**Journal of Zoological Research**
**Volume 3, Issue 1, 2019, PP 6-12**
**ISSN 2637-5575**

# Conflict with Blue Peafowl (Pavo cristatus): People Perception at Annur and Avinasi areas of Tamil Nadu, India

**Veeramani.A[1]*, Dalson Mani.J[2] and Mohanakrishnan.H[3]**

[1] *Government Arts College (Autonomous), Kumbakonam, Tamil Nadu, India*
[2] *Biologist, Mudumalai Tiger Reserve, The Nilgiris, Tamil Nadu, India*
[3] *Government Arts College, Udhagamandalam, Tamil Nadu, India*

***Corresponding Author:** Veeramani Arunachalam, Assistant Professor of Zoology, Government Arts College (Autonomous), Kumbakonam – 612 002, Tamil Nadu, India. Email: wildveera@gmail.com.*

## ABSTRACT

*The present investigation is indent to study on Blue Peafowl Pavo cristatus in Annur and Avinasi areas of Tamil Nadu. Abundance and problems of peafowls in selected cultivated fields were collected using questionnaire survey method. Interviews were conducted and discussion was made with the local peoples regarding the details of peafowl. The opinion on the local cultivators are the high abundance of peafowls in the study areas may be due to the availability of sufficient food plants, insects, roosting trees and a good ground cover for breeding and protection. The cultivators opined that the peafowl feeds on a wide range of crops such as beans, chilly, capsicum, tomato, maize. Only very few incidents of poisoning happened in the recent past, otherwise the peafowls are the pet animal of the people living around. Government and non-governmental agencies should keep a vigil against poaching and poisoning of the peafowls and make aware of the people about the importance of protecting our National Bird.*

**Keywords:** *Peafowl, Questionnaire Survey, Roosting, Food Preferences, Conservation.*

## INTRODUCTION

Three species of Peafowl's are found in the world are *Pavo cristatus* (Blue peafowl), *Pavo mudicus* (Green peafowl) and *Afropavo cogenesis* (Congo peafowl). Blue peafowl (Indian peafowl) is a native breed of the India, Pakistan, Bangladesh and Srilanka, commonly called as *Mayil* in Tamil language. Indian peafowl breeds from April through October (Mushtaq-ul-Hassan *et al*., 2012). Peafowls are Polygynous and generally have three breeding peahens in its harem (Roberts, 1992). Clutch is usually 4 to 9 eggs in natural condition and the incubation period is about 28-30 days (Anon, 2002). Like other pheasants, peafowl are adapted to a life of walking and forging on the ground as they search for the seeds, plants, insects and reptiles for its diet. Peafowl fly when pressed by a predator or when retreating to their evening roost. The elaborate train and its display of the male Indian peafowl, which is a visual signal directed at females, has long been a subject of fascination and debate in the scientific world (Harikrishnan *et al*., 2010).

Indian Peafowl are widely distributed in the wild across South Asia and protected both culturally in many areas and by law in India. Conservative estimates of the population put them at more than 100,000 (Madge and McGowan, 2002). Illegal poaching for meat however continues and declines have been noted in parts of India (Ramesh and McGowan, 2009).

In many parts of India, the birds are believed to be a nuisance to agriculture as they damage crops (Ali and Ripley, 1980). Its adverse effects on crops, however, seem to be offset by the beneficial role it plays by consuming prodigious quantities of pests such as grasshoppers. They can also be a problem in gardens and homes where they damage plants, attack their reflections breaking glass and mirrors, perch and scratch cars or leave their droppings. Many cities where they have been introduced and gone feral have peafowl management programmers. These include educating citizens on how to prevent the birds from causing damage while treating the birds humanely. In Tamil Nadu the peafowls can be seen in many parts both in wild and semi-wild condition.

