

## Exploration and Interpretation of Women Stakeholders' Overall Involvement in Women Led Agricultural Innovation System (AIS)

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### ABSTRACT

*Women empowerment through increasing the access of resources in local situation is the highlighted issue in the present context. Women involve in different types of activities in agricultural sphere and shoulder the responsibility in playing the roles of different actors in agricultural innovation system. The dimension of agricultural innovation always prefers to go along with the concepts of the dynamics around different activities and roles that poor women communities engaging towards addressing their social and economic needs through agricultural production system. Therefore, the active engagement of women will be imperative to future farming, processing, and marketing systems that can improve livelihoods and agribusiness development. So to make women led agricultural innovation system more efficient, knowledge vibrant, market oriented and sustainable one there is a need to build capacity of each and every actor associated with the innovation system in local area. Hence, the study makes an attempt to explore types of actor, their role and institutional linkage of a local innovation system dealt by women stakeholders. The study has also analyzed the extent of overall involvement in terms of their physical and decision making involvement in various domains of innovation system. The study has been carried out in Cooch Behar district of West Bengal. Total 200 women respondents including women farmers and professionals associated with various institutions at district level were randomly selected for the study. The results showed that the variables utilization pattern of communication sources, scientific orientation, management orientation and awareness and knowledge about agriculture are positively and significantly correlated with overall involvement of women in agricultural innovation system. Multiple regression analysis has revealed that the variables age, utilization pattern of communication sources, management orientation, awareness and knowledge about agriculture is positively and significantly contributing towards characterizing the overall involvement of women stakeholders in agricultural innovation system. The  $R^2$  value being 0.377 means by putting the 19 predictor variables together only 37.7 per cent variation embedded with predicted variable i.e. overall involvement of women in agricultural innovation system can be explained.*

**Key words:** *Physical involvement pattern; Women drudgery reduction; Capacity enhancement; AIS;*

Agriculture is one of the oldest occupations of women. In overall farm production, women's average contribution is estimated at 55 per cent to 66 per cent of the total labour with percentages much higher in certain regions (S. Venkateswaran, 1992). Women's contribution to agriculture and rural development continues to be very crucial towards the economic growth of the country. Women is considered to be a

valuable resource potential that needs to be meaningfully organized and recognized in the field of agripreneurship, especially in the rural agricultural sector of India. It is also observed that women are playing pivotal role in case of supporting their male counterpart in appropriate and timely decision regarding inside and outside activities in agriculture (K. Pradhan et al., 2017). In the present situation, women are entering into the massive agriculture

job markets in increasing numbers in both private and public. In banks, NGOs, Educational Institutions, Research Institutions, Extension systems, Agro-based civil services women are dominating in terms of contribution over male counterpart. As entrepreneurs, women are taking lead in establishing their own Agro based industries and providing employment for their fellow women. In this regard, it is found that there has been an increase in self-confidence, self-reliance and independence of rural women due to their involvement in the entrepreneurial and other activities (*Saikia, Pubali et. Al., 2017*). Being farmers, women are becoming very active in improving their farm productivity as well as their net income. To have better access to all the basic amenities, women are entering in to the field of administration, politics and helping themselves for equality. Women are crucial in the translation of the products of a vibrant agriculture sector into food and nutritional security for their households. In many societies women supply most of the labor needed for agricultural production and often control the use or sale of agriculture produce grown on the farms they manage. However, the inequality in ownership of, access to and control of livelihood assets (such as land, water, energy, credit, knowledge, and labor) negatively affect women's food production. Women's participation in the decision making process has a significant impact on their improved status and greater role in society (*A. Begum, 2002*). By cultivating innovation to empower women and foster greater gender equality, business, civil society, government, academia and women themselves have the opportunity to create and harness new solutions that offer fresh perspectives to difficult problems. Concepts of innovation focus on advancing social and economic progress, as well as addressing the needs of the underserved and engaging them directly in innovation processes. The actors in the innovation system and the role of women in creating, adapting and diffusing the innovation are two key aspects of innovation systems that are essential for assessing the impact of innovation on women's empowerment and gender relations. Innovations can benefit women by improving their well-being in terms of health, nutrition, income, life span, etc. Beyond vital improvements in well-being, changes can result in women's empowerment, where women gain agency and resources to make decisions, build confidence and act in their own interests. In such a

research niche, the present study aims to explore the women stakeholders' overall involvement in women led agricultural innovation system.

