from zero (no relationship) to 3 (strong relationship); however, for ease of interpretation, Tables 11 and 12 present marginal effects, or the impact of increasing the dependent variable by one unit, on strong relationships (that is, the marginal effects are evaluated for this particular outcome).

Table 11. Initial wealth and other determinants of strong political and legal relationships, core households, marginal effects from ordered probit regressions

	<i>Union parishad chair or member</i>		<i>Government official</i>		<i>Police or armed service</i>		<i>Judge or lawyer</i>	
	<i>dy/dx</i>	<i>z</i>	<i>dy/dx</i>	<i>z</i>	<i>dy/dx</i>	<i>z</i>	<i>dy/dx</i>	<i>z</i>
<i>Baseline household characteristics</i>								
Husband's age	-0.001	-0.08	-0.006	-1.15	0.006	0.60	0.003	0.90
Husband's age squared	0.000	-0.08	0.000	1.21	0.000	-0.57	0.000	-0.97
Husband's years of schooling	0.010	1.93	0.010	3.86	0.006	1.44	0.005	4.17
Wife's age	0.006	0.36	0.007	1.00	-0.006	-0.46	0.000	-0.07
Wife's age squared	0.000	-0.19	0.000	-0.96	0.000	0.52	0.000	0.12
Wife's years of schooling	0.003	0.37	-0.001	-0.17	0.006	1.12	0.006	2.58
Ln (area of land owned +1)	0.005	0.40	0.001	0.27	0.036	3.17	0.005	1.13
Ln (value of nonland assets +1)	0.026	1.07	0.004	0.32	0.020	0.88	0.005	0.52
Lowest nonland asset tercile	0.026	0.35	-0.043	-1.50	0.027	0.41	0.016	0.52
Second nonland asset tercile	-0.003	-0.08	-0.035	-1.72	0.004	0.10	0.009	0.63
Household size	0.000	-0.02	-0.005	-1.58	-0.001	-0.11	0.000	0.38
<i>Proportion of household in age-sex categories</i>								
Males 0-4 years	0.003	2.22	0.000	-0.15	-0.001	-0.73	0.000	-0.42
Females 0-4 years	0.000	-0.25	0.002	2.11	0.002	1.43	0.000	0.71
Males 5-14 years	0.001	1.42	0.001	1.21	-0.001	-0.89	0.000	-0.77
Females 5-14 years	0.001	0.68	0.000	0.31	0.001	0.50	0.000	-0.82

Males 55 and older	0.001	0.39	0.000	-0.25	-0.001	-0.58	0.001	0.80
Females 55 and older	0.001	0.40	0.001	0.88	-0.002	-0.97	0.000	-0.13
<i>Covariate shocks (proportion of households in village affected)</i>								
Floods between 1997-2001	0.000	0.14	0.000	0.54	0.001	1.32	0.000	1.29
Floods between 2002-2006	0.001	1.20	0.001	1.41	0.001	1.09	0.000	0.75
<i>Idiosyncratic shocks and positive events, 1997-2006</i>								
Illness of household member	0.014	0.58	0.041	3.68	0.019	0.59	0.006	0.65
Death of household member	-0.071	-1.15	0.031	0.83	-0.031	-0.62	0.003	0.13
Dowry or wedding expenses	-0.002	-0.06	0.010	0.69	-0.054	-1.74	0.001	0.06
Remittance received	0.066	1.25	0.012	0.44	-0.017	-0.33	0.021	1.16
Inheritance received	0.042	0.61	0.070	2.33	-0.029	-0.41	0.000	0.02
Dowry received	-0.030	-0.75	0.011	0.50	-0.071	-1.57	0.015	1.29
<i>Number of living siblings</i>								
Husband's living brothers	0.009	0.78	0.002	0.56	0.016	1.73	0.002	0.62
Husband's living sisters	0.002	0.12	0.004	1.05	-0.002	-0.18	-0.001	-0.13
Wife's living brothers	0.005	0.50	0.005	1.05	-0.012	-1.19	0.004	1.42
Wife's living sisters	-0.004	-0.40	-0.004	-0.96	-0.009	-0.89	0.000	0.01
<i>Thana dummies (Saturia excluded)</i>								
Mymensingh	-0.021	-0.28	0.188	2.55	0.112	1.62	0.033	1.07
Kishoreganj	-0.040	-0.39	0.105	2.33	0.085	0.87	0.041	0.79
Jessore	-0.192	-2.32	-0.061	-2.33	-0.022	-0.37	-0.035	-2.16
<i>Joint tests of coefficients (F-statistic, p-value)</i>								
Husband's=wife's years of schooling	0.55	0.46	3.78	0.05	0.01	0.94	0.15	0.70
Age-sex categories=0	10.35	0.11	7.17	0.31	5.71	0.46	3.00	0.81
Shocks=0	7.03	0.53	24.38	0.00	9.15	0.33	7.31	0.50

