

# Jungle Cat (*Felis chaus* Schreber 1777) – A Victim of False Blame? A Case Study in Gomai, Katwa, West Bengal, India

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(Received 21 May, 2021; Accepted 5 July, 2021)

## ABSTRACT

A study was conducted in Gomai village to determine the impact jungle cats had on poultry bird deaths. The study revealed that  $1.6 \pm 0.7$  chickens and  $3.6 \pm 2.22$  ducks were lost per household due to predation during the period of 2020-2021. A total of Rs. 53200 (\$ 727.3) was lost due to the poultry bird deaths from predation. The jungle cats were observed to be responsible for  $1.17 \pm 0.39$  chicken and  $1.18 \pm 0.39$  duck deaths per household. They caused an economic loss of Rs. 14600 (\$ 199.6), accounting for only 27.44% of total economic loss caused due to predation. The study revealed that majority of the poultry deaths were caused by Indian free ranging dogs. The dogs killed  $1.11 \pm 0.8$  chickens and  $2.6 \pm 1.7$  ducks per household. The dogs caused an economic loss of INR 38600 (\$ 530.59), accounting for 72.55% of the total economic loss caused due to predation. The villagers believed the jungle cats to be responsible for nearly all the poultry bird deaths due to predation. Correcting their false belief would be necessary in order to get their help in protecting the jungle cats in the unprotected area of the village.

*Key words* : Jungle cat, Indian free ranging dogs, Poultry birds, false blame

## Introduction

Jungle cat (*Felis chaus*) is greyish-brown or buff in colour. The fur has black tips which gives the cats a grizzled appearance. Two black stripes are present on the forelegs and tail of the jungle cats. Tufts of blackish hair are present at the tips of the ears. Melanistic individuals have been recorded in the Indian subcontinent (Chakraborty *et al.*, 1988). The face is slim with dark tear stripes running down the cheeks. The average weight of jungle cats in the Indian subcontinent is 4 kg. Jungle cat is the most common type of wild cat in India. The main habitat of jungle cats are grassland, scrublands, dry deciduous forests, evergreen forests and reedy banks of

marshes (Menon, 2014). Jungle cats are Least Concern (LC) in the IUCN Red List Category (Gray *et al.*, 2016). Jungle cats are distributed from the Nile river valley in the African continent to South-East Asia (Abu-Baker *et al.*, 2003). Jungle cats have been recorded at high elevations of 3000-3300m in the Annapura Conservation Area, Nepal (Bikram *et al.*, 2020). Jungle cats have mainly been observed in the protected areas in Pakistan. In the year 2019, camera traps recorded the presence of jungle cats in the unprotected area of Haripur district in Pakistan (Anjum *et al.*, 2020). Four subspecies of jungle cats are present in India.

a) *Felis chaus affinis* (Gray, 1830) -found in the Himalayas and North east India

- b) *Felis chaus kutas* (Pearson, 1832)- found in the Peninsular India up to the north of river Krishna
- c) *Felis chaus prateri* (Pocock, 1939)- found in Western India
- d) *Felis chaus kelaarti* (Pocock, 1939)- found in South India

Only the subspecies *Felis chaus kutas* was observed in this study. *Felis chaus kutas* was first recorded by Dr J Pearson in the Journal of Asiatic Society of Bengal from a stuffed specimen from the jungles of Midnapur. The *Felis chaus kutas* was differentiated from the other subspecies by the colouration of its fur. The hinder parts of their legs are lacking in black colouration. The hinder parts of the legs are of a dark shade of rufous brown in colouration (Pearson, 1832).

Jungle cats have been observed to adapt well to agricultural fields distributed throughout their habitat in tropical Asia (Tikader, 1983). Jungle cats have been observed to consume rodents that destroy crops in agricultural fields (Mukherjee, 2008; Ogurlu *et al.*, 2010). Jungle cats have been observed to prey on poultry birds in agricultural fields (Pocock, 1939; Khan and Beg, 1986). Jungle cats have been observed to prey on aquatic poultry birds in the winter. The attacks mainly take place during the evening near the water bodies (Ogurlu *et al.*, 2010).