## METHODOLOGY

The present study was conducted at Cooch Behar district of West Bengal. The multistage random sampling technique was followed in case of selecting the area and the respondents of the present study. The district Cooch Behar has been selected purposively; the Cooch Behar block-I from the chosen district was selected with the help of simple random sampling. From the selected block two gram panchayat namely Falimari and Chilkirhat were selected randomly. From each of the gram panchayat two villages and in this way total four villages were selected. Forty five farm women who are also the self help group members were randomly selected from each village. So, total number of farm women selected for this study is 180. Twenty women professionals from various institutions such as five farmer's club members, four bank employees, three NGO staff, three gram panchayat member, one women extension worker (Krishi Prayukti Sahayak), one Women Development Officer at Block Office, one women KVK professionals, two women professionals associated with State Agriculture University were also selected as respondents as per availability in the local situation. In this way, total 200 women respondents constitute the sample for this study. Information was collected with the help of structured interview schedule through personal interview method. Statistical tools like range, mean, standard deviation, coefficient of correlation and multiple regression analysis etc. were used in this study.

## RESULTS AND DISCUSSION

Table 1 presents the distribution of women stakeholders of the women led agricultural innovation system according to their selected attributes. The results show that the age of the respondents ranges from 20-60years. The mean score of the total distribution, age is 35.74 and standard deviation of the distribution is 9.22. The coefficient of variation value within the distribution 25.79 per cent signifies the high consistency level of the distribution for the variable 'age'. The variable caste of the respondent ranges from scores 2-4 means the caste schedule caste, other backward caste and general caste. The mean score of the total distribution, caste is

**Table 1. Distribution of stakeholders of the women led agricultural innovation system according to their attributes**

Variables	Range	Mean	SD	CV(%)
Age (X <sub>1</sub> )	20-60	35.74	9.22	25.79
Caste (X <sub>2</sub> )	2-4	2.41	0.73	30.29
Education (X <sub>3</sub> )	0-7	3.79	1.15	30.34
Family Edu. Status (X <sub>4</sub> )	1.25-6	3.57	0.98	27.45
Family Annu. Income (X <sub>5</sub> )	4-36	13.49	6.05	44.85
Land Holding (X <sub>6</sub> )	0-3.33	0.75	0.60	80
Farm Power (X <sub>7</sub> )	1-4	1.79	0.79	44.13
Family Asset Poss. (X <sub>8</sub> )	2-45	21.41	8.44	39.42
Livestock Possession (X <sub>9</sub> )	0-15	5.10	3.49	68.43
House Type (X <sub>10</sub> )	2-4	2.57	0.61	23.73
Utilization Pattern of Commu.Sources (X <sub>11</sub> )	8-50	18.96	5.72	30.17
Risk Preference (X <sub>12</sub> )	15-30	23.82	3.88	16.29
Scientific Orientation (X <sub>13</sub> )	16-30	24.79	3.84	15.49
Eco.nomic Motivation (X <sub>14</sub> )	20-30	26.23	1.86	7.09
Independence (X <sub>15</sub> )	14-30	27.07	3.00	11.08
Mgt. Orientation (X <sub>16</sub> )	37-74	58.00	9.51	16.39
Attitude towards Agri. (X <sub>17</sub> )	33-59	45.82	5.60	12.22
Attitude towards Livestock Rearing (X <sub>18</sub> )	36-50	44.48	3.31	7.44
Agril. Awareness (X <sub>19</sub> )	7-17	11.70	1.60	13.67
Overall Involvement Index (Y)	27.11-89.65	43.22	9.81	22.69

2.41 and standard deviation of the distribution is 0.73. The coefficient of variation value within the distribution 30.29 per cent signifies the high consistency level of the distribution for the variable 'caste'.

