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Sarus Crane and Alwara Lake

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Abstract

The sarus crane, *Grus antigone antigone* is a monogamous, non-migratory and world's tallest flying bird, prefers open habitat like marsh areas, abundantly irrigated paddy fields, grass land and wetland. The Alwara Lake is a part of village Alwara, which is located in Sarsawan block of Manjhanpur tahsil of Kaushambi district of Uttar Pradesh. This lake is a

natural perennial wetland. It is surrounded by agricultural fields and connected to the river Yamuna. The ecological condition of this lake supports the survival of vulnerable sarus crane. The population of sarus crane is decreasing at global level but it is increasing in and around the Alwara Lake since about one decade.

Keywords: Sarus crane, Wetland, Alwara Lake, Conservation, Biodiversity

Introduction

The Alwara Lake (Google map 1) is a natural lake and a part of perennial marshy wetland and is situated between the latitude 25°24'05.84" S-25°25'10.63" N and longitude 81°11'39.49" E-81°12'57.95" W with altitude MSL-81.08 meter. It is surrounded by agricultural fields and is connected to the river Yamuna and Kishanpur lift canal and covers more than 1750 hectares. It is located in Sarsawan block of Manjhanpur tahsil of district Kaushambi of Uttar Pradesh. The lake is skirted by villages like; Ranipur, Dundi, Hatwa and Bhawansuri in the east, Paur Kashi Rampur, Alwara and Gaura in the north, Shahpur, Umrawan in the south and Mawai, Tikra and Dalelaganj in the west.

The weather around this lake is tropical to subtropical with some variations over the year. Winter season occurs between late October and February but mid-December to mid-January is the season of severe cold and irregular appearance of fogs. Spring season occurs usually from mid-February to end of April. Summer season starts in the month of March and ends in late June. It is marked by high velocity winds including heatstroke. In local and vernacular language it is called *loo*, which is a strong, hot and. It is especially strong in the months of May and June. Rainy season starts from late June to early October.

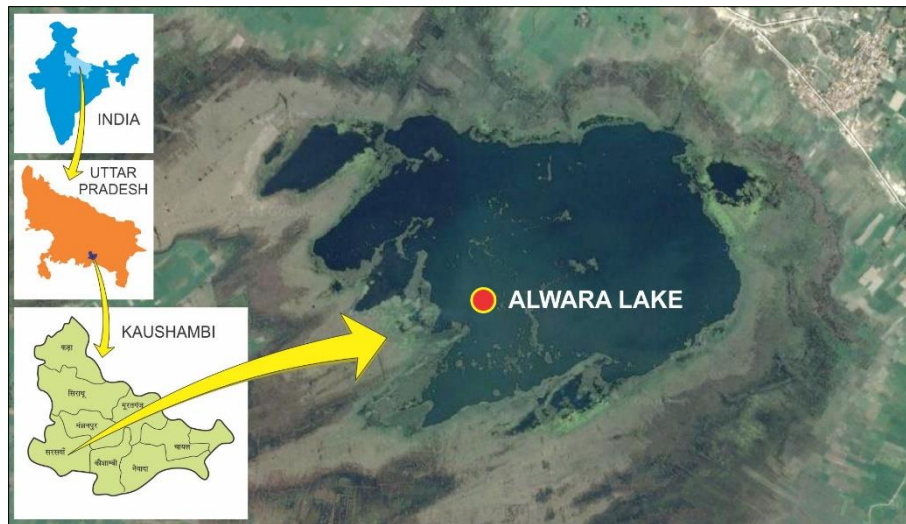
The Indian Sarus Crane, *Grus antigone antigone* is the largest of the crane species found in India (Sundar and Chaudhary, 2003)^[8] and prefers to inhabit close to human association. Besides the sarus crane, house sparrow and common myna are also associated with human habitation (Balwan and Saba, 2020)^[2]. The sarus crane is inseparably associated with wetland habitats while house sparrow and common myna are seen both in urban and rural settings. The sarus crane pairs (Fig. 1) are well known for their faithfulness and living togetherness and popular as eternal symbol of unconditional love, devotion and good fortune with high degree of marital fidelity as they pair for lifelong (Prakash and Verma, 2016a; Ashok, 2016; Verma, 2018a)^[5, 1, 9]. The sarus crane is now 'State Bird of Uttar Pradesh' and shows strong positive correlation with agriculture (Verma, 2018b)^[17].

The sarus crane is now listed as globally threatened *i.e.* vulnerable bird species (Bird Life International, 2016)^[3], as its population is decreasing. In contrary to global scenario, its population is increasing continuously at local level in and around the Alwara Lake of district Kaushambi, India (Verma and Prakash, 2016a, 2018a, 2019)^[12, 16, 18]. A review of literature available has revealed that both plant diversity as well as animal diversity have been studied and explored by different workers throughout the world including India but plant and animal biodiversity of Alwara Lake of district Kaushambi (U.P.) is little explored. As far as ecology, demographic study and conservation status of Indian Sarus Crane *Grus antigone antigone* in and around the Alwara lake is concerned, it is done only by very few workers including Verma and Prakash (2016b, 2018b)^[13, 17] and Prakash and Verma (2019)^[7].

The annual floods of river Yamuna bring about the vast openness of agricultural land after rainy season. The vast openness around Alwara lake not only provides natural habitat for vulnerable Indian sarus crane but also local flora for nest construction (Prakash and Verma, 2016b; Verma and Prakash, 2016c, 2021)^[8, 14, 19] while plankton provides food to it as well as to other water birds.

Though the lake is affected by different climatic and anthropogenic hazards including pollution, habitat degradation, predation etc. yet it has fish population in abundance and its diversity is maintained from river Yamuna. Thus, it has a huge fishery development potential (Verma and Prakash, 2016d) ^[15]. Since the ecological condition of this lake also supports the survival of several near threatened fish species and endangered species like Indian sacred lotus and Indian sarus crane, hence there is an urgent need to save the genetic resources of fish as well as sarus crane from the danger of extinction. While taking necessary measures, sustainability should be emphasized. In order to achieve the

sustainable development, effective environmental ethics should be followed, harmful anthropogenic activities should be minimized and inclusive education, care for earth, environment and biodiversity must be promoted (Verma, 2019) ^[11]. Everyone should understand the multiple dimensions of sustainability and attempt to develop measures, criteria and principles for them (Yadav, 2016) ^[20]. The Alwara Lake also helps the local farmers in irrigation and thus facilitates the agriculture. Thus, it can be concluded that Alwara lake is not only good natural habitat for vulnerable avian species *Grus antigone antigone* but also having rich animal and plant biodiversity.



Map 1: Alwara Lake in Kaushambi district (U.P.)



Fig 1: Sarus crane pair around the Alwara Lake

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