Although, it's native habitat is undergrowth in open forest and woodlands near a water body, it is also known to occur near farmlands, villages and increasingly becoming common in urban and semi-urban areas (Burton and Burton 2002). In contrast to this "positive" impact, anecdotal

reports suggest that the Indian peafowl can cause substantial crop losses in the areas where their population density is high. There are no known studies from India that estimate the crop losses due to peafowls. It is not known whether peafowl really affect crops like other known crop pests (e.g. wild boar, elephants, deer, etc.). Numerous reports can be found in newspapers in India about deaths of individuals or groups of peacocks. The deaths may be due to natural reasons such as predation, water scarcity or may be the result of unintentional poisoning due to insecticides/ pesticides sprayed on crops that the peafowl feed on. Sometimes intentional killing of Indian peafowl by certain tribal communities for their ornamental feathers and meat has also been suspected/ reported. In contrast to this, in some parts of India (e.g. State of Tamil Nadu and Rajasthan), peafowl are believed to be sacred and people actively offer grains for them as part of their daily ritual. These varied interactions between Indian peafowl and local human population make it an interesting study system to understand consequences of human-wild life interactions. It remains to be seen how common are the positive perceptions and associated beliefs/ rituals throughout the region in which the population density of Indian peafowl is higher. Can these perceptions result in curbing population decline or effective management/ conservation of the species? To address these questions we studied three aspects of human- peafowl interactions in details. The present investigation is indent to study on Indian Peafowl with the following objective in Annur and Avinasi areas of Tamil Nadu.

(i) To understand the perceptions of local community about Indian peafowl, (ii) To estimate impact of Indian peafowl populations on local agriculture and (iii) To estimate the impact of food provisioning by local community on peafowl populations.

## Study Area

The study area is situated in the Coimbatore and Thirupur districts falls under the Tamil Nadu state. These two districts were well developed and modernized state in Tamil Nadu as well as containing high amount of urbanized cities and agricultural lands. The study was made in the villages surrounded by Annur and Avinasi areas. The study areas are one of the fast growing suburbs in the Coimbatore and Thiruppur district of Tamil Nadu state. As per the census event the population status of the people in Annur and Avinasi was 18,242 and 37,923 respectively. Males constitute 45% of the population and females 55%. has an average literacy rate of 6%, which is higher than the national average of 9.5%; with 54% of the males and 55% of females literate in the Annur. Followed by Avinasi had a literacy rate of 68.05. Child population in the age group below 6 was 15424 Males and 14709 Females. In these areas are containing high amount of agricultural land. Most of the peoples were depending up their livelihoods for agricultural practice only. The major crop cultivated in this area was corn and vegetables, cotton. These areas are also containing high amount of textile and dying industries. The agriculture fields in and around the two study sites are mainly depends monsoon. Only North East monsoon gives major source of water and annual precipitation is about 400 – 500 mm. The cultivators also depend the wells dug in their field for irrigation. The agriculture fields also have many indigenous tree species both cultivated and semi-wild.

## Methods

The present study on peafowl's was carried out in cultivated areas of Annur and Avinashi from Coimbatore and Thiruppur district of Tamil Nadu state covering both monsoon and summer seasons.

### Questionnaire Survey Method

The details of abundance and problems of peafowls in selected cultivated fields of Annur and Avinasi areas were collected using questionnaire survey method. Interviews were conducted and discussion was made with the local peoples regarding the details of peafowl.

Two sets of questionnaire was prepared and used for data collection, 1) "Precise and closed" sets of questions were prepared such as name of respondent, peafowl presence and distribution, etc. This particular type of questions asked to the respondent to answer anything which is not relevant or otherwise this questionnaire was said as "one word answer" type.

And not allowed the respondent to express their views freely, 2) The second set of questionnaire is called as " Broad and open ended" where the questions were asked to the respondent to express their views freely without any hesitation or the answer would be descriptive type or one question may have multiple answers (Rama krishnan & Saravanamuthu, 2012, Samson & Rama krishnan, 2018). Percentage of questionnaire survey used for comparison of the data.

