

Impact of agricultural extension services on empowerment of farm women of Assam

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■ **ABSTRACT :** The crucial importance of women's contribution to food security is widely recognized. Yet they faced with a number of constraints for participation in agriculture such as, there are discrimination in wages, low wages for women, gender based technology, training and extension services, women have limited access to modern technical *viz.*, credit, training and to other facilities etc. (Rath *et al.*, 2007). Therefore, women's empowerment still become a matter of concern. Empowerment of women is a key to long term overall development of a nation. With the advancement of time, the fact has now been felt that without ensuring women development, the national development cannot be achieved. Thus a study was conducted in three agro-climatic zones of Assam to study "Impact of agricultural extension services on empowerment of farm women of Assam" with following objectives: to study the socio-economic status of farm women and to assess the impact of agricultural extension services on empowerment of farm women. A multistage purposive cum random sampling design was followed. Altogether 1,200 farm women were included as sample of respondents. Data were collected with the help of structured interview schedule 52.60 % of farm women belonged to low socio-economic status. Very negligible percentage of farm women (2.50%) were entitled to have land ownership. Only 0.17 per cent farm women possessed farm implements in their own name. Majority 57.42 per cent of farm women had milch animal of their own. Large majority of the farm women (92.83%) borrowed money from their group account in SHG with nominal interest. Large majority of farm women (81.75%) saved money in between Rs. 1000 to 5000. Majority (66.50%) of farm women spend their income on buying household items. A large majority (90.75%) of farm women had poor access to farm publication followed by educational film (80.33%) and news paper (76.08%). 54.50 per cent of the farm women got farm information regularly through various sources predominately from husband. Majority (65.92%) of farm women had low level of leadership ability. Farm women moved from their houses for social visit, attending bank, post office and block which were rank as I, II and III. Less than fifty per cent of farm women took independent decision in crop harvesting and transporting (33.75%) followed by as maintenance of house (35.25%) and buying food items for family consumption (34.17%). 48.91 per cent farm women had medium level of participation in decision making. It can be conclude that farm women were empowered to some extent due to availing agricultural extension services the status of farm as clientele of the agricultural extension service was not satisfactory.

■ **KEY WORDS:** Impact, Farm women, Empowerment

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Empowerment of women is a key to long term overall development of a nation. With the advancement of time, the fact has now been felt that without ensuring women development, the national development cannot be achieved. Therefore, a growing body of organizations and Government of India in the Ninth and the Tenth Five-Year Plan identified that focusing on women empowerment is the most rational way to fight against poverty and a means for sustainable development.

“Women make up 60 per cent of the world’s poor. Experience has shown that when women are empowered, the benefits are felt in entire families and communities. It is essential to promote access to and use of information and communication technologies among women” (Kofi, 2002).

Empowering women supports a basic human right, but the advancement of female agricultural workers can also lead to improved agricultural productivity, food security, and nutrition. The Food and Agriculture Organization of the United Nations states that equalizing access to productive resources between female and male farmers can increase agricultural output in developing countries by 2.5 to 4.0 per cent. Thus empowerment of women in agriculture as in any other sphere of development is demanding and challenging and involves overcoming barriers so as to enable her to improve and shape her life comfortably in a sustainable fashion. Unfortunately the contribution of women in agricultural production has not been given its due status due to lack of interest, information and equally by neglect. Consequently women are denied their rightful status as active producers in agriculture and are thus unable to access resources and services. To increase productivity at a faster rate and to enhance women’s standard of life, women in agricultural sector have to be empowered completely. This can be achieved by enhancing their awareness, knowledge, skills and efficiency to use technology. This calls for, first and foremost due recognition of the role and contribution of farm women followed by sensitization of extension services towards their specific problems, capacity and capability leading to their total integration in agriculture.

Empowerment is an effective strategy to cope with gender-centre discrimination and attain gender equality. The incidence of gender based discrimination or subordination of women is very much rooted in the economic dependence of women. Thus, the economic empowerment is one of the primary conditions for improving the social status of women. Unless the women become economically independent or make substantial contributions to the family for its sustenance, they cannot be treated equal to men in all aspects of life.

