

Social Capital and Some Determinants of Fertility at Charghat Thana in Rajshahi District, Bangladesh

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ABSTRACT

Social capital is a multidimensional concept which is used to refer to the goodwill, trust, and cooperation evident in Non-Governmental Organizations (NGOs). It notes that NGOs have a great role to build up a social network which can be treated as a medium by which individuals learn about demographic behavior. Social networks can help to reduce costs of having children and that build a stock of fertility related social capital. Social interactions in personal networks affect individual's reproductive attitudes and behavior. NGOs have a great contribution to make social capital through their various programs which help poor women to become economically self-reliant through forming social capital. In this context, this study has been conducted to know social capital, fertility intention and some determinants of fertility at Charghat Thana, Rajshahi district, Bangladesh. For this purpose, data were collected from 498 ever-married women through simple random sampling technique. The finding shows that social activities, norms and social capital formation characteristics were observed among NGO members. NGO members automatically build their social capital and help each other to form social capital through norms, trust and social networks. Chi-square test has been used to provide the important significant differentials of fertility intention. The result shows that women age, education, age at marriage, contraceptive use, exposed to mass media and regular attendance of group meeting are significant variables for fertility intention. The multivariate logistic regression was used to exhibit significant predictors of NGO membership impact on social capital. It indicates women education, religion, exposed to mass media and family solvency impact on social capital. The multiple classification analysis has been employed to detect the important determinants of fertility and social capital. Women age, education, religion,

age at marriage, exposed to mass media, contraceptive use and NGO involvement are the important determinants of fertility at Charghat thana.

Key words: Social capital, Fertility determinants, Chi-square test, Logistic regression, Multiple classification analysis

Introduction

Social capital is a multidimensional concept and is used to refer to the goodwill, trust, and cooperation evident in any particular organization or society. Social capital comes about through changes in the relations among persons that facilitate action. It indicates as friendships refer to connection within and between networks. It highlights the value of social relations and the role of cooperation and confidence to get economic results. In general, social capital is the fruit of social relations and consists of the expectative benefits derived from the preferential treatment and cooperation between individuals and groups (Rossier and Bernardi, 2009). In other words, social capital means relationships with others by trust, norms and social networks that an individual can change his/her socio-economic phenomena. Trust, social norms and social networks are the elements of social capital, by these elements one can improve the society and can get economic benefits by which changes his/her status (Paola et al. 2012).

Social capital is build among NGO members and it has great impact on social development and demographic change. NGOs have microcredit program which is a development strategy innovation that has proved to be very effective in poverty reduction and social development (Amin and Ahmed, 1996; Biswas, 2004). This credit is provided to group members for various income generating activities (BRAC 2004). As a result, social capital is formed among NGO members and it helps to improve health and education as well as trying to develop their new life styles. Social capital plays an important role in fertility reduction and affect on fertility behavior among NGO members (Buhler and Philipov, 2005). Grameen credit gives high priority on building social capital. It is promoted through formation of groups and centers, developing leadership quality through annual election of group and centre leaders, electing board members when the institution is owned by the borrowers. To develop a social agenda owned by the borrowers, something similar to the "sixteen decisions", it undertakes a process of intensive discussion among the borrowers, and encourages them to take these decisions seriously and implement them. When NGO's performing public-good functions can generate "Social capital".

In Bangladesh, the total fertility rate has dropped dramatically from a high level of 6.3 births per woman in the mid-1970s to 2.3 births in 2011. Meanwhile, the contraceptive prevalence rate (CPR) has increased from a low level of 7.7 percent to a high level of 61.2 percent (BDHS 2011). Nongovernmental organizations played an important role for such achievements. NGOs aim was an economic one resulted in raising women's awareness in socio-medical as well as economic matters. This effect was strongest in the 1980s when much enthusiasm was felt among NGO activists. Those NGOs provide women with micro finance through village organizations and providing different levels of loan to different group members. Group formation is organized initially to increase savings and to raise women's awareness in economic, social and family issues.

