



Empowering rural women through backyard poultry farming: Adoption of Haringhata Black in tribal district of West Bengal

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Rural poultry production sector can ensure a stable income for rural poultry producer with commercial outlook. Even though commercialization can yield substantial gain as it will reduce the cost of production, marketing shall ensure the economies of scale for the group. As individual backyard poultry producer the farmers are facing tremendous problems of getting good quality chicks, feeds, medical supervisions, lack of capital and technical expertise and market volatility (Ramaswami *et al.* 2005, Thamizhselvi and Rao 2010).

Backyard poultry farming is an age old practice in our country India especially among landless, small and marginal farmers of rural areas and similar is the case of Bankura district of West Bengal due to affordability. Backyard poultry in rural areas is often considered as pioneer capital to step out of poverty as these practices provide high value food and a small but instant cash income (Akilu *et al.* 2007, Ahuja *et al.* 2008). The sole reason behind targeting the SHG group members for rearing poultry birds was to empower them socially and financially. The World Bank has connoted that woman empowerment should be key aspect of social development programmes. The native breed of chicken varieties which were grown by the tribals in this district in free range backyard conditions have low productivity and their contribution to egg output is almost static for the last few decades. Therefore, the consumption of eggs in the tribal areas is far below the national average in the country. Increasing the genetic potential of local chicken varieties greatly helps in increasing the availability of products in tribal areas. The chicken varieties being used in the intensive poultry farming cannot survive in free-

range, where the disease challenge is high, climatic variation are harsh and adverse and vary greatly from place to place and season to season. WBCADC Krishi Vigyan Kendra, Sonamukhi, therefore, came up with Haringhata Black (or Black Haringhata, HB) poultry bird adoption in the first year (2018) on On Farm Trial (OFT) mode along with a comparison with Vanaraja breed. HB is the only registered indigenous poultry genetic resource of West Bengal till date. More than 30 years back HB, an indigenous fowl genetic resource, drew the attention of the scientists, planners and developers. Existence of HB chicken has been reported as early as 1984. The breed subsequently disappeared from scientific community till 1994 when draft Country Report on AnGR was prepared (Pan 1994). Later on series of programmes were undertaken on characterization and conservation of the breed during 2009 onwards (Pan 2010, Vij *et al.* 2015, Pan 2016). By virtue of its superb adaptability to backyard system, productivity and disease tolerance, farmers and farm women have shown immense interest towards rearing HB chicken. This breed is jet black in colour and a good layer can produce 130 eggs annually. Farmers maintain the birds on scavenging with negligible supply of crop residue and kitchen waste. However, it was reported that the core breeding tract consisted of northern part of North 24 Parganas and southern part of Nadia district of West Bengal (Vij *et al.* 2015). It had performed too well in the backward and ST populated villages of Bankura district. It was found in the OFT result of 2018 that HB breed stood first on the survival of the fittest test in the tribal areas of Bankura district. This encouraged us to go for Frontline Demonstration with HB breed in two successive years, i.e. 2019 and 2020. The present paper illuminated the status of empowerment of tribal women through backyard poultry farming with HB breed.

The study was conducted for 3 consecutive years, i.e. 2018, 2019 and 2020 in Bankura district of West Bengal. District Bankura is comprised of 22 blocks, out of which 3 blocks from 3 sub-divisions were selected randomly, viz. Mejia from Bankura Sadar, Taldangra from Khatra and

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Sonamukhi from Bishnupur sub-divisions. Fifty farm women from each block were selected randomly, thus making a total of 150 tribal farm women for the study.

In the present study, an ex-post facto research design was used. Before and after design was used to estimate the changes that occurred due to adoption of backyard poultry farming with Haringhata black along with 3 groups in 3 blocks, where the women respondents were interviewed. Finally the difference was calculated to get the actual impact.

