J Krishi Vigyan 2023, 11 (2) : 217-221 DOI : 10.5958/2349-4433.2023.00042.9

Knowledge level of Human-Avian Conflict Affected Farmers

M Assan Kasim[1], K Senthilkumar[2*], P Thilagar[3] and SPrathaban[4]

Post Graduate Research in Animal Sciences, Tamil Nadu Veterinary and Animal Sciences University (TANUVAS)

ABSTRACT

The present study was conducted in Thanjavur and Coimbatore districts of Tamil Nadu, which was purposively selected considering the highest incidence of crop losses due to peacock and parakeet, respectively. In these districts, two villages per district were selected. A total number of 150 farmers (120 HAC affected farmers and 30 HAC unaffected farmers) were identified for the present research work to collect the primary data. Nearly one-half of the farmers possessed medium level of knowledge with regard to various Human Avian Conflict (HAC). It was observed that the mean knowledge scores for human-peafowl conflict, human-parakeet conflict and HAC unaffected farmers were 23.20, 17.75 and 12.75 respectively. Human-peafowl conflict farmers had high knowledge on HAC.

Key Words: Avian, Birds, Crop, Conflict, Human, Knowledge, Loss.

www.IndianJournals.com Not for Commercial Use Downloaded From IP - 216.73.217.150 on dated 15-Jul-2026

INTRODUCTION

Rice, one of the most important cereal crops worldwide, has the potential to play a significant role in achieving global food security. However, several biotic and abiotic stresses seriously jeopardize this potential. According to Oerke (2006), about 15 per cent of global rice production is lost to animal pests (arthropods, nematodes, rodents, birds, slugs and snails). Kale *et al* (2014) revealed that wide varieties of crops attracted by the birds which may leads to significant damage to the crop yield. Black vultures have been identified by U.S. livestock producers as a threat through depredation of neonate cattle (Kluever *et al,* 2020), horses (*Equus ferus caballus*), sheep (*Ovis aries*), goats (*Capra aegagrus hircus*), domestic swine, and farm-raised deer (*Odocoileus virginianus*; Lowney, 1999; Avery and Cummings, 2004). Birds can cause damage to the crops in all stages right from, sowing and planting till harvesting. The problem of crop damage by birds is faced by the farmers and the losses due to crop depredation by birds are significant in terms of the gross crop yield (Canavelli *et al,* 2014). The cropland species are mostly depend on grains, seeds, fruits, green vegetation of the crop plants and grasses, insects, other arthropods, and rodents found in the soil, crops, and other plants. Birds create negative impact on most of the agricultural activities. The presence of insectivorous birds in croplands is beneficial to farmers up to some extent. In Tamil Nadu, as a common remedy to the problem, attempts are regularly being made by the famers to reduce crop losses from birds. But most of the farmers follow the traditional practices for controlling birds. Keeping these points in view, the current study was carried out with the objective of assessing the knowledge human-avian conflicts among the farmers in the study area.

* Corresponding Author's Email: senthilkumar.k.wls@tanuvas.ac.in

1- Veterinary Asst. Surgeon, Kadaiyanallur, Tamil Nadu, 2- Assistant Professor, Post Graduate Research in Animal Sciences, Tamil Nadu Veterinary and Animal Sciences University (TANUVAS), Kattupakkam3- Associate Professor and Head, Dept. of Veterinary and Animal Husbandry Extension, Veterinary College and Research Institute (VCRI), Tirunelveli,

4- Former Dean, VCRI, Tirunelveli

www.IndianJournals.com
Not for Commercial Use
Downloaded From IP - 216.73.217.150 on dated 15-Jul-2026

MATERIALS AND METHODS

Data pertaining to the incidences of human – avian conflicts (HAC) throughout Tamil Nadu was collected and utilized to identify the avian species (Peacock and Parakeet) causing HAC. Further, based on the secondary data sources, Thanjavur and Coimbatore districts was purposively selected considering the highest incidence of crop losses due to peacock and parakeet, respectively.For HAC affected farmers selected from Thanjavur district, Thanjavur block was selected purposively based on human-avian conflict incidences. Further, from Thanjavur block, Vallampudur and Monnaiyampatti villages were chosen for the present study. Similarly, from Thondamuthur block, two villages namely Alanthurai and Madampatti were selected. By applying simple random technique, 30 farmers were selected from each village, thus a total of 120 farmers were selected from the identified districts. For HAC unaffected farmers selected purposively from two villages of Thanjavur block *viz.,* Alakudi and Kalvirayampettai. By applying simple random technique, 15 farmers were selected from each village, thus a total of 30 farmers were identified from Thanjavur district. Finally, a total of 150 farmers (120 HAC affected farmers and 30 HAC unaffected farmers) were identified for the present research work to collect the primary data based on the objective set forth. By keeping the objective in view, it was decided to collect data from the farmers to study about the knowledge of the human-avian conflict on various aspects.

