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RESEARCH ARTICLE

STUDY ON THE STATUS OF INDIAN BLUE PEAFOWL (*PAVO CRISTATUS*) IN SELECTED AREAS AT KUMBAKONAM, THANJAVUR DISTRICT

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Abstract

The overall peafowl abundance were found 247. It was 93 cocks, 93 fowls and 61 chicks (sex ratio (1:1) in the study areas. The peafowl abundance were recorded in different habitats such as Paddy, Sugarcane, Banana plantation, Bamboo vegetation, aquatic Grasses (Grass vegetation). The highest abundance was noticed in Banana plantation (n=61) and the lowest abundance was recorded in Bamboo vegetation (n=35). Meanwhile, Sugar cane habitat (n=50), Paddy field (n=48), and aquatic grasses (n=55). The study was carryout from October 2021 to April 2022. A total of 7 months were studied for peafowl abundance in different area in and around Innambur village, Kumbakonam Taluk. The monthly variation were noticed for peafowl abundance. The maximum sightings of peafowl was obtained in the month of Feb (n=13). The minimum sightings of peafowl was recorded in the month of November and March respectively (n=7). The highest sightings of peafowl was observed in Eragaram area (n=35; male 18; Female 11; and chick 6). The sightings of Indian peafowl were expressed in number (Number of sighting / km walked in the study area). The habitats includes Paddy, Sugarcane, Banana plantation, Bamboo vegetation and aquatic grasses. The overall sightings of Indian peafowl in the study area was 247. The highest sightings was estimated in the Banana plantation habitat.The minimum sightings was recorded in Bamboo vegetation. It was showed the moderate number of sightings of Indian peafowl in the other habitats.

Introduction:-

India's national bird, the Indian Peafowl Pavo cristatus (henceforth, peafowl), is listed under Schedule I of the Indian Wild Life (Protection) Act, 1972, and in Appendix I of the CITES treaty. It is an omnivorous and gregarious, and is seen in open, and deciduous forests, different types of plantations, and human habitations [1];[2]. It faces the threats of poaching for its meat, feathers, and for use in traditional medicines. Accidental poisoning is another major threat [3] ; [4] [5 &6]. Crop depredation by peafowl is a serious issue, and has been reported from some areas in India [7]; [8], [9];[10]; [11]. As the actual economic loss was not estimated in these studies, farmers could not claim ex-gratia payment from the Government authorities. The situation will be exacerbated when the government

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prioritise the needs of of humans [12]. Quantifying the damage, and immediately disbursing sufficient ex-gratia to the victims could ameliorate the human-animal conflict[13].

The Indian Peafowl is omnivorous and eats seeds, insects, fruits, small mammals, and reptiles [14]. Around cultivated areas, the peafowl feeds on a wide range of crops such as groundnut (Arachis hypogaea L.), tomato (Solanum melongena L.), paddy (Oryza spp.), Red chilly (Capsicum annuum L.) and even bananas (Musa sp.) [15]. In India, as mentioned above, no studies have been conducted to measure the extent of crops that peafowl damage. In this study, an attempt has been made to study the human-peafowl conflict, with the objective of estimating the extent of crops damaged, by peafowl, in the villages near the Kumbakonam region of Tamil Nadu with the following objectives.

The Indian Peafowl is regarded as protected species through the Indian Wildlife Protection Act (1972) and listed as least concern (LC) by the International Union for Nature (IUCN). According to Bird Life International [16], Pavo cristatus is the species and it is to be studied thoroughly. Even though there are several threats against this species and for their survival in many parts of the fragmented areas in the country. The Indian Peafowl is native to south Asia, but introduced and semi feral in many other parts of the world. The Indian Peafowl is under the inclusion of Order Galliformes, Family Phasianidae, Genus Pavo is cristatus [1]. Many workers draws particular attention to the need of quantitative accurate and comprehensive maps of species distribution and abundance. Without such a database in many fragmented areas it will not be possible to plan priorities in conservation. Hence this species is highly emphasized and it is essential to take up an in depth research on the population and habitats in the fragmented areas in the southern parts of India. The objectives of the present work was

1. To assess the overall Abundance of Peafowl in the study area.
2. To estimate the Peafowl abundance in different habitats in the study areas.
3. To find out the monthly variations in the peafowl abundance in the study area.