In the early 1980s in Bangladesh, the various types of NGOs working in the countryside among women where more than 80% of the women lived. Many women's organizations shifted their focus from welfare to access to credit, employment and income by paying due attention to literacy, health, and family planning. Afterwards, a large number of NGOs has become more active in rural areas, mobilizing rural women on a regular basis (Jahan, 1995). Women's participation in micro-credit programs has been suggested to have many important social and economic impacts for women

such as increasing economic status, empowerment, increasing mobility and social interaction outside of the home, increasing access to information about contraceptive methods, exposure to different worldviews, and support and guidance from program staff (Amin et al., 1996). Besides, micro-credit activities among different NGOs such as BRAC, Grameen Bank have the similar programs under the essential health care programs. With the help of Shashtho Shebikas (Health Volunteers) and Shashtho Kormis (Health Workers) are providing service through NGOs to pregnant women for improving their health, nutritional status and fertility reduction.

Studied have found that in demographic research, social networks are primarily concerned with communication about fertility and family planning in high fertility contexts (Rindfuss et al. 2004). Personal networks are characterized also by exchanges of materials and non material resources such as money, goods, services, power or the capacity to work. They have argued increasingly that social interaction is an important mechanism for understanding fertility behavior. Yet it is still quite uncertain whether social learning or social influence is the dominant mechanism through which social networks affect individuals' contraceptive decisions. These mechanisms can be distinguished by analyzing the density of the social network and their interactions with the proportion of contraceptive users among network partners and justify about fertility intension. Analyses of the timing and pace of fertility transitions in developing countries are inconsistent with theories of fertility change that emphasize only individuals' socioeconomic characteristics or their contacts with family planning programs (Bongaarts 2001). To explain these inconsistencies, demographers have increasingly developed and applied theories that take into account the social interactions that connect individuals with one another (Bankole, 1995; Bernardi et al., 2007). Social interactions in these theories encompass two distinct processes that affect fertility behavior: social learning and social influence. In this context, this study attempts to find out the determinants of fertility and social capital among NGOs members at Charghat Thana, Rajshahi District, Bangladesh.

Data and Methods

The Primary data was collected through direct interview method by using pre-tested structured questionnaire. The information was gathered from NGO members (various NGOs such as BRAC, Grameen Bank, ASA) and also from non-members at Charghat thana in Rajshahi district, Bangladesh. In this study, data have been collected from 498 respondents of ever-married women aged 15-49 years through simple random sampling technique. This survey has been conducted under the authority of the Department of Population Science and Human Resource Development, University of Rajshahi, Bangladesh. The survey collected information of NGO related characteristics from NGO members and non-members for examples, microcredit loan, duration of membership, regular meetings, co-operation to each other regarding on social capital, individual characteristics such as age, education, children ever born, mass media, occupation, household assets, religion, contraceptive use, NGO involvement, etc. Age has been categorized as three categories: 15-25years, 26-35years and 35 and above years. Women education is categorized as four categories: no education, primary, secondary and higher. Other independent variables are used as dichotomous. In this study, Chi-square test was used to know the important significant differentials of fertility intention. The multivariate logistic regression was employed to exhibit significant predictors of NGO membership impact on social capital. The multiple classification analysis has been conducted to find out the important determinants of fertility and social capital.

Socio-demographic and Social Capital Characteristics

Table 1 presents the socioeconomic and demographic characteristics of women at charghat thana, Rajshahi. It shows that one-fifth women are younger at ages 15-25 years, 43.4 percent women belongs to 26-35 years age group and 36.5 percent are older aged greater than 35 years. Majority of

women (77.7 percent) are Muslims. Only 27.1 percent women have no education, 31.7 percent have primary education, and rests of them are secondary and higher education. Majority women are house wife and a very few proportion do petty business and service. A slightly higher than fifty percent women have family income less than equal to five thousand taka. Fifty percent women marry at early aged less than 18 years and another fifty percent marry at aged 18 and older. More than two-thirds women use any methods of contraception. Majority women have less than equal to two children. Over two-thirds women had exposed to mass media and more than 80 percent women have any kinds of household assets. It depicts that over two-thirds women are involved with any kinds of NGO. Majority of respondents (71.5 percent) are NGO members and rest of them are non NGO members.

