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## Empowering tribal farmwomen through livestock and poultry enterprises in Goalpara district of Assam

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### Abstract

The empowerment of selected tribal and ethnic farmwomen through livestock and poultry enterprises in Assam's Goalpara district was investigated focusing on the Rabha, Garo, Hajong and Koch-Rajbongshi communities. The research aimed to assess their varying participation levels and the correlation between extent of participation and women empowerment. Data was collected using a comprehensive interview schedule and collection was conducted from January to March 2021, from a total of 200 respondents. The results revealed significant participation variations among communities, with the Garo tribe showing heightened involvement in livestock and poultry rearing which indicated that despite differing participation levels, perceived empowerment did not significantly differ among tribes. Excluding the Garo tribe, most tribal farmwomen exhibit low participation levels. There is a need of tailored awareness programs, technological advancements, and skill development initiatives for farmwomen, advocating for timely delivery of inputs and incentives to augment participation and foster socio-economic improvement.

**Keywords:** Empowerment, communities, inputs, incentives, livestock, socio-economic

### 1. Introduction

Both the central and state governments have been laying emphasis on tribal empowerment in the country for which different programmes are being implemented for the overall development of tribal people including tribal women for providing support inter alia, for education, health, employment, agriculture, horticulture, livestock husbandry and poultry, etc. As the tribal people mostly inhabit in rural areas, agriculture and allied activities assume great significance. Due to population growth and the subsequent fragmentation of agricultural land animal husbandry plays a crucial role in the livelihood of the tribal people. The tribal women traditionally keep pig and poultry at subsistence level which need scientific intervention for augmenting their income and also to improve their household consumption of animal protein. In Assam the total tribal population is 3.88 million<sup>[1]</sup> and the Goalpara district is inhabited by tribal people belonging to Bodo, Rabha, Hajong and Garo tribes. The people of these tribes speak their own dialect and are preserving their own culture, of which pig and fowl constitute an integral part. Along with these they also rear other livestock like cattle, buffalo, goat, etc. in their traditional agricultural occupation. Another ethnic group, the Koch-Rajbongshis which was accorded schedule tribe (ST) status in 1996 by Presidential ordinance, which subsequently lapsed due to political equations, is also an indigenous community in this district having its own distinct dialect and cultural identity. The people of these indigenous community maintain a distinct pattern of animal husbandry rearing system which needs to be surveyed for estimating the required scientific intervention to enhance the role of livestock rearing in women empowerment. Hence, a study entitled "Empowering Tribal Farmwomen through Livestock and Poultry Enterprises in Goalpara District of Assam" was undertaken with the following two objectives:

1. To assess the differential level of participation of tribal farmwomen in livestock and poultry enterprises.
2. To estimate the relation of tribal farmwomen's participation in livestock and poultry enterprises with their level of empowerment.

## 2. Materials and Methods

Women from three tribes, viz., the Rabha, Garo, and Hajong as well as one ethnic group the Koch-Rajbongshi were the subjects of the study. Purposively, the Goalpara district was chosen as the study area. For the purposes of this study, a woman who raised at least 2 pigs or 2 goats or 20 chickens or 1 cattle qualified as a respondent. A total of 50 (fifty) respondents involved in livestock farming was selected through snow-ball sampling from each of the tribe/ethnic group to make the sample size of 200 (two hundred). An all-encompassing interview schedule which consisted of the selected independent and dependent variables was prepared after gathering the relevant literatures and consulting members of the advisory committee and other experts.

The extent of participation of women in livestock management was studied for which purpose different activities were noted during pilot study and a total of 21 such activities were finally selected to make the checklist. This checklist was presented before the respondents and was asked to indicate to respond against each activity in a 4-point continuum like regularly, sometimes, rarely and never which were assigned scores of 4, 3, 2, and 1 respectively. For each respondent the total score was calculated by summing up the individual scores of all the 21 items. After calculating the mean and standard deviation (SD) the respondents were categorised as high, medium and low in respect of their level of participation. Moreover, the frequencies and percentages of respondents against each activity were calculated.

To assess empowerment level of the respondents derived from participating in livestock enterprises a scale by Galiè *et al.* (2018) was modified and utilised [2]. Ten factors were taken into consideration in order to assess empowerment level perceived by livestock and poultry rearing. A 5-point Likert continuum was used to measure each component. Before final data collection the interview schedule was used upon 20 non sample respondents in order to see its reliability with the help of test-retest method.

A highly significant correlation coefficient of 0.72 was obtained by administering the instrument at two different times on the same set of 20 non-sample respondents which indicated that the instrument was stable and consistent. Content validity method was applied for estimating its validity. Collection of data was done from January to March of 2021. Snowball sampling was employed in the selection of the respondents where the respondents helped in identification of future respondents who were their acquaintances and fit into the established research criterion. The primary data recorded in the interview schedule were properly scrutinized.

