

# Congregation of Sarus Crane (*Grus Antigone*) In Unnao District, Uttar Pradesh

Adesh Kumar, Amita Kanaujia

Biodiversity & Wildlife Conservation Lab, Department of Zoology, University of Lucknow, Lucknow- 226007, Uttar Pradesh, India

**Abstract:** *The world's tallest flying bird Indian Sarus Crane (*Grus antigone*), is globally 'Vulnerable' species as per IUCN Red List of Threatened Species. It is only residential breeding crane in India. The present study concerns the survey of Sarus Crane in Unnao district. It is a monogamous bird and known as the eternal symbol of unconditional love and devotion and good fortune. It is believed that if one bird of the pair were to die, then the other follows the path towards starvation by refusing any food or water. The Sarus cranes preferred habitat like marsh areas that are filled with water during monsoon season, the abundantly irrigated paddy rice fields, grassland and riverbanks. They are omnivorous, eating insects (especially grasshoppers), aquatic plants, fish perhaps only in captivity, frogs, crustaceans and seeds. Sarus crane is the symbol of a healthy wetland ecosystem. Sarus crane is an omnivorous bird and maintains the food chain and food web give strength to wetlands ecosystem. The present survey was carried out during April 2013- April 2015.*

**Keywords:** Ecosystem, Wetlands, Monogamous Bird, Omnivorous

## 1. Introduction

The world's tallest flying bird Indian Sarus Crane (*Grus antigone*), is globally 'Vulnerable' species as per IUCN Red List of Threatened Species. It is only residential breeding crane in India. The name Sarus came from Sanskrit term "sarasa" which means "bird of the lake. The present study concerns the survey of Sarus Crane in Unnao district. It is a monogamous bird and known as the eternal symbol of unconditional love and devotion and good fortune. It is believed that if one bird of the pair were to die, then the other follows the path towards starvation by refusing any food or water. The adult Sarus crane is very large with grey wings and body; exposed red head; a greyish crown; and a long greenish-grey beak. A crane can appraise about 2-meter in height (over 6 ft), with wingspan up to 2.5-meter wide (about 8 ft) having weight of 7 to 10 kg (Ali and Ripley, 1980; Singh and Tatu, 2000). The Sarus cranes preferred habitat like marsh areas that are filled with water during monsoon season, the abundantly irrigated paddy rice fields, grassland and riverbanks. They are omnivorous, eating insects (especially grasshoppers), aquatic plants, fish perhaps only in captivity, frogs, crustaceans and seeds (Singh and Tatu, 2000, Johnsgard, 1983; Meine and Archibald, 1996b). Sarus crane is the symbol of a healthy wetland ecosystem. Sarus crane is an omnivorous bird and maintains the food chain and food web furnish strength to wetlands ecosystem. Various anthropogenic activities, habitats are under threat of degradation and alterations are the main cause of declining of Sarus crane population (Jha & McKinley, 2014). Sarus cranes generally assembly during pre-monsoon and winter season (Singh and Tatu, 2000; Sundar and Chaudhary, 2008).

## 2. Material and Methods

The study was conducted during April 2013- April 2015 in Sakran and Purva oochgaaon Village, Bichia Block of Unnao district of Uttar Pradesh. This district lies between 26°33'0"N and 80°28'48"E. The maximum temperature recorded was 45.5 °C and minimum was 2.5 °C. The average rainfall recorded for was 850 mm. Observation and

monitoring was done regularly. Morning counts were done during the crane feeding period (06.00h – 07.30h). Evening counts (17.00h – 19.30h) were also accomplished at the same sites. A point count method was utilized. Observations and monitoring were done with the aid of an Olympus 10x50 binocular and photography was done with 70 D SLR Canon camera.

## 3. Results and Discussion

The study was performed during April 2013- April 2015 in Sakran and Purva oochgaaon Village, Bichia Block of Unnao district of UP. Sarus is a social bird seen in family group, pairs and also in congregation during study period (Fig 1 & 2).



Figure 1: A flock of Sarus Crane in open fields



Figure 2: A flock of Sarus Crane in wetland

During study period Sarus cranes were seen in pairs or family group in whole year but during non breeding season (pre-monsoon and winter season) for mate finding or pair formation the congregation of Sarus from 411-503 in numbers. There are several workers works on social organizational behaviour of Sarus Cranes seen in pairs, or family groups, and congregation up to 200 birds during non-breeding season for mate finding (Gole, 1991a & b; Singh and Tatu, 2000; Sundar et al., 2000b; Vyas, 1999; Prasad et al; 1993). They engage in social displays to facilitate the pairing of unmated birds and to establish a pecking order among families. Male attracts the female to display dance like movement.

