Social Networks in Rural Situation: A Case Study in Mymensingh District of Bangladesh

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Abstract

This study based on social networks has identified the socio-economic status of the respondents, their risk management strategies, size and density of the social networks of the actors, and the patterns of relations among social actors in the village Chargobodia of Mymensingh district. A snowball sampling technique was applied and data were collected from 35 respondents from the selected village through field survey using a pre-designed questionnaire, PRA and observation technique. The study indicated that social ties play an important role to manage risk, and the level of income; education and position in the society have great impact on social ties. The strategies used for risk management included communication with family members, neighbours, and friends for getting help, and use of other means such as money lender, NGOs etc. The actors having more ties had a better position in the society to manage any adverse situation. Some actors were in a large network but maintained close interaction with selected few for managing their risk. The group formation mainly depended on close relationship, reciprocity and mutual trust. Based on the findings suggestions have been made for taking sound policies, stronger institutions and better governance as the key tools for more effective poverty reduction and risk management in Bangladesh.

Keywords: **Social network, risk management**

1. Introduction

Poverty alleviation is the core issue in the development discourse and eradicating extreme poverty and hunger is the pivotal objective of the Millennium Development Goals. Generally, the development experts try to achieve this goal with different modes of action like increasing per capita income, utility maximization or improving human capital of the individuals. However most often they mainly consult with individuals and give less consideration to the fact that individuals are part of the society and society plays a great role in improving individuals' basic capabilities and well-being (Rahman, 2006).

One of the serious problems of Bangladesh is poverty, and one of the richest experiences the country has is in poverty alleviation exercise. Bangladesh is described as one of the least developed countries in the world with a population of 143.8 million in 2002 (UNDP, 2004), where the number of people living below $1 a day is 49.6% (UNDP, 2005), $2 a day: is 82.8% (World Bank 2005). Gross Domestic Product (GDP) per capita was U.S. $351 in 2002 (UNDP, 2004) and life expectancy was 62 years (World Bank, 2005). Based on poverty line measured by direct calorie intake (DCI) method as less than 2122 kilocalorie per person per day, it is found that 44.3 percent of the total

population of Bangladesh or 55.9 million were "absolute" poor in 2002; the corresponding figure for rural areas was 42.3 percent or 42.6 million (BBS, 2002). Cost of basic needs (CBN) method constructs "upper poverty line" (a generous allowance for non-food items), and "lower poverty line" (a minimal allowance for non-food good for those who could just afford the food requirement). The upper poverty line showed that 49.8 percent of the total population and 53.1 percent of the rural population were income poor (BBS, 2002). Thus, more than half of the rural population in Bangladesh is consumption poor.

A social network is a map of the relationships between individuals, indicating the ways in which they are connected through various social familiarities ranging from casual acquaintance to close familial bonds. The term was first coined by Barnes (1954) (in: Class and Committees in a Norwegian Island Parish, "Human Relations"). Social networking also refers to a category of internet applications to help connect friends, business partners, or other individuals together using a variety of tools. Bulkey and Alstyne (2010) stated that "the potential to create a more complete understanding of different types of efficiency associated with social networks."

Narayan (1999) remarked that irrespective of their nature, interventions to reduce poverty should be designed not only to have an immediate impact on poverty, but also to foster a rich network of cross-cutting ties within society and between society's formal and informal institutions. Udry and Conley (2004) examined social networks among farmers in a developing country. They used detailed data on economic activities and social interactions among the people living in four villages in Ghana. It was revealed hat economic development in this region was being shaped by the networks of information, capital and influence that permeate these communities. Vanderpuye-Orgle and Barrett (2009) could not reject the null hypothesis that individual shocks do not affect individual consumption and that individual consumption tracks network and village consumption one-for-one among the socially visible, risk pooling fails for the socially invisible sub-population in Ghana.