The major approaches to women’s empowerment focuses on improving women’s control over material resources and strengthening women’s positions as workers and income earners by mobilizing, organizing and providing access to support services. The Directorate of Agriculture, Government of Assam provided various extension services to farmers as well as to farm women as clientele group. The officials expressed that though farm women were not specifically mentioned as target group under the agricultural extension schemes, minimum 30 per cent farm women were usually included as participants in each scheme. It was hypothesized that the socio-economic empowerment have been brought in the farm women due to implementation of various schemes under study. The parameters which indicates the socio-economic empowerment *viz.*, access to and control over production resources such as land, improved farm implements, and milch animal, access to credit, sources of saving and amount of money saved, expenditure pattern, their decision making ability to meet some psychological needs like self-esteem and confidence. Thus the important contribution made by women of Assam in agriculture, provides the necessary basis and justification for the present study with the following objectives:

- To study the socio-economic status of farm women.
- To assess the impact of agricultural extension services on empowerment of farm women.

■ RESEARCH METHODS

Sample and sampling procedure :

The study was conducted in three agro-climatic

zones of Assam state in India : Upper Brahmaputra Valley Zone, Central Brahmaputra Valley Zone and North Bank Plain Zone. A multistage purposive cum- random sampling design was followed. From each selected agro-climatic zone two districts, (total six) were selected purposively. Again from each selected district one sub-division (total six) were selected purposively considering the involvement of farm women in agricultural activities.

From each selected sub-division two blocks total (twelve) were selected purposively. From each selected block four villages were selected randomly. Thus 48 villages were selected for carrying out the study. From each selected village 25 farm women, (total 1,200) were selected randomly.

Variable and its measurements :

Socio-economic status :

This refers to the position of the respondent in society and was determined by various social and economic variables such as caste, land holding, education, type of house, main family occupation, family type, family size, material possession and organizational membership of farm women. The socio-economic status of farm women were measured by the socio-economic scale developed by (Trivedi, 1963) with slight modification. On the basis of score obtained by the farm women they were categorized into the 3- three categories: Low with score range below X- Sd, medium with X-Sd to X+Sd and high with above X+Sd.

Impact of agricultural extension services on empowerment of farm women :

Dictionary meaning of “impact” is a forceful consequence or a strong effect. In the present study it is operationally defined as the effect of agricultural extension services on socio-economic empowerment of farm women to realize their full identity and power in all spheres of life. The factors such as ownership and control over their resources, access to credit, saving pattern, expenditure pattern of income, access to various communication media, sources of agricultural information, leadership ability, their mobility and decision making pattern .

Statistical analysis :

A pre-tested interview schedule was used for getting the complete and desired information. The

collected data were coded, tabulated and analyzed by using appropriate tests and techniques. The statistical techniques along with their uses were:

Percentage: It is a fraction expressed with 100 as its denominator. It is used to any set of data for comparison.

Mean: It is the arithmetic average and was used to measure the type of the observation as a whole. The mean for all the readings were worked out as mentioned below.

$$\text{Mean}(\bar{X}) = \frac{\sum X}{n}$$

where, $\sum X$ = Summation of item values

N = Number of item

Standard deviation:

To find out the extent of variability shown by the variables, *i.e.*, the dispersion of the variables around the mean, standard deviation (SD) was used. The formula is mentioned below:

$$SD = \sqrt{\frac{\sum (x_i - \bar{x})^2}{n - 1}}$$

where, d = Standard deviation

n = Total number of respondent

x_i = Variables of the study

\bar{x} = Mean of the distribution

■ RESEARCH FINDINGS AND DISCUSSION

The results obtained from the present investigation as well as relevant discussion have been summarized under following heads :

Socio-economic status of farm women :

Majority 55.08 per cent of farm women of the study areas belonged to middle age group *i.e.* 30-40 yrs. Large majority (91.66%) of farm women were married. 44.75 per cent of farm women belonged to general caste. 41.33 per cent of farm women belonged to the category of marginal farmer. 38.50 per cent of farm women had education upto middle school. 46.42 per cent farm women had mixed type of house. 46.50 per cent of the farm women's family occupation was farming. Majority (77.89%) of farm women belonged to nuclear family. The data reveals that majority (63.95%) of farm women belonged to small family. Cent per cent of farm families possessed hoe and hand tools, followed by desi plough

(99.08%) and bullock (98.25%). Majority 60.91 per cent of farm families possesses two wheelers. 87.08 per cent of farm families possess mobile followed by television (70.42%). Large majority (95.42%) of farm families possess traditional chullah. 64.09 per cent of farm women were member of one organization. 52.60 per cent of farm women belonged to low socio-economic status.

Impact of agricultural extension services on empowerment of farm women :

Ownership to production resources :

Farm women need to have control over productive resources which create a sense of security, belongingness and owing. The details of the access to and control over production resources like land, improved farm implements, milch animal is presented in Table 1 to 10.