Living siblings=0	1.41	0.84	4.19	0.38	5.52	0.24	2.79	0.59
Number of obs	745		745		745		745	
Wald chi2(32)	261.73		369.63		335.93		608.73	
Prob > chi2	0.00		0.00		0.00		0.00	
Pseudo R2	0.07		0.18		0.07		0.17	

Notes: Marginal effects show the impact of increasing the independent variable by one on strong political and legal relationships. The dependent variable ranges from 1 to 3 depending on the strength of the relationship; marginal effects are evaluated at the highest value. t-statistics and p-values in bold are significant at 10% or better. Standard errors robust to clustering on villages

Husband's schooling is an important determinant of strong relationships in the political and legal sphere. Husbands' years of schooling is positively related with strong relationships with UP members, government officials, and judges or lawyers. Wife's schooling also increases the likelihood of having a strong relationship with judges or lawyers, indicating that better-educated women are probably more likely to avail themselves of legal or judicial services. The size of land owned increases relationship strength only for police or armed servicemen, but belonging to the second lowest asset tercile is associated with weaker relationships with government officials. Covariate shocks do not strengthen relationships with individuals in the political and legal arena, however, having experienced an illness or having received an inheritance is associated with strong relationships with government officials. One also rejects the null hypothesis that husband and wife schooling effects are equal in the government official's regression. With the exception of the number of husband's living brothers, who strengthen relationships with the police or armed service, none of the kin-related potential support networks affect relationship strength; coefficients on the size of potential sibling support networks are jointly equal to zero in all the regressions. The positive effect of the husband's living brothers could arise from a situation in which families with limited amounts of land would pass on the land to the eldest son, and then educate younger sons so that they could get jobs as clerks in town offices, or join the military or the police, although in our study area, we find that land tends to be divided among all sons, not just the eldest son.¹⁴

Table 12 presents similar regressions for a wide range of influential persons: doctor, headmaster, businessmen, landowners, and NGO officials. Husband's schooling increases the probability of having a strong relationship with four out of five types of influential people, the exception being NGO officials. Wife's schooling increases the probability of a strong relationship with doctors and (weakly) with NGO officials, possibly indicating the wife's involvement in health care and women's higher probability of joining groups. Landholding size exerts opposite effects on relationships with large landowners and with NGO officials: having a larger size of owned land increases the probability of having a strong relationship with land owners, but weakens the probability of having a strong relationship with NGO officials. Possibly indicating the importance of business assets, a higher value of nonland wealth at baseline increases the probability of having a strong relationship with big businessmen.

¹⁴ This interpretation was suggested by a reviewer.

Table 12. Initial wealth and other determinants of strong relationships with other influential persons, core households, marginal effects from ordered probit regressions

	Doctor		Headmaster		Big businessman		Big landowner		NGO official	
	Coeff	t	Coeff	t	Coeff	t	Coeff	t	Coeff	t
<i>Baseline household characteristics</i>										
Husband's age	0.003	0.87	0.010	1.96	-0.005	-0.89	-0.008	-1.58	-0.001	-0.17
Husband's age squared	0.000	-1.16	0.000	-1.52	0.000	0.59	0.000	1.59	0.000	0.11
Husband's years of schooling	0.004	3.64	0.008	3.32	0.007	2.65	0.004	1.67	0.002	1.20
Wife's age	0.001	0.26	-0.013	-1.81	-0.002	-0.24	0.003	0.51	0.007	1.51
Wife's age squared	0.000	0.00	0.000	1.61	0.000	0.46	0.000	-0.30	0.000	-1.73
Wife's years of schooling	0.004	3.17	0.000	0.09	0.001	0.12	0.002	0.39	0.003	1.70
Ln (area of land owned +1)	0.002	0.77	-0.002	-0.31	0.004	0.45	0.016	2.47	-0.012	-3.04
Ln (value of nonland assets +1)	0.005	0.81	0.019	1.48	0.033	2.10	0.005	0.38	0.002	0.19
Lowest nonland asset tercile	-0.007	-0.46	0.019	0.48	0.063	1.34	0.011	0.30	0.010	0.37
Second nonland asset tercile	-0.008	-1.01	0.005	0.26	0.020	0.73	0.016	0.72	0.008	0.48
Household size	-0.002	-1.51	0.001	0.33	0.001	0.32	-0.002	-1.02	0.003	1.58
<i>Proportion of household in age-sex categories</i>										
Males 0-4 years	0.000	-0.29	0.001	1.15	0.000	-0.15	0.001	0.74	0.000	-0.26
Females 0-4 years	0.000	-0.83	0.000	0.17	0.000	0.38	0.000	-0.26	0.000	0.21