The education of the respondents ranges from 0-7 which means illiterate to above graduate. The mean score of the total distribution, education is 3.79 and standard deviation of the distribution is 1.15. The coefficient of variation value within the distribution 30.34 per cent signifies the high consistency level of the distribution for the variable 'education'. The variable family education status ranges from 1.25-6. The mean score of the total distribution, family education status is 3.57 and standard deviation of the distribution is 0.98. The coefficient of variation value within the distribution 27.45 per cent signifies the high consistency level of the distribution for the variable 'family education status'. The variable family annual income of the respondent ranges from scores 4-36 means Rs. 40000 to Rs 360000. The mean score of the total distribution, annual income is 13.49 and standard deviation of the distribution is 6.05.

The coefficient of variation value within the distribution 44.85 per cent signifies the medium consistency level of the distribution for the variable 'family annual income'. The variable land holding of the respondent ranges from scores 0-3.33 means landless to 3.33 acres of land. The mean score of the total distribution, farm size is 0.75 and standard deviation of the distribution is 0.60. The coefficient of variation value within the distribution 80 per cent signifies low consistency level of the distribution for the variable 'land holding'. The variable farm power of the respondent ranges from scores 1-4 means hiring power tiller to having tractor. The mean score of the total distribution, farm power is 1.79 and standard deviation of the distribution is 0.79. The coefficient of variation value within the distribution 44.13 per cent signifies medium consistency level of the distribution for the variable 'farm power'. The variable family asset possession of the respondents' ranges from scores 2-45 means the little material to large amount of assets. The mean score of the total distribution, assets possession is 21.41 and standard deviation of the distribution is 8.44. The coefficient of variation value within the distribution 39.42 per cent signifies the medium consistency level of the distribution for the variable 'family asset possession'. The livestock possession of the respondents ranges from score 0-15 means having no livestock to combination of various livestock. The mean score of the total distribution, livestock possession is 5.10 and standard deviation of the distribution is 3.49. The coefficient of variation value within the distribution 68.43 per cent signifies the lower consistency level of the distribution for the variable 'livestock possession'. The variable house type of the respondents ranges from scores 2-4 means kachha house to pucca house. The mean score of the total distribution, house type is 2.57 and standard deviation of the distribution is 0.61. The coefficient of variation value within the distribution 23.73 per cent signifies the high consistency level of the distribution for the variable 'house type'. The variable utilization pattern of communication sources ranges from scores 8-50 means communication with extension worker/organization, use of mass media and outside contact. The mean score of the total distribution, extension contact is 18.96 and standard deviation of the distribution is 5.72. The coefficient of variation value within the distribution 30.17 per cent signifies the high consistency level of the