Materials And Methods:-

The Estimation of Peafowl was carried out along the transects and foot paths in the cultivated crop lands and non cultivated lands. On each sighting of the Peafowl the variables such as the total number of individuals (Adult Male, Adult Female, Sub Adult Male, Sub Adult Female and Chicks), group size, vegetation and terrain type was recorded. The Indian peafowl roosting sites and trees was surveyed and recorded. The roost tree was be confirmed seeing the birds directly at dawn and dusk. Details such as roost tree (n), roost tree height (m), roost height (m), tree diameter at breast height (cm), habitat, date, time will be recorded. The presence of dropping indirect evidences in the roost tree also make evidenced the birds choosing the same tree for long period.

The study on the abundance and distribution of Indian Peafowl was carried out from October 2021 to April 2022. The standard line transects method described by Burnham et al (1980) was adopted and followed. The length of each line transect was laid depends on the availability of habitats in study area. The data on sighting, number, perpendicular distance, date, time, habitat type and attitude were recorded. The abundance of Indian Peafowl was estimated by using the data on Distance software [17] and [18]. The Encounter Rate (ER=n/km walked) of Indian peafowl sightings was obtained in different habitats and altitudes. The habitat availability, use of habitats by Indian Peafowl, microhabitat variables were also studied.

Study area

The study area Innambur village, Kumbakonam taluk of Thanjavur District was chosen for this study. This area is located near kumbakonam. The distance is around 13km. The study area consist of various study locations such Innamur Puliyambadi, Uthirai, Eragarm and Kalvikudi. This study area and its spots having five different habitats namely the Paddy field, Sugarcane, Banana cultivation field, Bamboo vegetation and Aquatic habitat contained grass field. All the study spots and habitats were studied for peafowl abundance from October 2021 to April 2022 (07 months).

Results And Discussion:-

Results:

Overall Peafowl Abundance

The present study was focused to find out the peafowl abundance from various habitats. The monthly fluctuation in the peafowl abundance from the study area was recorded. The population of peafowl forms various study spots were studied in the study area.

Overall abundance:

A total of 247 peafowl were found in the study area. It contains 93 cocks, 93 fowls and 61 chicks were obtained(sex ratio (1:1) in the study areas (Table 1 and 2). The abundance of Peafowl were estimated and expressed in Encounter Rate (n/km walked).

Habitat-wise Peafowl Abundance:

The peafowl abundance were recorded in different habitats such as Paddy, Sugarcane, Banana plantation, Bamboo vegetation, aquatic Grasses (Grass vegetation). The highest abundance was noticed in Banana plantation (n=61) and the lowest abundance was recorded in Bamboo vegetation (n=35).

Mean while, Sugar cane habitat (n+50), Paddy field (n=48), and aquatic grasses (n=55).

Monthly variation:

The study was carryout from October 2021 to April 2022. A total of 7 months were studied for peafowl abundance in different area in and around Innambur village, Kumbakonam Taluk.

The monthly variation were noticed for peafowl abundance. The maximum sightings of peafowl was obtained in the month of Feb (n=13). The minimum sightings of peafowl was recorded in the month of November and March respectively (n=7).

Peafowl Abundance in different areas:

The highest sightings of peafowl was observed in Eragaram area (n=35; male 18; Female 11; and chick 6). The other study areas such Kalvikudi area n=55; Male 17; Female 23; and Chick 15) was obtained for beafowl abundance. In Puliyambadi study area, n=50 (Male – 15; Female 22; and Chicks 13 was observed. The study area Innambur was obtained 48 Peafowl (n=48; Male 21; Female 17 and Chick10). The distribution of Indian Peafowls was sighted in all the habitats. The sightings of Indian peafowl were expressed in number (Number of sighting / km walked in the study area). The habitats include Paddy, Sugarcane, Banana plantation, Bamboo vegetation and aquatic grasses.

The highest sightings was estimated in the Banana plantation habitat. The minimum sightings was recorded in Bamboo vegetation. It was showed the moderate number of sightings of Indian peafowl in the other habitats.

Discussion:-

The present study was focused to find out the peafowl abundance from various habitats in the study area. The sightings of peafowl in the study area were high during the study period The monthly fluctuation in the peafowl abundance from the study area was recorded and showed its abundance in all the months. The highest rate of abundance was observed in the month of February The lowest abundance was obtained in the April month. The population of peafowl from various spots was studied and the abundance showed in all the habitats. The abundance was high in the Banana cultivation habitats in the study area. The abundance was low in the Bamboo vegetation habitats in the study area. The distribution of Indian Peafowl was obtained in all the habitats in the study area. This study also revealed that the populations of Indian Peafowls were found higher number in particular habitat when compared to others and it showed the mostly in the open areas of forests in the study area. The more abundance of Indian Peafowls in scrub jungle may be due to the availability of sufficient food plants, insects, roosting tress and good ground cover for breeding and protection purposes. Peafowl prefers mostly scrub jungle when compared to southern sub-tropical hill forests and may be the reason for the ground litters and fruiting plants plays significant role [19].