As social networks can improve the individual's basic capabilities, we have to expand social networks of individuals. For expansion of the social networks, trust and reciprocity are the main tools. Trust is thought to be a key factor in reducing transaction cost in inter-farm or internal transactions (Granovetter, 1973; Bromiley and Cummings, 1992). Network form of governance, which specially emphasizes the function of social control and mutual trust, is thus taken as a different form of contract other than markets and hierarchies (Powell, 1990; Heide, 1994; Williamson, 1981). Putnam (1993) claimed that, social capital coincides with trust and reciprocity that allows the surge and the growth of horizontal social networks. Fukuyama (1996) pointed out that, trust is the essential feature of social capital, which is the expectation inside a community of predictable and co-operative behaviour based on common norms and accepted by each individual. Zak and Knack (1998) described that very low trust societies can be caught in a poverty trap. Trust is higher in more ethnically, socially and economically homogeneous societies and where legal and social mechanisms for constraining opportunism are better developed. Mondal (2000) explained that social capital can be generated by the expectations of the rural poor who are victimized by government and market failures. The demands of the rural poor of Bangladesh for economic and social goods and services, for example, have been instrumental to their economic and social well-being. Cooperation based on mutual trust and norms of reciprocity contributes to the creation of other kinds of capital, especially economic and human capital, that are mutually reinforcing. Both governments and the NGOs make use of social capital as a tool for implementing poverty policies.

Social network is important for the analysis of people's capabilities but to have access to different social networks is significant for the identification of one's own interests as it allows for a diversified view of oneself that results from the different influences and confrontations within the networks. The idea of networks is gaining momentum within economic theory. Networks are used to study the influences of organisational and institutional features on the economy. Networks are seen as governance structures that are characterised by the interdependence of individuals, which contributes to a different organising motif of economic life than the standard supposed for market price signals.

In view of the above discussion, this study was undertaken with the following objectives:

(i) To describe the socio-economic situation of the respondents in the selected area;

(ii) To analyse the risk management strategies of the respondents in the selected area;

(iii) To assess the size and density of the social networks in the selected area;

(iv) To analyse the patterns of relations among social actors in the selected area.

2. Methodology

In this study, 35 respondents were selected from the village Chargobodia from Sadar Upazila of Mymensingh on the basis of remoteness and researcher's familiarity of the area. Snowball sampling procedure was applied for selection of sample respondents and survey research method was used to collect data during January-June, 2005. The interview schedule which contained structured and unstructured questions was consistent with the objectives of the study. The schedule was scientifically formed containing (1) detailed information of the actors' households; and (2) social networks of the individual actors. The logic of the method is that it treats each individual as a separate "replication" in sense, interchangeable with any other. After the phase of data collection data were checked for accuracy, validity and reliability. The UCINET software (available at http://www.analytictech.com was used for networks data analysis. Tabular analysis method was used to describe the socio-economic situation of the respondents. Social network analysis method was used to analyze objective 2. To assess the density of the social networks the authors used number of social ties method. Objective 4 was analysed by Using CONCOR.

3. Results and Discussion

3.1. Socio-economic scenario of the actors

The socio-economic information that follows is an attempt to synthesize relevant demographic, social, and economic data and to explain their relevance to risk management in general and social networks formation of the actors in particular. The salient features of the actors have been presented in this section. These include: age, education, occupation, family size, land area, income, and expenditure (Table 1)

Table 1 shows that the age of the respondents ranged from 20 to 70 years but more than half of the respondents' age was between 20 and 35 years. Most of the respondents were engaged with farming and some of them had business as primary and secondary occupation. Most of them were illiterate and the family size ranged between 2 to 10 members. As income and expenditure gaps were very low, most of them had very low saving, although few of them had good amount of saving.

Table 1. Age, education, occupation, family size, land area, income, and expenditure of the respondents