Males 5-14 years	0.000	-0.20	0.000	0.27	0.001	0.76	0.000	0.70	0.000	0.94
Females 5-14 years	0.000	1.19	0.001	2.13	0.000	0.23	0.000	0.29	0.000	0.87
Males 55 and older	0.001	1.38	0.000	0.45	0.001	0.32	0.001	0.80	0.000	-0.31
Females 55 and older	0.000	0.93	0.000	0.15	-0.002	-1.38	0.000	-0.16	0.001	1.49
<i>Covariate shocks (proportion of households in village affected)</i>										
Floods between 1997-2001	0.000	-0.93	0.000	-0.70	0.000	1.10	0.001	2.29	0.000	-0.41
Floods between 2002-2006	0.000	0.84	0.000	0.71	0.001	2.59	0.001	3.87	0.000	0.31
<i>Idiosyncratic shocks and positive events, 1997-2006</i>										
Illness of household member	0.006	0.97	-0.009	-0.65	0.002	0.18	0.013	0.98	0.015	1.61
Death of household member	0.017	1.02	0.003	0.12	-0.040	-1.93	-0.056	-3.32	0.011	0.36
Dowry or wedding expenses	-0.001	-0.17	-0.027	-1.48	-0.012	-0.65	-0.014	-0.79	-0.020	-1.41
Remittance received	0.018	1.25	0.050	1.95	0.020	0.57	0.003	0.14	0.062	1.90
Inheritance received	-0.009	-0.96	-0.003	-0.11	-0.054	-2.16	0.016	0.56	-0.025	-2.15
Dowry received	0.002	0.17	0.027	1.38	-0.042	-1.83	-0.030	-2.03	-0.015	-1.17
<i>Number of living siblings</i>										
Husband's living brothers	0.000	0.01	0.003	0.53	-0.005	-0.77	-0.004	-0.73	-0.001	-0.20
Husband's living sisters	-0.001	-0.64	-0.001	-0.22	0.005	1.08	-0.006	-0.98	-0.003	-1.00
Wife's living brothers	0.001	0.43	0.002	0.44	0.003	0.39	0.001	0.23	0.000	-0.10
Wife's living sisters	-0.001	-0.42	0.003	0.63	-0.004	-0.71	-0.003	-0.53	-0.002	-0.62
<i>Thana dummies (Saturia excluded)</i>										
Mymensingh	0.035	1.36	0.227	4.09	0.162	3.05	0.124	4.37	-0.023	-1.59
Kishoreganj	0.039	1.11	0.184	2.24	0.239	4.31	0.165	3.98	0.004	0.16

Jessore	-0.047	-2.98	-0.036	-1.34	-0.117	-5.28	-0.138	-7.03	-0.040	-2.10
Joint tests of coefficients (F-statistic, p-value)										
Husband's=wife's years of schooling	0.01	0.93	2.53	0.11	1.03	0.31	0.17	0.68	0.20	0.65
Age-sex categories=0	7.32	0.29	5.81	0.44	3.83	0.70	1.90	0.93	3.70	0.72
Shocks=0	13.99	0.08	13.14	0.11	14.23	0.08	25.54	0.00	19.65	0.01
Living siblings=0	0.81	0.94	1.30	0.86	1.69	0.79	3.25	0.52	1.54	0.82
Number of obs	745		745		745		745		745	
Wald chi2(32)	933.93		485.54		1346.34		902.96		354.41	
Prob > chi2	0.00		0.00		0.00		0.00		0.00	
Pseudo R2	0.23		0.16		0.19		0.24		0.05	