Ownership of land :

Land title is in the name of the male. Constitutions legally support gender equality and women are becoming more aware of their rights, but social customs change slowly. As shown in Table 1, the findings reflect the types of ownership of land in the present study areas. It appears that very negligible percentage of farm women (2.50%) were entitled to have land ownership. Majority (86.25%) of farm women reported that land ownership was in the name of their husbands followed by in laws (11.25%).

From Table 1, it is concluded that, due to prevailing pattern of land ownership and recognizing male as head of households, females are by tradition not given land in their name. On the other hand, due to lack of awareness about importance of land ownership in availing extension service adequately such as credit and selection of contact farmers, women in rural areas are also not expected to have land on their own name instead of husband's name. Lack of ownership were also limiting their scope to

acquire other productive resources such as inputs and working capital for trade in farm products. It was reported that in the study areas, where men and women work on the same fields, the land is considered "his", not "theirs". Hence, extension personnel tend to overlook women's agricultural work and to direct extension messages to men only. Similar finding was reported by Vidhale *et al.* (1993) and Vanetha (2006).

Ownership of improved farm implements :

Table 2 reveals that 0.17 per cent farm women possessed farm implements in their own name and 45.33 per cent owned on their husband's name. Further the table shows that 54.50 per cent did not possessed any implements. They borrowed implements from their neighbours/relatives. It was reported that, farm women were utilizing traditional farm implements such as hoes, knives, sickles, axes etc. This is supported by findings of Akinbode (1991) and Subharwal and Kaushik (2012).

From the data it was cleared that male farmers availed the facilities of buying the improved farm implements through various schemes planned and implemented by the Directorate of Agriculture at subsidized rate. Further it was also assumed that farm women were not able to utilize improved farm implements due to lack of availability of suitable technologies appropriate for their activities. Since women farmers used traditional farm tools, in general they spend more time on the farm than men and this could discourage them from participating in extension activities. Women farmers in the study areas commonly asked for labour saving technology for processing agricultural produce.

Ownership to milch animal by farm women :

Most of the activities of livestock management were performed mostly by farm women. Hence, it is assumed

Table 1 : Ownership of cultivated land of farm women (n=1200)		
Ownership of land	Frequency	Percentage
Personally owned	30	2.50
Husband's name	1035	86.25
In laws name	135	11.25

Table 2 : Ownership of improved farm implements (n=1200)		
Ownership of improved farm implements	Frequency	Percentage
Personally owned	2	0.17
Husband's name	544	45.33
Not possessed	654	54.50

that farm women possessed livestock in their name. From the data presented in the Table 3 shows that 57.42 per cent of farm women had milch animal of their own followed by husband's name (37.75%). This might be due to the fact that farm women took extensive care of the milch animal which could have a higher monetary value. Moreover it increases their social status within the society. Similar finding was observed by Chetia (2002).

Access to credit :

The most important problem that affects the farm women's empowerment is their limited access to credit through both private and government financial institutions. Due to this they were restrained from access to new extension services, use of productive resources, implementing income generating activities etc. But in the present study it was observed that due to having membership in SHG, large majority (92.83%) of the farm women borrowed money from their group account with nominal interest (Table 4). Similar finding was observed by Islam (2009).

It is evident from the Table 4 that more than fifty per cent of farm women received financial assistance from microfinance institutes followed by 19.25 per cent and 12.33 per cent were from relatives and neighbour, respectively. It is interesting to note that a very negligible

percentage of farm women (1.75%) obtained bank loans for buying necessary inputs. This finding is similar to that of the World Bank (1984). It is assumed that limited access to credit from bank could be due to lack of ownership of land as required by lending institutions and other formalities.

It could be thus concluded that farm women had better access to money and control over financial resources. Hence it provides opportunities to develop their confidence, skills, improve status, and to bring about a change in the attitude of the society towards women.

The above data presented in Tables 4 will help the extension planners and implementers to understand the various sources of production resources of women farmers, especially with respect to land, equipment and access to credit. It could also help them to prepare extension packages best suited to farm women's resources, so that greater numbers of needy farm women could participate in extension activities.

