

RESEARCH ARTICLE

Production Decision Making Pattern of Gender in Tribal Farming Community of Assam

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ABSTRACT

The increasing trend of feminization in agriculture catalyzes the women folk to bear the entire responsibility of farming. As decision making is an essential ingredient in any productive activity, women should be given equal opportunity like men to take part in it. The study tries to portray the picture of gender's production decision making pattern along with its impact factors on tribal farm women. A total of 320 respondents consisting of equal number of men and women farmers of a household were selected using multi stage random sampling technique. Personal interview technique was followed to collect the responses and relevant statistical tools were employed. The findings indicated that there are significant differences between men and women in the decision making pattern of all the productive activities in agriculture. Majority (40.63%) of the women had low followed by medium (36.25%) decision making power while a large number of men belonged to high (49.32%) level of decision making with a mean score of 54.03 and 113.25 respectively. Out of seven impact factors of decision making pattern on tribal farm women, it was found that personality status, family, social, economic, political, health status exhibited a positive significant relationship at 1% level of probability while education showed positive correlation at 5% level. The coefficient of multiple determination (R^2) value (0.619) suggested that the independent variables jointly contributed 61.90 percent towards variation in better production decision making power.

Key words: Feminization; Decision making; Gender; Tribal; Z test.

Rural women made noteworthy contribution in molding the socio-economic development of a nation. They are the key players in all kinds of productive activities apart from household and community related roles. About 1.4 billion of rural women are engaged in agriculture world wide where 43 per cent of agricultural workforce consisted of women in developing countries (FAO, 2011). Being Indian agriculture a family tradition, women share equal responsibility with men. About 65 per cent of rural women are involved in agriculture where 30 per cent cultivators and 43 per cent of agricultural labor in India come from women (Census, 2011). With the increasing trend of feminization, women have been taking more responsibility in agriculture. Vepam (2005) indicated that out flux of their male counterparts increases the role of women in agriculture. Swaminathan (2017) also mentioned that with an increase in migration of men to

cities for better opportunities, women have to occupy the place of men in agriculture. In fact, this trend indicates that in coming days the entire responsibility in agriculture has to be borne by women. Tribal communities are an integral part of Assamese society who continues to be in farming culture since time immemorial. The farming community is characterized by tribal and non-tribal farmers in Assam (Goswami et al. 2022). Tribal women are not less than men; perform all kinds of farming operation.

To undertake any productive activities, it is essential on the part of gender to engage in decision making process. Decision making is an essence of all human activities. The success of any activity to a great extent depends on how decision has been taken. Production decision making pattern in the study is defined as the degree of participation of tribal women and men farmers in providing their inputs and

choosing ideas to perform various productive activities related to agriculture. As the women have to shoulder more burdens in farming, they should get the equal opportunity with men to participate in decision making process. But in reality it does not happen. Either woman is not empowered or not given the chance to take decisions. *Chauhan et al. (2018)* in their study indicated that either only male head of the family or the husband were dominating the decision making process. Regardless of their remarkable contributions, women in general are treated as mere producer rather than a primary producer. They are regarded as the neglected segment of the farming community. This kind of thinking deprived women to avail all sorts of benefits and opportunities like men. Therefore, it is imperative to assess whether any gender differences related to decision making already pervasive in tribal farming communities. Keeping in view of the above facts, the present study focused to explore the production decision making pattern of tribal farm men and women along with impact factors influencing decision making pattern of tribal women.

METHODOLOGY

The present study was confined to tribal areas of Assam, taking four districts namely Jorhat, Morigaon, Baksa and Dhemaji from four plain agro climatic zones based on the highest prevalence of tribal population of a district to the total State tribal population. With the same criterion, one block from each district was selected purposively and from each block two tribal dominated villages engaged in paddy and piggery activities were included randomly. Twenty tribal households from each village engaged in these

two components of farming were considered. Finally two members from each household that comprise both husband and wife were included, thus, constituted a total of 320 respondents as the final sample of the study. A research schedule was prepared and the primary data was collected during April, 2022 through personal interview method. Production decision making pattern was studied in three domains i.e. in paddy, piggery and other farm management activities and responses were collected in a three-point continuum as “sole decision”, “joint decision”, and “not at all” with a score of 3, 2 and 1 respectively. Based on mean and standard deviation categorization was done as Low ($< X-S.D.$), Medium (Between $X+S.D$ to $X-S.D.$) and High ($> X+S.D.$). A total of seven impact factors namely personality status, status in family, social status, economic status, educational status, political status and health status were identified to find out relationship in influencing the likelihood of productive decision making pattern of tribal farm women. The tabulated data were analyzed using appropriate statistical techniques viz., frequency, percentage, Mean, Standard deviation, two sample Z test, correlation coefficient and regression.