## RESULT

The study areas are mostly dominated with crop cultivation and mostly cultivated by grains and vegetables. The species of crops cultivated in the study area is given in the Table 1.

**Table1.** *Different types of crops cultivated in the study*

| S.No | Scientific Name | Commen Name | Local Name |
|---|---|---|---|
| 1 | *Allium cepa* | Onion | Vengayam |
| 2 | *Arachis hypogaea* | Groundnut | Verkadalai |
| 3 | *Cocos nucifera* | Coconut | Thengai |
| 4 | *Capsicum annuum* | Chilli | Milagai |
| 5 | *Lablab purpureus* | Cluster beans | Avarai |
| 6 | *Curcuma longa* | Turmeric | Manjal |
| 7 | *Eleusine coracana* | Ragi | Kelvaragu |
| 8 | *Jasminum sambac* | Jasmine | Malli |
| 9 | *Abelmoschus esculentus* | Ladies finger | Vendai kai |
| 10 | *Solanum lycopersicum* | Tomato | Thakkali |
| 11 | *Musa paradisiaca* | Plantain | Vazhai |
| 12 | *Zea mays* | Maize | Makka chollam |
| 13 | *Manihot esculenta* | Tapioca | Maravalli |
| 14 | *Oryza sativa* | Paddy | Nellu |
| 15 | *Phyllanthus emblica* | Goose berry | Nelli kai |
| 16 | *Solanum melongena* | Brinjal | Kattari |
| 17 | *Saccharum officinarum* | Sugar cane | Karumbu |

## AREAS

### Crop Raiding by Peafowls and Conflict with Farmers

There are severe problems of crop raiding by peafowls in agricultural fields of the study area. About 26.25% of the observation shows that the peafowls raid mainly on corn or maize plant followed by paddy field (23.11%), chilli (21.85%), ragi (16.14%) respectively. The other crops such as onion, cluster beans, plantain and ground nut have been damaged very less (Fig. 1).

As mentioned above the peafowls raid mostly on the cultivated crops in the study area. Hence the cultivators use pesticides to kill the peafowls in the area. Such incident was happened during February 2014. A total of 10 peafowls have been killed using poison in Ponnayagaundan Palayam at Annur area.

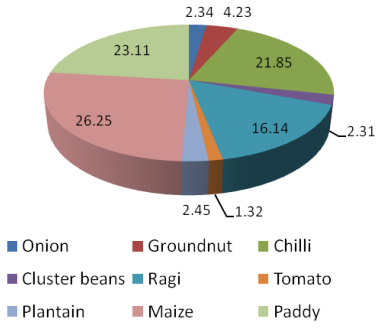



**Fig1.** *Crop raiding by peafowls in the study area*

### Questionnaire Survey

Questionnaire survey was made with the cultivators in both Annur and Avinasi areas of Coimbatore and Tirupur District. A total of 50 numbers of questionnaires were interviewed of which, 68% in Annur area and 32% is with Avinasi area. The education status of the people in the study area was assessed in the survey and the cultivators reveled that 20 of them were studied from 6-10 Std, followed by 5 of them studied their high school education and only 4 of them had finished their degree classes.

On the contrary 20% of people (N=10) were uneducated (Fig. 2).

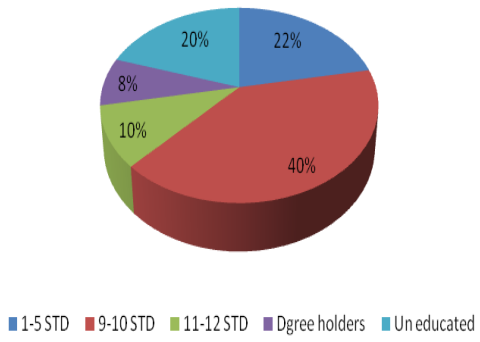


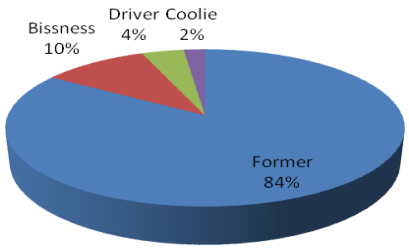

**Fig2.** *Educational status of cultivators in the study areas*

The status of occupation of the people in the study area shows that 84% of them are formers, followed by 10% of them are running business,

4% are drivers and 2% reveals they are working as coolie (Fig. 3).