distribution for the variable ‘utilization pattern of communication sources’. The variable risk preference ranges from 15-30. The mean score of total distribution is 23.82 and standard deviation of the distribution is 3.88. The coefficient of variation value within the distribution 16.29 per cent signifies the very high consistency level of the distribution for the variable ‘risk preference’. The variable scientific orientation ranges from 16-30. The mean score of total distribution is 24.79 and standard deviation of the distribution is 3.84. The coefficient of variation value within the distribution 15.49 per cent signifies the high consistency level of the distribution for the variable ‘scientific orientation’. The variable economic motivation ranges from 20-30 means medium to high level of motivation towards economic affluence. The mean score of total distribution is 26.23 and standard deviation of the distribution is 1.86. The coefficient of variation value within the distribution 7.09 per cent signifies the very high consistency level of the distribution for the variable ‘economic motivation’. The variable independence ranges from 14-30 means low to highly independent women respondents. The mean score of total distribution is 27.07 and standard deviation of the distribution is 3.00. The coefficient of variation value within the distribution 11.08 per cent signifies very high consistency level of the distribution for the variable ‘independence’. It is indicative that women with high independence are contributing in the women led agricultural innovation system. The variable management orientation ranges from 37-74. The mean score of total distribution is 58.00 and standard deviation of the distribution is 9.51. The coefficient of variation value within the distribution 16.39 per cent signifies the high consistency level of the distribution for the variable ‘management orientation’. It denotes that women with medium level of management orientation are mostly associated with the women led agricultural innovation system. The variable attitude towards agriculture ranges from 33-59. The mean score of total distribution is 45.82 and standard deviation of the distribution is 5.60. The coefficient of variation value within the distribution 12.22 per cent signifies high consistency level of the distribution for the variable ‘attitude towards agriculture’. The variable attitude towards livestock rearing ranges from 36-50. The mean score of total distribution is 44.48 and standard deviation of the distribution is 3.31. The coefficient of variation value within the distribution 7.44

per cent signifies the very high consistency level of the distribution for the variable ‘attitude towards livestock rearing’. The variable awareness and knowledge about agriculture ranges from 7-17 means low to high level of awareness and knowledge of the respondents. The mean score of total distribution is 11.70 and standard deviation of the distribution is 1.60. The coefficient of variation value within the distribution 13.67 per cent signifies the high consistency level of the distribution for the variable ‘awareness and knowledge about agriculture’. The variable overall involvement ranges from 27.11-89.65. The mean score of the total distribution is 43.22 and standard deviation of the distribution is 9.81. The coefficient of variation value within the distribution 22.69 per cent signifies high consistency level of the distribution for the variable ‘overall involvement of women stakeholders’ in the women led agricultural innovation system.

**Table 2. Correlation Coefficient (r) of Overall Involvement (Y) of women stakeholders with 19 predictor variables**

Variables	(r)
Age (X <sub>1</sub> )	0.098
Caste (X <sub>2</sub> )	-0.124
Education (X <sub>3</sub> )	0.107
Family Education Status (X <sub>4</sub> )	-0.017
Family Annual Income (X <sub>5</sub> )	-0.095
Land Holding (X <sub>6</sub> )	0.006
Farm Power (X <sub>7</sub> )	-0.057
Family Asset Possession (X <sub>8</sub> )	-0.055
Livestock Possession (X <sub>9</sub> )	-0.041
House Type (X <sub>10</sub> )	-0.018
Utilization Pattern of Communication Sources (X <sub>11</sub> )	0.248**
Risk Preference (X <sub>12</sub> )	-0.044
Scientific Orientation (X <sub>13</sub> )	0.149*
Economic Motivation (X <sub>14</sub> )	0.102
Independence (X <sub>15</sub> )	0.109
Management Orientation (X <sub>16</sub> )	0.396**
Attitude towards Agriculture (X <sub>17</sub> )	-0.019
Attitude towards Livestock Rearing (X <sub>18</sub> )	0.054
Awareness and knowledge about agriculture (X <sub>19</sub> )	0.323**

\*\* Significant at 1 per cent level,

\*Significant at 5 per cent level

Table-2 depicts the correlation of coefficient among the predicted variable i.e. overall involvement of women with 19 predictor variables. It is evident from the table that the variables utilization pattern of communication sources, scientific orientation, management orientation and awareness and knowledge about agriculture are positively

and significantly correlated with overall involvement of women in agricultural innovation system.

