Analysis of the Networking Structure of Farm Women in a Social System

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ABSTRACT Farm women need different types of farm information due to higher engagements in agriculture. It is observed from various studies that majority of the farm women were under low social participation and cosmopolitan level. So, on the basis of the findings, a study was conducted to identify the farm women participation, association and cosmopolitaness with different organisations and to analysis their networking structure in a social system. The study was conducted in Cooch Behar district of West Bengal with the help of ex-post facto research design. It was found from the study that majority of the farm women were associated with one organisation and regularly involved in self-help groups. It was found from the study that the panchayat office, nearest town, kisan mandi, Krishi Vigyan Kendra, nearest city and the post office play important roles for networking the farm women.

INTRODUCTION

A social network is a social structure comprising of different types of social actors, sets of dyadic ties and other social cooperation between actors. Chowdhury and Bose (2014) reported that social participation positively affects access to agricultural information by the farm women. Information is one of the most significant contributions for employment and communication networks assume a significant job in sharing this information in rural society. Productive progression of information identified with cultivating guarantees that social learning process in the network gets moving and brings about the adoption of innovations (Haldar et al. 2016). The social network works within and outside the social system and accepts a central activity in the resolution policy of the rural poor. Informal communities, in this sense, give a strategy of advantage willingness from those with whom one needs to position affiliation. It is based on the examination of instances of associations among people, associations, states, and such social components – both apparently and numerically (Jamali and Abolhassani 2006; Misra et al. 2014). With the developing volume of applied accurate works with Social Network Analysis (SNA), experts have found it reasonably successful in thinking about complex systems, be it characteristic or human-managed. The use of Social Network Analysis (SNA) is of explicit hugeness for structures depicted by a display of actors and better than average collection in their distribution of information (Scott and Carryington 2011; Misra et al. 2014). A social network gives a lot of strategies for dissecting the structure of entire social substances just as a collection of hypotheses clarifying the examples saw in these structures (Wasserman and Faust 1994). A communication network comprises of interconnected people who are connected by the deliberate series of information, and its investigation recognises the communication structure in the system (Rogers and Kineaid 1981). Rural women need different types of farm information due to higher engagements in agriculture. It was found from various studies that a larger part of the farmers and farm women had low and medium degree of social participation and cosmopolitaness (Nayak 1995; Deshmukh et al. 2003; Ajotikar 2006; Kikon 2010; Sunil and Manjula 2010; Waman 2010; Rudroju 2013; Haldar 2014; Nayak 2015; Rizal 2016; Dash 2017). Farm women network with large numbers of formal and informal organisations for training, information sharing, information seeking, information exchange, decision making, financial planning, extension programme, family planning, child care, educational
development, health awareness, food processing, home management, nutritional development, social security and others purposes. But the mobility, involvement and contact of farm women may vary according to the type of organisation. So it is very important to know the strong social networking actor in a social system for diffusion agricultural information to the farm women in a short time. Hence a study was needed to analyse the networking structure of farm women in the social system for the diffusion of agricultural information.

The objective of the study was to identify the farm women participation, association and cosmopolitaness with different organisations and to analysis their networking structure in a social system.

**METHODOLOGY**

The study was conducted on the farm women of North Bengal in the northern part of West Bengal, India. The study was conducted from September 2017 to February 2020. The research design was followed in the study was ex-post facto research design. Ex-post research design was used since the variables selected for the study had already resulted in cause and effect relationship. Cooch Behar district was purposively selected for the study since it has significantly highest share of rural population and sex ratio was low (Economic Review 2011-2012) and the socio-economic patterns of the farmers were more or less proportionate with other districts of North Bengal. This study used a five stage sampling procedure in which both purposive (non-probabilistic sampling) and simple random sampling techniques (probabilistic sampling) were used to select the sample respondents. In the first stage Cooch Behar district was selected purposively. In the second and third stage three numbers of subdivision and one block from each subdivision were selected randomly. In the fourth and fifth stage random sampling methods were used for selection of twelve numbers of village from three block and 25 numbers of respondents from each village. A total of 300 respondents (n) in the sample were selected for the study. The level of participation and cosmopolitaness were described in a quantitative terms. The important statistical measures that were used to analyse the research data included frequency, percentage, range, mean, standard deviation, coefficient of variation. Social networking of the farm women was analysed using the UCINET 6 software.

**RESULTS AND DISCUSSION**

**Association with Different Organisations**

It is observed from the study (Table 1) that majority of the farm women were associated with one organisation (48.66%) followed by being an office bearer in one organisation (32.33%) and associated with more than one organisation (9.00%), while the least percentage of respondents (0.66%) were office bearers in more than one organisation along with holding distinctive features (panchayat leader). It is also observed from the study that 8.66 percent of respondents did not hold any membership of an organisation. This finding is in line with the result found by Meena (2002) and Jadhav (2011) but not with the study reported by Sonkamble (2000) and Sawsakde (2001).

