



Title: Achievement of Livelihood Aspirations of Women Farmers Through Participation in Government Extension Services

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ABSTRACT

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Participation in government extension programs can help women farmers to achieve their livelihood aspirations. The study aimed to determine the achievement of women farmers' livelihood aspirations, find its relationships with their selected characteristics, and identify the problems they faced in achieving livelihood aspirations and their potential solutions. Data were collected from 115 randomly selected respondents out of the population of 1148 from Phulbari Upazila of Dinajpur district using a pre-tested interview schedule from 15 February to 25 March 2019. A four-point rating scale measured the achievement of livelihood aspirations of the women farmers along with 30 activities covering five dimensions. The mean achievement of livelihood aspirations score was 43.74, with a standard deviation of 10.76. The achievement of livelihood aspirations was maximum for household food security and minimum for access to market opportunity. The majority of the women farmers (80.9%) belong to the medium status of livelihood aspirations, while only 10.4% and 8.7% achieved low and high livelihood aspirations, respectively. Six out of eleven selected characteristics of the women farmers, such as educational qualification, farm size, organizational participation, use of information sources, agricultural knowledge, and attitude towards agricultural activities, showed significant positive relationships with their achievement of livelihood aspirations. The most reported problem faced by women farmers in achieving livelihood aspirations through agricultural activities is the "lack of quality seeds and seedlings". Similarly, their top-ranked suggestion was to assure the quality and availability of seeds and seedlings as and when required at a reasonable price from government organizations. The agricultural extension programs should be designed with a gender-inclusive approach and take into account the specific needs and problems faced by women farmers to achieve their livelihood aspirations.



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INTRODUCTION

The majority (62 %) of people in Bangladesh are engaged in agriculture, and they are directly or indirectly dependent on agriculture to meet the requirements of their lives. This dependence on agriculture is higher in rural areas, which accommodate 87 % of the national population (Rahman, 2017). The agriculture sector accounts for 14.74 % of the national GDP of the country (MoF, 2017), and the people's livelihood depends upon this sector for their employment, nutrition, poverty alleviation, human resource development, and food security. This sector is the single most significant contributor to income, employment generation, and self-sufficiency in food production. It shoulders the responsibility to reduce rural poverty and their livelihoods. However, the rural people depend on the land, which is fertile but highly vulnerable to different calamities and disasters. In addition, the socio-economic condition of the farm households is deplorable. As the farm families are the main contributor to the economy and are a significant portion of the population, to develop the country, it is imperative to develop the household situation of the farm families.

Various national policies in Bangladesh have urged livelihood achievement and sustainability as a fundamental responsibility of the state. It is the main issue across multiple development programs in the country, including the agenda of the Department of Agricultural Extension (DAE) (DAE, 2016). The livelihood of farmers displayed both a high vulnerability and weak viability throughout the developing countries because of the evident poverty (ONESDB, 2019). The livelihood status of the farmers is interrelated with the structure of the production system, the management of production, and the utilization of less efficient technologies (Kongmanee et al., 2022). Thus, to overcome these drawbacks, the government has developed rural communal movement and has prioritized livelihood development programs. Different projects dealing with achieving the

quality of life of the poor through the promotion of viable economic and social activities under various government and non-government organizations are also remarkable.

Women make up 36% of the total labor force in Bangladesh, and the share of the female labor force in agriculture went through a sharp increase during the 15 years. The share was 27.8 percent in 1996 before increasing to 46.9 percent in 2000 and 64.8 percent in 2010 (Rahman and Islam, 2013). The various livelihood activities encompassing agriculture and involving women farmers are jobs as wage-earner agricultural laborers (farm and non-farm laborer) for cultivation, seedling preparation, transplantation, intercultural operations, post-harvest operations, forest collection/hunting, fishing, animal husbandry, etc. (FAO, 2011). As women are one of the key role players in agricultural production, their livelihood resources and capabilities could be called “the inputs” that contribute to livelihood activities. The livelihood activities are “the process”, which results in “the outputs” that either lead to fulfillment or partial/nonfulfillment of livelihood needs (Nizamedinkhodjayeva, 2013). Very often, women's participation in agriculture fails to capture much attention. Bose et al. (2009) mentioned that women's contribution to socioeconomic development remains fuzzy due to social norms that assist men in dominating women.