These raw data were then arranged in proper order and inserted in a tabulated. After proper discussion and checking its feasibility, the necessary formulae like descriptive statistics, ANOVA, critical difference and correlational analysis was applied on the data.

## 3. Results and Discussion

### 3.1 Distribution of the respondents on the basis of extent of participation

From table 1 it can be observed that in pooled sample that majority (58.00 percent) had low extent of participation in livestock and poultry rearing whereas 38.50 percent had high extent of participation in such activities and only a negligible number (3.50 percent) had medium extent of participation. The pooled mean and standard deviation (SD) were 52.80 and 0.90 respectively. In case of the Rabha tribe, 64.00 percent were found to have a low extent of participation, followed by 34.00 percent with a high extent of participation and only 2.00 percent having medium extent of participation in livestock and poultry related activities. The mean and SD for the Rabha group were 49.50 and 1.62 respectively. While the corresponding figures for the Garo tribe was 28.00 percent with low and 72.00 with high extent of participation in livestock rearing activities. In case of Hajong 56.00 percent had low extent of participation while 32.00 percent were found to have high extent of participation. Only 12.00 percent had medium extent of participation in livestock rearing activities. The mean and SD were 51.76 and 1.17 respectively for this group. With respect to Koch-Rajbongshi group it was seen that 84.00 percent had low extent of participation whereas remaining 16.00 percent had high extent of participation. The mean and SD were 46.24 and 1.21 respectively. Table 2 revealed a highly significant f-value (24.143) and critical difference test (table 3) revealed that there was significant difference among the communities with respect to extent of participation in livestock and poultry rearing. The significant variation may be explained by the fact that the Garo women were highly involved in rearing of livestock and poultry irrespective of the economic outcome whereas the other groups did not see much potential by involving in such activities.

Corroborative findings were seen in a study by Ghulghul *et al.* (2008) on the participation of farm women in household and allied activities in Marathwada region which revealed that a large majority of women (80.00 percent) were highly involved in dairy activities including processing of milk, collection of dung and cleaning of the shed [3].

**Table 1:** Distributions of the Respondents Based on the Extent of Participation (N=200)

Category	Rabha	Garo	Hajong	Koch-Rajbongshi	Pooled
	Frequency (%)	Frequency (%)	Frequency (%)	Frequency (%)	Frequency (%)
Low (<51.90)	32 (64.00)	14 (28.00)	28 (56.00)	42 (84.00)	116(58.00)
Medium (51.90-53.71)	1 (2.00)	0	6 (12.00)	0	7 (3.50)
High (>53.71)	17 (34.00)	36 (72.00)	16 (32.00)	8 (16.00)	77 (38.50)
Mean	49.50	63.72	51.76	46.24	52.80
Standard Deviation	1.62	2.04	1.17	1.21	0.90
Range	30-78	39-84	39-77	30-72	30-84

**Table 2:** Analysis of Variance on Extent of Participation

Sources of Variation	D.F.	S.S.	MS	F Ratio
Group	3	8712.575	2904.192	24.143**
Error	196	23576.820	120.289	
Total	199	32289.395		

Note: “\*\*\*” Highly Significant at ( $p < 0.01$ ) level of probability

**Table 3:** Critical Difference Test on Extent of Participation

Groups	N	Mean
Rabha	50	49.50±1.62 <sup>AC</sup>
Garo	50	63.72±2.04 <sup>B</sup>
Hajong	50	51.76±1.17 <sup>A</sup>
Koch-Rajbongshi	50	46.24±1.21 <sup>C</sup>

Note: Means with different superscripts differ significantly

Contrary findings were reported by Jamatia (2019) who revealed that majority of the respondents from Deb Barma tribe had medium level (67.00 percent) of participation in livestock farming activities while 22.00 percent had medium and 11.00 percent had low level of participation in the same activities. On the other hand, it was seen that large majority of the respondents from Jamatia tribe had medium (82.00 percent) level of participation whereas 16.00 percent had low level of participation and remaining 2.00 percent had high level of participation <sup>[4]</sup>. Begum (2019) in her study also revealed that majority of the rural women had medium participation followed by 19.14 percent with high and 7.43 percent with low level of participation in livestock related

activities <sup>[5]</sup>.

**3.2 Distribution of the Respondents on the basis of Level of Women Empowerment**

Upon scrutiny of table 4. it was seen that 50.00 percent of Rabha and Koch-Rajbongshi female respondents and 34.00 percent each of Garo and Hajong female respondents had 'low' level of perception of women empowerment due to participation in livestock and poultry enterprises. Interestingly 6.00 percent of female respondents from each group perceived 'medium' level of women empowerment due to their participation in the same. It was again intriguingly observed that 60.00 percent each of Garo and Hajong women folk and 44.00 percent of Rabha and Koch-Rajbongshi respondents perceived 'high' level of women empowerment due to such enterprises. The pooled sample revealed that the percentage of women who perceived high level of women empowerment was 52.00 percent followed by 42.00 percent of women who perceived low level of empowerment and 6.00 percent of women who perceived medium level of women empowerment. The pooled mean was 54.03 and SD was 1.70.