Table 1 shows the status and distribution of Sarus cranes in pre-monsoon and winter season from April 2013- April 2015. This was surprising to see such a large numbers of Sarus cranes in our study area. Such a large number make a hope that declining population of Sarus crane will definitely increase.

**Table 1:** Status and distribution of Sarus cranes in pre-monsoon and winter season from April 2013- April 2015

S.N.	Year	Number of Sarus cranes in Village Sakran		Number of Sarus cranes in Village Poorva Oochgaon	
		Pre-monsoon season	Winter season	Pre-monsoon season	Winter season
1	2013	188	135	311	287
2	2014	234	366	397	277
3	2015	407	422	503	389

#### 4. Conclusion

The main threats are a combination of loss and degradation of wetlands; as a result of drainage and conversion to agriculture in study areas. As these study sites abode a good number of Sarus cranes that indicate healthy ecosystem for cranes for breeding and roosting. For the conservation of Sarus crane, the study recommends the declaration of breeding and roosting zone as “**Sarus Safe Zone**” with regular monitoring of these sites. Provision should include protecting eggs and chicks from predators. Awareness amongst the local people regarding wetlands habitat conservation for Sarus Cranes as well as to stop the activities such as egg stealing and hunting.

#### Acknowledgement

The authors wish to thank Head of Department of Zoology for providing necessary facilities to perform this work. We also thank the Dr. Rupak De, Principal Chief Conservator of Forests, Wildlife, Uttar Pradesh, DFO, CF, guards etc. to give us permission and facilities to work and local people of these study sites.

#### References

[1] C. Meine and G.W. Archibald, Ecology, status and conservation in cranes: their biology, husbandry, and conservation (D.H. Ellis, G.E. Gee and C.M. Mirande, Eds.). Department of the Interior, National Biological Service, Washington DC, 263-292, 1996b.

[2] H.S. Singh and K. Tatu, A study on Indian Sarus Crane (*Grus antigone antigone*) in Gujarat state. Gujarat Ecological Education and Research (GEER) Foundation, Gandhinagar, India, 2000.

[3] K.S.G. Sundar, J. Kaur and B.C. Chaudhary, Distribution, demography and conservation status of the Indian Sarus Crane (*Grus antigone antigone*) in India. Journal Bombay Natural History Society, **97**, 319-339, 2000b.

[4] K.S.G. Sundar and B.C. Chaudhary, Impact of land use changes on the ecology and habitat of the Sarus crane (*Grus antigone antigone*) in the Indo-Gangetic flood plains. Part II: Uttar Pradesh, Wildlife Institute of India, 2008.

[5] K.K. Jha and C.R. McKinley, Demography and Ecology of Indian Sarus Crane (*Grus antigone antigone*) in Uttar Pradesh, Northern India. Asian Journal of Conservation Biology, **3** (1), 8-18, 2014.

[6] P.A. Johnsgard, Cranes of the world: Sarus Crane (*Grus antigone*). <http://digitalcommons.unl.edu/bioscicranes/26>, 1983.

[7] P. Gole, Welfare of the tallest flying bird in the world. Journal of Ecological Society, **4**, 29-42, 1991a.

[8] P. Gole. The life and times of the tallest flying bird in the world. Sanctuary Asia, **11**, 26-35, 1991b.

[9] R. Vyas, Breeding success and chick mortality in Sarus cranes. Newsletter for Birdwatchers, **39**:5 -7, 1999.

[10] S. Ali and S.D. Ripley, Handbook of the birds of India and Pakistan. **Vol. 2.** Megapodes to Crab Plovers, Oxford University Press, Delhi, 1980

[11] S.N. Prasad, N.K. Ramachandran, H.S. Das and D.F. Singh, "Sarus congregation in Uttar Pradesh". Newsletter for Birdwatchers, **33** (4), 68, 1993.

#### Author Profile



**Adesh Kumar:** received the B.Sc. and M.Sc. degrees in Zoology and Animal Science from Rohilkhand University in 2004 and 2006, respectively. He qualified CSIR-NET LS in 2011 and 2012. currently doing his research on Wetlands Biodiversity from University of Lucknow and a Project of “An annotated and colored checklist of butterflies of Uttar Pradesh, India.” funded by U.P. State Biodiversity Board, Lucknow.



**Amita Kanaujia:** Completed her M.Sc. from Department of Zoology, University of Lucknow in 1994, & Ph.D. from Maharani Laxmibai Medical College Jhansi (affiliated to Bundelkhand University) in 2007 in Zoology. She qualified CSIR-NET (LS) in 1997. Presently she is an Associate Professor in Department of Zoology, University of Lucknow with 15 years teaching experience and seven years research experience.