Data collection was done using a well-structured and pre-tested interview schedule which covered all the dimensions of involvement of women in management and health care, i.e. housing, feeding, breeding, healthcare, marketing and income from backyard poultry. Frequency and percentage analysis was used to analyse these data. Along with this, structured interview schedule based on Hashemi *et al.* (1996), empowerment indicators were developed. The responses were measured using a five point continuum Likert scale (0= strongly disagree to 4 = strongly agree). Regression analysis was used to analyze these data. Thus the schedule was prepared and pretested on 30 non-sample rural women having backyard poultry other than the true respondent from the selected blocks and required alterations were made based on remarks of non-sample respondents.

Haringhata Black breed has been mainly reared by the women. It was used for both meat and egg purpose. The birds were supplemented with only kitchen waste and paddy grains, but no commercial feed were given. Common diseases like fever, cold, drowsiness, diarrhea, chalky or greenish faces, worm infestation, etc. were reported by the farm women and both herbal and allopathic treatments were given. Characteristics of backyard poultry women, their empowerment factors and other statistical analysis are given below.

The demographic characteristics of backyard poultry practicing women are shown in Table 1. It is clear from the table that majority of the women members who came forward to rear HB were middle-aged (between 35 and 45 years). The data reveals that 62% of the group members passed matriculation or above (10th+). Almost all the group members possess land (95%) and more than half of them possess livestock (58%). A good percentage of them show vaccination knowledge (80%) and marketing channel linkage (78%). Though they have good marketing linkage on other farm product but they are restrained from selling egg and birds as only 30% of them are up for selling. Though the percentage is low but it has shown high nutritional support to the family members. Skill development training at KVK raised the group members poultry management skills as 62% of them were good in egg handling and 60% of them build up low cost egg storage unit. After receiving training from KVK Bankura 98% of them had practiced deworming but hatching practices showed dip in percentage which is only 45%.

Among the 150 respondents, 79 respondents (52.6%)

Table 1. Characteristics of women farmers practicing backyard poultry farming

Characteristic	Distribution of respondents (%)	
<i>Socio-economic characteristics of BPW</i>		
(a) Age	Young (25–35 years)	35.0
	Middle (35–45 years)	55.0
	Aged (45–55 years)	10.0
(b) Education	12 th Pass and above	20.0
	10 th Pass	62.0
	8 th Pass	10.0
	Can only sign	8.0
(c) Resources	Land Possessed	95.0
	Livestock Possessed	58.0
(d) Family	Nuclear	47.0
	Joint	53.0
(e) Monthly family income	Low (Upto ₹ 3000)	24.7
	Medium (> ₹ 3000–10000)	52.7
	High (> ₹ 10000)	22.6
<i>Technology and marketing related characteristics of BPW</i>		
(a) Technological	Overall knowledge level on vaccination	80.0
	Deworming	98.0
	Least cost method of egg storage	60.0
	Hatching technique	45.0
	Egg handling	62.0
(b) Marketing	Sold birds to middleman	24.0
	Directly to consumer and weekly market	73.0
	Both the above	3.0
	Willingness for marketing of birds and egg	30.0

BPW, Backyard Poultry Women.

have a monthly income of ₹3001 to 10000. In addition, 24.6% of the respondents comes under low income group and earn up to ₹ 3000 per month. A further 22.6% of the respondents earn more than ₹10000 in a month (Table 1).

Dissemination of this new breed HB in the backward district like Bankura supported with skill development training has positively increased the empowerment level of the SHG members. As in Table 2, difference between before and after knowledge test has shown that on average the economic and social empowerment got spiked rise in percentage but a moderate rise in psychological and technological empowerment, all these categories are based on dimension of gender analysis (Basu 2019).

Among the respondents, 9.3% have less than one year experience in backyard poultry farming, 44.6% have been involved with poultry farming for 1 to 4 years, while 32% is involved in poultry farming as business for 4–6 years. Only 14% of the respondents have been involved with poultry rearing for more than 8 years.