RESULTS AND DISCUSSION

Production decision making pattern related to paddy cultivation practices : The practice wise production decision making pattern in paddy cultivation has been elaborated in the Table 1. It was observed that in the decision making pattern related to all the paddy production practices, the role of farm men was predominant as more farm men were found to take sole decision in all the activities of paddy cultivation practices in comparison to farm women.

Table 1. Distribution of respondents according to their production decision making pattern in paddy cultivation practices (N=160+160=320)

Decisions	Sole Decision		Joint Decision		Not at all	
	No. (%)		No. (%)		No. (%)	
	Men	Women	Men	Women	Men	Women
Decision in seed selection	122(76.25)	0(0.00)	38(23.75)	38(23.75)	0(0.00)	122(76.25)
Decision in nursery raising activities	133(83.13)	0(0.00)	27(16.87)	27(16.87)	0(0.00)	133(83.13)
Decision in main field preparation	116(72.50)	3(1.87)	23(14.38)	23(14.38)	21(13.12)	134(83.75)
Decision in transplanting	65(40.63)	11(6.87)	68(42.50)	68(42.50)	27(16.87)	81(50.63)
Decision in manure and fertilizer application	126(78.75)	0(0.00)	34(21.25)	34(21.25)	0(0.00)	126(78.75)
Decision in water management	141(88.13)	0(0.00)	19(11.87)	19(11.87)	0(0.00)	141(88.13)
Decision in inter culture operations	139(86.87)	0(0.00)	21(13.13)	21(13.13)	0(0.00)	139(86.87)
Decision in harvest & post-harvest activities	118(73.75)	4(2.50)	35(21.88)	35(21.88)	7(4.37)	121(75.62)
Decision in marketing of farm produce	121(75.63)	5(3.13)	34(21.25)	34(21.25)	5(3.13)	121(75.62)

(Figures in parenthesis indicate percentage)

The Table 1 revealed that out of nine activities of paddy cultivation, very few women took sole decision in transplanting (6.87%) which was followed by decision in marketing of farm produce (3.13%), harvest and post-harvest decision (2.50%). Only (1.87%) of farm women decide solely in main field preparation. *Borah et al. (2018)* reported in his findings that majority of women did not participate at all in crop production, except in post harvesting which is contradictory. While large number of men had sole decision making power in water management (88.13%), intercultural operation (86.87%), nursery raising (83.13%), manure and fertilizer application (78.75%), seed selection (76.25%), marketing of farm produce (75.63%), harvest and post harvest activities (73.75%), main field preparation (72.50%) and (40.63%) of men decide solely in transplanting. The similar finding was suggested by *Fartyal and Rathore (2014)*. However, (42.50%) respondents took joint decision making in transplanting. This was followed by seed selection (23.75%), harvest and post harvest activities (21.88%). A total of (21.25%) each was observed in manuring and marketing of farm produce. Moreover, (16.87%), (14.38%), (13.13%) and (11.87%) decide jointly in nursery raising, main field preparation, intercultural operation and water management respectively.

Production decision making pattern related to pig rearing activities : It was evident from the Table 2 that although joint decision making was observed but the sole decision making pattern of women was less as compared to men in pig rearing practices. A few women respondents were found to take sole decision in feeding practices (5.00%) that was followed by selection/purchase of breed (2.50%) and general care and health management practices (1.25%). This findings contradicted by the *Krishna et al., 2022*, that overall above eighty five percent women participated in

health care decision of animals. Whereas, it was found that sole decision was mostly taken by men in marketing (80.62%), housing practices (75.00%), feeding practices (73.75%), general care and health management practices (68.75%) and selection/purchasing of pig breed (54.37%). However, more or less, joint decision making was observed in all the activities. The finding does not support the finding of *Chauhan, (2012)*, that 40 per cent women were taking joint decision regarding selection of animal breed because in this study only (19.38%) were involved in joint decision making.