Name	Age (Year)	Education (year)	Occupation		Family size (no.)	Total cultivated land area (decimal)	Annual Income (Taka, 000)	Annual Expenditure (Taka, 000)
			Primary	Secondary				
Tofazzal	30	2	Business	Farming	5	570	75	33
Yasin	70	0	Farming	-	8	70	40	30
Nazrul	35	5	Farming	Business	5	75	50	40
Azizul	28	1	Farming	Business	4	200	36	32
Abdul Aziz	30	5	Farming	Business	4	50	75	36
Jasim	25	2	Farming	-	3	60	35	35
Kamrul	26	3	Farming	-	3	50	32	30
Khokon	34	2	Business	Farming	5	90	120	72
Mojibur	29	2	Farming	-	4	75	36	30
Shah Ali	45	1	Farming	Business	5	60	36	48
Abdul Jalil	40	12	Service	Farming	6	70	84	72
Dulal	22	1	Day labour	-	2	70	36	24
Harun	30	0	Farming	-	4	60	35	32
Bachhu Mia	25	0	Farming	-	4	80	40	36
Namaj Ali	45	0	Farming	-	4	120	50	50
Ijjat Ali	50	0	Farming	-	6	150	72	60
Hasen Ali	70	1	Farming	Business	8	300	60	60
Moslem	55	0	Day labour	-	6	0	36	36
Shafuruddin	65	5	Farming	Business	7	2500	240	160
Anwar	21	0	Farming	-	4	170	24	24
Lal Mia	22	1	Business	Farming	3	65	48	36
Abtab Uddin	65	5	Farming	-	6	480	60	48
Mohram Ali	20	0	Farming	-	6	90	36	36
Rafiq	28	8	Business	Farming	3	80	36	30
Babul	22	0	Service	-	3	60	30	24
Sukkur Ali	32	0	Service	-	5	10	30	30
Moajjem	30	0	Farming	-	2	100	36	30
Babu	28	0	Farming	-	2	70	24	24
Jabbar	82	0	Farming	-	10	960	96	72
Abadul	33	0	Day labour	Farming	4	120	38	36
Rajjak	45	0	Business	-	5	40	36	30
Taheruddin	25	5	Farming	-	2	160	42	40
Mohammad	55	0	Farming	-	6	60	24	24
Khaleq	42	0	Farming	-	5	300	42	36
Rashid	35	2	Farming	-	5	90	36	36

Source: Field Survey, 2005

3.2. Risk management strategies of the respondents: social networks of the actors

An ego-centred network "consists of a focal person or respondent (ego), a set of alters who have ties to ego, and measurements on the ties from ego to alters and on the ties between alters" (Wassermann and Faust, 1994). Figure 1 shows the centrality of the actors in the ego-network of the village Chargobodia. It is evident from the Figure that the actors Shafuruddin, Mohajan, Tofazzal and Other village had the highest number of ties, respectively.

The actors "Shafuruddin" and "Tofazzal" play crucial role in this society. Nevertheless, Mohajan, Other village and NGOs also play important role in this social network. The actors are not only interacting within the complete network but also with Mohajan, NGOs and Other villages. The Mohajan is a person who acts as a money lender and provides credit without any legal documents. When any actor is in financial problem and not able to get financial help from his family members/relatives/friends then he goes to the Mohajan to get credit with very high interest rate (120%). Even the Mohajans are not respectable person in the society but they play an important role in case of risk management in the rural area. The actors also have interactions with the people who live in other villages. Frequently they go to other villages for getting help. NGOs also play an important role in the rural area.
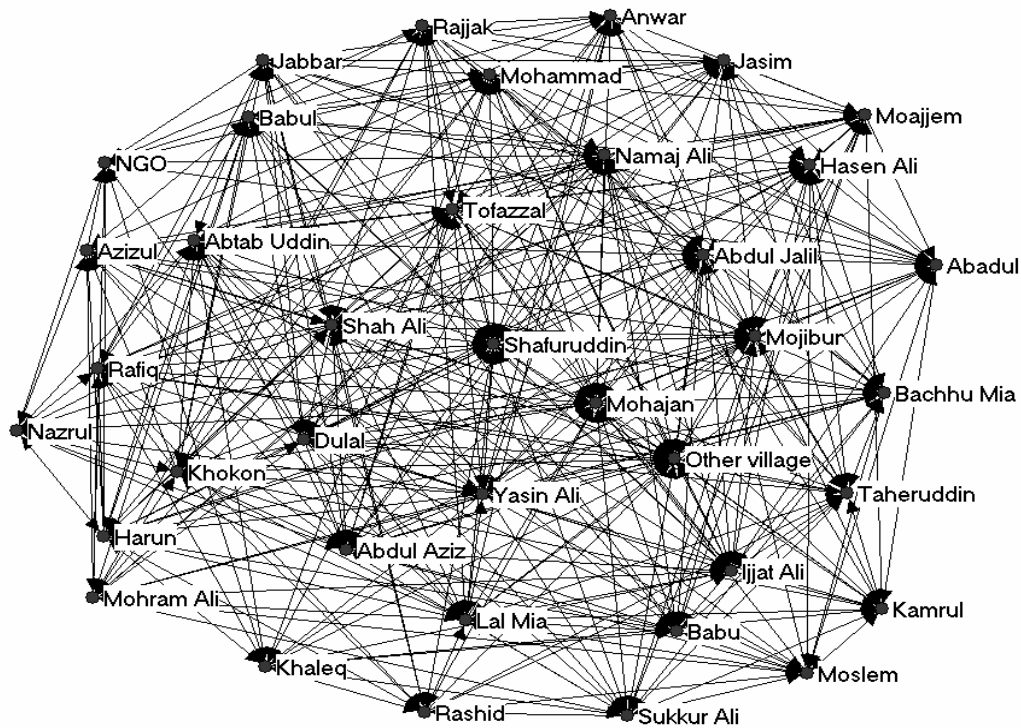