*Utilization pattern of communication sources with overall involvement of women:* In this study the variable utilization pattern of communication sources reflects extension contact, mass media exposure and mobility of the respondents. Seeking information from various information sources always gives direction towards acquiring knowledge on scientific practices. It is the backbone for disseminating and applying new knowledge in agriculture and provides scope for mutual learning for all the actors involved in the innovation system through information sharing. In similar way, women who seek information from various cosmopolite sources are likely to have higher aspiration for agriculture and are more aware about modern agricultural technologies. Use of various information source will help women solve problems related to farming and make right decision regarding applying any technology in their own farm situation. So, women exposed to maximum number of communication sources are likely to involve more extensively in farm activities and in organizational decision making on diffusion of innovation. This may be the plausible reason that the variable utilization pattern of communication sources has positive and significant relationship with overall involvement of women in local innovation system.

*Scientific orientation and overall involvement of women :* Scientific orientation indicates orientation of an individual towards scientific information. It develops through higher education, exposure to mass media, high level of extension contact and participation in various training programmes. Scientific orientation creates the environment for developing the psyche towards improving the psychological belongingness of individual for judging the reality and integrating the environment with the activity's sphere. Women farmers with better scientific orientation will be able to manage their farm in an efficient manner by following scientific approaches and make sound decision regarding type of crops to be grown, time of sowing, intercultural operation, harvesting, post-harvest management and marketing of produce. Women with better access to training and education in technical areas may involve themselves as women scientists, women extension professionals and different policies available for creating a positive attitude

towards involving themselves in different inside and outside activities. The positive and successful agricultural innovation system depends upon the capacities of the actors associated with the entire innovation system. Scientific acumen of the women builds their own capacity as well as enhances the capacity of entire agricultural innovation system for making the system more knowledge vibrant and profitable one. That is why the variable scientific orientation is positively and significantly associated with the overall involvement of women in agricultural innovation system. This finding is in concurrence with findings reported by *Supe and Singh (1974)* and *Patel (1998)*.

*Management orientation and overall involvement of women :* Management orientation is a psychological attribute of an individual for taking decisions in a specific situation faced by the particular individual in favour of controlling the problems associated with the situation. On the basis of that the effective and implementable actions are conducted through their own problem solving approach. Sometimes the situation is complex in nature with little resemblance to past or present situation because of the ever changing environment. In that situation the management orientation helps them in improving their knowledge and skills for understanding and controlling the new and complex situation even though information may be inadequate and future outcome may be uncertain. In such a situation the individual with higher management orientation has developed their acumen to involve themselves in different activities physically and mentally to maximize the profit from the entire entrepreneurial system. In the present study the exploration was done for delineating the overall involvement pattern of women in agricultural innovation system in terms of their physical and decision making involvement to make ability vibrant and profitable agricultural innovation system. Management orientation of the women respondents plays a distinct role in case of managing and controlling the problems associated with the system. Consequently, the capacity of the system is enhanced with the help of higher degrees of management orientation among the women stakeholders in local agricultural innovation system. This may be the reason why the variable management orientation is positively and significantly associated with overall involvement pattern of women in agricultural innovation system.

*Awareness and knowledge about agriculture and*

*overall involvement of women:* Awareness is a related concept which reflects the ability to consciously detect and perceived feel of the events and knowledge is the primary thing to know vividly about the facts, familiarity and understanding of something. Awareness and knowledge are the two connotations interlinked with each other as awareness about the facts and information creates the knowledge about the situation within an individual. This variable helps in taking a closer look at individual's affective and cognitive responses to a system. In the present study the women actors in agricultural innovation system with a high degree of awareness and knowledge explores the innovation system after realizing the desirable consequences, benefits and perceived risks within the system. The women stakeholders experience involvement as cognitive perception of importance and interest and affective feeling of arousal. Their feelings of involvement are also determined by the intrinsic self-relevance, the means end the knowledge stored in the memory. Situational factors in environment also influence the involvement of the stakeholders. That is why the variable awareness and knowledge of the women stakeholders is positively and significantly associated with overall involvement of women in agricultural innovation system.