Moreover, agricultural support services concentrate heavily on field crop production, ignoring small-scale agriculture like poultry rearing, home-gardening, small-scale aquaculture, etc., predominantly women's participation sectors. Women failed to derive benefits from recent technological advances due to obstacles from a lack of educational awareness, capital, and insufficient extension education to create awareness and training on how to participate fully in agriculture (Abdulhamid et al., 2016). Thus, it is imperative to generate aspirations in women to be a more significant part of the agriculture

sector, overcoming the hindrances. Aspiration means hope or ambition to achieve something. Aspirations influence how women make life choices and think and feel about themselves (Schaefer and Meece, 2009). Therefore, the aspirations of women farmers and relevant factors are being considered at the center of their interest, which ultimately involves the family members, community people, and the stakeholders related to rural development.

In this light, the present study was conducted to determine the extent of achievement of livelihood aspirations of the women farmers through participation in government extension services. Moreover, it also aimed to determine the relationships between the selected characteristics and the achievement of livelihood aspirations of the women farmers; and to determine the problems faced by the women farmers in achieving livelihood aspirations through agricultural activities and their suggested solutions.

MATERIALS AND METHODS

Research design and sampling

An ex-post-facto explanatory cross-sectional research design (Hasan et al., 2018) was used for this study. The study is quasi-experimental and tries to predict the relationship of the selected characteristics of the women farmers with their achievement of livelihood aspirations at a particular time. The face-to-face interview method was used for data collection. A pre-tested interview schedule containing both open and closed-form questions was used during the interview for data collection. Data were collected from 15 February to 25 March 2019.

The study was conducted in the Dinajpur district. Out of thirteen Upazilas in the district, the Phulbari Upazila was selected randomly as the locale of the study. A list of the women farmers was collected from the Upazila Agriculture Office. The number of women farmers was 1148, and they constituted the population of the study. A total of 10 % of women participants, comprising 115 women

farmers, were randomly selected as the sample using a simple random sampling method. Simultaneously a reserve list of 12 women farmers was made to use in case of unavailability of sampled farmers.

Variables of the study

Eleven selected characteristics of the respondents (age, educational qualification, family size, farm size, annual income, training experience, organizational participation, use of information sources, preference of information sources, agricultural knowledge, and attitude towards participation in agricultural activities) were considered to describe the socio-economic profile of the women farmers. The age of woman farmers was calculated in completed years from birth to the interview. Educational qualification was measured in terms of years of schooling. The family size of the respondents was represented by the number of total members (who eat and live together) in her family (Muhammad, 2015). The size of the farm was determined by the area of elevated land, including cultivable areas in the homestead (Sarkar, 2005). The annual income of women farmers was calculated by adding the income earned by the woman farmer and other family members in the previous year from various sources such as agriculture and some non-agricultural sectors. The total number of training days obtained by women farmers from any organization over their lifetime was used to determine their training experience.

A respondent's organizational participation score was computed based on her participation in different active organizations in the study area and using the following formula of Hasan (2019).

$$\text{Organizational participation score} = \sum (\text{RS} \times \text{D})$$

Where, RS= Rank status, and D= Duration score in a year.

The rank status scores assigned for the organizational participation were 0, 1, 2, and 3 for the nature of participants as being 'not

involved', 'general member', 'executive committee member', and 'chairman/president', respectively.

The use of information sources score was computed for each respondent based on the extent of using seventeen selected information sources. The frequency with which the individuals used information sources was determined using a four-point rating scale as 3 for "often used", 2 for "sometimes used", 1 for "rarely used", and 0 for "not used at all". The total score for a respondent's use of information sources was calculated by adding all the scores for each information source of a respondent. Similarly, the preference of information sources score was computed based on the extent of their choice of information sources by using a four-point rating scale as 3 for "highly", 2 for "moderately", 1 for "low", and 0 for "not at all". The total score of a respondent was measured by summing all individual scores of the selected information sources of a respondent.

