



ISSN: 0975-833X

RESEARCH ARTICLE

WOMEN'S PARTICIPATION IN FRONTIER LIVELIHOOD: OPTION OF LIVESTOCK REARING  
IN WEST BENGAL

<sup>1,\*</sup>Das Rama, <sup>2</sup>Acharya, S. K. and <sup>3</sup>PLama

<sup>1</sup>Barrackpore Rastraguru Surendranath College, Barrackpore, West Bengal, Kolkata – 700 120, India

<sup>2,3</sup>Department of Agriculture Extension, Faculty of Agriculture, Bidhan Chandra Krishi Viswavidyalaya,  
West Bengal, 741 252, India

ARTICLE INFO

**Article History:**

Received 10<sup>th</sup> April, 2015  
Received in revised form  
22<sup>nd</sup> May, 2015  
Accepted 27<sup>th</sup> June, 2015  
Published online 31<sup>st</sup> July, 2015

**Key words:**

Animal Husbandry,  
Alternate Employment,  
Farm Management,  
Home Management,  
Livelihood Activity,  
Income Generating Activity,  
Women's self decision.

ABSTRACT

Women's typical role within a livestock production system is different from region to region, and the distribution of ownership of livestock between men and women is strongly related to social, cultural and economic factors. Generally, it depends on the type of animals they raise. Based on the study it was seen that Farmwomen's participation was seen highest in sowing, weeding and nipping/ picking and threshing. Farmwomen took a self-decision for decoration of house and selection and preparation of food in case of home management. Farm management was dominated by husband decision and majority of the farm management decision was taken by their husbands, animal husbandry management was completely dominated by women's self decision. The relationship between independent variables like caste, land holding, family education status, economic status, house type, material possession, utilization pattern of communication channel, animal population, constraint based enterprise performance, performance in livelihood activity based on perceived problem, scientific orientation and farm implement in crop husbandry was observed positively significant. The paper emphasizes the importance of exploring alternate employment and income generating activities such as animal husbandry in order to improve the socio economic conditions of these women since the family background variables have a vital role in the development of personality traits in children which could affect quality of human capital in the future generation of the district.

Copyright © 2015 Das Rama, et al. This is an open access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

**Citation:** Das Rama, Acharya, S. K. and PLama, 2015. "Women's participation in frontier livelihood: option of livestock rearing in West Bengal", *International Journal of Current Research*, 7, (7), 18256-18260.

INTRODUCTION

Livestock plays a frontier role in Indian agriculture. It's extremely relevant in the context of declining productivity of major crops and extreme contamination of soil-water-ecology due to indiscriminate application of chemical fertilizer and pesticides in the agricultural field. To add to the resilience in our agro-eco system and ensure a slow but sustained growth, both for agriculture and livelihood, we have no option but to integrate livestock enterprise into the agricultural production system as well as function. Since the advent of human civilization, women play a pivotal role in case of characterizing and giving impetus to the growth and development of agriculture as a vocation. Till date women are the critical workforce for the development of our economy and society. Almost half of the (48.27%) women of our country are mostly associated with the sustainable household activities not only that but also women are critical to the wellbeing of farm household.

**\*Corresponding author: Das Rama,**  
Barrackpore Rastraguru Surendranath College, Barrackpore, West Bengal, Kolkata – 700 120, India.

Women are involved of all aspects of agriculture and allied activities from land preparation to making agricultural produces including animal and poultry rearing. Today 44% world's food is produced by women who indicates the importance of women in farming and allied. Rural Indian women are extensively involved in agricultural activities including livestock rearing. However, the nature and extent of their involvement differs with the variations in agro-production systems. Their role ranges from managers to landless labors. In overall farm production, women's average contribution in India is estimated at 55% to 66% of the total labour with percentages much higher in certain region. Women have played and continue to play a key-role in conservation of basic life support systems such as land, water, flora and fauna. Without the total and intellectual and physical participation of women, it will absolutely be impossible to popularize improve methods of land and home management. Women are involved in livestock production activities since a long time. A Government report (GOI, Planning Commission, 2007) indicates that 85 per cent of the rural women are engaged in livestock activities.

