

## **Strategies for Promotion of Improved Native Chicken Strain in Rural Family Poultry: Evidence from Rural households of Ramanathapuram district**

**Sangameswaran R<sup>1</sup> and Sasidhar PVK<sup>2</sup>**

### **ABSTRACT**

The rural backyard poultry although losing its importance under the impact of modernization and industrialization, is still prevalent in rural and tribal areas of the country (Ahlawat, 2013). An ex-post facto study was conducted in cluster of four villages of Ramanathapuram for accessing the impact of improved variety of chicken in dry land area among the rural household. The data the data regarding socio-personal variables, aspiration toward choice of variety, intervention adopted and liking of interventions through pre-tested interview schedule. The descriptive statistics were used to analyze the data. All the respondents surveyed were rearing the improved variety for egg production for household purpose. Majority of the respondents expressed their interest in procuring and rearing improved variety. The major constraints perceived by the respondents were injury among the birds due to pecking behavior and mortality of chicks due to RD and Pox. It can be concluded that there was appreciable change in KASA of adoption of recommended practices but no practice changes were noticed among respondents in adopting disease preventive measures. It can be suggested from the study that farmers' preference in choice of improved variety (which variety?) should be taken into account while distribution of BYP, Providing pre-intervention formal training may enhance better adoption of improved scientific practices and BYP farmers should be promoted to raise desi chicks for brooding the eggs of the improved variety of BYP.

**Key words:** Aseel cross, giriraja, improved chicken strain, managerial practices,

### **INTRODUCTION**

There is growing evidence to demonstrate the role of backyard poultry in sustaining and enhancing poor peoples' livelihoods (Ahuja *et al.*, 2008) enhancing the food and nutrition security of the poorest households (Ahuja, 2004; Ahuja and Sen, 2007). The rural backyard poultry although losing its importance under the impact of modernization and industrialization, is still prevalent in rural and tribal areas of the country (Ahlawat, 2013). The distribution of the birds is seen as an end itself rather than means to improve nutritional status and source of supplementary income. The veterinary health care and extension advisory, a must for rearing improved strains, is almost nonexistent for the backyard poultry resulting in huge losses to the back yard poultry rearing rural poor households. There is the need to study the impact of

rearing improved variety of Chicken in backyard. This paper focuses on identifying the Strategies for Promotion of Improved Native Chicken Strain in Rural Family Poultry for ensuring income generation and nutritional security

### **METHODOLOGY**

The study was conducted in cluster of four villages of Ramanathapuram. With the light of above findings, an attempt is made to assess the impact of improved variety of chicken in dry land area of Tamil Nadu. Out of 64 rural farmers who were benefitted with the distribution of improved strains of chicks 24 respondents were selected randomly. An ex-post facto study was conducted among them to assess the impact by collecting the data regarding socio-personal variables, aspiration toward choice of variety, intervention adopted and liking of interventions

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<sup>1</sup> Assistant Professor, TANUVAS-VCRI, Tirunelveli and <sup>2</sup> Director, School of Extension and Development Studies, IGNOU, New Delhi

through pre-tested interview schedule. The descriptive statistics were used to analyze the data.

## RESULTS AND DISCUSSION

### Profile Characteristics of the Respondents

Distribution of the respondents based on socio-personal characteristics were presented in Table 1. The results showed that majority of the respondents were middle-aged. There was no much difference in the distribution of respondents among young aged and old aged group. Out of 24 respondents surveyed majority (75%) of them were of female and rest (25 %) were male. This finding is contradictory to the findings of Balamurugan et al (2017) in Theni district where women participation in backyard poultry rearing was very low. Majority of the respondents didn't have formal education. Only 2 out of 24 respondents had their higher secondary education and 2 were graduates. The finding of the study were in agreement with Mandal *et al* (2006) whereas contradictory to the findings of Balamurugan et al (2017) who reported that highest numbers of respondents of Theni who were involved in BYP were graduates. Higher numbers of respondents belonged to small family size (Less than four). No respondent in the study belonged to large family size. The finding is similar to Balamurugan *et al* (2017) and not in agreement with Singh and Jilani (2005) who reported that majority of BYP farmers of Himalayas belonged to medium family size. The main source of income for fifty per cent of the respondents was through daily wages followed by agriculture labour (8 out of 24). Solely one respondent was involved in goat rearing for income. Out of 24 respondents surveyed about fifty per cent of the respondents were rearing desi chicken. Only two respondents were distributed Aseel cross chicks and all rest of the respondents were rearing Giriraja chicks. Total number of native chicken reared was 74. Presently 14 Aseel cross chicks were available among the two respondents. A total of 196 Giriraja chicks were present with 22 respondents. Of all the respondents rearing native chicken, mode of acquisition was through natural hatching. All the respondents were distributed with one month aged improved variety of chicks. Majority of the respondents were marginal farmers followed by landless farmers. Solely two respondents were having land more than 2.5 acres. It was interesting to note from Table 1 that all the respondents surveyed were rearing the improved variety for egg production for household purpose. No respondents were interested in rearing improved variety for meat purpose. It was evident from the observation that no respondents slaughtered the birds for meat or household consumption. Solely one respondent approached butcher shops for sales of improved variety of chicks.