The agricultural knowledge of a respondent was measured using ten questions, and the total score obtained represented the agricultural knowledge of a respondent. The score of each question was not equal; it was determined according to the extent of difficulty of the question. A total score was assigned for each correct answer and zero (0) for the wrong answer. For correct responses to all questions, a respondent could get a total score of 24, while incorrect responses to all questions could get 0 (zero). So, 0 indicated no agricultural knowledge, and 24 indicated very high agricultural knowledge.

The attitude of a woman farmer towards participation in agricultural activities was used to refer to her belief, feelings, and action toward the various aspects of agricultural activities. It was measured by using the Likert scale (Likert, 1932) on ten statements (five positives and five negatives). The respondents were prompted to express their views to the following extent along with the scores as 4 for 'strongly agree', 3 for 'agree', 2 for

'undecided', 1 for 'disagree', and 0 for 'strongly disagree', if the statement was positive. A reverse scoring method was followed in case the statements were considered negative. The respondent's attitude score was determined by summing her scores for all the statements on the scale. The attitude scores of respondents could range from 0 to 40, where 0 indicates a strongly unfavorable, and 40 indicates a strongly favorable attitude toward participation in agricultural activities.

Measurement of the achievement of livelihood aspirations

The achievement of livelihood aspirations was measured by considering the achievements in five selected dimensions of livelihood aspirations: (i) productivity, (ii) access to market opportunity, (iii) household food security, (iv) economic well-being, and (v) sustainable use of farm resources. Six selected activities for each of the five dimensions were used to measure the achievements of livelihood aspirations for a specific dimension. Thus, 30 selected achievement-oriented activities were constructed to measure the women farmer's overall achievement of livelihood aspirations. A four-point rating scale (Hasan et al., 2018) was used to measure the respondent's opinions on each activity. The scores along the scale used for computing the extent of achievement of livelihood aspiration of the women farmers were 3, 2, 1, and 0 for high, medium, low, and not at all, respectively. The score obtained by the respondents on dimension-wise achievement of livelihood aspirations could range from 0 to 18, where 0 indicates no achievement and 18 indicates very high achievement of livelihood aspiration on that specific dimension. The overall achievement of livelihood aspirations could range from 0 to 90, where 0 indicates no achievement and 90 indicates very high achievement of overall livelihood aspirations. To show the distribution of the women farmers in respect of the achievement of livelihood aspiration, the obtained score was divided into three categories for categorizing the women farmers (Hasan et al., 2021).

Measurement of problems in achieving livelihood aspirations and their suggested solutions

The researcher discussed with the women farmers during the questionnaire pre-testing and identified 15 problems faced by the respondents in achieving livelihood aspirations. Each of the farmers was asked to indicate their option regarding each of the problems along with the extent as ‘highly severe’, ‘moderately severe’, ‘less severe’, or ‘not at all as a problem’ with an assigned score of 3, 2, 1, and 0, respectively. For comparison of the problems and to identify their severity-based rank, the Problem Facing Index (%) was estimated by using the following formula:

$$\text{Problem Facing Index (\%)} = \frac{\text{Observed PFI score}}{\text{Highest PFI score}} \times 100$$

$$\text{Observed PFI score} = Nhs \times 3 + Nms \times 2 + Nls \times 1 + Nns \times 0$$

Where *Nhs* = Number of respondents indicating the problem as highly severe; *Nms* = Number of respondents indicating the problem as moderately severe; *Nls* = Number of respondents indicating the problem as less severe; and *Nns* = Number of respondents not at all indicating as a problem. The highest PFI score is 345. The problem facing index (%) could range from 0 to 100, where 0 indicates not at all a problem and 100 indicates the problem is a most severe problem.

The suggestions offered by the respondents regarding their problems in achieving livelihood aspirations through agricultural activities were ranked by content analysis and counting of the citations. The rank order of the

suggestions was also constructed based on the citations.