Notes: Marginal effects show the impact of increasing the independent variable by one on strong relationships with other influential persons. The dependent variable ranges from 1 to 3 depending on the strength of the relationship; marginal effects are evaluated at the highest value. t-statistics and p-values in bold are significant at 10% or better. Standard errors robust to clustering on villages

While household demographics do not generally affect relationship strength, covariate and idiosyncratic shocks have selective impacts on the strength of relationships with different individuals. There is some evidence that some, but not all, relationships are affected by the experience of covariate and idiosyncratic shocks. For example, one rejects the null hypotheses that the coefficients on shocks are jointly equal to zero in the equations for doctors, businessmen, landowners, and NGO officials, but not for headmasters. Households in villages that have experienced a higher severity of flood shocks report stronger relationships with big businessmen and big landowners, traditional sources of support in crises. Significant impacts of idiosyncratic shocks are few and unpredictable, but a few significant coefficients emerge. Households that received remittances have a 5 percent higher probability of having a strong relationship with the headmaster, which would be plausible if remittances were invested in higher schooling of children, as well as with NGO officials. Receipt of inheritance reduces the strength of relationship with big businesspersons or NGO officials, while receipts of dowries by families are associated with weaker relationships with big businessmen and landowners. If positive events are associated with relaxation of credit constraints, there may be less reason to invest in relationships with traditional suppliers of credit.

What happens when we take bargaining power indicators into account (Table 13)? The addition of the bargaining power variables does not change the qualitative result that men's schooling is the most important determinant of strong relationships in the political and legal sphere. However, wife's schooling is also important for strong relationships with judges or lawyers, and weakly significant for police or armed servicemen. Interestingly, households where wives brought more assets to marriage are more likely to have strong relationships with government officials and with police and the armed service. Distances to the husband's and wife's respective natal villages also exert opposite effects on relationships with government officials and the police or armed service—distance from the husband's village increases the strength of relationships, while distance from the wife's village reduces it. However, the coefficients on distance to the wife's village are only weakly significant. All in all, joint tests of coefficients lead to the rejection of the null hypothesis that husband's and wife's assets at marriage and distance to the natal villages have equal effects in the equations for government officials and police/armed services.

Table 13. Bargaining power and strong political and legal relationships, core households, marginal effects from ordered probit regressions

	Union <i>parishad</i> chair or member		Government official		Police or armed service		Judge or lawyer	
	Coeff	z	Coeff	t	Coeff	t	Coeff	t
<i>Baseline household characteristics</i>								
Husband's age	-0.003	-0.24	-0.006	-0.99	0.005	0.47	0.003	0.69
Husband's age squared	0.000	0.14	0.000	0.94	0.000	-0.50	0.000	-0.75
Husband's years of schooling	0.011	2.13	0.008	3.86	0.003	0.74	0.005	3.57
Wife's age	0.010	0.56	0.007	0.86	-0.009	-0.55	0.001	0.15
Wife's age squared	0.000	-0.49	0.000	-0.73	0.000	0.71	0.000	-0.04
Wife's years of schooling	0.002	0.20	0.001	0.29	0.009	1.77	0.007	2.60
Ln (area of land owned +1)	0.003	0.28	0.004	0.72	0.034	3.33	0.006	1.74
<i>Indicators of bargaining power and social networks</i>								
Ln (husband's assets at marriage +1)	0.000	-0.06	0.002	0.84	-0.004	-1.18	0.000	0.07
Ln (wife's assets at marriage+1)	0.005	0.68	0.006	2.55	0.009	2.03	0.000	-0.04
Distance to husband's natal village	0.000	-1.38	0.000	2.58	0.001	2.38	0.000	0.40
Distance to wife's natal village	-0.001	-0.93	0.000	-1.70	-0.001	-1.77	0.000	0.19
<i>Household demographics</i>								
Household size	0.014	1.60	0.000	0.16	0.002	0.34	0.000	-0.17
<i>Proportion of household in age-sex categories</i>								

