



## Cross-sectional Study on Social Diversity of Farmers and Constraints in Native Vezaguda Chicken Rearing

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**ABSTRACT:** Vezaguda chicken variety is the indigenous lesser known chicken population, found in Koraput district and being reared for triple causes viz., meat, egg and game. Significant dependency between block with age, education and housing of farmer was found. Other social factors such as flock size, marketing and impact were having no association with blocks. Tribal farmers faced a lot of constraints regarding poultry farming. Incidence of diseases was found to be major constraint faced by farmers followed by attack of predators and lack of knowledge on management. Other constraints include lack of quality feed, unhygienic, lack of veterinary support, disorganized market, financial support from government.

**Keywords:** Chicken, Constraints, Diversity, Vezaguda.

### INTRODUCTION

Backyard poultry farming is a rearing practice that includes an indigenous scavenging system with night shelter system, little supplementary feeding, natural hatching of chicks, local marketing, minimal health care practice and low productivity (Vij *et al.*, 2015). The most important positive character of native chicken is their hardiness and ability to tolerate harsh environmental conditions (Dessie *et al.*, 2011).

Koraput district harbours most of the tribes and a large proportion of them rear backyard poultry since generations. The tribal people in this district keep backyard poultry under the natural scavenging system due to suitable climatic conditions. Due to climatic adaptability and easy rearing practice of the backyard poultry, rural people which constitutes 72.2 percent of the total population adopt backyard poultry farming as a basic income source (Ali *et al.*, 2015). Vezaguda chicken variety is the indigenous lesser known chicken population, found in Koraput district and being reared for triple causes viz., meat, egg and game. With objective of assessing the social profiling of farmers and constraints connected to Vezaguda poultry management the present study is taken up in three representative blocks in the native tract of Vezaguda chicken in Koraput district of Odisha.

### MATERIALS AND METHODS

The study was carried out in Koraput district of Odisha, which is the native tract of Vezaguda chicken. Information on social status of farmers and constraints in backyard poultry rearing was collected from 240 farmers rearing Vezaguda chicken in three blocks viz.,

Similiguda, Potangi and Lamptaput. The information was collected through personal interview method using a standard pre-tested interview schedule specially designed for the purpose. The data thus collected were analysed using Snedecor and Cochran (1989) statistical methods.

### RESULTS AND DISCUSSION

*A. Frequency distribution of Vezaguda poultry farmers*  
Frequency distribution of poultry farmers with regard to their socio-economic profile across 3 blocks along with Chi-square test of independence to examine the relation between block and individual socio-economic factors of poultry farmers is presented in Table 1.

It was revealed that, gender of farmers was independent of block, indicating the fact that, 37.1% of all farmers were found to be females against 62.9% males. This trend was similar in all three blocks under present study.

Maximum farmers (68.8%) were found to be under moderate age group in pooled sample and corresponding proportions of younger and older farmers were estimated as 16.2% and 15%, respectively. In other words out of 6 farmers 4 were middle aged farmers and one each from young and old group. However, significant dependency was found between the two factors viz., block and age revealing that, Similiguda and Potangi block harboured significantly more young farmers than block 3. Similarly more elderly farmers were available in Potangi and Lamataput block compared with that of block Similiguda.

It was observed from the Table 1 that, maximum poultry keepers (77.9%) had qualification of up to class

X and corresponding proportion of 22.1% of farmers had qualification of more than that. However, significant dependency was found between two factors viz., education and block revealing that, 32.5% of farmers were educationally qualified whereas, other two blocks such as Potangi and Lamptaput constituted 18.7% & 15%, respectively. Similarly percentage of least educationally qualified farmers was more in Potangi and Lamataput block compared with Similiguda block.

It was observed that small flock size up to 30 birds was maintained by maximum farmers (47.9%) and large flock size of more than 45 birds was maintained by 7.9% of the farmers. 44.2% of the farmers maintained average flock of 31 to 45 birds. This trend is similar in all three blocks with the exception that higher percentage of farmers (52.5%) maintained flock size of 31 to 45 birds. No significant dependency was found between this two factors viz., block and flock size.