Data analysis

The collected data were coded, compiled, tabulated, and analyzed using SPSS (version 24). Various descriptive statistical measures such as range, mean, standard deviation, and percentage were used for categorization and describing the variables. Pearson’s Product Moment Correlation coefficient (r) was used to test the concerned variables’ relationships.

RESULTS AND DISCUSSION

The extent of achievement of livelihood aspirations

The overall status of women farmers according to the achievement of livelihood aspirations has been shown in Table 1. It was found that most of the women farmers have achieved a moderate level of livelihood aspirations (80.9 %) followed by a low (10.4 %) and high level of achievements (8.7 %). The Department of Agricultural Extension is mandated to increase the livelihood aspirations of women farmers by providing support for information on agricultural activities (DAE, 2016). Improving the livelihood aspiration status of women farmers is necessary for the national development of agriculture (Nandi and Nedumaran, 2021).

The five dimensions of livelihood aspirations, viz. productivity, access to market opportunity, household food security, well-being, and sustainable use of farm resources, were considered for determining the achievement of livelihood aspirations. The distribution of the respondents according to the dimension-wise score of achievement of livelihood aspirations has also been presented in Table 1.

Table 1. Distribution of the women farmers based on scores of different dimensions of achievement of livelihood aspirations (n=115)

Livelihood aspirations	Range		Respondents			Mean	CV (%)
	Possible	Observed	Category	Freq.	%		
Overall achievement of livelihood aspirations	0-90	20-71	Low (≤ 6)	60	52.2	7.63	46.66
			Medium (7-12)	38	33.0		
			High (13-18)	17	14.8		
Dimension-wise achievement of livelihood aspirations							
Productivity	0-18	0-18	Low (≤ 6)	29	25.2	9.81	43.12
			Medium (7-12)	44	38.3		
			High (13-18)	42	36.5		
Access to market opportunity	0-18	0-17	Low (≤ 6)	69	60.0	6.06	69.97
			Medium (7-12)	38	33.0		
			High (13-18)	08	07.0		
Household food security	0-18	4-18	Low (≤ 6)	05	04.3	12.64	16.93
			Medium (7-12)	53	46.1		
			High (13-18)	57	49.6		
Wellbeing	0-18	0-14	Low (≤ 6)	51	44.3	7.60	39.47
			Medium (7-12)	57	49.6		
			High (13-18)	07	06.1		
Sustainable use of farm resources	0-18	0-16	Low (≤ 6)	60	52.2	7.63	46.66
			Medium (7-12)	38	33.0		
			High (13-18)	17	14.8		

Out of five dimensions, the highest livelihood aspiration was achieved for household food security (mean = 12.64), where variation is low (CV = 16.93%) compared to other dimensions (Table 1). Followed by it, the achievement of productivity (mean = 9.81) score was high for achieving livelihood aspiration, although its variation was a bit high (CV = 43.12%). However, achievement of livelihood aspiration was minimum (mean = 6.06) for access to market opportunity with the highest variation (CV = 69.97%). The categorical distribution of the respondents for each dimension follows a similar trend of high-to-low categories according to their overall trend of high-to-low (mean score) achievement of livelihood aspirations. These also indicate that the respondents are highly concentrated on the high categories for achieving the livelihood aspirations dimension having high mean value and vice-versa. Livelihood aspirations play a

significant role in shaping livelihood activities and investments. Women and those engaged in agricultural activities are more susceptible to aspiration failure, and their resilience must be strengthened. Specifically, raising aspirations could support their empowerment (Kosec, 2022). Additionally, intergenerational aspirations and investment plans in agriculture are opposed, and parental desires do not align with their children's aspirations (Nandi and Nedumaran, 2021).

Selected personal characteristics of the women farmers

Eleven selected characteristics of the women farmers were included as personal characteristics of this study which are age, educational qualification, family size, farm size, annual income, training experience, organizational participation, use of information sources, preference of information sources, agricultural knowledge,

and attitude towards participation in personal characteristics of the respondents agricultural activities. The findings of the have been presented in Table 2.