Fig. 1. Ego-network of different actors in village Chargobodia (Source : Field survey, 2005)

3.3. Ego-network: size and density measure

The size of network is often a very important consideration. Size is critical for the structure of social relations because of the limited resources and capacities that each actor has for building and maintaining ties. As a group gets bigger, the proportion of all the ties that could (logically) be at present- density will fall, and more likely a differentiated and partitioned group will emerge. Table 2 shows size, number of ties, number of pairs, and density of the actors in the village Chargobodia. Size means the size of ego network, which implies the number of actors with whom a focal actor has relations. Actor #14 has the highest size. Ties mean number of directed ties.

For example; actor #33 has the lowest number of ties. Pairs mean number of ordered pairs and density is ties divided by pairs. Generally, the actors who have more ties they have better position in the society to manage any adverse situation. From Table 1 and Table 2, it is evident that of all other factors, one actor who has more income, more cultivable land, and is of older age, has more social ties.

3.4. Roles, Positions, and Partitioning of the Actors

Attention is drawn to somewhat more abstract ways of making sense of the patterns of relations among social actors through the analysis of "positions". Being able to define, theorize about, and analyze data in terms of positions is important because generalizations have to be made about social behaviour and social structure. To do this, thinking must be about actors not as individual unique persons (which they are), but as examples of categories. As an empirical task, it is needed to be able to group together actors, who are the most similar, and to describe what make them similar; and to describe what makes them different, as a category, from members of other categories. To the structural analyst, the building blocks of social structure are "social roles" or "social positions". These social roles or positions are defined by regularities in the patterns of relations among actors, not attributes of the actors themselves. As "positions" or "roles" or "social categories" are defined by "relations" among actors, social positions are identified and empirically defined using network data. In an intuitive way, it can be said that two actors have the same "position" or "role" to the extent that their pattern of relationships with other actors is the same.

Table 2 Measures of size, ties, pairs and density in village Chargobodia

Sl. No.	Name	Size	Ties	Pairs	Density
1	Tofazzal	25.00	218.00	600.00	36.33
2	Yasin Ali	23.00	202.00	506.00	39.92
3	Nazrul	14.00	79.00	182.00	43.41
4	Azizul	17.00	96.00	272.00	35.29
5	Jasim	18.00	111.00	306.00	36.27
6	Kamrul	16.00	96.00	240.00	40.00
7	Khokon	21.00	148.00	420.00	35.24
8	Mojibur	22.00	164.00	462.00	35.50
9	Dulal	22.00	168.00	462.00	36.36
10	Harun	19.00	115.00	342.00	33.63
11	Bachhu Mia	18.00	109.00	306.00	35.62
12	Namaj Ali	20.00	120.00	380.00	31.58
13	Ijjat Ali	21.00	149.00	420.00	35.48
14	Shafuruddin	27.00	259.00	702.00	36.89
15	Abdul Aziz	21.00	155.00	420.00	36.90
16	Shah Ali	24.00	203.00	552.00	36.78
17	Abdul Jalil	21.00	155.00	420.00	36.90
18	Hasen Ali	18.00	110.00	306.00	35.95