## Materials and Methods

### Study area

The study was conducted in Gomai village (23° 42' 47" N, 88° 4' 41" E), Ketugram, Katwa, Purba Bardhaman district, West Bengal, India. According to the census report (2011), 70% of the villagers depend on agriculture for their livelihood.

### Methodology

The study was conducted from 1<sup>st</sup> March 2020 to 1<sup>st</sup> June 2021. Questionnaire surveys were conducted to determine the number of poultry birds kept, economic status of the poultry keeping families, cause of deaths of the poultry birds, potential predators of the poultry birds in the area, the number of people who had seen/heard about the jungle cats killing the poultry birds and the number of poultry birds that were lost during the study period. 140 families were surveyed. The survey was used to determine what the villagers thought was the cause for the loss of their poultry birds. 89% of the villagers thought

that jungle cats were the main reason for their loss of poultry birds. Only 36% of the villagers saw and 44% of the villagers heard about the jungle cats killing the poultry birds. Only 49 families kept poultry. Local youths were recruited for this study. They were stationed near the poultry keeping houses from evening to early morning (1900hrs to 500hrs) to record the condition of the poultry birds. Night vision binoculars and camera traps were provided by the NGO Belun Eco Village to help with the study. The major jungle cat activities occurred around 2000hrs to 2200hrs. The villagers normally left the poultry birds outside their house. The poultry birds were left uncaged. The youths were also stationed near the pond where the ducks go to feed during day to record their condition. The number of poultry birds lost along with the causes behind their loss were also recorded. The data were used to determine the number of poultry birds lost due to jungle cat activity. The collected data were analysed by Graphpad Prism 2019 Software at West Bengal State University (WBSU).

## Results

The data revealed that each house kept 3.27±2.12 chickens and 10.12±8.28 ducks. In the year of the study 1.6±0.7 chickens and 3.6±2.22 ducks were lost per household due to predation. Analysis of the data showed that there was no significant difference in the affected vs unaffected households ratio between the APL and BPL households (Fisher's exact test:  $p=0.67$ ). The data also revealed that jungle cats killed 1.17±0.39 chickens and 1.18±0.39 ducks per household. Analysis of the data showed that the jungle cats hunted the ducks more than the chickens (t test:  $t=3.015$ ,  $df=52$ ,  $p=0.004$ ). Only 16.45% of the total chickens kept and 6.45% of the total ducks kept were lost due to jungle cat activity.

### Economic loss incurred due to the jungle cats

The price of a chicken is INR 250 and the price of a duck is INR 300.

Jungle cats killed 20 chickens and 32 ducks during the study period.

Total loss from chickens- (20 × 250) = 5000

Total loss from ducks- (32 × 300) = 9600

Total loss- (5000+9600) = 14600

The total economic loss due to jungle cat activities was INR 14600 (\$ 199.6). The jungle cat kills accounted for 50% of the total chickens and 22.2% of

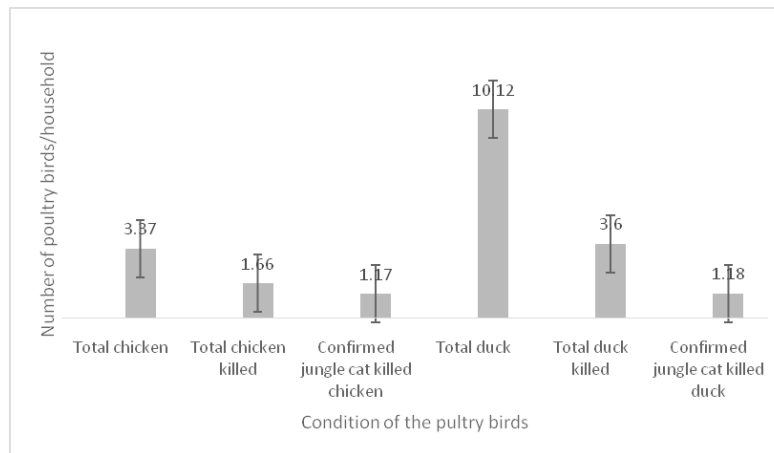


Fig. 1. Condition of poultry birds in Gomai for the year 2020-2021

the total ducks lost due to predation that year (Fig. 1).