Amount of saving :

The data in the Table 5 reveals that majority (81.75%) of farm women saved money in between Rs. 1000 to 5000 followed by 17.75 per cent in between Rs. 5001 to Rs. 10000. It further shows that a very negligible percentage of farm women (0.33%) saved money in between Rs. 10001.00 to Rs. 15000.00 and 0.17 per cent

Ownership of milch animal	Frequency	Percentage
Personally owned	689	57.42
Husband	453	37.75
In laws	58	4.83

Sr. No.	Sources of credit	Frequency	Percentage
1.	Self Help Group	1114	92.83
2.	Bank	21	1.75
3.	Micro finance institutes (Bandhan, Ashami etc.)	656	54.67
4.	Relatives	231	19.25
5.	Neighbour	148	12.33

Sr. No.	Amount saved	Frequency	Percentage
1.	Rs.1000 to Rs.5000	981	81.75
2.	Rs. 5001 to Rs. 10000	213	17.75
3.	Rs. 10001 to Rs. 15000	4	0.33
4.	Rs. 15001 to Rs. 20000	2	0.17

in between Rs. 15001 to Rs. 20000.

It could be concluded that they have better access to money and control over financial resources.

Expenditure pattern of farm women :

Table 6 shows that majority (66.50%) of farm women spend their income on buying household items followed by children education (57.42%), purchase of milch animal (47.17%). The table further indicates that farm women had right to spend their income on garments (42.67%) followed by buying medicines (37.83%), religious functions/marriage ceremony (31.58%), spend in purchase of agricultural inputs (18.75%) and paid to hired labour (6.33%). The farm women were enjoying by spending their money on purchasing both household and farm items. This might be due to the fact that by doing so they get recognition both inside and outside the house.

Access to communication media :

Access to communication media helps farm women for improving their communication and upgrading knowledge and skill to strengthen their capacity to contact and mediate with external world.

A large majority (90.75%) of farm women had poor access to farm publication followed by educational film (80.41%), news paper (76.08%), radio (67.83%) and television (59.42%) programme especially related to

agriculture. On the other hand table shows that a few percentages of farm women watched TV programmes (8.17%), listen to radio (6.50%) and read news paper (4.67%) regularly related to agriculture. A very negligible percentage of farm women had regular access to educational films (0.42%) and farm publication (0.25%) literature. These observations are similar to the findings of Kapur (1988) and Vinkare and Antwal (2002) who observed that very negligible percentage of rural women regularly view agricultural programmes.

From the findings it was concluded that farm women had poor access to agriculture programmes. It might be due to overload of household works and lack of awareness created and motivation brought due to less exposure to extension agencies. Moreover they might not informed by extension personnel about broadcasting time of specific agriculture related programmes in radio and television in advance.

Sources of agricultural information :

In general, approaches promoted by the conventional agricultural extension programmes have not yet reached up the farm women. It is assumed that in Assam, extension services are directed to pass information and skills to women farmers. In reality, this does not happen.

It appears from Table 8 that majority (54.50%) of the farm women got farm information regularly through

Table 6 : Distribution of farm women according to expenditure pattern (n=1200)

Sr. No.	Particulars	Frequency	Percentage
1.	Hired labour	76	6.33
2.	Purchase of milch animal	566	47.17
3.	Agricultural inputs	225	18.75
4.	Household items	798	66.50
5.	Garments	512	42.67
6.	Children's education	689	57.42
7.	Religious function/ Marriage ceremony	379	31.58
8.	Medicines	454	37.83

Table 7 : Distribution of farm women according to exposure to various communication media (n=1200)

Sr. No.	Source of information	Regularly		Sometimes		Never	
		f	%	f	%	f	%
1.	News paper	56	4.67	231	19.25	913	76.08
2.	Radio listening	78	6.50	308	25.67	814	67.83
3.	Television watching (agriculture programme)	98	8.17	389	32.42	713	59.42
4.	Educational films	5	0.42	230	19.16	965	80.41
5.	Farm publication (leaflets; folder, brochure, bulletin, etc).	3	0.25	108	9.00	1089	90.75

various sources predominately from husband followed by neighbours/friends (33.83%) and relatives (26.25%). The institutional sources played a little role in disseminating the farm information to the farm women regularly as only 7.17 per cent had contact with Village Level Extension Worker (VLEW), 3.83 per cent with experts from Krishi Vigyan Kendra (KVK) and 2.92 per cent with AAU Scientist. Similar data were reported by Rajak (1990), Kamprai (2009) and Deka *et al.* (2011).

It was presumed that less contact with the extension personnel might be due to topics of the agricultural extension programmes were not planned according to need and interest of the women farmers. Moreover, it was reported by the farm women that they faced difficulties in dealing with male extension personnel instead of female.