Males 0-4 years	0.003	1.91	0.000	-0.44	-0.001	-0.87	0.000	0.06
Females 0-4 years	-0.001	-0.83	0.001	1.41	0.002	1.50	0.001	0.91
Males 5-14 years	0.001	1.12	0.000	-0.15	-0.002	-1.34	0.000	-0.37
Females 5-14 years	0.001	0.74	0.000	-0.05	0.001	0.73	0.000	-0.63
Males 55 and older	0.001	0.70	0.000	-0.28	-0.002	-0.88	0.000	0.20
Females 55 and older	0.001	0.28	0.000	0.18	-0.003	-1.62	0.000	-0.40
<i>Covariate shocks (proportion of households in village affected)</i>								
Floods between 1997-2001	0.000	-0.07	0.000	0.68	0.001	0.87	0.000	1.08
Floods between 2002-2006	0.000	0.32	0.001	1.56	0.001	0.51	0.000	0.73
<i>Idiosyncratic shocks and positive events, 1997-2006</i>								
Illness of household member	0.022	0.83	0.036	3.25	0.025	0.70	0.008	0.80
Death of household member	-0.046	-0.78	0.040	0.92	0.000	0.00	0.012	0.39
<i>Idiosyncratic shocks and positive events, 1997-2006</i>								
Illness of household member	0.022	0.83	0.036	3.25	0.025	0.70	0.008	0.80
Death of household member	-0.046	-0.78	0.040	0.92	0.000	0.00	0.012	0.39
Dowry or wedding expenses	-0.023	-0.76	0.005	0.32	-0.058	-1.82	0.002	0.19
Remittance received	0.037	0.66	0.009	0.38	-0.028	-0.52	0.011	0.61
Inheritance received	0.027	0.37	0.070	2.30	-0.023	-0.30	-0.004	-0.21
Dowry received	-0.036	-0.73	0.019	0.86	-0.062	-1.38	0.017	1.27
<i>Number of living siblings</i>								
Husband's living brothers	0.011	0.88	0.004	0.98	0.012	1.25	0.002	0.52
Husband's living sisters	-0.001	-0.06	0.002	0.53	-0.002	-0.19	0.000	-0.02
Wife's living brothers	0.002	0.19	0.006	1.16	-0.013	-1.29	0.002	0.89

Wife's living sisters	-0.007	-0.58	-0.002	-0.49	-0.009	-0.82	0.001	0.27
<i>Thana dummies (Saturia excluded)</i>								
Mymensingh	-0.042	-0.59	0.167	2.45	0.086	1.17	0.036	1.03
Kishoreganj	-0.033	-0.33	0.088	2.07	0.072	0.71	0.037	0.69
Jessore	-0.211	-2.73	-0.037	-1.54	-0.046	-0.72	-0.035	-1.91
<i>Joint tests of coefficients (F-statistic, p-value)</i>								
Husband's=wife's years of schooling	0.77	0.38	2.07	0.15	0.52	0.47	0.28	0.59
Husband's=wife's assets at marriage	0.30	0.59	3.70	0.05	5.95	0.01	0.01	0.94
Husband's=wife's distance to village	0.01	0.92	6.15	0.01	5.33	0.02	0.00	0.97
Age-sex categories=0	11.43	0.08	3.54	0.74	12.39	0.05	1.29	0.97
Shocks=0	3.16	0.92	20.09	0.01	8.02	0.43	6.39	0.60
Living siblings=0	1.34	0.86	4.47	0.35	3.53	0.47	1.16	0.89
Number of obs	680		680		680		680	
Wald chi2(32)	486.15		736.24		531.14		683.63	
Prob > chi2	0.00		0.00		0.00		0.00	
Pseudo R2	0.08		0.16		0.07		0.16	

Notes: Marginal effects show the impact of increasing the independent variable by one on strong political and legal relationships. The dependent variable ranges from 1 to 3 depending on the strength of the relationship; marginal effects are evaluated at the highest value. t-statistics and p-values in bold are significant at 10% or better. Standard errors robust to clustering on villages

Assets that each spouse brought to marriage do not significantly affect the strength of relationships with other influential persons (Table 14). However, distance to the husband's natal village increases the likelihood of strong relationships with doctors and headmasters, and distance to the wife's natal village reduces strong relationships with headmasters, although the magnitudes of these effects are small. (One rejects the hypothesis that the coefficients on distance to husband and wife's natal villages are equal.) While wives are traditionally more involved in schooling and health decisions, the extent of their involvement may increase the farther they are from their husbands' (or their husbands' families') traditional spheres of influence.