### The Researcher Collecting Questionnaire Survey

**Fig3.** *Occupation status of cultivators*




*Area Holding*

The questioner survey revealed that 58% people are holding 1-3 acres of cultivated land followed by 22% of them are holding 4-6 acres and 10% are having 7-9 acres . Only 4% of them are holding more than 10 acres of land (Fig. 4).

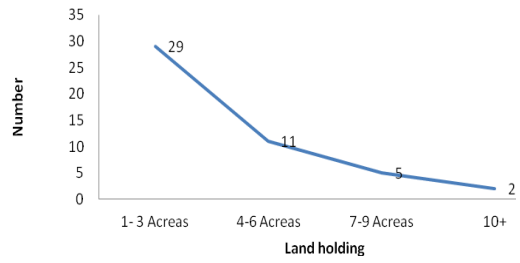



**Fig4.** *Land holding by cultivators in the study area*

### Major Crop Cultivated

The farmers reveled that mostly they are cultivating corn (30%), followed by banana 20%, sugar cane 16% and grains 14%. They also cultivating vegetables 8%, turmeric 6%, cotton 6% in less area (Fig.5).

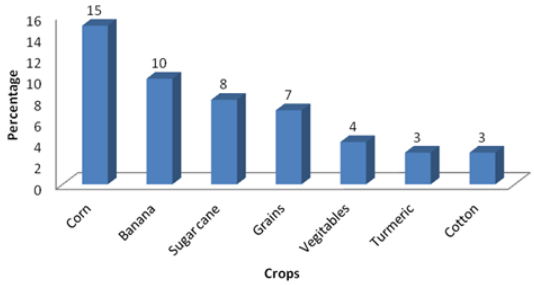



**Fig5.** *Crops cultivated in the study area*

### Crops Damaged by Peacock

The questioner survey with the farmers shows that 86% of them opined peacocks are causing damage to the cultivated crops, on the other hand 14% of them reveals that they are not having much problem with peafowls (Fig. 6).

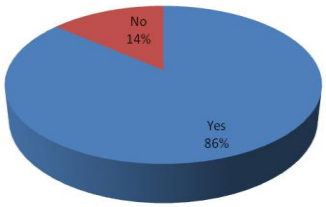



**Fig6.** *Problem with peafowls*

### Roosting Place

According to the farmers, they have opined that 74% says the peafowls roost on the trees, followed by 16% people says they roost at bushes and 10% of them told peafowls roost in the water body (Fig. 7).

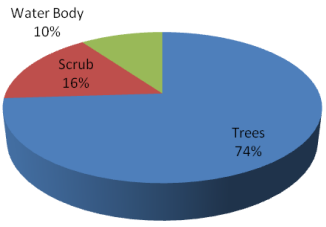



**Fig7.** *Roosting of peafowls*

### Roosting Tree Species Preference

The farmers revealed that the peafowls roost in coconut trees (62%), followed by 14% of them told they roost at Neem tree. Very few of them

(2%) told they have roosting at Peepal tree (Arasa maram), Tamarind tree (Pulia maram) and Baniyan Tree (Fig. 8).