**Table 1: Distribution of respondents according to association or membership in different organisations (n=300)**

| S. No | Social participation | Number | Percentage |
|-------|----------------------|--------|------------|
| I     | No membership        | 26     | 8.66       |
| II    | Member in one organisation | 146 | 48.66 |
| III   | Member in more than one organisation | 27 | 9.00 |
| IV    | Office bearer in one organisation | 97 | 32.33 |
| V     | Office bearer in more than one organisation | 2 | 0.66 |
| VI    | Distinctive features (Panchayat leader, MLA and MP) | 2 | 0.66 |

It is found from the study (Table 2) that the level of association of the farm women with the different organisations was low (57.33%) followed by medium (41.33%) and high (13.33%). It is observed from the study that the variable was highly varied within the distribution due to high CV value (63.00%).

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Social Participation

It is revealed from the study (Table 3) that majority of the farm women regularly engaged in self-help groups (55.00%) followed by mahila societies (8.66%), religious organisations (3.33%), cooperative societies (2.33%), village panchayat (1.00%), social organisations (1.00%) and cultural organisations (0.66%). It is also exposed from the study that majority of farm women were partially involved in SHG (32.66%) followed by religious organisation (6.00%), mahila society (5.66%), social organisation (3.00%), cooperative society (1.33%) and cultural organisation (0.33%). It is also shown from the study that majority of the farm women did not participate in village panchayat (99.00%) and cultural organisation (99.00%) followed by cooperative society (96.33%), social organisation (96.00%), religious organisation (90.66%), mahila society (85.66%) and self-help groups (12.33%).

Cosmopoliteness

It is exposed from the investigation (Table 4) that greater part of the farm women were under low (81.00%) degree of social participation followed by the medium (17.00%) and high (2.00%) level of social participation. The level of consistency was low due to high variation of the variables within the distribution (CV 72.02%). This result is in line with the findings of Sonkamble (2000), Deshmukh et al. (2003), Ajotikar (2006), Vanetha (2006), Jain (2007), Kacharo (2007), Waman (2010) and Rizal (2016).

Table 2: Degree of association with different organisations (n=300)

| Category          | Score | Frequency | Percentage | Statistics       |
|-------------------|-------|-----------|------------|------------------|
| Low               | 0-1.66| 172       | 57.33      | Range = 0 to 5   |
| Medium            | 1.67 to 3.33 | 124   | 41.33      | Mean = 1.70S     |
| High              | 3.34 to 5.00 | 4     | 1.33       | D = 1.07         |
|                   |       |           |            | CV = 63 percent  |

Table 3: Distribution of respondents according to their social participation (n=300)

| S. No | Group/Institution | Fully | Extent of participation |
|-------|-------------------|-------|-------------------------|
|       |                   | f     | Percent | Partially | f | Percent | Not at all | f | Percent |
| 1.    | Cooperative society | 7      | 2.33 | 4 | 1.33 | 289 | 96.33 |
| 2.    | Village panchayat | 3      | 1.00 | 0 | 0.00 | 297 | 99.00 |
| 3.    | Cultural organisation | 2      | 0.66 | 1 | 0.33 | 297 | 99.00 |
| 4.    | Religious organisation | 10     | 3.33 | 18 | 6.00 | 272 | 90.66 |
| 5.    | Social organisation | 3      | 1.00 | 9 | 3.00 | 288 | 96.00 |
| 6.    | Self help group (SHG) | 165     | 55.00 | 98 | 32.66 | 37 | 12.33 |
| 7.    | Mahila Society | 26      | 8.66 | 17 | 5.66 | 257 | 85.66 |
| 8.    | Others | 0      | 0.00 | 0 | 0.00 | 0   | 0.00 |

Table 4: Level of social participation (n=300)

| Category          | Score | Frequency | Percentage | Statistics       |
|-------------------|-------|-----------|------------|------------------|
| Low               | 0 to 3.33 | 243   | 81         | Range = 0 to 10  |
| Medium            | 3.34 to 6.67 | 51    | 17         | Mean = 1.93     |
| High              | 6.68 to 10.01 | 6     | 2          | SD = 1.39       |
|                   |       |           |            | CV = 72.02 percent |

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It is shown from the study majority of the farm women regularly visited the kisan mandi followed by nearest town and primary health centre (Dash 2017). It may be concluded from the study that kisan mandi, nearest town and primary health centre is an important place of networking for farm women (Dash 2017).