Table 14. Bargaining power and strong relationships with other influential persons, core households, marginal effects from ordered probit estimates

	Doctor		Headmaster		Big businessman		Big landowner		NGO official	
	Coeff	t	Coeff	t	Coeff	t	Coeff	t	Coeff	t
<i>Baseline household characteristics</i>										
Husband's age	0.001	0.50	0.011	2.26	-0.005	-0.71	-0.007	-1.30	-0.001	-0.29
Husband's age squared	0.000	-0.93	0.000	-1.74	0.000	0.43	0.000	1.38	0.000	0.19
Husband's years of schooling	0.003	3.61	0.007	3.64	0.006	2.79	0.005	1.80	0.001	0.77
Wife's age	0.001	0.47	-0.013	-1.86	-0.004	-0.39	0.004	0.54	0.008	1.74
Wife's age squared	0.000	-0.07	0.000	1.62	0.000	0.53	0.000	-0.52	0.000	-1.92
Wife's years of schooling	0.004	3.51	0.001	0.44	0.001	0.25	0.001	0.29	0.003	1.39
Ln (area of land owned +1)	0.004	1.88	-0.001	-0.12	0.007	1.04	0.015	2.90	-0.011	-2.91
<i>Indicators of bargaining power</i>										
Ln (husband's assets at marriage +1)	0.001	1.28	0.002	1.27	0.001	0.43	0.000	0.19	0.001	1.30
Ln (wife's assets at marriage+1)	0.001	0.65	0.003	0.97	0.004	0.93	-0.002	-0.71	0.001	0.61
Distance to husband's natal village	0.000	3.17	0.000	3.35	0.000	1.61	0.000	0.96	0.000	-0.01
Distance to wife's natal village	0.000	-1.02	-0.001	-2.71	0.000	-0.97	0.000	-0.63	0.000	-0.19
<i>Household demographics</i>										

Household size	-0.001	-0.41	0.003	1.27	0.005	1.18	-0.001	-0.56	0.003	1.14
<i>Proportion of household in age-sex categories</i>										
Males 0-4 years	0.000	-0.31	0.001	0.84	-0.001	-0.67	0.000	0.32	0.000	0.01
Females 0-4 years	0.000	-0.91	0.000	-0.07	0.000	-0.01	0.000	-0.13	0.000	-0.01
Males 5-14 years	0.000	-0.32	0.000	-0.50	0.000	0.38	0.000	0.48	0.000	0.85
Females 5-14 years	0.000	1.31	0.001	1.82	0.000	0.12	0.001	0.71	0.000	0.75
Males 55 and older	0.000	0.57	0.000	-0.06	0.001	0.41	0.001	0.83	0.000	-0.65
Females 55 and older	0.000	0.18	0.000	0.09	-0.002	-1.11	0.000	0.40	0.001	1.73
<i>Covariate shocks (proportion of households in village affected)</i>										
Floods between 1997-2001	0.000	-0.75	-0.001	-1.44	0.000	0.40	0.000	1.64	0.000	-0.57
Floods between 2002-2006	0.000	0.51	0.000	0.55	0.001	1.93	0.001	2.57	0.000	0.43
<i>Idiosyncratic shocks and positive events, 1997-2006</i>										
Illness of household member	0.011	1.72	-0.008	-0.59	0.005	0.44	0.014	1.06	0.014	1.44
Death of household member	0.024	1.20	0.022	0.83	-0.035	-1.48	-0.044	-1.93	0.015	0.47
Dowry or wedding expenses	-0.003	-0.33	-0.024	-1.35	-0.011	-0.60	-0.015	-0.81	-0.017	-1.26
Remittance received	0.018	1.33	0.023	1.20	0.014	0.39	0.000	-0.01	0.046	1.55
Inheritance received	-0.006	-0.53	-0.003	-0.08	-0.048	-1.77	0.033	0.91	-0.023	-2.33
Dowry received	0.003	0.21	0.032	1.51	-0.035	-1.43	-0.021	-1.27	-0.015	-1.17
<i>Number of living siblings</i>										
Husband's living brothers	0.003	1.08	0.002	0.35	-0.005	-0.78	-0.003	-0.61	-0.001	-0.31
Husband's living sisters	0.000	-0.16	0.001	0.13	0.004	0.81	-0.007	-1.21	-0.004	-1.09
Wife's living brothers	0.000	0.10	0.001	0.15	-0.001	-0.14	0.000	0.01	0.001	0.19
Wife's living sisters	0.000	-0.02	0.003	0.84	-0.003	-0.51	-0.001	-0.31	0.000	-0.07

