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DISTRIBUTION PATTERN OF SARUS CRANE *GRUS ANTIGONE ANTIGONE* IN AURAIYA DISTRICT, UTTAR PRADESH.

Zoology

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ABSTRACT

During the study year 2011-13 the distribution pattern of Indian Sarus Crane *Grus antigone antigone* was studies in Auraiya district. The district was declared in 1997. The total geographical area of district is 2015 sq.kms which is 6.45% area of Uttar Pradesh. The whole district is divided in to seven blocks. The south border of district is cover through Yamuna River and other area of district is also covered by Rind and Sengar River water sheds. A minor canal along its south border is connecting with Chambal water shed. A district survey to determine the distribution pattern and encounter rate of the Indian Sarus Crane *Grus antigone antigone*. Sarus Crane lives in pairs but also can be seen in large flocks. The number of individual in a flock may be 166. It is observed that about 600 Sarus Crane still live in Auraiya district.

KEYWORDS

Distribution pattern, encounter rate, Indian Sarus Crane Grus antigone antigone, Auraiya district.

INTRODUCTION

The three sub species of Sarus Crane are recognizing. The Indian Sarus Crane *Grus antigone antigone* is one of them and tallest all three sub species. It is resident Crane and found in Indian sub-continent. The population has declined very fast from the last several years. In India it is most common and densely populated in the states of Uttar Pradesh, Rajasthan, Gujarat, and Haryana, but their small population also lives in Bihar and Madhya Pradesh (Gole, 1989). The maximum population of Sarus Crane exists in Uttar Pradesh (Choudhury et. aI, 1999).

It is state bird of Uttar Pradesh. It prefers wetlands and paddy fields for foraging and nesting. It lives in wetlands which are close to human habitation but not highly interfered them. After the breeding they are frequently seen in cultivated paddy and wheat fields with juveniles. The Sarus Crane *Grus antigone antigone* found throughout the district mainly along road side. Due to the many threats, heavy use of pesticides, encroachment of wetlands and urbanization, the population of Sarus Crane rapidly declined so the species is consider globally threatened and listed as vulnerable under IUCN category.

Many earlier workers have been done in Uttar Pradesh but district Auraiya is untouched by other worker. So the present paper illustrated primary information about the distribution pattern of Sarus Crane in district.

STUDY AREA

Auraiya district is situated on National Highway 19 and surrounded by Etawah in West, Kanpur in East, Kannouj in North and South in Jaloun. It has seven blocks. Sarus Crane *Grus antigone antigone* had been encounter more or less in all seven blocks. This district is one of five district of Uttar Pradesh, which have highest population of Sarus.

A good River network such as the Yamuna, the Sengar, the Rind and its tributaries the Ahenya and the Pandu are found in the district of Auraiya. The basin of all Rivers provide good habitat to water birds. It lies between 26° 21" to 26° 55" North latitude and 79° 12" to 79° 45" East longitude.

The main crop of district is paddy and wheat which are chief feeding and breeding site of Sarus Crane. The average annual rainfall during study is 48 cm. Generally the monsoon period of district is last June to September. August being the rainiest month. (**Fig. 1**)

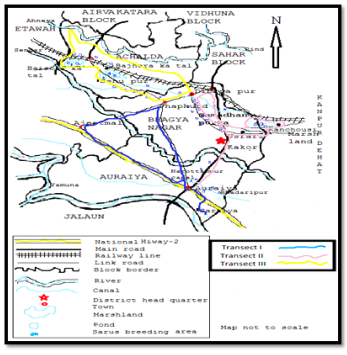

FIG. 1- Map of survey area

METHOD

The present study was carried out in three blocks of Auraiya district viz. block Auraiya, block bhagya Nagar, and block Achalda. The survey conducting during month of last Jun 2011, 2012 and 2013 to know number and population pattern of Sarus Crane in all three blocks of district. The methods of survey were applied by the road and wetlands transect. The maximum areas of district cover through motorcycle. Large wetlands also observed through 10X25 binocular to know accurate number of Sarus Crane. Local peoples also a part of study to know about the distribution pattern of Sarus Crane in different part of district. The globally locations of large wetlands were recorded through G.P.S. device. All three blocs divided in to three transect. **(Fig. 1)**

Transect I- Auraiya → Babarpur → Atsu → Phaphund → Auraiya
Transect II- Auraiya → Kakor → Kanchausi → Dibiyapur → Kakor
Transect III- Dibiyapur → Phaphund → Achalda → Pata → Dibiyapur

Encounter rate of Sarus population was calculated by the relationship:

$$\text{Encounter rate} = \frac{\text{Number of Sarus Crane counted in the transect}}{\text{Length of transect}}$$

Methods adopted were those of Sunder *e.t al.* (1999).

RESULT

In this paper total three roads and four large wetlands transect were used to find out population and distribution pattern of Sarus Crane in Auraiya district. Total 153 Sarus were counted in 2011, 245 in 2012 and 158 in 2013 **(Table 1).** The encounter rate was found 1.02 in 2011, 1.64 in 2012 and 1.06 in 2013 **(Table 1).** In this survey the juvenile and adult were not separately count.

The flock size of Sarus was also observed in large wetlands **(Table. 2).** The highest counts were seen in Basholi **(Fig.2)** and Bajhera ka taal in 2012. While Kanchousi marshland also had large flocks **(Fig.3)** only Kakhoutu wetland had low flocks.

TABLE.1- Population status and encounter rate of Sarus Crane (2011-2013)

Year	Total no of Sarus				Encounter Rate
	Transect I	Transect II	Transect III	Total Number	
2011	23	41	89	153	1.02
2012	27	47	171	245	1.64
2013	18	44	96	158	1.06

TABLE.2- Flock size of Sarus Crane in large wetland of Auraiya district (2011-13).

Name of Wetlands	Flock Size			G.P.S
	2011	2012	2013	
Kakhoutu wetland	13	11	9	N26029,145' E79031,898'
Kanchousi Wetland	23	31	39	N26035,375' E79035,912'

Bajhera ka taal	41	57	43	N26040,591' E79024,898'
Basholi ka taal	43	89	49	N26042,160' E79023,493'

DISCUSSION

On the basis of studies of previous workers the highest encounter rate was recorded in other distict (Etawah and Mainpuri) of Uttar Pradesh (R. Chouhan 2000 and Sunder *et.al.* 2000b). In the present paper the data tend to confirm that the more or less similar encounter rate also found in Auraiya district. It indicates that the Auraiya district is most valuable to Sarus Crane than other district of Uttar Pradesh. The survey was done in summer season because the most wetlands dry up and the Sarus move toward few stable wetlands. The fluctuation of encounter rate occurs due to rain fall. In year 2011 the monsoon early arrived and sufficient rain fall take place so most of pair breeds successfully but next year the monsoon became delay, they fail to breeds.

The flock size was also studied by different workers like Prasad et.al. (1993), Mukherjee *et.al*. (1999), Sunder (2003) in different areas in different months. In the present paper flock size recorded in Basholi ka Taal, Bajhera ka Taal, Kanchousi Taal and kakhoutu wetlan and found the highest number of Sarus in flock 89, 57, 39, and 13 respectively.

Fig. 2 Flock size of Sarus Crane in Basholi taal.

Fig. 3 Flock size of Sarus Crane along the road side.

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