Table 3 represents the multiple regression analysis of women stakeholders with 19 predictor variables in agricultural innovation system. It is discernable that the variable age, utilization pattern of communication sources, management orientation, awareness and knowledge about agriculture is positively and significantly contributing towards characterizing the overall involvement of women stakeholders in agricultural innovation system. But the variable risk preference is negatively and significantly contributing towards characterizing the overall involvement of women stakeholders in agricultural innovation system.

*Age and overall involvement of women stakeholders:* Age is one's orientation towards growth and development. The chronological ages developed through experiences and introspection, excise influence in orienting the participation process. Older women members are taking part in decision making related agricultural activities more than their young aged members as they have many years of experience doing the farm related activities. Age denotes the vast

**Table 3. Multiple regression analysis of Overall involvement (Y) of women stakeholders with 19 causal variables**

Variables	$\beta$	(B)	S.E	t-value
Age (X <sub>1</sub> )	0.183	0.195	0.089	2.184*
Caste (X <sub>2</sub> )	-0.037	-0.485	0.957	-0.507
Education (X <sub>3</sub> )	0.061	0.516	0.858	0.602
Family Edu.Status (X <sub>4</sub> )	-0.059	-0.591	0.729	-0.811
Family Annual Income (X <sub>5</sub> )	-0.114	-0.185	0.148	-1.249
Land Holding (X <sub>6</sub> )	0.038	0.617	1.323	0.467
Farm Power (X <sub>7</sub> )	0.075	0.931	0.916	1.017
Family Asset Poss. (X <sub>8</sub> )	-0.077	-0.090	0.096	-0.935
Livestock Possession (X <sub>9</sub> )	-0.097	-0.273	0.187	0.1464
House Type (X <sub>10</sub> )	-0.071	-1.129	1.254	-0.900
Commu.Sources (X <sub>11</sub> )	0.158	0.272	0.140	1.944*
Risk Preference (X <sub>12</sub> )	-0.398	-1.008	0.257	-3.926**
Scientific Orientation (X <sub>13</sub> )	0.025	0.063	0.259	0.243
Economic Motivation (X <sub>14</sub> )	0.106	0.558	0.353	1.581
Independence (X <sub>15</sub> )	0.024	0.079	0.278	0.284
Mgt. Orientation (X <sub>16</sub> )	0.536	0.554	0.091	6.079**
Attitude towards Agri. (X <sub>17</sub> )	-0.046	-0.081	0.125	-0.650
Attitude towards Livestock Rearing (X <sub>18</sub> )	-0.035	-0.104	0.197	-0.527
Knowledge about agri (X <sub>19</sub> )	0.141	0.864	0.451	1.915*

\*\* Significant at 1% level, \*Significant at 5% level, R<sup>2</sup>= 0.377  
 Standardized regression coefficient ( $\beta$ ), S.E of 'B'  
 Unstandardised regression coefficient (B)

experience of an individual regarding various ups and downs of their every day's life and this experience helps an individual to deal with the complex situation rises during agricultural production, marketing and processing. In this way, the old aged women has become good manager of their farm and more engaged in agriculture and allied activities and makes greater participation in decision making process also. Yong women members just follow the instructions given by their senior women member as they have little knowledge and experience on farming. In the present study also women stakeholders with increasing age are in higher position and making decisions on various aspects of the agricultural innovation system than the young women stakeholders. That is why the variable age is positively and significantly contributing towards characterizing the overall involvement of women stakeholders in agricultural innovation system.

*Utilization pattern of communication sources and overall involvement of women stakeholders :* The variable utilization pattern of communication sources is

the indicator of exposure towards communication sources. This also builds the capacity of each and every stakeholder who deals with the complex occurrence within the agricultural innovation system. The information gathering, information sharing as well as capacity building develops a positive attitude towards managing the innovation system in an efficient manner with their physical and decision making involvement in various domains of the agricultural innovation system. Women stakeholders with high level of utilization pattern of communication sources have the capacity to solve problems that arises from many challenges embedded with the existing agricultural innovation system in a better way. That is why the variable utilization pattern of communication sources is positively and significantly contributing towards overall involvement of women stakeholders in agricultural innovation system.