Knowledge is those behaviour and test situation which emphasized the remembering either by recognition or results of ideas, material and phenomena. The data was collected through structured interview schedule. A total of 68 knowledge questions on HAC were selected based on the connotation, references and literatures. The difficulty and discriminative indices were found in the selection of knowledge questions. Questions having discrimination index of 0.4 and above were selected. The discrimination index for all the 68 questions were worked out and finally 10 questions were selected to conduct the knowledge test. Each respondent was given a score of 1 for a correct answer and is zero for incorrect responsive total knowledge score of each respondent was calculated by summing up the number of items correctly answered by an individual. Based on the scores obtained, being the maximum possible score of 10 and minimum possible score of zero, the respondents were arbitrarily classified into three group viz., low, medium and high based on mean and standard deviation.

RESULTS AND DISCUSSION

Knowledge is a crucial component that plays a vital role in the behaviour of an individual which form the basis for adoption of technology. The distribution of respondents of different HAC in terms of knowledge level is presented in table1.

Table. 1 Distribution of HAC affected farmers according to their knowledge level on different aspect of HAC

Sr. No.	Level of Knowledge on HAC	Bird species	
		Peafowl (n=60)	Parakeet (n=60)
1.	Low	12 (20.0%)	17 (28.0%)
2.	Medium	35 (58.0%)	22 (37.0%)
3.	High	13 (22.0%)	21 (35.0%)

It could be seen that 58.0 and 37.0 per cent of the farmers had medium knowledge on HAC due to peafowl and parakeet species, respectively. Further, low (20.0%) and high (22.00%) knowledge was observed among farmers regarding HAC caused by peafowl. Considering HAC by parakeet species, farmers had low (28.0%) and high (35.0%) level of knowledge.

Knowledge level of farmers on human-peafowl conflict situations

The ten knowledge items with regard to human-peafowl conflict were ranked based on their mean rank in descending order in the table 2. It could be observed from table that four knowledge items viz., peacock is the national bird of India (6.23),

Table 2. Knowledge level of farmers on human-peafowl conflict situations

Sr. No.	Statement	Mean rank	Rank
1.	Peacock is the national bird of India	6.23	I
2.	Killing of peafowl is punishable under the wildlife protection act 1972	6.07	II
3.	Wild adult peafowl can fly	5.90	III
4.	The Indian Peafowl eats seeds, crops, insects and small reptiles	5.82	IV
5.	Damage percentage depending upon type of crops	5.82	IV
6.	Peafowl kill snakes	5.82	IV
7.	Collection of fallen feather was legal or not	5.57	V
8.	Peacock does not shed the feather throughout the year	4.90	VI
9.	Damage percentage depends upon seasons	4.82	VII
10.	Female peafowl don't have colourful feathers	4.07	VIII

www.IndianJournals.com
Not for Commercial Use
Downloaded From IP - 216.73.217.150 on dated 15-Jul-2026

killing of peafowl is punishable under the wildlife protection act, 1972 (6.07), wild adult peafowl can fly (5.90) and damage percentage depending upon type of crops (5.82) occupied the first four positions. This was followed by the items viz., collection of fallen feathers was legal (5.57), peacock does not shed the feather throughout the year (4.90), damage percentage depends upon seasons (4.82), female peafowl does have colourful feathers (4.07) ranked from V to IX, respectively. The above observations might be due to the reason that respondents had more opportunity of exposure to the information regarding the social nature of the peafowl. Since all the respondents possessed television sets, there was every chance of watching programmes related to peafowl's social activity telecast by various channels including NAT GEO (Tamil) and would have gained more knowledge in this regard. In Sri Lanka, about 30% out of the total informants suggested seasonal climate change and agricultural pattern as the root causes for the dynamics of peacock population in the area (Herath *et al,* 2021)

The respondents had poor knowledge on the item *viz.,* damage percentage depends upon seasons (4.82), female peafowl does not have colourful feathers (4.07) and these items secured the last two positions from VII to VIII, respectively. These knowledge items were concerned with the more physiological and scientific information of peafowl which might be the reason for obtaining low means score for these items.

Knowledge level respondents on human-parakeet conflict situations

With respect to the mean rank of the respondents on the knowledge items on human-parakeet conflict, the knowledge statements *viz.,* killing of parrots is punishable under the wildlife protection act 1972 (6.81), parrot have predators (6.14), the wild parrot eat seeds and fruits (5.89) has topped three ranks, respectively. Contrary to this, Ballejo *et al* (2020) observed that male farmers with the highest level of education prefer to use lethal strategies against scavenger birds.