Total economic loss incurred due to predation

A total of 40 chickens and 144 ducks were lost during the study period.

Total loss-  $\{(40 \times 250) + (144 \times 300)\} = \text{Rs. } 53200$

A total of Rs. 53200 (\$ 727.3) was total due to the death of the poultry birds. The jungle cat kills account for only 27.44% of the total economic loss due to the death of the poultry birds. The study revealed that jungle cats mostly hunted poultry birds from mid-May to late August (the rainy season). The jungle cats were observed to visit the poultry keeping houses once every four nights. Successful kills were made by them once every twelve to eighteen nights.

The study also revealed that jungle cats were not the only predators of the poultry birds. Free ranging dogs (*Canis lupus familiaris*) were found to also hunt the poultry birds especially the ducks near the pond. The dogs killed  $1.11 \pm 0.8$  chickens and  $2.6 \pm 1.7$  ducks per household. The study revealed that the dogs killed  $3.69 \pm 2.27$  poultry birds per household whereas the jungle cats killed only  $1.92 \pm 0.78$  poultry birds per household. Analysis of the data showed that the dogs caused more damage to poultry birds than the jungle cats (t test:  $t=5.402$ ,  $df=83$ ,  $p<0.0001$ ).

#### Economic loss incurred due to the Indian free ranging dogs

A total of 20 chickens and 112 ducks were lost due to the Indian free ranging dogs.

Total economic loss-  $\{(20 \times 250) + (112 \times 300)\} = 38600$

A total of Rs. 38600 (\$ 530.59) was lost due to the

poultry birds deaths. The dog kills accounted for 72.55% of the total poultry birth deaths due to predation.

## Discussion

### Importance of rural poultry rearing

Family poultry rearing as a small scale industry is still prevalent in Africa, Asia, Latin America and South Pacific. In Bangladesh family poultry contributes to 90% and in Nigeria, family poultry contributes to 94% of the total poultry rearing. In Bangladesh 28% of the total protein supply comes from rural family poultry rearing. Family poultry is an important source of cash for low income families. Studies have shown that family poultry is mainly the responsibility of women (International Network for Family Poultry Development, 1999). In Gomai the poultry were mainly left unprotected. They roamed near the houses which kept them. The ducks also wandered to the pond and were left there unsupervised. The women and children mainly feed them and collected their eggs. The men mainly tended to the fields or their local shops. In India rural poultry farming is used as a subsidiary income for the family and its development is lagging behind even in the 21<sup>st</sup> century (Rath *et al.*, 2015). Rural poultry farming in India generally involved negligible feed cost and was a good source of protein for the poor farmers with little to no investment from the farmers (Pathak and Nath, 2013). Rural poultry farming could potentially help reduce poverty along with improving the nutritional status of the farmers. It could also lead to women empowerment (Kumar

*et al.*, 2019). The two major causes for the loss of poultry birds in rural villages were disease and predation (International Network for Family Poultry Development, 1999).

#### **Damage caused by the jungle cats**

Jungle cats caused the death of only 6.42% of the total poultry kept in Gomai. Jungle cats were known to kill aquatic birds near waterbodies in the winter in Turkey (Ogurlu *et al.*, 2010). In Gomai, ducks were killed more than chickens by the jungle cats but the kills mainly occurred during the rainy season instead of the winter season. Gomai is an agricultural village where rodents are one of major sources of crop loss. Rodent constitute nearly 70% of the diet of jungle cats (Mukherjee, 2008). In the rainy season the fields where rodents stay for most of the year become flooded and the rodents move towards the village households. The jungle cats also move away from the fields towards the households in search of the rodents and come in greater contact with the poultry birds during the rainy season.