*Thana dummies
(Saturia excluded)*

Mymensingh	0.051	1.94	0.180	3.67	0.124	2.58	0.117	3.73	-0.012	-0.77
Kishoreganj	0.040	1.23	0.161	2.15	0.207	3.79	0.154	3.96	0.002	0.09
Jessore	-0.041	-2.91	-0.036	-1.55	-0.121	-4.44	-0.147	-6.48	-0.034	-1.78

*Joint tests of coefficients (F-
statistic, p-value)*

Husband's=wife's years of schooling	0.31	0.58	1.94	0.16	0.860	0.35	0.34	0.56	0.36	0.55
Husband's=wife's assets at marriage	0.01	0.92	0.06	0.81	0.500	0.48	0.58	0.45	0.04	0.84
Husband's=wife's distance to village	3.70	0.05	10.81	0.00	1.830	0.18	0.88	0.35	0.02	0.88
Age-sex categories=0	5.26	0.51	5.36	0.50	2.080	0.91	1.32	0.97	4.15	0.66
Shocks=0	13.26	0.10	10.65	0.22	9.750	0.28	12.15	0.14	18.27	0.02
Living siblings=0	1.55	0.82	1.20	0.88	1.38	0.85	3.52	0.47	1.74	0.78

Number of obs	680		680		680		680		680	
Wald chi2(32)	1062.01		848.46		1142.45		979.12		332.30	
Prob > chi2	0.00		0.00		0.00		0.00		0.00	
Pseudo R2	0.24		0.16		0.18		0.24		0.05	

Notes: Marginal effects show the impact of increasing the independent variable by one on strong relationships with other influential persons. The dependent variable ranges from 1 to 3 depending on the strength of the relationship; marginal effects are evaluated at the highest value. t-statistics and p-values in bold are significant at 10% or better. Standard errors robust to clustering on villages

5. CONCLUDING REMARKS

This preliminary exploration reveals that there is a strong gender dimension affecting participation in groups and engagement with the local power structure in rural Bangladesh. While there are differences among households in terms of the resources that they command, and thus, their ability to invest in social relationships, there are also differences in the resources controlled by men and women within the same household. The gender-differentiated resources considered in this paper are years of schooling, assets brought to marriage, and access to the natal village. Differences in the control over these resources significantly affect individuals' and households' investments in group membership and social relationships.

A noteworthy dimension of group membership in Bangladesh is the high incidence of women's participation in NGOs—NGO participation rates are much higher among women than men. Unlike other studies that find group membership to be positively correlated with wealth, this study finds that group membership is progressive, with higher participation rates among the poor and those with smaller sizes of owned land. In contrast to group membership, however, the strength of relationships with most, but not all, types of influential persons increases with human and physical wealth. Consistent with the notion that men and women bring different resources (power resources) that affect decision-making, husband's and wife's human and physical assets do not have the same influence on group membership and relationship strength. Husband's years of schooling strengthens relationships with local officials, judges or lawyers, doctors, headmasters, big businessmen, and big landowners, while wife's years of schooling exerts a positive influence on strong relationships with judges and lawyers, doctors, and NGO officials. Indicators of relative bargaining power within marriage—assets brought to marriage and distance from one's natal village—also have differential effects on group membership and social relations. Women who bring more assets to marriage and who live closer to their natal villages are more likely to belong to a group. Assets at marriage and distance to village of husbands and wives also have differential effects on relationship strength, indicating that spouses may not share the same preferences nor pool their resources when investing in social relationships.

These results suggest that participation in the public sphere is easier for those women who come to the bari with more resources—women who are endowed with larger assets at marriage, who have more years of schooling, and who do not marry so far away from their natal villages. The study's findings also suggest that men and women have different preferences for investing in relationships with powerful and influential persons. In some cases, husbands and wives may share the same views regarding the value of investing in a particular type of relationship (say, relationships with businessmen and landowners, where coefficients on husband and wife resources are not significantly different from each other). In others, husbands and wives may have different views, or their resources may have different impacts. This has important implications for service delivery. If households have weaker relationships with health care and education providers, for example, when women live farther from their natal villages and closer to their husbands', special efforts need to be made to reach such socially isolated women, in the interests of their

households' (and especially their children's) health and education. Efforts to improve the health of women themselves may be more difficult, the more socially isolated they are.