It was found from the present study that 64.6% of all farmers sell their birds in local market against 35.4% of the farmers who sell at nearby town. This trend is similar in all three blocks under present study. Chi-square test revealed that, there was no significance

dependency found between two factors viz., block and marketing of backyard poultry birds.

Backyard poultry rearing has an impact on social welfare of the rural family as it helps for the improvement of the social status and provides financial support to the farmers. From the present study conducted in three blocks it was revealed that no significant ( $p < 0.05$ ) association was found between two factors viz., impact of backyard poultry on social welfare and block. This system has moderate impact on maximum percentage of farmers (47.5%) and good, little and poor impact on 12.9%, 22.5% and 17.1% of farmers, respectively.

Maximum farmers (66.8%) practiced poor housing system, which included dhekighar (26.7%), house corner (22.5%) and left outside (16.7%) and corresponding proportion of separate housing system was found to be 34.2%. Significant dependency ( $p < 0.05$ ) was recorded in between these two factors - housing and block.

Most of the above findings are in line with the opinion of Vij *et al.* (2015) in Haringhata black chicken farmers, Rahman (2017).

**Table 1: Frequency distribution of Vezaguda poultry farmers across social factors across blocks.**

Factors		Similiguda	Potangi	Lamptaput	Total	$\chi^2$
Gender	female	26(32.5)	34(42.5)	29(36.2)	89(37.1)	1.750
	male	54(67.5)	46(57.5)	51(63.8)	151(62.9)	
Age	Up to 30 years	16(20.0)	18(22.5)	5(6.2)	39(16.2)	12.123*
	31 to 45 years	57(71.2)	48(60.0)	60(75.0)	165(68.8)	
	Above 46 years	7(8.8)	14(17.5)	15(18.8)	36(15.0)	
Education	No schooling	12(15.0)	22(27.5)	16(20.0)	50(20.8)	13.370*
	Up to class v	16(20.0)	16(20.0)	27(33.8)	59(24.6)	
	Class v to x	26(32.5)	27(33.8)	25(31.2)	78(32.5)	
	More than x	26(32.5)	15(18.7)	12(15)	53(22.1)	
Flock Size	Up to 30 birds	31(38.8)	46(57.5)	38(47.5)	115(47.9)	6.421
	31 to 45 birds	42(52.5)	30(37.5)	34(42.5)	106(44.2)	
	More than 45 birds	7(8.8)	4(5.0)	8(10.0)	19(7.9)	
Marketing	Local market	53(66.2)	50(62.5)	52(65.0)	155(64.6)	0.255
	Near by town	27(33.8)	30(37.5)	28(35.0)	85(35.4)	
Impact	Good	16(20.0)	4(5.0)	11(13.8)	31(12.9)	10.903
	Moderate	38(47.5)	39(48.8)	37(46.2)	114(47.5)	
	Little	17(21.2)	18(22.5)	19(23.8)	54(22.5)	
	Poor	9(11.2)	19(23.8)	13(16.2)	41(17.1)	
Housing	Dhekighar	23(28.8)	28(35.0)	13(16.2)	64(26.7)	13.100*
	House corner	19(23.8)	20(25.0)	15(18.8)	54(22.5)	
	Left outside	10(12.5)	10(12.5)	20(25.0)	40(16.7)	
	Separate house	28(35.0)	22(27.5)	32(40.0)	82(34.2)	
Total		80(100.0)	80(100.0)	80(100.0)	240(100.0)	

Figures in parentheses indicate percentage across column under a factor, \* $p < 0.05$

#### B. Analysis of constraints in Vezaguda poultry production system in native tract

Distribution of responses with regard to individual rankings along with mean Garrett scores and final Garrett rankings are presented in Table 2 and Fig. 1. Incidence of diseases was found to be the most important/vital constraint in poultry rearing in the present study and availability of germplasm was the least important one, taking all the farmers into account.

Other constraints were placed in between these two with rankings of II to IX, respectively.

As per the views of the farmers, maximum death of birds occurred due to prevalence of diseases such as ranikhet, fowlpox etc. It may be due to the fact that, they considered that, their major factor for loss was attributed towards mostly death of birds. This was followed by attack of predator as next important constraint and the cause may be due to predominance of

predators in the hilly regions in three blocks of Koraput district.

