CONSTRAINT ANALYSIS IN BACKYARD POULTRY FARMING: A STUDY IN THIRUVANNAMALAI DISTRICT OF TAMIL NADU

R.Rajendran and K.Premavalli
Institute of Poultry Production and Management,
Tamil Nadu Veterinary and Animal Sciences University,
Chennai – 600 051

Email: r.rajendran@tanuvas.org.in; vrragb@rediffmail.com

Received 16-7-2013 Accepted 9-9-2013

ABSTRACT

A study was conducted to find out the constraints in backyard poultry farming in five randomly selected villages of Thiruvannamalai district of Tamil Nadu. The information provided by farmers was analyzed by Rank Based Quotient (RBQ) method. Predation was perceived as a very serious constraint followed by damage to field crops, quarrel with neighbours and loss due to diseases. The non-disease issues should also be taken into consideration while formulating programmes targeting backyard poultry and necessary remedial measures be taken to address these problems.

KEY WORDS : backyard poultry, constraints, RBQ

INTRODUCTION

Backyard poultry in India is characterized by small flock size of 5-10 predominantly non-descript birds maintained in extensive system under zero input conditions. In India, poultry farming under backyard system is as old as its civilization. Backyard poultry farming by and large is a low input or no input venture and is characterized by indigenous night shelter, scavenging system, with little supplementary feeding, natural hatching of chicks, poor productivity of birds, local marketing and no health care practice (Saha, 2003). Rural backyard poultry still contributes nearly 30% to the egg production of India. Besides income generation, rural backyard poultry provides nutrition supplementation in the form of valuable animal protein and empowers women. The present study was an attempt to identify the constraints perceived by backyard poultry owners and to rank the constraints in terms of its seriousness.

MATERIALS AND METHODS

This study was conducted in Thiruvannamali district of Tamil Nadu. Five villages were selected randomly and from each village, five farmers were selected. Firstly, the farmers were collectively asked to identify the problems in their village in relation to the constraints in backyard poultry farming. Once the problems were identified in the village, each farmer was asked separately to rank the problems without having interaction with other farmers. Thus, each farmer had his own independent opinion regarding the seriousness of the problem faced. The information provided by the farmers to each factor/problems was used in preparation of Rank Based Quotient(RBQ) and the value for each factor at village level were estimated as described by Sabarathnam and Vennila (1996).

Rank Based Quotient for each factor at village level was estimated as follows:

$$RBQ = \frac{S\ fi\ (n+1-i)\ x100}{Nn}$$

Where fi= the frequency of farmers for the i^{th} rank of the problem; N=the number of farmers; n= the number of ranks/problems

At district level, the RBQ values were calculated using weighed average of village level RBQ

RBQ = S $W_{ij}R_{ij}$

W_{ij} = 1/5, if i^{th} problem identified in j^{th} village

= 0, otherwise

R_{ij} = RBQ value of i^{th} problem in j^{th} village

The problems were then arranged in the order of importance/seriousness on the basis of their RBQ values.

RESULTS AND DISCUSSION

A total of nine constraints were perceived by the farmers in raising poultry in their locality. The constraints in the order of importance with the respective RBQ values are furnished in Table 1. Predation (RBQ value of 55.4) and damage to field crops (55.0) were identified as serious problems. Disturbances to neighbours and consequent quarrel (40.3) ranked as third and loss due to diseases (35.8) ranked as fourth problem. The other problems in raising poultry as perceived by farmers were, poisoning by neighbours (27.6), Theft (11.0), Accident (10.7) External parasitism (7.2) and Birds laying eggs in unknown places (7.0). These problems can be rectified by providing protective shelter and good health care management to backyard poultry.

Table 1. Constraints perceived by the farmers in Backyard poultry farming and their RBQ values

Rank	Constraints	RBQ values
1	Predation	55.4
2	Damage to field crops	55.0
3	Disturbances to neighbours and consequent quarrel	40.3
4	Loss due to diseases	35.8
5	Poisoning by neighbours	27.6
6	Theft	11.0
7	Accident	10.7
8	External parasitism	7.2
9	Loss of eggs (Birds laying egg in unknown places)	7.0

However, this is not the first report in India to cite that predation is a serious constraint. The main predators in this study were crows, hawks, dogs and mongooses. A livestock development project funded by the Danish International Development Agency (DANIDA) in Orissa, India found that predation was an important problem and the main predators were crows, foxes, hyenas and wild cats (Das *et al*., 2003). Mohapatra (2003) reported that in Madhya Pradesh predation is the second most important cause of mortality, after Newcastle Disease (ND). Another survey conducted in five districts of the tribal belt in Western India recorded that disease (especially ND) was the main cause of mortality, followed by predation including theft. Conroy *et al*. (2005) reported that predation, by birds of prey and mammals, as a more important cause of mortality than disease. The constraints as perceived by the rural poultry owners were recorded in the schedule prepared for the purpose of the study. In a study conducted by Mandal *et al*. (2003) in the Bareilly district of Uttar Pradesh (India) reported that mortality due to high incidence of disease was the major constraint which was reported by all the respondents(n=240), followed by lack of suitable germplasm (91.25%), attack of predators (86.67%), hatching mortality (75.00%), lack of financial support (67.50%) and high cost of inputs/chicks (54.56%). Inadequate knowledge (19.17%), shortage of space (18.75%), complaints by neighbourers (19.58%) and hygiene menace (24.17%) was also reported as constraints of the poultry owners.

Most of the problems viz., predation, damage to field crops, disturbances to neighbours, theft, accident and birds laying eggs in unknown places can be rectified by providing protective cages/ shelter. Usually predation occurs during day time, when the birds are scavenging. To avoid predation the scavenging would have to cease. This would require feeding by the owners, thereby incurring cost, which poor poultry-keepers may consider to be undesirable or not feasible and which a bio-economic modelling exercise (assuming 20% predation mortality) found to be unprofitable (Udo, *et al*.,2002). Providing cover (e.g. a bunch of thorny branches on the ground) for chicks against crows, and destroying the burrows of mongooses near to the home were the suggestions given by the farmers of Udaipur in the study conducted by Conroy *et al*. (2005). Hence, the non-disease issues should also be taken into account in research and development programmes targeting backyard poultry. Thorough and objective appraisals of constraints should be carried out by agencies involved in backyard poultry development and needs of the farmers need to be assessed based on constraint analysis.

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