Production decision making pattern related to other farm management activities : The decision-making process in other farm related areas are depicted in the Table 3. It was evident from this table that a good percentage of decision making was taken jointly in the activities of determination of labor size (46.88%), renovation or construction of farm building (38.13%), inclusion of more agricultural components (31.88%), lease in or lease out of farm land (31.25%), decision in introduction of new technology (27.50%), purchase or sale of farm land (25.63%). The finding was supported by the report of *Ahuja and Narayan, (2016)*, that joint decision making was common in sale or purchase of land, animals and farm produce.

Very less number of women took sole decision in purchase or sale of land (4.38%), construction of farm building (3.13%) and (1.25%) each in the decision to introduce new technology and in purchasing or hiring of farm equipment. While a large number of men had sole decision in purchase or sale of farm equipment (96.87%), followed by lease in or lease out of farm land (68.75%), inclusion of more agricultural components (68.12%), introduction of new technology (65.62%), purchase or sale of farm land (60.62%). Above fifty percent of them had sole decision in renovation of farm building and determination of labor size to use in farming.

Table 2. Distribution of respondents according to their production decision making pattern in pig rearing practices (N=160+160=320)

Decisions	Sole Decision		Joint Decision		Not at all	
	No. (%)		No. (%)		No. (%)	
	Men	Women	Men	Women	Men	Women
Decision in housing practices	120(75.00)	0(0.00)	40(25.00)	40(25.00)	0(0.00)	120(75.00)
Decision in feeding practices	118(73.75)	8(5.00)	33(20.63)	33(20.63)	9(5.62)	119(74.37)
Decision in selection/ purchasing of pig breed	87(54.37)	4(2.50)	31(19.38)	31(19.38)	42(26.25)	125(78.12)
Decision in general care and health management practices	110(68.75)	2(1.25)	48(30.00)	48(30.00)	2(1.25)	110(68.75)
Decision in marketing practices of pigs	129(80.62)	0(0.00)	31(19.38)	31(19.38)	0(0.00)	129(80.62)

(Figures in parenthesis indicate percentage)

Table 3. Distribution of respondents according to their production decision making in other farm management activities (N=160+160=320)

Decisions	Sole Decision		Joint Decision		Not at all	
	No. (%)		fNo. (%)		No. (%)	
	Men	Women	Men	Women	Men	Women
Decision to introduce new technology	105(65.62)	2(1.25)	44(27.50)	44(27.50)	11(6.82)	114(71.25)
Decision to include more agricultural components	109(68.12)	0(0.00)	51(31.88)	51(31.88)	0(0.00)	109(68.12)
Decision to purchase/ sale of farm land	97(60.62)	7(4.38)	41((25.63)	41(25.63)	22(13.75)	112(70.00)
Decision to lease in/ lease out farm land	110(68.75)	0(0.00)	50(31.25)	50(31.25)	0(0.00)	110(68.75)
Decision to purchase and hire farm tools and machineries	155(96.87)	2(1.25)	3(1.88)	3(1.88)	2(1.25)	155(96.87)
Decision to renovate or construct farm buildings	87(54.37)	5(3.13)	61(38.13)	61(38.13)	12(7.50)	94(58.75)
Decision to determine labour size and usages	85(53.12)	0(0.00)	75(46.88)	75(46.88)	0(0.00)	85(53.12)

(Figures in parenthesis indicate percentage)

As revealed in the Table 4, the overall extent of production decision making pattern was measured by integrating decision making process in paddy production practices, pig rearing practices and other farm management activities. It was observed that majority (40.63%) of the farm women had low decision making power; followed by (36.25%) having medium and (23.12%) had high level of decision making power. While nearly fifty percent of farm men were having high authority in taking decision. This was followed by low (27.50%) to medium (23.12%) level of decision making power. A contradictory findings was reported by *Kavyashree et al., (2021)*, that both farm men and women exhibited medium level of decision making power. The finding reported by *Hagone and Basunathe, (2015)* and *Das, (2023)*,

also contradicted where more numbers of farm women possessed medium decision making ability.

Women had a mean score of 54.03 with standard deviation of 12.02. Whereas mean score was 113.25 with standard deviation of 11.71 in men. Their mean difference in the decision making indicated that there was a huge difference in the decision making pattern of farm women and men. Male headed families or husband dominance might be the reasons of having low decision making power by women. Another possible reason might be the stereotypic attitude towards women that they should not be allowed in the decision making process or they did not have the ability to take decisions. The presence of male dominated society act as a hindrance for the women’s participation in the decision making process.