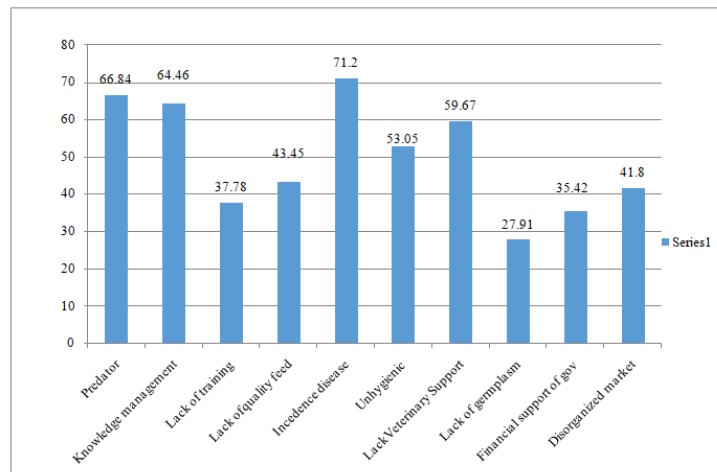
However lack of training, financial support from government and lack of germplasm were found to be the least important constraints according to the farmers. It may be due to the fact that farmers often give priority to management system over its genetic superiority.

Tribal farmers faced a lot of constraints regarding poultry farming. Incidence of diseases was found to be

major constraints faced by farmers followed by attack of predators and lack of knowledge on management. Other constraints include lack of quality feed, unhygienic, lack of veterinary support, disorganized market, financial support from government. Incidence of diseases, found to be the most important/vital constraint in the present study and this agreed with reports of Swain *et al.* (2009) in Goa and Ali *et al.* (2015) on a similar study in Bangladesh.

**Table 2: Ranking of different constraints on backyard poultry farming.**

Sr. No.	Rank Constraints	Rank										Total Score	No. of Respondents	Mean	Overall Rank
		I	II	III	IV	V	VI	VII	VIII	IX	X				
1.	Predator	72	49	50	20	33	2	7	7	0	0	16042	240	66.84	2
2.	Knowledge management	46	56	51	41	14	25	5	0	0	0	15471	240	64.46	3
3.	Lack of training	0	0	10	2	17	23	63	54	33	38	9069	240	37.78	8
4.	Lack of quality feed	0	4	7	14	31	70	45	35	8	26	10429	240	43.45	6
5.	Incidence disease	89	72	49	15	15	0	0	0	0	0	17090	240	71.20	1
6.	Unhygienic	3	19	29	73	36	26	25	15	7	7	12734	240	53.05	5
7.	Lack of Veterinary Support	25	34	36	50	47	37	10	1	0	0	14322	240	59.67	4
8.	Lack of germplasm	0	0	0	0	0	6	11	57	71	95	6699	240	27.91	10
9.	Financial support of gov	0	1	0	4	21	22	48	42	52	50	8501	240	35.42	9
10.	Disorganized market	4	2	8	21	30	34	31	33	61	16	10053	240	41.8	7



**Fig. 1.** Mean scores of respective constraints with regard to Garrett ranking.

## CONCLUSIONS

Cross-sectional social diversity analysis of farmers rearing Vezaguda poultry population reveals significant dependency between block with age, education and housing of farmer was found. Other social factors such as flock size, marketing and impact were having no association with blocks. Analysing the constraints connected to management of backyard rearing of chicken, tribal farmers are facing a lot of constraints. Incidence of diseases was found to be major constraints faced by farmers followed by attack of predators and lack of knowledge on management. Other constraints include lack of quality feed, unhygienic, lack of

veterinary support, disorganized market, financial support from government. Strategic planning may be made targeting removal of constraints and ensure hurdle free rearing of this native chicken population having all potentials to get registered as a unique chicken breed.

## FUTURE SCOPE

Present findings on frequency distribution of farmers across social parameters and ranking of constraints in native chicken rearing could be used in decision making strategy for policy making triggering livelihood enhancement of backyard poultry farmers and

conservation of Vezaguda chicken with all potentials for registration as a unique chicken breed.

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**Conflict of Interest.** None.

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