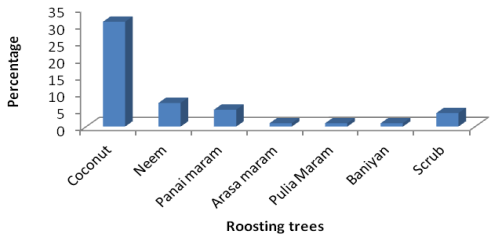



**Fig8.** *Roosting tree used by peafowls*

## Roosting Height

The roosting height of the tree used by peafowls was asked to the farmers and 42% of them opined that they roost at the height of 15 to 25 ft. and 30 to 50 ft., followed by 16% of peoples were responded peafowls roost on 60 to 100 ft heights of the trees (Fig. 9).

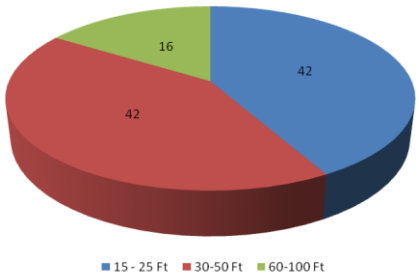



**Fig9.** *Percentage of opinion about the roosting tree height of peafowl*

## Roosting Time

Seventy percent of the people says that the peafowls leave the roost at 5 am to 6 am. Whereas 30% of them reveal that they leave at 6 am to 7 am. Similarly 58% of them opined that the peafowls roost between 5 pm and 6 pm and 42% of them reveals they roost between 6 pm and 7 pm.

## Roosting Purpose

The farmers were also asked for the reason for roosting in the trees at various heights. Fifty two percent of them says that the peafowls roost in the tree top to escape from predators. But, 48% of them say they do not have any idea for the reason.

## Feather Collection

The survey result revealed that 64% of people were opined that they collect the peacock feathers from the field and 36% of people says that they did not collect the feather. About 54% of them collect the feathers for the use of temple purpose and 10% says they collect for commercial purpose.

## Food Preference of Peacock

The farmers were asked for the food preference of peafowl. Forty two percent of them opined that they eat all type of crops. In particular 22% of them says that they feed mainly on vegetables and 36% of them revealed they eat insects (Fig. 10).

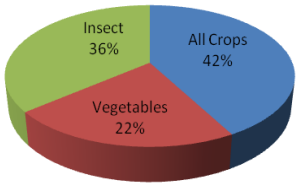



**Fig10.** *Food preference by peafowl*

## Seasonal Wise Abundance

Majority of the people 80% opined that the peafowls can be seen all season in the cultivated lands. About 8% of them opined that they can be mostly seen during June-July (Summer) season and October –November (Monsoon) season. Only four percent of them says that they can be seen during August-September (Pre monsoon) season (Fig. 11).

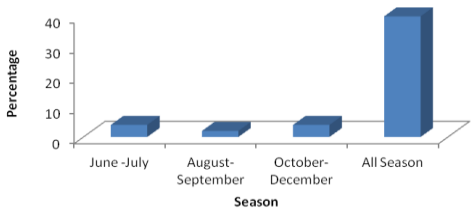



**Fig11.** *Sighting of peafowls in different seasons*

## Opinion about Conservation of Peafowls

The cultivators have been asked about their opinion on conservation of peafowls. Twenty eight percent of them revealed that it has to be conserved and 24% of them opined need not to be conserved. There is no opinion (48%) about the conservation of the National bird (Fig. 12).