*Management orientation and overall involvement of women stakeholders* : Management orientation is the psychological pursuit of an individual for managing any innovation system in effective manner by taking proper decision in proper time. Management orientation is a goal directed psychological trait of an individual. The goal of the women led agricultural innovation system is to maximize the profit for its future sustainability. With the help of management inclination an individual develops his decision making ability through skill, knowledge and reasoning ability which leads to a greater participation of women in the agricultural innovation system in terms of their physical and mental involvement. In the present study women stakeholders with high level of management orientation is extensively engaged physically and mentally in case of production, processing, marketing, knowledge dissemination and institutional innovations related to the agricultural innovation system. That is why the variable management orientation is significantly and positively contributing in case of characterizing the overall involvement of women stakeholders in presence of other nineteen predictor variables.

*Awareness and knowledge and overall involvement of women stakeholders* : Innovation process has greater link with the cognitive components for being tuned with acceptance and acclimatization of innovation towards generating rather new life styles. Awareness and knowledge are the cognitive elements that help in accessing and applying information in a right way to achieve the ultimate goal that any innovation system

tries to reach. Awareness and knowledge about the agricultural innovation system helps an individual in developing a logical concept about the application, management and benefits that the stakeholders can harvest by making their physical and mental involvement in the agricultural innovation system. That is why the variable awareness and knowledge about agriculture is positively and significantly contributing towards characterizing the overall involvement of women stakeholders in agricultural innovation system.

*Risk preference and overall involvement of women stakeholders* : The existing agricultural innovation system is within a local situation is previously established and avert all the risks within the system by the actors associated with the system. So in case of any established agricultural innovation system the individual actor is organizing their activities without entering into other dimension. In the present study the women stakeholders with higher risk preference do not go along with the existing risk averted in agricultural innovation system. They do not feel any enthusiasm to involve within the system physically and mentally as there is no such type of new innovative venturing activities. Consequently the risk preferred women is always trying to develop a new agricultural innovation system which will be much more interesting and veturesomeness. That is why the variable risk preference is negatively and significantly contributing towards characterizing the overall involvement pattern of women stakeholders in agricultural innovation system.

The  $R^2$  value being 0.377, it is to infer that the sixteen predictor variables put together have explained only 37.7 per cent variation embedded with the predicted variable overall involvement of women stakeholders in agricultural innovation system. Still 62.3 per cent variations embedded with predicted one are unexplained. Thus it would be suggested that inclusion of some more contextual variables possessing direct bearing on the overall involvement of women stakeholders in agricultural innovation system could have increased the level of explicability

## CONCLUSION

Empowerment can be viewed as ensuring the ability of an individual to raise the voice for the overall development within a social structure. The deprivation of women and drudgery associated with their physical activities need a rethinking on women empowerment

through increasing their involvement in agriculture and allied sector physically and mentally and enhancing the resource access by the women folk of the society. In other way it can be elaborated through indulging the women in several socio-political and techno-managerial activities which ultimately helps in developing their decision making for improving the entire structure of the community. Agriculture development occurs through developing efficacy of agricultural innovation system in terms of production, management, marketing and processing of agricultural produce. The production system and marketing system blending gives rise to appropriate value chain management and ensures the efficacy of agricultural innovation system. The enriched

agricultural innovation system through the contribution of women actors involved empowers the women through decision making and other aspects and it also provides due impetus to the women for establishing them in a new height within the society. With the help of the present study in near future for implication of extension policies and enhancing the capacity of women led agricultural innovation through increased overall involvement of women the due care should be taken to the social, psychological, communication and empowerment factors like age, scientific orientation, utilization pattern of communication sources, management orientation, awareness and knowledge about agriculture etc.

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