**Table 4:** Distribution of the Respondents on the basis of Level of Women Empowerment Through Participation in Livestock and Poultry Enterprises (N=200)

Category	Rabha	Garo	Hajong	Koch-Rajbongshi	Pooled
	Frequency (%)	Frequency (%)	Frequency (%)	Frequency (%)	Frequency (%)
Low (<52.33)	25 (50.00)	17 (34.00)	17 (34.00)	25 (50.00)	84 (42.00)
Medium (52.33-55.73)	3 (6.00)	3 (6.00)	3 (6.00)	3 (6.00)	12 (6.00)
High (>55.73)	22 (44.00)	30 (60.00)	30 (60.00)	22 (44.00)	104 (52.00)
Mean	51.86	51.48	57.14	55.64	54.03
Standard Deviation	3.39	3.54	3.06	3.60	1.70
Range	16-91	15-108	15-100	15-105	15-108

**Table 5:** Analysis of Variance on Perceived Level of Household Food Security

Sources of Variation	D.F.	S.S.	MS	F Ratio
Group	3	482.375	160.792	2.587 <sup>NS</sup>
Error	196	12181.500	62.15051	
Total	199	12663.875		

Note: NS Non-significant

Further analysis of variance test (table 5) revealed that there was no significant difference among the tribes/ethnic group with respect to perceived level of women empowerment due to participation in livestock and poultry enterprises.

The findings were akin with those of Pandey *et al.* (2011) who revealed that the overall participation pattern in animal (49.21 percent) and household aspect (58.40 percent) indicated that both male and female took most of the decisions by consulting each other <sup>[6]</sup>, Chauhan (2011) who reported that in only certain cases like the hiring of farm labourers (66.67 percent), buying and selling of land (71.67 percent) and selling of surplus farm produce (58.33 percent) displayed the tribal farm women's participation in joint decision making along with other members of family <sup>[7]</sup>, Patel *et al.* (2017) who noted that majority (80.57 percent and 80.11 percent) of farm women were involved in decision making about milking and preparation of milk products and management of milch animals, respectively followed by (72.97 percent and 68.00 percent) in breeding practices and feeding practices respectively <sup>[8]</sup> and Kalai and Devarani (2018) who reported that percentage of tribal women (70.00 percent) were found more empowered than non-tribal women (50.00 percent) <sup>[9]</sup>. The findings were not synchronous with those of Jamatia (2019) who observed that majority (80.50

percent) of the respondents perceived medium level of overall empowerment through livestock enterprises <sup>[4]</sup>.

**3.3 Correlation Coefficient of Extent of Participation of the Respondents with Women Empowerment**

Table 6 revealed that that was no significant relation between the extent of participation of the respondents in livestock and poultry enterprises with the level of household empowerment of women or household food security. The findings were in line with Mandal and Sant (2017) who in their study observed that age, literacy and years of experience in animal husbandry were positively and significantly correlated with decision making pattern of tribal families in animal husbandry practices <sup>[10]</sup>. The findings were found to be reverse to those of Chauhan (2011) who in his study revealed that only type of the family was positively significant

**Table 6:** Correlation Coefficient of Extent of Participation of the Respondents with Women Empowerment

Dependent Variable	'r' value				
	Rabha	Garo	Hajong	Koch-Rajbongshi	Pooled
Women empowerment	0.222 <sup>NS</sup>	0.203 <sup>NS</sup>	0.022 <sup>NS</sup>	0.164 <sup>NS</sup>	0.111 <sup>NS</sup>

NS: Non-significant

(0.8646\*) with the respondents' participation in animal husbandry while remaining independent variables had negative and significant relationship with the same <sup>[7]</sup> and with Shamna *et al.* (2018) who found that the independent variables having significant and positive relationship were education and economic motivation, whereas age and social participation were found to have significant and negative relationship with participation of tribal women in farming activities <sup>[11]</sup>.

#### 4. Conclusion

The fact that majority of the farm women fell in low category of participation in livestock and poultry enterprises both in pooled data and all the tribes/ethnic groups except the Garo is a pointer enough to indicate that the farm women are yet to derive benefits from livestock and poultry enterprises which have now become lucrative for income generation as well as for improving family nutrition. The only exception is the Garo tribe where majority (72.00 percent) recorded high level of participation commensurating with which the empowerment level was also high. This goes to imply that higher the level of participation higher is the level of empowerment. Therefore, it can be safely concluded that measures need to be taken for awareness generation among the tribal women towards the improved technologies, capacity building, skill development along with the timely delivery of inputs and incentives at their doorsteps.

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