Table 1: Percent distribution of women's by selected socio-demographic characteristics at Charghat Thana in Rajshahi district

Socio-demographic characteristics	N	Percent (%)
Women Age		
15-25 years	100	20.1
26-35 years	216	43.4
35+ years	182	36.5
Religion		
Muslim	387	77.7
Non Muslim	111	22.3
Women Education		
No education	135	27.1
Primary	158	31.7
Secondary	112	22.5
Higher	93	18.7
Women Occupation		
Petty Business	38	7.6
House wife	436	87.6
Service	24	4.8

Monthly family Income		
≤ 5000 (Tk)	262	52.6
> 5000 (Tk)	236	47.4
Age at Marriage		
<18 years	249	50.0
≥ 18 years	249	50.0
Contraceptive Use		
No	127	25.5
Yes	371	74.5
No. of CEB		
≤ 2	340	68.3
> 2	158	32.7
Exposed to Mass Media		
No	159	31.9
Yes	339	68.1
Having Household Assets		
No	70	14.1
Yes	428	85.9
Involvement of NGOs		
No	142	28.5
Yes	356	71.5

Table 2 shows the percentage distribution of women with their NGO involvement characteristics. It indicates the social activities, norms and social capital formation characteristics among NGO members. The result exhibits that more than fifty percent are involved with NGO during long duration (5 years and more) and rest of them are involved with short duration (less than 5 years). Majority of the members regularly attend their weekly meeting and take participate to tackle problems for each other among members. NGO members automatically build their social capital and help each other to form social capital through norms trust and social networks.

The result presents 84 percent members co-operate other members and 87 percent take cooperation from other members. Two-thirds members get help from neighbors and consider their

hand to co-operate neighbors. A large amount of members (78 percent) have increased their monthly income after becoming a NGO member and 63 percent feel solvency as a NGO members.

Table 2: Percent distribution of Women's with NGO related characteristics at Charghat Thana in Rajshahi district

Duration of Membership		
< 5yrs	153	42.9
≥ 5yrs	203	57.1
Regular attendance of meeting		
No	45	12.6
Yes	311	87.4
Cooperation from Member		
No	57	16.0
Yes	299	84.0
Cooperation to other Member		
No	46	12.9
Yes	310	87.1
Cooperation from Neighbor		
No	132	37.1
Yes	224	62.9
Cooperation to Neighbor		
No	130	36.5
Yes	226	63.5
Increase Monthly Income		
No	78	21.9
Yes	278	78.1
Feel Solvency		
No	139	39.1
Yes	217	60.9

Fertility Intention

In Bangladesh, two children in a family are considered as an ideal family. Children ever born is a prominent indicator of fertility measure and it is used to know the different differentials of fertility and fertility intention. In this study, woman who wants more than two children are considered as more intention to have children. Table 3 presents the fertility intention status of women at Charghat thana by some selected socioeconomic and demographic characteristics. The result shows that fertility intention status increases as women as increases. This is highly significant. Muslim women have more intention to have children than their non-muslim counterparts. Education has inversely related with fertility intention. Illiterate women have about 9 times more tendency to take another birth than literate women. Occupation has impact on fertility intention. About 33.7 percent housewife wants more births whereas 21.1 percent petty business and only 12.5 percent service woman wants another birth. Monthly income is insignificantly related to fertility intention. Women who marry at early ages among them 36.9 percent wants more child and 26.5 percent wants more child who married at later ages of 18 years and over. Women who don't use any contraceptive have intended to take more fertility than women who use any methods of contraceptives. Social capital index has a strong impact on fertility intention.