Future work using this data set will examine whether participation in groups—already seen to be higher for women with greater bargaining power—and delivery of development interventions through groups, increases women's asset ownership, and potentially their power and influence within the household. It also remains to be seen whether increasing women's bargaining power within the household will result in their greater influence and power outside the household, as barriers between inside and outside domains continue to be eroded.

APPENDIX TABLE 1. MEANS AND STANDARD DEVIATIONS OF VARIABLES IN GROUPS AND RELATIONSHIPS REGRESSIONS

	Specification with value of nonland assets in 1996		Specification with assets at marriage	
	Mean	Standard deviation	Mean	Standard deviation
	(n=745)		(n=680)	
<i>Group membership</i>				
Whether husband belongs to any group	0.11	0.31	0.11	0.32
Whether wife belongs to any group	0.51	0.50	0.52	0.50
Number of groups to which husband belongs	0.14	0.44	0.14	0.45
Number of groups to which wife belongs	0.69	0.82	0.70	0.80
<i>Strength of relationships (1-3)</i>				
Union <i>parishad</i> member or chair	2.16	0.59	2.16	0.59
Government official or political figure	1.43	0.70	1.39	0.67
Police or armed service	1.61	0.84	1.60	0.84
Judge or lawyer	1.31	0.60	1.30	0.60
Doctor	1.37	0.62	1.35	0.61
Headmaster	1.69	0.69	1.65	0.67
Big businessman	1.65	0.74	1.63	0.74
Big landowner	1.70	0.72	1.69	0.72
NGO official	1.58	0.61	1.57	0.61
<i>Baseline household characteristics</i>				
Husband's age	51.48	12.18	51.79	12.14

Husband's age squared	2798.12	1341.04	2829.2 1	1339.81
Husband's years of schooling	3.16	4.01	3.02	3.98
Wife's age	42.35	10.87	42.74	10.74
Wife's age squared	1911.77	961.16	1941.7 3	953.95
Wife's years of schooling	1.63	2.73	1.60	2.73
Ln (area of land owned +1)	4.02	1.68	3.96	1.68
Ln (value of nonland assets +1)	9.56	1.23	9.53	1.22
Lowest nonland asset tercile	0.34	0.48	0.35	0.48
Second nonland asset tercile	0.35	0.48	0.35	0.48
Ln (husband's assets at marriage +1)	n.i.	n.i.	4.50	4.25
Ln (wife's assets at marriage+1)	n.i.	n.i.	5.04	2.75
Distance to husband's natal village	n.i.	n.i.	3.25	30.11
Distance to wife's natal village	n.i.	n.i.	8.82	21.68
Household size	5.76	2.60	5.62	2.41
<i>Proportion of household in age-sex categories</i>				
Males 0-4 years	5.34	9.78	5.20	9.71
Females 0-4 years	5.02	9.46	4.95	9.54
Males 5-14 years	13.54	14.36	13.69	14.47
Females 5-14 years	11.47	13.46	11.32	13.47
Males 55 and older	4.29	8.45	4.21	8.46
Females 55 and older	3.78	7.65	3.57	7.50
<i>Covariate shocks (proportion of households in village affected)</i>				
Floods between 1997-2001	32.74	36.07	33.81	36.23
Floods between 2002-2006	8.55	18.32	8.31	17.61
<i>Idiosyncratic shocks and positive events, 1997-2006</i>				
Illness of household member	0.49	0.50	0.49	0.50
Death of household member	0.04	0.19	0.04	0.18
Dowry or wedding expenses	0.31	0.46	0.32	0.47
Remittance received	0.10	0.30	0.09	0.29
Inheritance received	0.04	0.20	0.04	0.20
Dowry received	0.11	0.31	0.11	0.31

Number of living siblings

Husband's living brothers	2.73	1.63	2.70	1.58
Husband's living sisters	1.98	1.55	1.94	1.53
Wife's living brothers	2.33	1.51	2.29	1.48
Wife's living sisters	2.38	1.56	2.38	1.56

Note: n.i. Means not included in specification

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