#### **Damage caused by the Indian free ranging dogs**

Indian free-ranging dogs were responsible for the deaths of only 21.55% of the total poultry population in Gomai. The estimated financial loss caused by the dogs was approximately INR 38600 (\$ 530.59) for the duration of the study period. Indian free ranging dogs were observed to attack wild animals. 45% of the attacks were reported to result in deaths and 36% of kills were consumed by the dogs (Home *et al.*, 2017). In this study it was observed that domestic dogs had killed more poultry birds than the jungle cats. The dogs caused more than twice as many deaths as the jungle cats. According to the Indian Kennel Club, Indian free ranging dogs are 20-30 kg in weight which is 5-7 times the weight of jungle cats (4 kg). So, the dogs would require more food than the jungle cats. Indian free ranging dogs in Gomai mainly live off the garbage dumped by the villagers. Some villagers often provide the dogs with their leftover rice. All these sources of food are severely lacking in protein and rich in carbohydrate. Although Indian free ranging dogs have adapted to a starch rich diet, they are closest living relatives of gray wolves and so they have a preference for protein foods (Axelsson *et al.*, 2013). The poultry birds would offer the dogs a source of protein in their daily carbohydrate rich, protein lacking diet.

#### **Possible explanation for the false blame**

Although jungle cats had caused the deaths of poultry birds, the loss caused by them was observed to be very small only around 6%. The study revealed that jungle cats were considered by the villagers to be the main predators of the poultry birds even though the dogs had contributed more to the deaths of the poultry birds than the jungle cats. The reason for this could be that the dogs were mainly considered part of the village community whereas jungle cats were considered to be wild animals. The dogs were friendly with the villagers and warned them if strangers or wild animals were nearby. They also played with the village children and slept near the houses. The dogs mostly had a positive reputation in the village and the researchers could not find any evidences of dog attacks or other negative behaviours from dogs during their survey of the villagers. The kills were mainly done at night or when people were not around that area. So, in most instances the villagers lacked the opportunity to see the true culprit behind the deaths. The dogs were also observed to avoid attempting to kill the poultry birds if people were nearby. This situation could lead to the villagers falsely blaming the jungle cats for any loss of poultry birds due to predation without determining the truth of the situation.

#### **Necessity for correcting this false belief about the jungle cats**

Jungle cats present in the protected areas were under the surveillance of the forest officials. The jungle cats present in the agricultural villages were not under the protection of the forest officials. The Government of India in 1990 issued guidelines for the development of degraded forests with the help of local communities (Ministry of Environment and Forest, 2005). In the unprotected agricultural villages the help of the local people was essential for protection of the local wildlife. The main complain, the villagers in Gomai had regarding the jungle cats was that they kill their precious poultry birds. The study revealed that the jungle cats killed only a small portion of the poultry population and the jungle cats were wrongly accused of being responsible for the kills made by other predators, most notable of them being the Indian free ranging dogs. If the villagers were made aware of the actual damage caused by the jungle cats and also of their role in rodent population control then the villagers might

change their opinions regarding the jungle cats. This awareness might lead to the villagers being more willing to lend their hand in protecting these jungle cats.

## Conclusion

The Indian free ranging dogs killed 2.5 times as many poultry birds as the jungle cats. So, the villagers' belief that the jungle cats were the main culprit behind the poultry bird deaths due to predation was incorrect. The jungle cats were falsely blamed for other predators' kills. The jungle cats did cause economic loss to the villagers by killing their poultry birds but they were responsible for only 28.26% of the total predator related poultry birth deaths. Correcting this wrong notion of the villagers about the jungle cats could enable us to get their help in protecting the jungle cats.

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