Table 3: Fertility intention status by some selected socio-demographic and NGO related variables

Characteristics	CEB		Total
	≤ 2 child	>2 child	
Women Age			
15-25	91.0	9.0	100.0
26-35	77.3	22.7	100.0
35+	45.1	54.9	100.0
Pearson χ^2 P-value = 0.00			
Religion			
Muslim	66.9	33.1	100.0
Non Muslim	73.0	27.0	100.0
Pearson χ^2 P-value = 0.28			
Women Education			
No education	42.2	57.8	100.0
Primary	67.7	32.3	100.0
Secondary	79.5	20.5	100.0
Higher	93.5	6.5	100.0

Pearson χ^2 P-value = 0.00			
Women Occupation			
Petty trade	78.9	21.1	100.0
House wife	66.3	33.7	100.0
Service	87.5	12.5	100.0
Pearson χ^2 P-value =0.03			
Monthly family Income			
<=5000	67.6	32.4	100.0
>5000	69.1	30.9	100.0
Pearson χ^2 P-value = 0.72			
Age at Marriage			
<18 years	63.1	36.9	100.0
\geq 18 years	73.5	26.5	100.0
Pearson χ^2 P-value = 0.01			
Contraceptive Use			
No	58.3	41.7	100.0
Yes	71.7	28.3	100.0
Pearson χ^2 P-value = 0.01			
Exposed to Mass Media			
No	61.6	38.4	100.0
Yes	71.4	28.6	100.0
Pearson χ^2 P-value = 0.02			
Having Household Assets			
NO	61.4	38.6	100.0
Yes	69.4	30.6	100.0
Pearson χ^2 P-value = 0.18			
Involvement with NGOs			
NO	66.9	33.1	100.0

Yes	68.8	31.2	100.0
Pearson χ^2 P-value = 0.68			
Duration of NGOs involvement			
≤5years	72.2	27.5	100.0
> 5years	80.0	20.0	100.0
Pearson χ^2 P-value = 0.30			
Regular Group meeting attendance			
No	43.0	57.0	100.0
Yes	76.2	23.8	100.0
Pearson χ^2 P-value = 0.00			
Received Cooperation from NGO Member			
NO	59.6	40.4	100.0
Yes	70.6	29.4	100.0
Pearson χ^2 P-value = 0.10			
Doing Cooperation to NGO Member			
No	58.7	41.3	100.0
Yes	70.3	29.7	100.0
Pearson χ^2 P-value = 0.11			

Impact of Social Capital Variables on NGO Membership

It is realized that NGO members are social capitalized during their process of trust, norm and social network. In this section, it has been investigated the impact of social capital variables on NGO memberships. For this purpose, multivariate logistic regression analysis has been applied to know the influencing factors of social capital variables on NGO memberships. Table 4 indicates the results of multivariate logistic regression analysis. The result shows that middle aged women (26-35 years) have about 1.5 times and older women have 1.2 times higher odds of being a NGO member than younger women aged less than 25 years. Muslim women are 3.6 times more involve with NGO than their non-muslim counterparts. Education has influence on NGO memberships. Illiterate women are less involved, as education increases their tendency increases up to secondary education then decreases among higher educated women. Petty business and housewife women are less involved with NGO than women who do service. Women who marry at aged 18 years and over have 11 percent lower chances of being NGO member than women who marry at ages less than 18 years old. Contraceptive use, children ever born, fertility intention, and cooperation to Neighbour are insignificantly related to NGO membership. Women who are not exposed to mass media are 1.8

times higher odds being a NGO member than who exposed to mass media. Women who feel solvency are 34 percent higher chances of being NGO member than women are not solvent.

