

STATUS OF BLACK-NECKED CRANES IN ARUNACHAL PRADESH

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Introduction

The Black-necked Crane (*Grus nigricollis*) is an inhabitant of the high table lands of Central Asia. It nests in high-altitude lakes of Tibetan Plateau (4300 m to 4600 m) in summer, and comes down to open fallow paddy fields and swampy land at lower altitudes (1500 m) in winter (Ali and Ripley, 1987). It has a unique distributional breeding range between 3,500 m and 5,500 m and an equally unique migratory pattern (Hussain, 1985). In India, it breeds in Ladakh and winters in Sangthi Valley under West Kameng District and Zemithang Valley in Tawang District of Arunachal Pradesh in very small flocks. In the past its wintering ground included the Apatani Valley of Lower Subansiri District (Betts, 1954) and the Gandhigram Valley of Changlang District in Arunachal Pradesh (Neog and Bhatt, 1990). However, the Cranes no longer visit these areas now possibly due to persecution and disturbance by the local people or due to the increase in human population in the region.

The Black-necked Crane is also reported in the winter in Bhutan where they migrate from Tibet. Although the bird is very rare in India in its wintering as well as breeding grounds, it is not so much rare as it was believed in China (Hussain, 1985).

They have been provided legal protection in India by including it at item No. 1-D of Part - III of Schedule I of the Wildlife (Protection) Act, 1972.

The Species

Grus nigricollis is a tall gray bird, becoming almost whitish on the under parts with black head and neck (as per its common name), except for a small white or light grey spot extending backward from the rear and lower edges of each eye. Its lores and entire crown is naked and dull red, sparsely covered by black hair like feathers, primarily on the lores. The tail is black and upper tail coverts are grayish. The iris is yellow. The bill is greenish horn to grayish horn, with a yellowish tip. The legs and toes are black. The adults of both sexes are alike, however, female being slightly smaller.

The Study Area

The Black-necked Cranes (BNC) have been found to winter in Sangthi Valley under West Kameng District and Zemithang Valley in Tawang District of Arunachal Pradesh. Sangthi is located in the valley of Sangthi Chu River, at 27°26' N latitude and 92°2'E longitude at a distance of nearly 12 km from Dirang on Dirang-

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Sangthi road. The temperature varies from below zero to 20°C from November to March when the BNC arrives in this valley. The population of Sangthi village is about 400 to 500 persons in 90 to 100 dwelling houses belonging to Monpa tribe. They follow the Buddhist religion. The villagers were engaged in timber operation activities prior to the imposition of ban on timber felling in 1996 by the Hon'ble Supreme Court. They are mostly agriculturists and practice cultivation in the valleys and hill slopes. They have a sizeable population of sheep, goats and cattle which are allowed to graze in the paddy fields after harvesting the crops i.e. the period when Black-necked Cranes also visit this area. The valley is a paddy field surrounded by Sangthi Chu and Dirang-Sangthi road, which is under construction. The other side of Sangthi Chu is precipitous with steep hill slopes. The vegetation in the area is mostly Aspen and Pine trees and *Thymus* shrub. The main valley which provides the wintering ground to these Cranes is virtually a flat land. On the one end of this area there are agricultural fields, a few houses and a school. A stream, which passes through the

middle of the valley, has created a good swampy area that remains green and swampy in the winter months also.

Observations

The details about the arrival and departure of the Black-necked Cranes in the Sangthi Valley from 1991 to 1999 along with temperature data are presented in Table 1.

The developmental works in the area are also a distracting factor for the Cranes. The use of explosives in the construction of Dirang-Sangthi road, construction of school and other Govt. buildings and extension of village area in the valley has reduced the free land for the Cranes. The movement of cattle and stray dogs is another disturbing factor. The Cranes are chased and disturbed by the dogs, which come from nearby houses scattered all along the road.

Behaviour

The Black-necked Crane which is called "Thung Thung Karma" by the local

Table 1

Year-wise details of the arrival of Black-necked Cranes in Sangthi valley

Year	Arrival	Departure	No. of birds arrived	Temp. of the region between Nov. & March (°C)	
				Maximum	Minimum
1991-92	November	March	3	-	-
1992-93	November	March	1	19	5
1993-94	December	January	6	13	3
1994-95	December	March	3	13	4
1995-96	November	November	1	20	8
1996-97	January	January	1	20	5
1997-98	-	-	-	21	8
1998-99	December	February	3	-	-

Monpa community people is a revered bird. Its arrival during a particular year is taken as a good omen for better harvest of crop in the following year. It is most probably related to the climatic factor, as discussed earlier, because it arrives in the favourable climate, which is an indication of normal weather conditions and as such good for crop production.