Table 2. Distribution of the women farmers based on their selected characteristics scores (n=115)

Characteristics	Scoring method	Range		Categories	Respondents		Mean	CV (%)
		Possible	Observed		Freq.	%		
Age	No. of year	Unknown	20-62	Young (≤ 35)	51	44.3	39.92	27.38
				Middle (36-55)	54	47.0		
				Old (> 55)	10	8.7		
Educational qualification	Year of schooling	Unknown	0-16	Can't read and write (0)	26	22.6	2.64	158.33
				Can sign name only (0.5)	53	46.1		
				Primary (1-5)	9	7.8		
				Secondary (6-10)	22	19.1		
				Above secondary (>10)	05	4.4		
Family size	No. of members	Unknown	2-9	Small (2-4)	65	56.5	4.32	40.28
				Medium (5-6)	28	24.4		
				Large (>6)	22	19.1		
Farm size	Hectare	Unknown	.03-2.87	Marginal (0.02-0.2)	67	58.3	0.35	140.00
				Small (0.21-1.0)	38	33.0		
				Medium (1.01-3)	10	8.7		
Annual income ('000' Tk.)	Unknown	20-124	Low (≤ 37.00)	19	16.5	63.84	41.39	
			Medium (37.01-90.00)	77	67.0			
			High (>90.00)	19	16.5			
Training experience	Day	Unknown	0-30	No (0)	13	11.3	9.54	104.30
				Weeklong (1-7)	63	54.8		
				More than weekly to quarterly (8-15)	22	19.1		
				Above quarterly to monthly (15-30)	17	14.8		
Organizational participation	Score	Unknown	0-12	No participation (0)	41	35.7	2.97	114.82
				Low (1 to 4)	43	37.4		
				Medium (5-8)	25	21.7		
				High (>8)	6	5.2		
Use of information sources	Score	0-51	5-49	Low (≤ 17)	22	19.1	25.08	37.40
				Medium (18-34)	64	55.7		
				High (>34)	29	25.2		
Preference of information sources	Score	0-51	14-48	Low (≤ 17)	16	13.9	24.67	27.65
				Medium (18-34)	85	73.9		
				High (>34)	14	12.2		
Agricultural knowledge	Score	0-24	5-24	Poor (≤ 8)	28	24.3	12.94	36.40
				Good (9-16)	67	58.3		
				Excellent (>16)	20	17.4		
Attitude towards participation	Score	0-40	9-39	Unfavorable (≤ 13)	12	10.4	21.19	34.36
				Neutral (14-27)	82	71.3		
				Unfavorable (>27)	21	18.3		

Results of Table 2 indicate that the highest variation of the respondents was observed for educational qualification, farm size, organizational participation, training

experience, and so on. The respondents are diverse considering these variables as their CV value indicates the standard deviation is higher than their respective mean values. It

was also found that the respondents are higher in middle-aged categories, followed by young and old. Among the respondents, 68.7 % have no formal institutional educational qualifications. Out of the remaining 31.3 %, only 4.4 % would complete above the secondary level of education, and the rest dropped out mostly from the primary or secondary level.

It was found that 80.9 % of the respondents belong to small to medium-sized households. Following the classification of DAE (2016), most respondents had marginal to small-sized farms, and there were no landless and large farm-sized women farmers. Landless women are a more vulnerable group who may be left out of the mainstream of development. In comparison, women farmers with large farms may be disinclined to engage directly in agricultural activities, as they may enjoy greater socio-economic empowerment. The majority of the respondents reported a medium level of income followed by equal distribution of the other two categories of income (low and high-income categories).

Results of Table 2 indicate that 88.7 % of the respondents received training, although they are very diverse in training experiences. About one-third of the respondents reported no organizational participation. About one-fourth of the respondents hold poor knowledge of agriculture. Different non-formal educational facilities are needed in the study area to improve such knowledge of the woman farmer. On the other hand, most of the respondents have a neutral attitude towards agricultural activities, followed by favorable and unfavorable attitudes. Thus, it is necessary to bring a favorable attitude of the women farmers towards participation in agricultural activities through different non-formal educational activities like motivational campaigns, field-day, premises group discussions, etc.