**Table 1: Profile Characteristics of the respondents**

Categories	N
Age	
Young (< 31)	3
Middle (31 to 54)	17
Old (> 54)	4
Gender	
Male	06
Female	18
Education	
Illiterate	12
Primary	05
Secondary	3
Higher secondary	2
Degree	2
Family size	
Small (Less than 4)	14
Medium(4-7)	10
Large(Greater than 7	00
Occupation	
Agriculture	3
Livestock rearing	1
Agriculture labourer	8
Others	12
Land holding	
Landless	8
Marginal farmers	14
Small farmers	1
Large farmers	1
Total	24

The distribution of the respondents based on the mode of improved variety acquisition is presented in Table 2. It was observed that cent per cent mortality of chicks due to Ranikhets disease was observed with two respondents. A total of 298 chicks were died due to various reasons such as Ranikhets disease, Pox, drowning and unknown reasons. It is observed about that all the respondents were aware about Ranikhets disease and Pox. Thirty six chicks were lost due to predation by dogs, eagle and mongoose. Three chicks were lost by theft.

Only one respondent availed treatment services for their chicks from veterinary hospital for providing treatment to their ailing chicks. No respondents expressed their willingness to get their chicks vaccinated from the institution. All the respondents perceived that the accessibility to market and availing inputs were less. 17 out of 24 respondents perceived that veterinary centers were accessible for availing to chicks. Only 3 out of 24 respondents expressed their willingness to buy chicks to replace the mortality.

**Table 2: Distribution of the respondents based on Poultry strain**

Type	Number of families rearing	Total number of chicks	Died
Aseel cross	2	14	298
Giriraja	22	196	

### Managemental Practices Followed For Rearing Improved Native Chicken

The managemental practices followed for rearing improved native chicken were presented in Table 2. Solely one respondent reared the chicken by semi-intensive method. Majority of the respondents (87.5 %) were allowing the chicken to scavenge in the day time and providing improvised night shelter to their chicken. Two respondents were rearing the chicks in intensive method. It is observed that majority of the respondents (66.67 %) were providing additional feed (Cumbu, Broken rice, spinach leaves) to their chicken along with scavenging. Only one respondent was providing concentrates to their Chicken. Majority (95.83%) respondents were using the housing provided to them whereas. On the contrary, about 70 per cent of the respondents were practicing vaccination against New castle diseases to their chicken. Based on a review of available evidence, Ahuja and Sen (2007) concluded that concerted efforts must be made to find organizational solutions to minimize public-health risks and provide appropriate extension support while promoting village poultry.

**Table 2: Managemental practices followed for rearing improved native chicken**

Type	Categories	Frequency *
System of rearing	Free range	21 (87.50)
	Semi-intensive	1(4.17)
	Intensive	2(8.33)
Feeding	Scavenging only	5(20.83)
	Concentrates only	1(4.17)
	Scavenging & Addl. Feed supplementation	16(66.67)
	Scavenging & Concentrates	2(8.33)
Housing	Provided	23(95.83)
	Not provided	1(4.17)
Deworming	Provided	3(12.50)
	Not provided	21(87.50)
Vaccination	Provided	7(29.17)
	Not provided	17(70.83)

\*Figures in parentheses represent percentage

While rearing improved variety chicks, the interventions adopted by the respondents were observed and the same were given in Table 3. There was change in supplementation of vitamin and antibiotic (54 %), seeking extension advice (17%), and feeding the weak birds separately (62.5 %). It was not a common practice to take the dead birds for post mortem examination. Only five respondents informed the mortality of birds to the veterinarian. The satisfaction of the respondents were studied considering the degree of interest in rearing the birds, the extent of liking towards several activities in rearing birds and also the positive and negative reactions of the respondents. The degree of interest among the respondents in rearing chicks was ascertained in three

categories viz. not interested, interested and very much interested. The data revealed that barring two, the rest of the respondents expressed their interest in procuring and rearing improved variety.