Table 4: Results of logistic regression analysis of being member of NGOs by some selected socio-demographic variables

Characteristics	Coefficient (β)	S.E.	Odds ratio	95% C.I.	
				Lower	Upper
Women age					
15-25 yrs.	-----	-----	1.00	-----	-----
26-35 yrs.	0.39	0.33	1.47	0.77	2.82
35+ yrs.	0.20	0.72	1.22	0.59	2.53
Religion					
Muslim	1.28	0.26	3.60***	2.14	6.02
Non-Muslim	-----	-----	1.00	-----	-----
Women education					
No education	-0.03	0.39	0.97	0.46	2.07
Primary	0.18	0.35	1.20	0.61	2.38
Secondary	0.68	0.38	1.98*	0.94	4.17
Higher	-----	-----	1.00	-----	-----
Age at Marriage					
<18 years	-----	-----	1.00	-----	-----
\geq 18 years	-0.12	0.30	0.89	0.56	1.42
Contraceptive Use					
No	-0.43	0.27	0.65	0.38	1.10
Yes	-----	-----	1.00	-----	-----
No. of CEB					
\leq 2	-----	-----	1.00	-----	-----
>2	-0.03	0.30	0.97	0.54	1.74
Exposed to Mass Media					

No	0.57	0.26	1.77**	1.05	2.97
Yes	-----	-----	1.00	-----	-----
Received Cooperation from Neighbor					
No	-----	-----	1.00	-----	-----
Yes	0.32	0.64	1.37	0.39	4.80
Doing Cooperation to Neighbor					
No	-----	-----	1.00	-----	-----
Yes	0.99	0.65	2.70	0.76	9.60
Feel family Solvency					
No	-----	-----	1.00	-----	-----
Yes	0.85	0.26	2.34***	1.34	4.08

Fertility Determinants:

To know the determinants of fertility and to examine the deferential patterns of mean number of children ever born among women at Charghat Thana in Rajshahi district, the well known Multiple Classification Analysis (MCA) is employed. There are a variety of socio-economic and cultural factors that may influenced the fertility. The results indicates that the proportions of variance explained by MCA is not very high for women (Multiple $R^2 = 0.57$) The low value of R^2 may be due to some other factors, which may affect the mean number of children ever born.

Table 5 shows the mean number of children ever born both unadjusted and adjusted by different socio-economic and demographic characteristics with the values of η^2 and β^2 produced from multiple classification analysis with data on Charghat Thana in Rajshahi. Here women age, religion, women education, women occupation, age at marriage, knowledge about HIV/AIDS, contraceptive use, having electricity, mass media exposure, and NGO membership are considered as the determinants of children ever born.

Among the selected factors women's age is the most effective one. It is important to note that the age group 15- 25 years women have been found to have lower fertility. The mean number of children ever born is 1.89 for women who are the age group 26-35 years and 1.32 for the ages 15-25 years. It may be that educated women marry later and have lower fertility within marriage.

Muslim community has higher fertility than their non-Muslims counterparts. It may be due to the religious value systems, which influence individuals. Mean children ever born are 2.12 and 2.01 respectively for Muslim and non-Muslims community.

Among the selected factors women's education is one of the vital effective one. It is important to note that highly educated women have been found to have lower fertility. The mean number of

children ever born is 2.70 for women who have no education and 1.57 for highly educated women. It may be that educated women marry later and have lower fertility within marriage.

Table 5: Results of multiple classification analysis of children ever born per ever- married women by selected socio-demographic and social capital variables at Charghat Thana in Rajshahi District

Characteristics	Mean		η^2	β^2
	Unadjusted	Adjusted		
Women Age				
15-25	1.21	1.32	0.48	0.42
26-35	1.86	1.89		
35+	2.86	2.76		
Religion				
Muslim	2.13	2.12	0.05	0.04
Non-Muslim	1.99	2.01		
Women Education				
No education	2.87	2.70	0.41	0.31
Primary	2.04	2.04		
Secondary	1.86	1.89		
Higher	1.34	1.57		
Women Occupation				
Petty Business	1.82	1.65	0.15	0.13
Housewife	2.16	2.16		
Service	1.33	1.70		
Age at Marriage				
< 18 years	2.31	2.21	0.17	0.09
≥ 18 years	1.88	1.98		
Knowledge about HIV/AIDS				
No	2.61	2.25	0.22	0.06