Leadership ability :

The impact of agricultural extension service on empowerment of farm women included leadership ability besides ownership and control over the resources, access to credit, saving pattern, expenditure pattern of income, access to various communication media, contact with extension personnel, their mobility and decision making pattern.

A perusal of Fig.1 reveals that majority (65.92%) of farm women had low level followed by 29.42 per cent had medium level of leadership ability. It is interesting to note that only 4.67 per cent of farm women had high level of leadership ability. This might be due to reluctance of farm women in attending extension meeting/training through which they would have gained more knowledge and skill about production of agricultural crops for application on their agricultural field as well as disseminating to other farm women also.

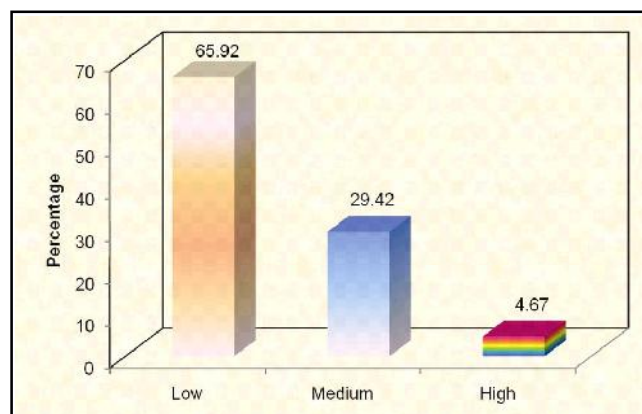


Fig. 1 : Distribution of farm women according to leadership ability

Sr. No.	Extension agency	Regularly		Sometimes		Never	
		f	%	f	%	f	%
1.	Senior Agricultural Development Officer (SADO)	9	0.75	245	20.42	946	78.83
2.	Agricultural Development Officer (ADO)	25	2.08	415	34.58	760	63.33
3.	Village Level Extension Worker (VLEW)	86	7.17	518	43.17	596	49.67
4.	KVK personnel	46	3.83	521	43.42	631	52.58
5.	AAU Scientist	35	2.92	312	26.00	853	71.08
6.	Husband	654	54.50	321	26.75	225	18.75
7.	Neighbour/ Friend	406	33.83	512	42.67	282	23.50
8.	Relatives	315	26.25	411	34.25	474	39.5

Sr. No.	Place of visit	Mean score	Rank
1.	Agriculture Office	1.11	VI
2.	Block office	1.23	III
3.	Bank	1.50	II
4.	Post Office	1.50	II
5.	Participation in various training	1.09	V
6.	Participation in various meeting	1.22	IV
7.	Social visit	1.82	I
8.	Participation in farmer's fare	1.03	VII

Mobility of farm women :

Because of involvement in multifarious activities farm women are less mobile and have less uncommitted time than men. Gender differences in time use can be substantial. They have less access to labour saving technologies. As a result, women have little time to participate in regular extension programmes.

Table 9 reveals that farm women moved from their houses for social visit, attending bank, post office and block which were ranked as I, II and III with the mean score 1.82, 1.50 and 1.23. Further, the table shows that farm women gave ranked as IV, V, VI and VII in participating in meeting, training, agriculture office and farmers fare with mean value 1.22, 1.09, 1.11 and 1.03.

From the findings it can be concluded that in rural areas women mostly have to maintain their social relationship in the society due to existing culture of the state. Moreover due to enrollment as member in SHG, they were moved to financial institutions *i.e.* bank and post office to transact money. As the data reflected that the farm women are moving in and out *i.e.* had independence in mobility which can be an added characteristic to help the extension planner for designing projects to involve more women farmers for increasing

productivity.

Decision making pattern of farm women on different farm and non- farm activities :

Empowerment of farm women in decision making is a need of the time in agrarian country like India, where farming is a family occupation. Farm women who are associated with their husband in various activities have greater role in decision making process. Thus timely and judicious decision making ability of the farm family have a direct bearing on the development of agriculture sector. The farm women of Assam though deprived of getting timely extension service, they were contributing a lot to the agricultural development in the selected regions. It is therefore imperative to assess the participation of farm women in decision making in different farm and non-farm activities.

The data presented in Table 10 shows that less than fifty per cent of farm women took independent decision in maintenance of house (35.25%), followed by buying food items for family consumption (34.17%), crop harvesting and transporting (33.75%), buying and selling of livestock and poultry (26.00%) and saving of money (25.83%).