The abundance of Indian Peafowls in scrub jungle may be due to the availability of sufficient food plants, insects, roosting tress and good ground cover for breeding and protection [20]. According to Subramanian et al the Grey

jungle fowl prefers mostly scrub jungle when compared to southern sub-tropical hill forests and further stressed that the ground litters and fruiting plants plays significant role for Grey junglefowl [21].

Table 1:- Overall Peafowl Abundance in the Study Area during the Study period from October 2021-April 2022 (ER= n/km walked).

S.NO	MONTHS MONTH	MALE ER	MALE UPPER ER	MALE LOWER ER	FEMALE ER	FEMALE UPPER ER	FEMALE LOWER ER	CHICKS ER	CHICKS UPPER ER	CHICKS LOWER ER
1	OCTOBER	15	18	11	15	17	13	7	10	5
2	NOVEMBER	17	20	14	12	14	10	5	7	3
3	DECEMBER	13	15	11	11	12	10	11	14	8
4	JANUARY	12	13	10	13	15	11	9	13	7
5	FEBRUARY	10	12	8	16	18	14	13	16	10
6	MARCH	15	17	11	14	17	15	6	8	5
7	APRIL	11	13	9	12	15	12	10	13	8
	Overall	93	97	91	93	96	89	61	66	61

Fig 1:- Overall Peafowl Abundance in the Study Area during the Study period from October 2021-April 2022 (ER= n/km walked).