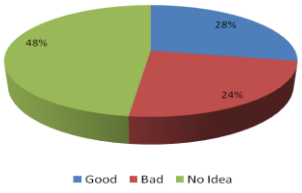



**Fig12.** *Opinion about conservation of peafowl*

## DISCUSSION

The present study on the questioner survey of peafowls was carried out in two different selected regions of Annur and Avinasi. The opinion on the local cultivators are the high abundance of peafowls in the study areas may be due to the availability of sufficient food plants, insects, roosting trees and a good ground cover for breeding and protection. Similarly Trivedi & Johnsingh (1995) also reported that the scrub jungle habitat had thickets with climbers in the canopy, possessed thorny undergrowth and steep river banks with tall trees provided the peafowls to escape from the predators. Roost selection is a vital component of the overall habitat selection process; therefore information on roost selection by a species carries immense importance for assessing its conservation needs. Judicious selection of roosting sites enhances the survival of birds by virtue of reduced heat loss, information sharing accountability of population and better protection from predators (Gadgil, 1972; Gadgil & Ali, 1975; Dodia, 2011). In the present study, farmers opined that the peafowls rest in the shade and in the evening time they rest in open areas. Those tree species they select for roosting may or may not coincide with the resting tree species in daytime. The peafowls prefer stout and sparse branches of trees which can withstand the birds' weight and where peafowls would also be able to move without obstacles (Sharma, 1983; Parasharya & Mukherjee, 1999; Sathyanarayana & Veeramani, 1992). The Indian Peafowl is an omnivorous bird and eats seeds, insects, fruits, small mammals, and reptiles. They feed on small snakes but keep their distance from larger ones (Johnsingh, 1976; Veeramani & Sathyanarayana, 1999). The plant matter constituted the bulk of the diet of Indian Peafowl and the animal matter was found only in low proportions (Navaneetha kannan, 1981). In the present study the cultivators opined that the peafowl feeds on a wide range of crops such as beans, chilly, capsicum, tomato, maize. The earlier studies revealed by villagers and priest that paddy, bajra, other grain seeds and partial to agricultural crops and garden plants (Veeramani, 1990). Johnsingh & Murali (1978) reported that around cultivated areas, peafowl feeds on a wide range of crops such as groundnut, tomato, paddy, chilly and even bananas. Some of the cultivators revealed that peafowl is regarded as one of the serious pests of their agriculture crops. The use of pesticides in agriculture also poses a threat especially to the chicks (McGowan & Garson, 1995). Peacocks are also caught for their magnificent tail feathers. In agricultural areas and in home gardens, peafowl has also been attacked by dogs.

## SUMMARY

Questionnaire survey of the cultivators revealed that the same result which derived from the field data including the population, roosting tree and roosting height preference, activity budget, food and feeding of peafowls in the study area. The people living in the study sites do not have much impact due to peafowl in the area. They are not doing any harm to the peafowl because they are worshipping the peacock as vehicle of Lord Subramania. Only very few incidents of poisoning happened in the recent past, otherwise the peafowls are the pet animal of the people living around. Government and non-governmental agencies should keep a vigil against poaching and poisoning of the peafowls and make aware of the people about the importance of protecting our National Bird.

## REFERENCES

[1] Ali, S. and S. D. Ripley. 1980. Handbook of The Birds of Magapodes to Crob Plover. Oxford University Press, New Delhi, 347pp.

[2] Anon. 2002. Wildlife of the Punjab. Punjab Wildlife and Parks Department. PP: 13-14, 25.

[3] Burton M, and Burton R. 2002. International Wildlife Encyclopedia. Marshall Cavendish, New York.

[4] Dodia, P.P. 2011. Roost tree selection by the common Peafowl (*Pavo cristatus*) at Bhavnagar District, Gujarat (India), *Life Science Leaflets.* 11: 346-354.

[5] Gadgil M. 1972. The function of Communal roost: relevance of mixed roosts. *Ibis* 114(4): 531–533.

[6] Gadgil M., Ali S. 1975. Communal roosting habits of Indian birds. *J. Bombay Nat. Hist. Soc*. 72(3): 716–727.

[7] Harikrishnan, S.; Vasudevan, K.; Sivakumar, K. 2010. "Behavior of Indian Peafowl *Pavo cristatus* Linn. 1758 During the Mating Period in a Natural Population". *The Open Ornithology Journal* 3: 13–19.

[8] Johnsingh, A.J.T. 1976. "Peacocks and cobra". *J. Bombay Nat. Hist. Soc.* 73 (1): 214.