Table 4. Distribution of respondents based on their overall extent of production decision making pattern in agriculture (N=160+160=320)

Women				Men			
Category	No. (%)	Mean	S.D.	Category	No.(%)	Mean	S.D.
Low (Below 42.01)	65(40.63)			Low(Below 101.54)	44(27.50)		
Medium (42.01 to 66.05)	58(36.25)	54.03	12.02	Medium (101.54 -124.96)	37(23.12)	113.25	11.71
High (Above 66.05)	37(23.12)			High (Above 124.96)	79(49.37)		
Total	160 (100)				160 (100)		

(Figures in parenthesis indicate percentage)

Table 5. Z- test of significance on production decision making pattern in agriculture

Decision making pattern	Mean		Sample variance		Z- cal. value	Z- table value (Two tailed)
	Women	Men	Women	Men		
Production decision making pattern in paddy production practices	22.77	48.70	45.02	52.08	34.72*	
Production decision making pattern in pig farming practices	21.64	45.44	46.53	51.75	30.02*	1.96
Production decision making pattern in other farm management activities	9.62	18.32	8.46	10.66	26.45*	

*Significance at 5% level of probability

Table 6. Association of the impact factors influencing likelihood of production decision making pattern of tribal farm women in agriculture (N= 160)

Factors	"r"	Standard error	Standardized Beta	t-value	R ²	df	F	Sig
Personality	0.473**	1.663	0.853***	3.793				
Family	0.665**	1.530	1.756***	8.646				
Social	0.403**	2.225	-0.290	-1.167				
Economic	0.573**	2.092	0.148	0.779	0.619	159	35.22	<0.001 ^b
Education	0.157*	2.593	0.286***	3.906				
Political	0.281**	2.612	0.200	1.627				
Health	0.526**	3.141	0.145	0.646				

*Correlation is significant at 0.05 level (2- tailed), **Correlation is significant at 0.01 level (2-tailed),

***Probability at 0.001

Moreover, less considerable level of education, lack of proper knowledge on improved farming, restriction in mobility or less exposure to the outside world were some probable reasons that women were not able to participate equally with men in the decision making process in agriculture.

Two sample Z test of production decision making pattern in agriculture : Z- test of two sample mean to examine whether there lie the differences between two population mean related to production decision in paddy, piggery and other farm management decision making processes was performed. The following Table 5 would provide an insight in the Z-value of women and men farmers along with the mean scores and sample variance of these productive activities.

It was observed from the above Table 5 that significant differences were noticed between farm men and women in the decision-making pattern of all the productive activities in agriculture. No non-significant relationship was found in the production decision making pattern of paddy, piggery or other farm management activities. Thus, the null hypothesis that there was no significant relationship in the production decision between women and men may be rejected Therefore, in this case, the corresponding alternate hypothesis may be accepted as there was significant differences in the production decision between and men farmers.

Relationship of the impact factors with the production decision making pattern of tribal farm women in agriculture : An attempt was made to determine the association of impact factors influencing likelihood of production decision making pattern of women farmers. The Table 6 revealed significant correlation between each independent variable with production decisions at different probability levels.

There were six factors (personality status, family,

social, economic, political, health status) that were correlated positively and significantly at 1% probability level although education showed positive correlation at 5% level. This indicate that with an improvement in the personality status, status in family, social, economic, political health and education status of the women farmers, it would be more likely to have a better and equal production decision making power with men farmers. The findings of *Damisa and Yohanna, (2007)*, *Ahuja & Narayan (2016)*, and *Patel, et al. (2017)* are in line with this results. The relationship was further tested through standardized Beta. Although all seven factors under study revealed significant positive correlation with production decision making pattern yet the standardized Beta detected significant difference of impact for personality status, family and education only. The coefficient of multiple determination (R²) value (0.619) suggested that the independent variables jointly contributed 61.90 percent towards variation in better production decision making power. The 'F' value (35.22, p<0.001) was significant, indicating the effectiveness of these variables in predicting the likelihood of a better decision making power of tribal farm women.

CONCLUSION

The findings of the study indicated that gender differences already cropped up in tribal farming communities. Tribal farm women are not able to reap equal benefit in the decision making process related to all sorts of productive activities. Farm women should gain the privileges to take part in decision making process either at house or in the society. This calls for a joint and coordinated initiative of government machinery, extension professionals, officials, agricultural scientists, NGOs, and the society to minimise and close the existed gender gap

in this aspect. Efforts should be made to organise capacity building programme to improve decision making power of farm women and empowering them to indulge in the process.

CONFLICTS OF INTEREST

The authors have no conflicts of interest.

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