Yes	1.94	2.05		
Contraceptive Use				
Not Use	2.35	2.16	0.12	0.03
Use	2.01	2.08		
Having Electricity				
No	2.17	2.11	0.04	0.01
Yes	2.01	2.09		
Mass Media Exposure				
No	2.40	2.25	0.16	0.08
Yes	1.96	2.03		
NGO Involvement				
No	2.09	2.15	0.01	0.03
Yes	2.10	2.07		

Working status has important impact on fertility. Children ever born on the average is higher for women who are housewife than the women who have involved in petty business and service. Though the deference is not remarkable, still working women have produced a smaller number of children than the non-working group. Results shows that mean children ever born are 2.16 those are housewife, 1.65 those who involved petty business and 1.70 those who are involved in service.

Age at marriage directly affect on fertility. There exist an inverse relation between age at marriage and fertility. The higher age at marriage shows the lower number of children ever born. Women who marry at less than 18 years have on average 2.21 children, women who marry greater than 18 years have on average 1.98 children per women.

Knowledge about HIV/AIDS affect on fertility. The average number of children born is shown decreases with the increasing knowledge of HIV/AIDS. It observed that mean (adjusted) children ever born per ever married women are 2.25 and 2.05 respectively for no knowledge about HIV/AIDS and have knowledge about HIV/AIDS.

Respondents who have not using contraceptive show the highest fertility than their user counterparts. It observed that mean (adjusted) children ever born are 2.16 those who do not use contraceptive and children ever born are 2.08 those who use contraceptive. It may be cause of different social setting in society.

Ownership of electricity shows least effect on children ever born. It is observed that mean (adjusted) children ever born are 2.11 and 2.09 respectively for “without electricity in the household” and “having electricity in the household.”

The average number of children ever born decreases with the increased access to mass media. It is observed that mean (adjusted) children ever born per ever married women are 2.25 & 2.03 respectively for no access to media and access to media.

NGOs Involvement has important impact on fertility. The women who are not involved with any NGOs their average children ever born is higher than those who are involved with NGOs. Results shows that mean children ever born are 2.07 those who are involved with NGOs and 2.15 those who are not involved with NGOs.

Conclusion

Social Capital is the fruit of social relations, trust, norms, and networks and consists of the expectative benefits derived from the preferential treatment and cooperation between individuals and groups. NGO group members are co-operative each other and give co-operation to other members such as borrow money, giving advice, taking commodities and shows humanity with each other. Human resource development is the most important program and agenda for government and NGOs in Bangladesh. Besides, NGOs are playing a vital role to form social capital among their member and consciousness has grown among members exposed to NGO led activities. Various NGOs engaged in poverty alleviation, fertility reduction, socio-economic development programs as well as social capital formation in Bangladesh.

Multiple classification analysis deserves considerations from the viewpoint of policy implication. It has been found that female age at marriage has impact on fertility. Thus, the raising age at marriage by implementing a minimum age law may lower fertility. Again fertility is direct effect by contraceptive use and ideal number of children. Women's education one of the most important factors which effect is the strongest for explaining the variability in children ever born. Gradually more educated women's have less mean children ever born than no educated women. This is the second strongest determinant among the variables. Female education on fertility is found to be negative effect. Education may provide better employment opportunities outside home and age at marriage can be raised through providing education. It may be suggested that attention should be focused on the need of providing educational facilities, particularly in rural areas in order to depress the level of fertility in Bangladesh.

Involvement of NGOs is another vital determinant among the variables. It has been found that NGOs involvement has important impact on social capital, fertility and fertility intention status as well as reduction of fertility. Evidence suggests that NGOs has great impact on the important determinants of fertility. The women who are not involved with any NGOs their average children ever born are higher than those who are involved with NGOs. Various NGOs in Bangladesh especially BRAC and Grameen Bank has taken consciousness programs taking female to keep small family size in order to economic development so that government should provide technical support.

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