Empowerment of farm women through backyard poultry farming was considered as the dependent variable in the study. Index for empowerment factors was developed. To determine the empowerment factors, the aspects namely Independence for spending money, Independent decision

Table 2. Different categories of empowerment of BPW

Categories	Distribution of respondents (%)
<i>Economic Empowerment</i>	
Increased savings habit	75
Obtained additional income	90
Decided spending of money on my own	60
Utilized the additional income for children's education and to improve the household facilities	70
<i>Social Empowerment</i>	
Wider Social contact	80
Farm and home problem solving	45
Planning and management of household affairs	40
Developed leadership	70
More social participation	87
Shown keen interest in public issues	60
<i>Psychological Empowerment</i>	
More positive and dynamic in approach	88
More self confidence	62
More risk taking and innovative	20
Highly motivated	15
More decisive	25
<i>Technological Empowerment</i>	
Feeding techniques	85
Disease prevention	90
Deworming	98
Egg storage	60
Handling techniques	62
Hatching techniques	45
Marketing techniques	30

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making authority, Involvement in family affairs, Control over poultry rearing practices were included (Singh 2015). Scale base responses were collected on five point continuum, i.e. 0= strongly disagree through 4 = strongly agree and the scores of 4, 3, 2, 1, and 0 were assigned, respectively. There are several factors which may indicate the empowerment of women through backyard poultry farming. Factors like, independence in spending money,

independent decision making authority, position and involvement in family affairs, control over poultry rearing practices, availability of low input birds and accessibility of extension services were included for determining empowerment status (Singh 2015). Empowerment factors were categorized into low, medium and high level of empowering factors using the equi-distant distribution methods. The data also revealed that 58% of farm women had medium level of empower and remaining 24% of them were found to have low level of empowering factors. Only 18% of farm women had high level of empowering factors.

We have used multiple regressions analysis to identify which were the most significant factors in the empowerment of rural women in India. The regression analysis indicated that the overall model has got R² value of 0.196, p<0.05. The data represents that position and involvement in family affairs (b=0.380, p<0.05) was found to have positive and significant value of 't' for 'b' at 5% level of significance while independent decision making authority (0.073*, p<0.10) and availability of low input birds (0.343*, p<0.10) are significantly associated with the empowerment of rural women.

Due to farming with HB breed of poultry under backyard system, the rural tribal women farmers of the SHGs respond to the queries related to increment in monthly income and show that their family income enhanced considerably. The pre-intervention income ranges from ₹530 to ₹770, while the same for the post-intervention ranges from ₹1,025 to 1,800. Correspondingly, the B:C ratio also changes from 1.3 to 4.1 due to improved breed rearing.

Implications of the present study indicate that HB, as a poultry bird suitable for backyard farming, has got wide adaptability in free range system at different blocks of Bankura districts. It was found that though is beginning the SHGs were supported with 10 number of bird per group members from KVK Bankura in free of cost and later on some group members turned up individually as an entrepreneur with Haringhata black poultry bird. This livelihood option has empowered them economically, socially and even in family as decision making authority. By virtue of high disease resistance and low mortality