They spend a lot of time not only in managing their homes but also managing their livelihood activities. Their activities vary widely ranging from care of animals, grazing, and fodder collection, cleaning of animal sheds to processing milk and other livestock products (i.e. poultry birds, duck etc.). Depending upon the economic status, women perform the tasks of collecting fodder and collection and processing dung. Women also prepare cooking fuel by mixing dung with twigs and crop residues. In livestock management, indoor jobs like milking, feeding, cleaning, etc. are done by women in 90% of families while management of male animals and fodder production are effected by men (Borghain and Akand, 2011).

Animal-rearing has its origins in the transition of cultures to settled farming communities rather than hunter-gatherer lifestyles. Animals are 'domesticated' when their breeding and living conditions are controlled by humans. The term "livestock" is nebulous and may be defined narrowly or broadly. On a broader view, livestock refers to any breed or population of animal kept by humans for a useful, commercial purpose. Livestock enterprise provides employment and economic support to rural families who are landless and those possess some land. Livestock are treated as a form of financial, social and natural capital (McLeod and Wilshire, 2001). The purposes of maintaining the livestock varies in different societies in gender perspective like for income generation, food security, draught purpose, fuel and manure, traditional life-style and paying school fee (Heffernan *et al.*, 2001). Among by-products of livestock, manure has its own importance.

Collection and preparation of dung cakes is not only the source of income but it is also used as fuel for cooking and saves the rural women labour required for collection of fuel wood. Livestock are not only a source of employment, income and food but are also critical to strong socio-cultural linkages in countries like India. These animals were given a place of importance by the society in recognition of their contribution to human welfare. Evidence of this importance is noted by references in ancient scriptures, by their place of prominence among the official seals of the Harappan civilization dating 4000 BC and by the special festivals dedicated to livestock.

### Objectives

- To study the socio-personal and economic profiles of different categories of women involved in frontier livelihood security.
- To study the channels of communication used by the women in their livelihood activities.
- To study the influence of various social, economic and personal factors on the livestock rearing.
- To study the possible constraints and its management.
- To study the extent of involvement of women in the activities relating to household, crop livestock farming and socio-cultural aspects.

## MATERIALS AND METHODS

To ascertain the women's involvement in frontier livelihood option of livestock rearing a systematic study procedure is necessary.

This chapter deals with the research methodology adopted for the purpose of the present study. However, the entire discussion had been made under the following areas:

- Locale of research
- Sampling design
- Pilot study
- Variables and their measurement
- Method of data collection
- Statistical tools and PRA tools used for analysis of data.

### Locale of Research

The study was conducted in Ghoragachha and Basantapur area of Nadia district in West Bengal. The block Chakdah of Nadia district was purposively selected for the study due to following fundamental reasons.

- The close familiarities of the student researchers with the area, people, officials and local dialects.
- Presence of livestock.
- Easy accessibility of this area.
- The availability of appropriate respondent in abundance for the present study.
- Highly cooperative, responsive respondent.

### Sampling Design

Purposive as well as random sampling procedures was adopted for the present study. It may be termed as multistage random sampling procedure. The districts, blocks and villages were purposively selected for the study. The district Nadia and the block Chakdah were considered. Under the Chakdah block Ghoragachha village was selected and an exhaustive list of respondent was prepared with the help of block officials for villages. From the prepared list fifty respondents were selected for final data collection. The snow ball sampling procedure was followed to collect the data through participatory methods.

### Statistical Tools

The main statistical techniques and tools used in the present study are:

- Correlation Coefficient
- Path Analysis
- Factor Analysis

### Independent Variables

Age ( $X_1$ ), Caste ( $X_2$ ), Farm size( $X_3$ ), Land Holding( $X_4$ ), Family Education( $X_5$ ), Family Type( $X_6$ ), Economic Status( $X_7$ ), House Type( $X_8$ ), Material Possession( $X_9$ ), Social Participation( $X_{10}$ ), Utilization Pattern of Communication Channel( $X_{11}$ ), Animal Population( $X_{12}$ ), Constraint based enterprise performance( $X_{13}$ ), Performance in livelihood activity based on perceived problem( $X_{14}$ ), Scientific orientation in livestock rearing( $X_{15}$ ), Bird population( $X_{16}$ ), Decisiveness in financial affair of enterprise( $X_{17}$ ), Farm Implement( $X_{18}$ ).