19	Moslem	15.00	76.00	210.00	36.19
20	Anwar	16.00	83.00	240.00	34.58
21	Lal Mia	22.00	158.00	462.00	34.20
22	Abtab Uddin	21.00	162.00	420.00	38.57
23	Mohram Ali	16.00	83.00	240.00	34.58
24	Rafiq	19.00	119.00	342.00	34.80
25	Babul	19.00	101.00	342.00	29.53
26	Sukkur Ali	17.00	82.00	272.00	30.15
27	Babu	16.00	73.00	240.00	30.42
28	Jabbar	17.00	93.00	272.00	34.19
29	Abadul	17.00	88.00	272.00	32.35
30	Rajjak	18.00	112.00	306.00	36.60
31	Taheruddin	17.00	82.00	272.00	30.15
32	Moajjem	17.00	85.00	272.00	31.25
33	Khaleq	14.00	47.00	182.00	25.82
34	Mohammad	18.00	105.00	306.00	34.31
35	Rashid	14.00	69.00	182.00	37.91
36	Other village	23.00	194.00	506.00	38.34
37	NGO	12.00	46.00	132.00	34.85
38	Mohajan	27.00	235.00	702.00	33.48

Source: Field Survey, 2005

3.5. *Dendrogram from CONCOR analysis in village Chargobodia*

Figure 2 displays the results of a series of partitions from CONCOR indicating the degree of structural equivalence among the positions and identifying their members. A closer look to Figure 2 shows that CONCOR leads to a partition of the actors into eight groups. The "branches" in this diagram indicate the partition of actors based on the series of splits from repeated applications of CONCOR. The Dendrogram explains how the actors form groups within the whole networks. Even the actors are in a large network, they have some close actors with whom they have more interactions for managing their risk. The group formation mainly depends on close relationship, reciprocity and mutual trust.

4. Conclusions

Poverty in Bangladesh is not only due to lack of income, but also for a lack of access to basic services such as health and education, powerlessness, and exclusion from participation in the development process. Considering the multi-dimensionality of poverty this research work is an attempt towards a new direction and a new paradigm of risk management in rural areas in Bangladesh. The social network analysis explains the fact that human beings belong to larger social units (communities, societies etc.), social networks (social capital) and play a great role to improve individual's basic capabilities and well-being. Poor people are managing their risk and uncertainties firstly in cooperation with existing social networks. Sound policy, strong political commitment, institutional arrangement conducive-to-development environment, better governance can be considered the key tools for poverty reduction in Bangladesh in a more effective way. As stated by Rahman (2006), "Bangladesh has the potential to win its "war on poverty", but it will take an effective democracy and honest political leader to reach that goal".
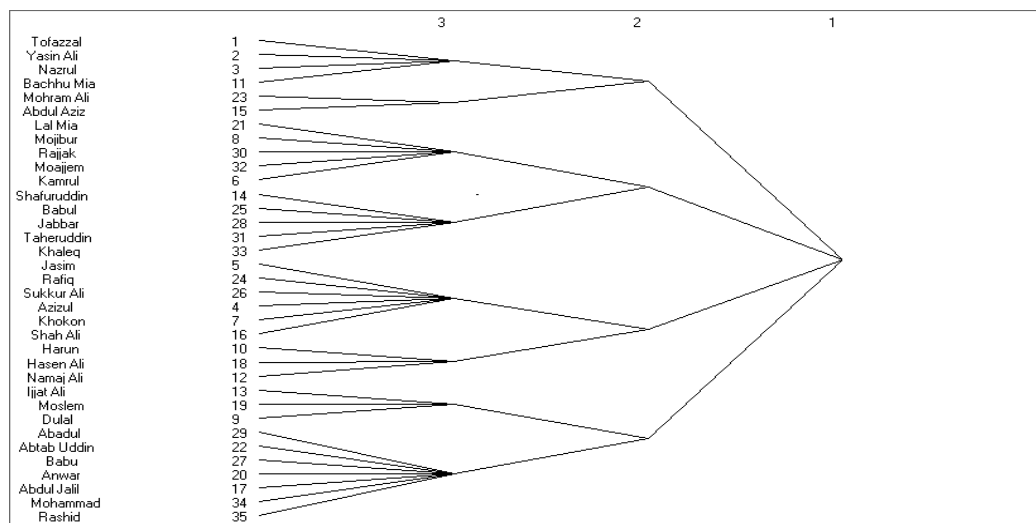
Fig. 2. Dendrogram; pattern of the social relation of the actors in village Chargobodia (Source: Field Survey, 2005)

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