It was also evident from table 3 that the different species of parrots laid same coloured eggs (5.14), damage percentage depends upon seasons (5.06) and some species of parrots like to eat clay (4.31), were ranked VI, VII and VIII respectively. The intrusion of parakeet into the agricultural field was scarce and the damage caused by them was moderate when compared to other avian species. This might be the reasons for farmer's level of knowledge in HAC caused by parakeet.

Table 3. Knowledge level of farmers on human-parakeet conflict situations.

Sr. No.	Statement	Mean rank	Rank
1.	Killing of parrots is punishable under the wildlife protection act, 1972	6.81	I
2.	Parrot have any predators	6.14	II
3.	The wild parrot eat seeds and fruits	5.89	III
4.	Parrot unique from other birds	5.73	IV
5.	Rearing of parakeet is illegal	5.39	V
6.	Live span of parakeet is forty	5.39	V
7.	Damage percentage depending upon type of crops	5.14	VI
8.	Different species of parrots laidsame coloured eggs	5.14	VI
9.	Damage percentage depends upon seasons	5.06	VII
10.	Some species of parrots like to eat clay	4.31	VIII

www.IndianJournals.com
Not for Commercial Use
Downloaded From IP - 216.73.217.150 on dated 15-Jul-2026

Overall knowledge on human-avian conflict between affected and unaffected farmers

The knowledge test was administered to the respondents on different HAC situations. The mean score of the knowledge level of the respondents were analyzed through Kruskal-wallis test and the results are presented in table 4. It could be observed that the mean knowledge scores for HAC affected farmers and HAC unaffected farmers were 20.47 and 12.75, respectively. The highest mean was found to be 20.47 which implied that the knowledge gained by the respondents with regard to human-peafowl conflict was high followed by parakeet. It may therefore be stated that highest knowledge level among the respondents were found with HAC affected farmers. It was also supported by the Chi square value of 21.12 which was found to be statistically highly significant ($P < 0.01$). Similarly, Senthilkumar *et al* (2020) documented nearly two-third of the farmers possessed medium level of knowledge with regard to various HWC.

CONCLUSION

It could be stated that nearly one-half of the farmers possessed medium level of knowledge with regard to various Human Avian Conflicts. It was observed that the mean knowledge scores for human-peafowl conflict, human-parakeet conflict and HAC unaffected farmers were 23.20, 17.75 and 12.75, respectively. Human-peafowl conflict farmers had high knowledge on HAC.

ACKNOWLEDGEMENT

The authors are thankful to the farming community for sharing the information on the Human-avian conflict. The authors are also thankful to the Tamil Nadu Veterinary and Animal Sciences University for permitting to conduct this study as part of his M.V.Sc., thesis.

Table 4. Significant difference between knowledge on human avian conflictaffected and unaffected farmers.

Characteristics of farmers	HAC	N	Mean Rank	Chi square value	P value
Overall knowledge level of villagers towards HAC	HAC affected farmers	120	**20.47**	**21.12**	**0.000****
	HAC unaffected farmers	30	12.75		

REFERENCES

Avery M L and Cummings J L(2004). Livestock depredations by black vultures and golden eagles. *Sheep and Goat Res J* **19**:58–63

Ballejo F, Plaza P I and Lambertucci S A (2020). The conflict between scavenging birds and farmers: Field observations do not support people's perceptions. *Biol Conservat **248***, 108627.

Canavelli S B, Branch L C, Cavallero P, González C and Zaccagnini M E (2014). Multi-level analysis of bird abundance and damage to crop fields. *Agri Eco Env **197***, 128-136.

Herath H M N T, Gunathilake K L W I and Chandrasekara, CM K N K (2021). A Site-Specific Study on Peacock and Human Conflict—A Case Study from Jayanthipura Grama Niladhari Division, Polonnaruwa—Sri Lanka. *Multi-Hazard Early Warning and Disaster Risks* 211-221.

Kale M A, Dudhe N, Kasambe R and Bhattacharya P (2014). Crop Depredation by birds in Deccan Plateau, India. *Int J Biodivers Conserv* **1-8**

Kluever B M, Pfeiffer M B, Barras S C, Dunlap B G and Humberg L A (2020). Black vulture conflict and management in the United States: Damage trends, management overview, and research needs. *Hum Wildl Interact* **14**: 8.

Lowney M S (1999). Damage by black and turkey vultures in Virginia, 1990–1996. *Wildlife Soc Bull* **27** (3) :715–719

Oerke E C (2006). Crop losses to pests. *The J Agri Sci* **144(**1): 31-43.

Senthilkumar K, Mathialagan P and Manivannan C (2020). Socio-Economic profile of the human-wildlife conflict affected farmers of Tamil Nadu. *J Krishi Vigyan **8***(2): 260-265.

Received on 3/9/2022 *Accepted on 13/4/2023*

www.IndianJournals.com
Not for Commercial Use
Downloaded From IP - 216.73.217.150 on dated 15-Jul-2026