It is observed from the study (Table 5) that a greater part of the farm women occasionally visited the panchayat office (87.00%) followed by post office (80.66%), nearest city (79.00%) farm science centre (78.00%), nearest town (69.00%), primary health centre (55.33%), rural bank (53.66%), block development office (51.00%), kisan mandi (48.66%), nationalised bank (45.33%), district headquarter (23.33%), agricultural university (23.00%), sub divisional office (19.66%) and others (7.66%). So it may be concluded from the study that majority of the farm women did not visit the sub divisional office followed by district headquarter, agricultural university and nationalised bank.

It is exposed from the study (Table 6) that majority of the farm women were under medium degree of cosmopoliteness (64.33%) followed by low (19.67%) and high (16.00%) degree of cosmopoliteness. It is observed that the consistency level of the distribution was medium (CV 32.15%). This finding is in agreement with the study found by Nayak (1995), Sunil and Manjula (2010) and Nayak (2015). But the findings of the result do not agree with the studies by Kikon (2010), Rudroju (2013), Haldar (2014) and Rizal (2016).

Social Networking Analysis of Farm Women

It was observed from Figure 1 that the network diagram has one key node and majority of the farm women were connected with this node. It is revealed from the study that SHG play an important role for social networking of large number of farm women. It may be due to the fact

Table 5: Distribution of the respondents according to cosmopoliteness (n=300)

| Place/institution                        | Regular |          | Occasionally |          | Not at all |          |
|-----------------------------------------|---------|----------|--------------|----------|-----------|----------|
| Extent of Visit                         | f       | Percent  | f            | Percent  | f         | Percent  |
|-----------------------------------------|---------|----------|--------------|----------|-----------|----------|
| Post office                             | 16      | 5.33     | 242          | 80.66    | 42        | 14.00    |
| Primary health centre                   | 52      | 17.33    | 166          | 55.33    | 82        | 27.33    |
| Rural Bank                              | 44      | 14.66    | 161          | 53.66    | 95        | 31.66    |
| Nationalise Bank                        | 27      | 9.00     | 136          | 45.33    | 137       | 45.66    |
| Block development office                | 15      | 5.00     | 153          | 51.00    | 132       | 44.00    |
| Sub divisional office                   | 5       | 1.66     | 59           | 19.66    | 236       | 78.66    |
| Panchayat office                        | 23      | 7.66     | 261          | 87.00    | 16        | 5.33     |
| District head quarter                   | 1       | 0.33     | 70           | 23.33    | 229       | 76.33    |
| Agricultural University                 | 8       | 2.66     | 69           | 23.00    | 223       | 74.33    |
| Farm Science Centre                     | 24      | 8        | 234          | 78       | 42        | 14       |
| Nearest City                            | 32      | 10.66    | 237          | 79.00    | 31        | 10.33    |
| Nearest Town                            | 78      | 26.00    | 207          | 69.00    | 15        | 5.00     |
| Regulated Market/Kisan Mandi (Krishi Vigyan Kendra) | 113     | 37.66    | 146          | 48.66    | 41        | 13.66    |
| Others                                  | 1       | 0.33     | 23           | 7.66     | 276       | 92.00    |
Fig. 1. Social network: social participation betweenness centrality according to size
Fig. 2. Cosmopolitaness betweenness centrality according to size
that SHGs build with minimum membership, and are less complex and rigid, are profitable. The same category of the farm women may engaged in the group, and decision-making power of the farm women was high along with others factor.

It is observed from Figure 2 that the network diagram has six key nodes, and farm women of the network are connected with this node. It is exposed from the study that panchayat office, nearest town, farm science centre, regulated market, nearest city and post office networking a great majority of the farm women.

**CONCLUSION**

It may be concluded from the study that social participation level of the farm women was low followed by medium and majority of the farm women were members in one organisation. It was also found from the study that self-help groups play an important role for social networking of farm women. It may be due to the fact that SHGs can be built with minimum membership, they are less complex and closer than other organisations. It may be concluded from the study that panchayat office, nearest town, regulated market/kisan mandi, Krishi Vigyan Kendra/Farm Science Centre, nearest city and post office play an important role in networking of a large number of farm women. So a is huge opportunity is present to strengthen the large numbers of farm women through panchayat office, regulated market/kisan mandi, farm science centre, post office and self help groups.

**RECOMMENDATIONS**

The study may help the extension workers, policy makers, scientists and private organisations with the diffusion of agricultural information to a large number of farm women within a short period of time. This study was conducted only with three factors (social participation, membership and cosmopoliteness). There is scope for the researchers to study the networking of farm women beyond this work. The study may help the scientists with further research work on networking of farm women with different mass media resources, e-resources, communication channels and extension institutes, which may help to find out the information networking system, information sharing, information exchange and knowledge of farm women.

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