## Dependent Variable

Efficiency Index of Animal Rearing (Y)

## RESULTS AND DISCUSSION

Table 1 presents the coefficient correlation of efficiency index of women in animal rearing with eighteen causal variables. From the table, it is clear that the variables –caste, land holding, family education status, economic status, house type, material possession, utilization pattern of communication channel, animal population, constraint based enterprise performance, performance in livelihood activity based on perceived problem, scientific orientation and farm implement are significantly correlated with the efficiency index of women in animal rearing and the variables- caste, land holding, family education status, economic status, house type, material possession, utilization pattern of communication channel, animal population, constraint based enterprise performance, performance in livelihood activity based on perceived problem, scientific orientation, farm implement is significantly correlated with the efficiency index of women in poultry rearing.

The information support in the form of utilization pattern needs to have the ability to absorb the risk, if any or to go adept to harvest the best alternative vocation from the worst. The other two variables in order having indirect influence are material possession and animal population. It is found that the variable house type has gone instrumental to channel the highest indirect effect as many as eight (8) variable to prove its imbibing and associational role in case of characterizing the consequent variable, efficiency index of women in animal rearing. The residual effect being 0.395, it is to infer that 39.5% of variation in consequent variable, efficiency index of women in animal rearing still has been left unexplained. This should further suggest that inclusion of more relevant and contextual variable could have explained more variable than what has been explained in present study. Table 3 depicts the variables in close inter-dependence within themselves through factor-A. Five factors have been isolated by clubbing the variables considered for study through principle component method. Factor-1 has included the variables namely- Efficiency index of women in animal rearing, Scientific orientation Livestock rearing, House type, Animal population, Material possession utilization Pattern of Communication

**Table 1. Correlation coefficient of efficiency index of animal rearing (y) with eighteen independent variables (X<sub>1</sub> – X<sub>18</sub>)**

Variables	Coefficient of correlation (r)
Age(X <sub>1</sub> )	0.031
Caste(X <sub>2</sub> )	0.369**
Farm size(X <sub>3</sub> )	0.048
Land Holding(X <sub>4</sub> )	0.409**
Family Education(X <sub>5</sub> )	0.681**
Family Type(X <sub>6</sub> )	0.093
Economic Status(X <sub>7</sub> )	0.599**
House Type(X <sub>8</sub> )	0.807**
Material Possession(X <sub>9</sub> )	0.714**
Social Participation(X <sub>10</sub> )	0.119
Utilization Pattern of Communication Channel(X <sub>11</sub> )	0.614**
Animal Population(X <sub>12</sub> )	0.685**
Constraint based enterprise performance(X <sub>13</sub> )	0.689**
Performance in livelihood activity based on perceived problem(X <sub>14</sub> )	0.605**
Scientific orientation in livestock rearing(X <sub>15</sub> )	0.759**
Bird population(X <sub>16</sub> )	0.190
Decisiveness in financial affair of enterprise(X <sub>17</sub> )	0.189
Farm Implement(X <sub>18</sub> )	0.587**

\*significant at 5% level of significance.

\*\*significant at 1% level of significance

Table 2 presents the path analysis to decompose the total effect of antecedent variable on the consequent variable into direct, indirect and residual effect of antecedent variable on the consequent variable, efficiency index of farm women in animal and poultry rearing. From table: 23 it is found that the variable scientific orientation has yielded the highest direct effect. It is discernible that scientific orientation has gone supportive in augmenting the level of efficiency index of women in animal rearing. The scientific orientation supports the logic and rationale to become venturesome for banking upon the new alternative vocation and thereby has wielded a clear and convincing effect on the efficiency index of women in animal rearing. The other two variables in order are house type and farm power. In case of indirect effect the variable utilization pattern of communication channel has exerted the highest indirect effect on the efficiency index of women in animal rearing.

Channel, efficiency index of poultry rearing, family education, Constraints based Enterprise performance, Performance in livelihood activity based on perceived problem and caste which altogether have explained 31.36% variation within the study. Thus this factor presents an unquestionable domination over others and can be renamed as Competency Profile. Factor-2 includes the variables economic status, land holding and farm implements which explains 17.98% variation within the study and can be renamed as Social Esteem.

Factor-3 includes the variables Family type and family size which explains 10.49% variation within the study and thus can be renamed as Family Profile.

Factor-4 includes the variables decisiveness in financial affair of enterprise and age which explains 6.66% variation within the study and thus can be renamed Personal Decisiveness.