The Black-necked Cranes were observed to spend most of the time in paddy fields foraging where they feed on the grains and insects. They were also observed in the swampy area where they feed on tubers, marshy plants and insects. They forage for most of the day time. The entire group used to forage in the same area for hours together, if not disturbed, moving slowly on feet while foraging. Sometimes, one of the Cranes would walk briskly for long distances without feeding and return to the same place where other group members were feeding. On some occasions it was observed that the other members of the group would take a short fly and join the member who had moved away to considerable distances in the walk. The Cranes were observed to cover the entire valley in a day foraging from one place to another, albeit after staying for hours at one place.

They keep a constant watch while foraging. In the event of any human, cattle or dog coming near it, it would take a fly with a noise and afterwards all other members of the group would also fly. They would land on the ground a few metres away and be alert while keeping a watch. They were also observed to fly away and circle in the sky for some time, going up and up in the sky to land at far away place at the other end of the valley. They seldom go into the river. Most of the day-time was spent in

the paddy field and marshy area. They take rest in the paddy field squatting on the ground with little movement of body. Sometimes the juveniles in the group kept eyes closed while taking rest.

The other major activity observed among the Cranes was preening which they do occasionally, particularly during afternoon. The Cranes were observed to be mostly silent and did not make any sound except when alarmed and taking to flight to escape and sometimes to attract other Cranes. This sound was also a low volume call.

It is seen from Table 1 that the Cranes generally arrive between November to December and fly away around February or March. During 1992-93, 1995-96 and 1996-97 only one Crane came, during 1997-98 none, whereas during 1998-99 three Cranes visited this area.

Discussion

The temperature of the area seems to be the major factor for the arrival of Black-necked Cranes. There is great variation in the average maximum and minimum temperature in the region during November/December i.e. the period when Cranes arrive. The maximum number of Cranes arrived during 1993-94 and stayed from December 1993 to January 1994. However, not a single Crane arrived during 1997-98. The temperature data during this period are mentioned in Table 2.

Similarly, during 1995-96 only one Crane arrived during November 1995 and it also went away after a few days. The temperature was in the range of 20°C to 8°C during November 1995.

Table 2*Month-wise details minimum and maximum temperature of Sangthi valley*

Month	Temperature (°C)			Month	Temperature (°C)		
	Year	Max.	Min.		Year	Max.	Min.
November	1993	13.8	5.0	November	1997	21.2	8.6
December	1993	12.3	2.2	December	1997	12.0	2.2
January	1994	11.4	-0.3	January	1998	11.4	0.1
February	1994	8.4	1.2	February	1998	14.6	1.9
March	1994	14.4	3.4	March	1998	18.2	5.2

This variation in climate may be due to the large scale deforestation in the surrounding areas which might have caused the temperature of the area being a bit higher during the period of arrival of the Black-necked Crane. It was also observed that the stream passing through the middle of the valley, which was responsible for the large chunk of swampy area, was drying over the years. This has led to shrinkage in the swampy area to about one-fifth of its original size. The large scale deforestation in the upper hills has reduced the flow of water in the stream during the pinch period of winter when rains are not common.

Moreover, due to the increase of village population and due to the ban on timber felling, which used to be the main source of income generation for a large chunk of local population, the villagers have restricted the water course and the swampy lands are

now being claimed for paddy cultivation. This has led to the reduction in the swampy lands for the Black-necked Cranes.

Suggested conservation measures

The habitat required for the Black-necked Cranes at Sangthi Valley has to be maintained for its long term conservation. The first step would be large scale afforestation with indigenous species on the surrounding hills followed by soil conservation works along the banks of Sangthi Chu towards paddy field.

The conservation education and awareness works on a large scale should be taken up among the villagers of Sangthi so that the disturbance to the Cranes by cattle and dog is removed. The educated people can take more interest in the protection measures for this Crane which happens to be a good omen for them.

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SUMMARY

The Black-necked Cranes arrive in Arunachal Pradesh during winter months to keep away from cold climate of Tibet. They have been reported in the past from Gandhigram and Apatani plateau areas of the State but at present they are restricted to Santhi valley and Zemithang areas only. The present paper is a study on its range, status and behaviour in Arunachal Pradesh.

अरुणाचल प्रदेश में कृष्णाग्रीव कौचों की स्थिति

डी.एन. सिंह

सारांश

अरुणाचल प्रदेश में कृष्णाग्रीव कौच सर्दियों के महीनों में तिब्बत की कड़ी जलवायु से बचने के लिए यहां आते हैं। विगत में उन्हें इस राज्य में गांधीग्राम और अयातानी पठार क्षेत्रों में सूचित किया गया है। परन्तु, आजकल वे केवल सांगठी घाटी और जेमिथांग क्षेत्रों में ही मिलते हैं। प्रस्तुत अभिपत्र में अरुणाचल क्षेत्र में उनकी परिसीमा, स्थिति और आचरण व्यवहार का अध्ययन दिया गया है।

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