[9] Johnsingh, A.J.T. and Murali, S 1978. "The ecology and behaviour of the Indian Peafowl (*Pavo cristatus*) Linn. of Injar". *J. Bombay Nat. Hist. Soc.* 75 (4): 1069–1079.

[10] Madge, S. and P. McGowan. 2002. *Pheasants, Partridges and Grouse, Including Buttonquails,*

*and Allies.* Helm Identification Guides, Christopher Helm, London, 488pp.

[11] McGowan P.J.R. and Garson P. 1995. *Status survey and conservation action plan (1995–1999): Pheasants.* Gland, Switzerland: IUCN & World Pheasant Association. 116 p.

[12] Mushtaq-ul-Hassan, M. Ali, Z, Arshad, M.I, Mahmood, S and Mahmood-ul-Hassan, M. 2012. Effect of matting sex ratios in Indian peafowl (*Pavo cristatus*) on production performance at Wildlife Research Institute, Faisalabad (Pakistan). *Iranian J. Vet. Res.* Vol. 13(2): 143-146.

[13] Navaneethakanana, K. 1981. Activity patterns in a colony of peafowls (*Pavo cristatus*) in nature. *J. Bombay Nat. Hist. Soc.* 81: 387-393.

[14] Parasharya B.M. and Mukherjee A. 1999. Roosting behaviour of Indian Peafowl *Pavo cristatus*. *J. Bombay Nat. Hist. Soc*. 96(3): 471–472.

[15] Ramakrishnan B. and Saravanamuthu R. 2012. Conservation and Management of Elephant Corridors: Ecology, Human-Elephant Conflict, Capacity Building. Saarbrücken, Germany: Lap Lambert Academic Publishing. 208 p.

[16] Ramesh, K. and McGowan, P. 2009. On the current status of Indian Peafowl *Pavo cristatus* Aves: Galliformes: Phasianidae): keeping the common species common. *Journal of Threatened Taxa*, 1, 106-108.

[17] Roberts, T.J. 1992. *The birds of Pakistan*. Vol. 1, *Nonpasseri formes*. Karachi, Pakistan, Oxford University Press. Elite Publications limited. P: 617.

[18] Samson. A and Ramakrishnan.B. 2018. Population status, habitat selection and people perception on *Pavo cristatus* (Aves: Phasianidae) in Sigur Plateau, The Nilgiris, Tamil Nadu, India. *Nature Conserv. Res.* 3(1): 80-87.

[19] Sathyanarayana, M.C. and Veeramani, A. 1992. Roosting trees used by Blue Peafowl at Tamil Nadu. *Proceeding of the fifth International Symposium on Pheasant in Asia at Pakistan.*144-145.

[20] Sharma I.K. 1983. Roost site of birds around Jodhpur. *Newsletters for Bird Watchers* 13(1–2): 8–9.

[21] Trivedi, P and Johnsingh, A.J.T. 1995. "Diet of Indian Peafowl *Pavo cristatus* Linn. in Gir Forest, Gujarat". *J. Bombay Nat. Hist. Soc*. 92 (2): 262–263.

[22] Veeramani. A. 1990. Studies on ecological and behavioural aspects of Indian Peafowl *Pavo cristatus* in Mudumalai Wildlife Sanctuary, Tamil Nadu, South India. M.Sc., Dissertation submitted to Bharathidasan University, Tamil Nadu.

[23] Veeramani.A and Sathyanarayana.M.C. 1999. Ecology and behaviour of the Indian Peafowl (*Pavo cristatus*) in Mudumalai Wildlife Sanctuary, Tamil Nadu, India. *Pavo* 37(1&2):1-6.

**Citation:** *Veeramani.A, Dalson Mani.J and Mohanakrishnan.H. "Conflict with Blue Peafowl (Pavo cristatus): People Perception at Annur and Avinasi Areas of Tamil Nadu, India." Journal of Zoological Research, 3(1), pp.6-12*