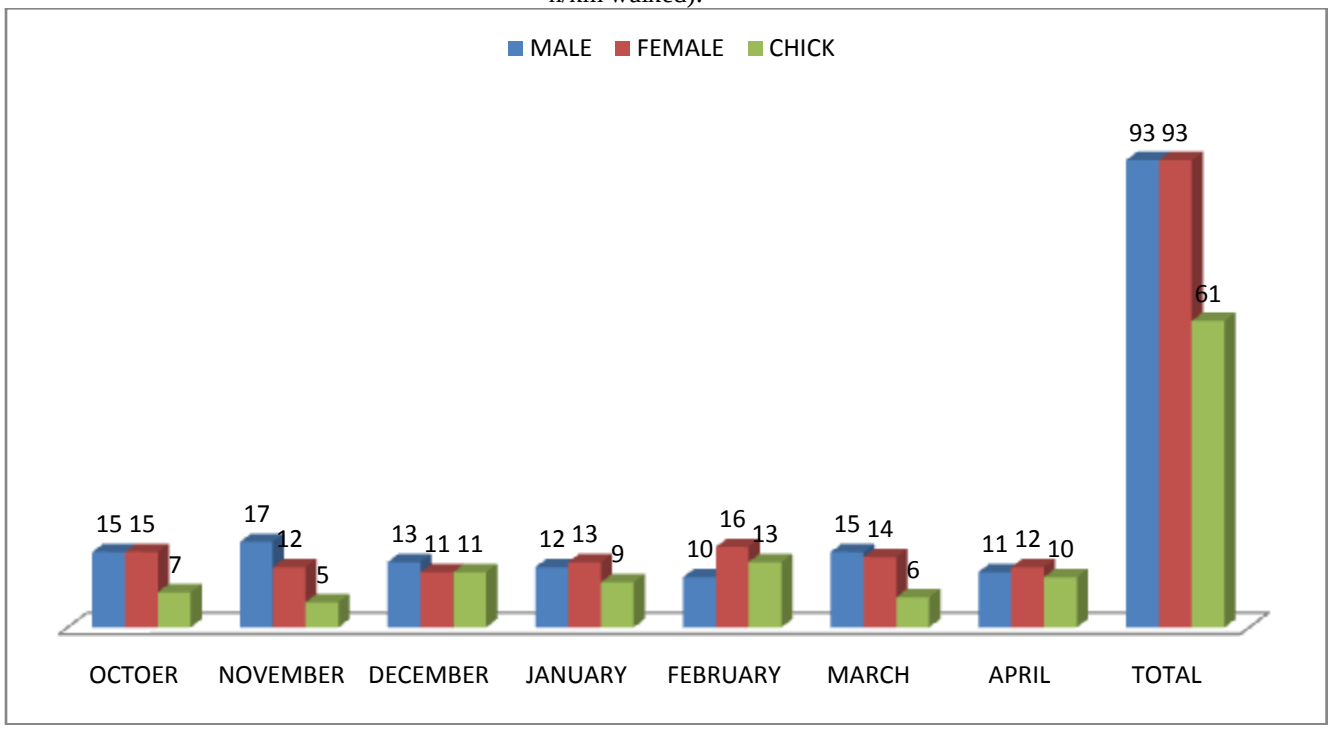
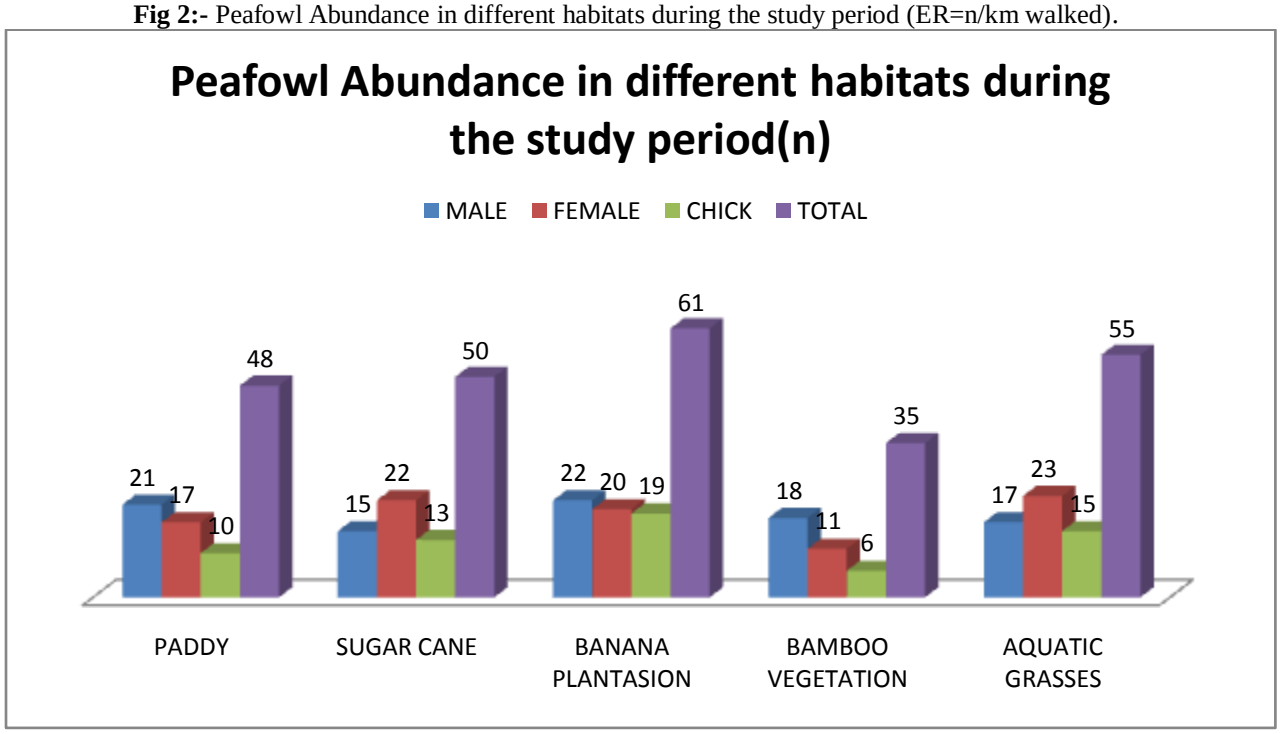


Table 2:- Peafowl Abundance in different habitats during the study period (ER=n/km walked).

HABITAT	MALE ER	MALE UPPER ER	MALE LOWER ER	FEMALE ER	FEMALE UPPER ER	FEMALE LOWER ER	CHICKS ER	CHICKS UPPER ER	CHICKS LOWER ER
PADDY	21	24	18	17	19	14	10	14	8
SUGAR CANE	15	17	13	22	25	19	13	15	10
BANANA CULTIVATION	22	25	19	20	23	17	19	21	15
BAMBOO VEGETATION	18	21	16	11	15	9	6	9	5
AQUATIC GRASSES	17	19	15	23	27	21	15	18	12

Fig 2:- Peafowl Abundance in different habitats during the study period (ER=n/km walked).



Conclusion:-

The overall peafowl abundance were found 247. It was 93 cocks, 93 fowls and 61 chicks (sex ratio (1:1) in the study areas. The peafowl abundance were recorded in different habitats such as Paddy, Sugarcane, Banana plantation, Bamboo vegetation, aquatic Grasses (Grass vegetation). The highest abundance was noticed in Banana plantation (n=61) and the lowest abundance was recorded in Bamboo vegetation (n=35).

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