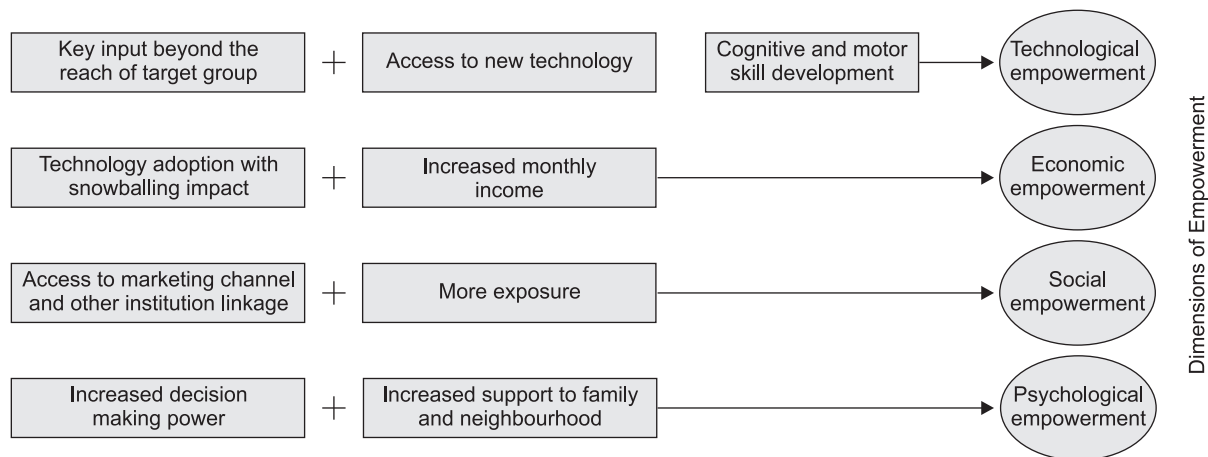


Fig. 1. Schematic model on factors inducing empowerment through BPFHB.

percentage this Haringhata chick is one of the best entrepreneurial and empowering factors of rural women in the Bankura district. Different analysis presented above has put forward some factors which induced the empowerment status of the rural women. Different interview schedule and statistical analysis has shown that when introduction to a new technology is supported with skill development training and key inputs beyond the reach of target group it gives technological empowerment whereas full scale adoption of technology accompanied with snowballing impact in case of adoption, i.e. peer pressures and increased monthly income, it gives financial empowerment. It has been found that when each SHG were provided with 100 chicks of Haringhata black as key input, observing the radical performance of the breed several youth came up to purchase the breed to start a new entrepreneurship. This snowballing impact on adoption aided the dissemination technology too. Increased financial empowerment also levelled up their institutional linkage and decision making power which induced societal and psychological empowerment (Fig. 1).

Backyard poultry farming has been found as an important livelihood option among the tribal SHG member and farm women in Bankura especially with HB. It not only meets the nutritional security but also supports the additional income and as a whole increases their empowerment status. It is evident from the study that tribals are well aware of taste of Desi chicks and they are accustomed with rearing bird with their indigenous technique. Adoption of HB has got accelerated positive and vertical growth as taste of this bird beats other locally available birds like broiler, RIR and also as it has got high disease resistance and low mortality at field level free ranging system too. It may be concluded that HB fowl is genetically superior and they play an important role in self-employment in those particular area where the poultry farming is the only source of income. Apart from that, the by-product obtained from them is also the way of income such as feather can be used for making pillow, broom, other fancy things, etc. overall, through selective breeding, vaccination, the superiority can be widen. And also the role of village people in conserving this indigenous/ 'Desi' fowl breed is remarkable.

SUMMARY

Rural women play a vital role in agricultural and allied sectors development but often lack the empowerment and recognition. The present paper aims to present a simple but effective empowerment strategy for rural women with backyard poultry farming. A sample size of 150 self-help groups (SHG) women members who were rearing backyard poultry belonging to ten different villages of Bankura; which were selected purposively based on highest populated SC/ST villages of the district. The project was funded by District Magistrate office, ATMA, Bankura which included one demonstration unit at KVK Campus and other with SHGs

at 10 villages. Skill development training programme were conducted to the selected SHG women on the various backyard poultry technologies /practices identified in the scheme and inputs like day-old chicks, feeds and vaccines were distributed to them. Follow-up visits for evaluation and monitoring were regularly conducted for offering technical advice. Three fourths (75%) of the beneficiaries expressed that they were economically empowered and their savings habit had improved after participation in the scheme. Majority (90%) observed that obtained additional income through this project on following the various low cost management technologies. Regression analysis revealed that position and involvement in family affairs has got positive and significant value while independent decision making authority and availability of low input birds are significantly associated with the empowerment of rural women in the sample area. Overall, the scheme created economical, social, psychological and technological impact among the poultry women facilitating empowerment of women in rural areas.

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