The responses in terms of their reactions both positive and negative as expressed by the respondents were observed. Few important positive reactions expressed by the respondents were viz., happy to see children enjoying with birds and wanted to rear more birds for eggs, attachment of chicks with them. The negative reactions expressed by few of the respondents were strained relations with the neighbors, need for extra labour for taking care in management of chicks, no microcredit facilities and non-availability of improved variety of chicks for replacing the dead birds.

**Table 3: Interventions adopted for improved strain of BYP rearing**

Interventions	Frequency*
Artificial brooding	-
Vitamin and antibiotic supplementation	13(54.17)
Extension advice	4(16.67)
Feeding the weak birds separately	15(62.50)
Deworming	2(8.33)
Commercial feed supplementation	11(45.83)
Vaccination against RD	6(25.00)
Vaccination against Fowl Pox	0(0.00)
Providing clean water	16(66.67)
Treatment of sick birds	11(45.83)
Taking the dead birds to PM	0(0.00)
Marketing of eggs	2(8.33)
Marketing of eggs/chicken	1(4.17)

\*Figures in parentheses represent percentage

### Aspirations of the respondents in rearing improved strain

The data pertaining to the aspirations on changes in flock size and choice of variety of chicks were also collected and the details were given below:

#### Change in flock size

The data in Table 4 showed that only four respondents wanted to increase their flock size, fifty per cent wanted to maintain the same size and eight respondents wanted to decrease their flock size. This showed that there is majority of the respondent households mainly because there is less scope to increase the flock size by purchasing day old chicks to replace the dead stock due to various reasons.

#### Choice of strain

The figures in Table 5 indicated that all the respondents wanted to rear the local variety, six respondents wanted to rear Aseel cross and seventy five per cent liked to rear Giriraja birds. Overall it could be inferred that all the respondents were satisfied with the performance of the Aseel cross strain and solely three

respondents were satisfied with the rearing of other strains.

### Other aspirations

The respondents had other aspirations which include increase in the egg production for household consumption and face more risk in sale of birds. All the respondents wanted to raise the improved variety for egg production for household consumption and to utilize the eggs for brooding.

**Table 4: Respondents' aspirations on flock size**

Flock size	Frequency	Percentage
Same number	12	50.00
Decrease	8	33.33
Increase	4	16.67

**Table 5: Respondents' aspirations on poultry strain**

Flock size	Frequency	Percentage
Only Aseel cross	3	12.50
Other improved variety	18	75.00
Local variety	24	100.00

### Constraints perceived by byp farmers in rearing improved strains of chicken

The major constraints perceived by the respondents were mortality of chicks due to RD and Pox. High feed cost is the next major constraints followed by predation and lack of labour for taking care of chicks. About 4 respondents did not perceive any constraints in rearing improved variety of chicks (BYP). The diffusion of rearing improved native variety chicks was also observed. 5 out of 24 respondents reported that their relations within their respective neighbors were strained. There were also instances where the cosmopolitanness of the respondents got improved due to rearing of improved variety of chicks. The study conducted by Athilakshmi and Rao (2013) in Karaikal region reported that i) Poultry farmers reared successfully Swarnadhara day old chicks and ii) most of them developed attachment to the birds and reared them for egg production instead of using them for home consumption as chicken. Based on the study conducted by Rajalakhmi *et al* (2015) in Puducherry region concluded that the rural households can purchase and rear day old chicks. They were ready to pay for the technical inputs and extension advisory services if provided regularly.

**Table 6: Constraints perceived by BYP farmers in rearing improved varieties of chicken**

Particulars	Frequency *
Constraints	
Injury due to pecking behaviour	22
Mortality due to diseases	10
High feed cost	08

Predation	04
Lack of labour	05
Housing constraint	01
Marketing constraint	01
Problem with neighbours	01
No constraints	06

\*Multiple responses

## CONCLUSION

Supply of one month improved strain poultry to the interested and trained farmers with sufficient backyard for providing scavenging base will ensure the success of the backyard poultry scheme implemented by the developmental agencies and NGOs. It can be suggested that the stakeholders should consider the Farmers' preference in choice of improved variety (which variety?) and results of the marketing survey. It is essential to ensure that Extension advisory services should be provided to the BYP farmers to take appropriate decisions on scientific management practices and group marketing strategies for reaping maximum benefit from BYP enterprise.

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