Relationships between the selected characteristics of women farmers and their achievement of livelihood aspirations

Correlation coefficients (r) were used to determine the relationships between the selected characteristics and the focus issue of the study. A summary of the correlation analysis presented in Table 3 indicates that out of eleven selected characteristics of the women farmers, four characteristics, namely, educational qualification, farm size, organizational participation, use of information sources, agricultural knowledge, and attitude towards participation in agricultural activities, showed significant positive relationships with their achievement of livelihood aspirations. The women farmers' characteristics, such as age, family size, annual income, training experience, and preference of information sources, did not show a significant relationship with their achievement of livelihood aspirations.

Educational qualification might expand the horizon of outlook and insight of an individual (Sarmin and Hasan, 2019). This insight helps them to contribute more to their achievements of livelihood aspirations. Having a large farm might open up more earning opportunities for the household, which might increase their economic strength; thus, the respondents of such households might get more options to achieve their livelihood aspirations. Organizational participation might require functional interpersonal communications with the members and officials of different organizations. This participation might improve their cognitive ability, which might help their analytical potential for achieving livelihood aspirations.

The use of information sources provides a kind of non-formal behavioral change. It improves the cognitive ability of the respondents (Hasan et al., 2021), ultimately bringing them the desired achievement in livelihood aspirations. The respondents with high agricultural knowledge and a more favorable attitude towards agricultural activities might have a broader outlook. This insight might also help the respondents to achieve their livelihood aspirations.

Table 3. Correlation coefficients of the selected characteristics of women farmers and their achievement of livelihood aspirations (d.f. 113)

Focus Issue	Selected variables	Computed values of 'r' with 113 d.f.	Tabulated value of 'r'	
			0.05 level	0.01 level
Achievement of livelihood aspirations	Age	0.148		
	Education qualification	0.186*		
	Family size	-0.037		
	Farm size	0.258**		
	Annual income	0.031		
	Training experience	0.139		
	Organizational participation	0.184*	±0.182	±0.237
	Use of information sources	0.203*		
	Preference of information sources	-0.020		
	Agricultural knowledge	0.252**		
	Attitude towards participation in agricultural activities	0.329**		

** Correlation is significant at the 0.01 level of significance, and * Correlation is significant at the 0.05 level of significance

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Problems faced by the women farmers in achieving livelihood expectations and their potential solutions through agricultural activities

Women's contribution to the agricultural sector has been ignored and inadequately understood. Despite the significant role played by women in different agricultural and allied activities, their role in decision-making is negligible. In addition, rural farm women face many other problems, such as difficulties in carrying out major agricultural operations, unhygienic conditions in the field, time

management between farm and household activities, veiling problems, etc. (Aggarwal et al., 2013). In this present study, the women farmers were asked to mention the extent of specific problems they faced in achieving livelihood aspirations through agricultural activities. The problems faced by the women farmers are have been in Table 4, with the percentage of citations and rank order based on PFI.

The top-ranked problem in the study area faced by women farmers was 'lack of quality seeds and seedlings. Quality seeds and seedlings are essential inputs for agricultural production. The good quality seed has a high return per unit area as the genetic potentiality of the crop can be fully exploited. Less infestation of land with weed seed/other crop seeds. Less disease and insect problems. Different government and non-government organizations should confirm the availability of quality seeds and seedlings in the study area.