Sr. No.	Decision making activities	Decision making pattern					
		Independent participation		Joint participation		No participation	
		f	%	f	%	f	%
Farm activities							
1.	Purchase of land for cultivation of crops	36	3.00	628	52.33	536	44.67
2.	Purchase of Implements	73	6.03	884	73.66	245	20.41
3.	Selection of crop varieties	42	3.50	745	62.08	413	34.42
4.	Amount of manure and fertilizer to be purchased	21	1.75	421	35.08	728	63.17
5.	Plant protection	9	0.75	351	29.25	840	70.00
6.	Crop harvesting and transporting	405	33.75	753	62.75	42	3.50
7.	Hired labour for transplanting	146	12.16	623	51.92	431	35.92
8.	Retention of grain for consumption	93	7.75	677	56.42	430	35.83
9.	Selling crops and where to sell	71	5.92	869	72.42	260	21.66
10.	Seeking loan for farm resources	10	0.83	564	47.00	626	52.17
11.	Buying and selling of livestock and poultry	312	26.00	645	53.75	243	20.25
12.	Buying food items for family consumption	410	34.17	471	39.25	319	26.58
Non-farm activities							
13.	Children's education	175	14.58	704	58.67	321	26.75
14.	Buying of clothes for family members	204	17.00	807	67.25	189	15.75
15.	Purchase of household items	35	2.92	945	78.75	220	18.33
16.	Maintenance of house	423	35.25	511	42.58	266	22.17
17.	Saving of money	310	25.83	571	47.58	319	26.58

It is interesting to observe that majority (78.75%) of farm women took joint decision in purchase of household items, purchase of implements (73.66%) followed by selling of crops and where to sell (72.42%), buying of clothes for family members (67.25%), crop harvesting and transporting (62.75%), selection of crop varieties (62.08%), children's education (58.67%), retention of grain for consumption (56.42%), buying and selling of livestock and poultry (53.75%) and purchase of land for cultivation of crops (52.33%). This finding is in line with Sharma (1992), Premevathi and Seetharaman (2002) and Saikia *et al.* (2013).

Equal participation of farm women in decision making process indicates that they have an important role in decision making which is an important aspect of empowerment.

Overall participation of farm women in decision making pattern in both farm and non-farm activities:

Fig. 2 shows that 48.91 per cent farm women had medium level of participation in decision making followed by low (37.17%) and high level (13.92%) participation.

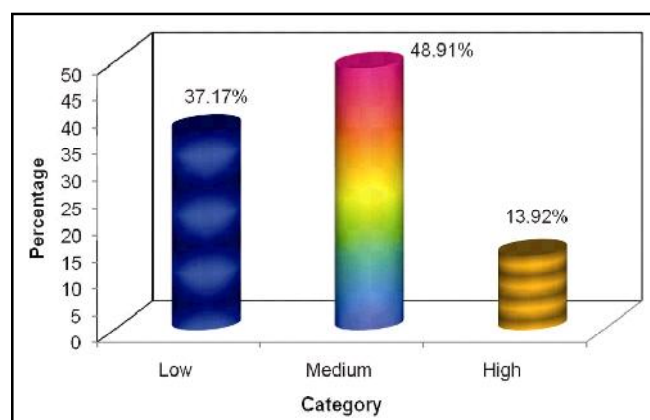


Fig. 2 : Distribution of farm women in overall participation in decision making

From the literature reviewed, it is observed that, traditionally women had no definite decision making role in majority of family affairs because of the dominance of male members in the joint family system. The situation now seems to have changed owing to the disintegration of this family system in the rural areas. Considering the data it is observed that women farmers took active role in decision making both in farm and non-farm activities. It is felt that farm women participation in farming decision

might help in the adoption of agricultural messages related to field crops received from the extension trainings. Moreover, this finding might develop the awareness among extension personnel to include a proportionate number of farm women in their planned extension activities along with other clientele.

Conclusion:

To sum up, farm women are socio-economically empowered to some extent due to availing different extension services by them. It was observed that farm women had ownership of economically important resource like milch animal, had access to credit, majority of farm women saved money in between Rs. 1000 to 5000, enjoy liberty to some extent in incurring the expenditure. It was further observed that farm women had little exposure to communication media, sometimes had contact with extension agencies, had good social exposure, low level of leadership ability and took part in decision making. This indicate that farm women were empowered to some extent due to availing agricultural extension services.

As empowerment is a complicated process, which comprises of short-term and long-term strategy. To empower the farm women there is need to increase their access to new information as well as to credit. Further, by increasing their social and institutional participation at all levels by strengthening training programmes for them, there should be long drawn strategy for increasing their access to and control over appropriate technology.

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