**Table 2. Path analysis of dependent variable (y) with respect to with eighteen antecedent variables (X<sub>1</sub> – X<sub>18</sub>)**

Variable	Total Effect	Direct Effect	Indirect Effect	Substantial indirect effect		
	(r)	(β)	(r-β)	I	II	III
Age(X <sub>1</sub> )	0.031	-0.174	0.205	X <sub>15</sub>	X <sub>18</sub>	X <sub>7</sub>
Caste(X <sub>2</sub> )	0.396	0.124	0.272	0.104	0.043	-0.030
Farm size(X <sub>3</sub> )	0.048	0.033	0.015	X <sub>8</sub>	X <sub>11</sub>	X <sub>15</sub>
Land Holding(X <sub>4</sub> )	0.409	0.072	0.257	0.119	-0.098	0.096
Family Education(X <sub>5</sub> )	0.681	0.143	0.538	X <sub>6</sub>	X <sub>10</sub>	X <sub>7</sub>
Family Type(X <sub>6</sub> )	0.093	0.05	0.043	0.046	-0.029	-0.020
Economic Status(X <sub>7</sub> )	0.599	-0.202	0.495	X <sub>18</sub>	X <sub>8</sub>	X <sub>7</sub>
House Type(X <sub>8</sub> )	0.807	0.321	0.486	0.183	0.160	0.152
Material Possession(X <sub>9</sub> )	0.714	0.082	0.632	X <sub>8</sub>	X <sub>15</sub>	X <sub>18</sub>
Social Participation(X <sub>10</sub> )	0.119	-0.193	-0.146	0.250	0.240	0.137
Utilization Pattern of Communication Channel(X <sub>11</sub> )	0.614	-0.208	0.822	X <sub>3</sub>	X <sub>7</sub>	X <sub>8</sub>
Animal Population(X <sub>12</sub> )	0.685	0.121	0.564	0.030	-0.024	0.022
Constraint based enterprise performance(X <sub>13</sub> )	0.689	0.068	0.258	X <sub>8</sub>	X <sub>18</sub>	X <sub>15</sub>
Performance in livelihood activity based on perceived problem(X <sub>14</sub> )	0.605	0.07	0.535	0.244	0.244	0.174
Scientific orientation in livestock rearing(X <sub>15</sub> )	0.759	0.415	0.344	X <sub>15</sub>	X	X <sub>18</sub>
Bird population(X <sub>16</sub> )	0.19	-0.011	0.191	0.270	0.180	-0.154
Decisiveness in financial affair of enterprise(X <sub>17</sub> )	0.189	0.072	0.117	X <sub>8</sub>	X <sub>15</sub>	X <sub>18</sub>
Farm Implement(X <sub>18</sub> )	0.587	0.254	0.333	0.280	0.240	0.160
				0.128	0.071	0.069
				X <sub>15</sub>	X <sub>8</sub>	X <sub>7</sub>
				0.258	0.222	-0.111
				X <sub>15</sub>	X <sub>8</sub>	X <sub>11</sub>
				0.270	0.196	-0.129
				X <sub>8</sub>	X <sub>15</sub>	X <sub>18</sub>
				0.257	0.220	0.142
				X <sub>15</sub>	X <sub>8</sub>	X <sub>18</sub>
				0.208	0.205	0.127
				X <sub>8</sub>	X <sub>11</sub>	X <sub>7</sub>
				0.209	-0.130	-0.085
				X <sub>15</sub>	X <sub>8</sub>	X <sub>10</sub>
				0.0790	0.048	0.033
				X <sub>15</sub>	X <sub>8</sub>	X <sub>7</sub>
				0.141	0.055	0.055
				X <sub>8</sub>	X <sub>7</sub>	X <sub>11</sub>
				0.228	-0.192	-0.117

Residual effect=0.395

**Table 3. Factor Analysis**

Factor	Variables with factor loadings >0.550	Eigen Value	% of Variance	Rename
1.	Efficiency index of women in animal rearing, Scientific Livestock rearing, House type, Animal numbers, Material Possess, Communication Channel, efficiency index of poultry rearing, farm education, problem, barriers, caste.	6.27	31.36	Competency profile
2.	Economic status, land holders, farm power.	3.60	17.98	Social esteem
3.	Family type, family size.	2.10	10.49	Family profile
4.	Decision and age	1.33	6.66	Personal decisiveness

## Conclusion

Consequent upon the changed perspective of Indian agriculture the paradigm has been shifted from the frontier agriculture to the back yard sustainable agriculture. The sustainability emphasizes the construct of productivity, profitability and equity of resources. Though the women are the prime mover of scientific livestock and poultry rearing but still the police makers have the biasness to brand the women folk as an inside activity performer. This concept inculcates the new paradigm of women empowerment by increasing the efficiency of women in case of activity performance. In the era of globalization the women farmers also contribute to the value chain of any production system. The women involvement in decision making is now evolving like anything.