Table 4. Severity-based (PFI %) rank order of the problems

Sl. No.	Problems	Not at all (0)	Low (1)	Medium (2)	High (3)	PFI (%)	Rank
Extension-service related problem							
1.	Insufficient quality of extension services provided by extension agents	16	26	36	37	60.6	5th
2.	Only resource-rich farmers can get the benefit of extension services	38	24	53	0	37.7	11th
3.	Less reliability of the agents	4	83	28	0	40.2	9th
4.	Teaching methods are not time demanding	0	77	38	0	44.3	8th
5.	Inadequate agricultural training facilities	7	27	19	62	72.8	2nd
Input related problem							
6.	Lack of quality seeds and seedlings	0	4	64	47	79.1	1st
7.	High price of pesticides, insecticides for disease control	0	28	85	2	59.1	6.5th
8.	Lack of water exchange capacity in field	0	32	71	12	60.9	4th
9.	High price of farmworkers during on-season	28	50	37	0	35.9	12th
10.	Lack of knowledge on storage, processing and preservation	8	23	56	28	63.5	3rd
11.	Trouble with production gears maintenance	23	79	11	2	31.1	13th
Socio-economic problem							
12.	Lack of security in farm	28	71	16	0	29.9	15th
13.	Lack of investment for production	0	28	85	2	59.1	6.5th
Marketing problem							
14.	Lack of marketing facilities	15	71	25	4	38.6	10th
15.	Not get the proper price from the middle-men	33	61	19	2	30.4	14th

The training facilities regarding agricultural activities also need to be emphasized for the same as lack of training facilities mentioned as the second top-ranked problem faced by the respondents. Farmers learn how to better manage both the business and agricultural

aspects of their farms through adequate training facilities. In addition, demand-led agricultural extension services for improving knowledge of post-harvest activities also need to be strengthened to improve the agricultural production in the study area. All these might

enhance the achievement of livelihood aspirations of the women farmers. Regardless, troubleshooting of the production gears and obstacles from the involvement of the mediators for proper pricing ranked the least, as mentioned by the women farmers. Women farmers are not involved in these activities compared to their counter-male parts might be a reason for this finding.

Suggestions offered by the women farmers to overcome the identified problems

The suggestions to overcome the identified problems were ranked based on the number of citations. The suggestions to overcome the problems have been shown in Table 5.

Table 5. The rank order of the solutions suggested by the women farmers concerning problems in achieving livelihood aspiration through agricultural activities

Suggested solutions	Citations	Rank order
Assurance of quality seeds and seedlings as and when necessary, at a reasonable price from government organizations	93	1 st
Government should provide sufficient training facilities for different agricultural practices as well as on new concepts, long term training for complex subject matters	86	2 nd
Timely and demand-led advice by the extension personnel at farmers' door-step	79	3 rd
Necessary credit support should be provided as and when necessary	74	4 th
Arrangement of organized marketing system with reasonable price for the produces	71	5 th

Results of Table 5 indicate that the women farmers' top-ranked suggestion was to ensure the quality of seeds and seedlings, making them available at a reasonable price through government organizations. In this regard, private organizations' low performance insisted they prefer government organizations. Their second top-ranked suggestion was that the government provide sufficient training facilities for different agricultural practices and new concepts. They also expect that they will receive long-term training for complex subject matters. This training might improve their insight into achieving livelihood aspirations.

CONCLUSIONS

The government extension services help the women farmers to achieve livelihood aspirations. The highest achievement of livelihood aspirations of the women farmers with the lowest variation was observed for household food security, which is reverse for market access. These indicate that the

divergence in food security status is minimum. In case of access to the market opportunity, it is maximum for the women farmers due to the reception of government extension services. Thus, facilities for women's access to the market need to be strengthened in the study area. The crucial variables for achieving the livelihood aspirations of the women farmers are educational qualification, farm size, organizational participation, use of information sources, agricultural knowledge, and attitude towards participation in agricultural activities. Quality inputs (like seeds, seedlings) and non-formal education (like agricultural training, extension education, and support services, e.g., motivational campaigns, field-day, premises group discussions, etc.) must be strengthened for women farmers to accelerate their achievements in livelihood aspirations. Considering the necessities of women farmers, the policies and programs should be planned to ensure a successful and cost-effective rise

in the livelihood aspirations of women farmers.

CONFLICT OF INTEREST

The authors declare no conflict of interest regarding the publication of this paper.

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