The women participation and empowerment bestows the swashbuckling effect of women's performance in any activity conduction and organization. Rather to say the women are the prime mover of scientific agricultural and allied practices. The present study also re-emphasizes the intrinsic essence of women involvement in decision making process on animal rearing and poultry rearing. The journey was started on the ripples of meander of women perception to explore their efficiency index and associated correlates in case of animal and poultry enterprise. In future for developing any policy in the study area the policy makers should concentrate upon the prerogative of the women's efficiency in managing the animal and poultry enterprise. The future extension intervention in the study area in case of women empowerment may be conducted during the leisure hour and leisure period of women. The

performance of women in case of milking of cow, goat, collection and preparation of cow-dung cakes is very high. So these activities can be reconsidered for employment generation. Migration is a major problem to the migration from the village re-emphasizes the need of establishing stop alternative livelihood strategies for the women to uplift their social economy. The health centre and primary school are the two most important institutions which are very much helpful in case of women decision making process.

The innovation related to livestock rearing needs to channelize through these institutions for women empowerment the increased the efficiency of women in livestock rearing leads to the empowerment of women through developing livestock enterprise. Developed livestock enterprise can be ascertained with the help of higher family size, higher level of land holding, enriched family education, developed house type, appropriate utilization of communication channel, positive scientific orientation etc. so this study goes well for developing our future policy in case of increasing the efficiency of women in livestock management through enhanced physical environment and critical decision making ability.

## REFERENCES

- Badigar, C. and Jutle, R. 2004. Participation of rural women in agricultural and animal husbandry activities. *Karnataka J. Agric. Sci.*, 17 (4): 893-898.
- Bardhan, D., Srivastava, R. S. L. and Dabas, Y. P. S. 2005, A study of constraints perceived by farmers in rearing dairy animals. *Indian J. Dairy Sci.*, 58 (3): 214-218.
- Bhagyshri, Y. 2002, Participation of rural women in wool production. *M.Sc. (Agri.) Thesis*(Unpubl.), Univ. Agric. Sci., Dharwad.
- Biradar, N. and Sridhar, 2009, Consequences of 2003 drought in Karnataka with particular references to livestock and fodder. *J. Hum. Ecol.*, 26 (2): 123-130.
- Bordoloi, J. P., Laskar, S. K., Haque, A. and Bora, N. N., 2005. Socioeconomic characteristics of dairy households of Guwahati in Assam. *Indian Veter. J.*, 82 (4):427-429.
- Borgohain, A. and Akand, A. H. 2011. Time Utilization Pattern of Tribal Women in Animal Husbandry, *Indian Res. J. Ext. Edu.* 11 (1), 50-56, 2011
- Carney, D., 1998. *Sustainable rural livelihoods*. Russell Press Ltd., Nottingham, p. 4.
- Chambers, R. and Conway, G. R. 1992. *Sustainable rural livelihoods: Practical concepts for the 21st century*. Discussion Paper 296, Institute of Development Studies, London.
- Chaudhari, R. R., 2006. A study on entrepreneurial behaviour of dairy farmers. *M.Sc. (Agri.) Thesis*, Univ. Agric. Sci., Dharwad.
- Chauhan, D. S., Kamble, V. J., Padghan, P. N., Sawant, R. C. and Kamble, R. R. 2004. Impact of farmers status on milk production in tribal area of Kinwat tahasil (Marathwada region). *Indian J. Animal Res.*, 38 (2): 137-140.
- Gaur, A. K. 2002. Factors influencing adoption of some improved animal husbandry practices of dairy in Anand and Vadodara district of Gujarat state. *Ph.D. Thesis (Unpubl.)*, Gujarat Agric. Univ., S. K. Nagar, Junagarh.
- Gautam, M. and Tripathi, H. 2001. Women in goat husbandry. *Man in India*, 18 (4):313-320.

\*\*\*\*\*