POPULATION ASSESSMENT OF MIGRATORY CRANES AT DISTRICT ZHOB, BALOCHISTAN

Bazmir Khan[1], Mazhar Iqbal[2] and Anwar Ali[3]

ABSTRACT

This study was carried out to assess the current status of population of migratory cranes at three different sites, Abdul Wahab Dam, Wasta Lake and River Zhob located in the Balochistan province of Pakistan. Point survey method was employed and observers were placed with binoculars during the evening and morning in autumn, 2010 and spring, 2011. The study resulted in 4,710 number of Demoiselle and 1,250 numbers of Eurasian Cranes in autumn, 2010 and 35,688 Demoiselle and 2,652 Eurasian Cranes in spring, 2011. It is suggested that regular seasonal monitoring surveys will be helpful to assess the trends in the population of migratory cranes. Options were also identified for conservation of cranes in Balochistan.

Key words: Population monitoring, awareness, conservation, cranes, River Zhob

INTRODUCTION

Pakistan is located at the confluence of three zoogeographic regions, namely the Ethiopian , Palearctic, and the Oriental that endows it with a rich biodiversity of species and habitat. (Khan and Pervaiz, 2001). Pakistan falls on the migratory route of Eurasian cranes (*Grus Grus)*, demoiselle cranes *(Anthropoid Virgo)* and Siberian cranes (*Grus luecogeranus)*. However, Siberian cranes have never been observed with absolute surety as is the case with other crane species in Pakistan. (UNEP/CMS 1995). Many authors have confirmed the cranes migration through valley of River Zhob (Landfried, 1983; Khan, 2004; Nawaz *et al.* 2006; Ahmad and Jan, 1995). The Siberian Cranes are nearly extinct in this area with only a few birds passing through Pakistan (UNEP/CMS, 1995; BirdLife International, 2001 Farooq *et al*., 1993; Khan, 2004).

Landfried and Roberts (1982) were of view that due to absence of detailed studies on migratory cranes in Pakistan, the available information about the seasonal passage is minimal. Similarly, Khan (2004) reported that little information is available about the ecology, distribution, migration patterns and population status of migratory cranes in Pakistan. According to Ahmad and Jan (1995), the total crane population which uses the D.I. Khan-Bannu-Parachinar route and Zhob, too, could be 35000-50000 in spring season. Ahmad (1989) reported that the game staff and local villagers in the district of Chaghai observed about 20,000 cranes enter through Zaro-Anam Bostan in Balochistan in fall each year and fly eastwards. Perveen and Khan (2010) concluded that about 7,000 cranes passed through Lakki and Bannu Districts

1 Chairman Society for Economic and Environmental Development (SEED)

2 Sub-Divisional Forest Officer, Khyber Pakhtunkhwa Forest Department

3 Forest Mensuration Officer, Pakistan Forest Institute, Peshawar

of Khyber Pakhtunkhwa in fall 2008 and spring 2009. Nawaz *et al*. (2006) reported that Zhob receives more cranes than Bannu and Kurrum valley.

During migration through Khyber Pakhtunkhwa and Balochistan, cranes face different problems such as excessive shooting, live trapping and habitat degradation (WWF, 1999). Khyber Pakhtunkhwa and Balochistan are well known for cranes hunting (Robert, 1977). Since 1940, hunting sites in these provinces include Kurram Valley, North and South Waziristan and Zhob Districts (Nawaz, 1984). Among migratory cranes, demoiselle cranes are hunted extensively. Jan and Ahmad (1995) estimated about 5000 cranes (10-15% of the total migratory cranes) are either being shot or captured in single season in Pakistan. Khan et al (1999) estimated that there are currently 12,000 captive cranes in the Kurram valley, of Khyber Pakhtunkhwa in Pakistan.

The current study is aimed at assessing the population status of migratory cranes in Zhob valley of Balochistan and identifying options for crane conservation in this important migratory route.

The Study Area

Zhob is one of the key staging grounds for cranes in Balochistan province of Pakistan (Landfried, 1983; Khan, 2004; Nawaz *et al.* 2006; Ahmad and Jan, 1995). Zhob District lies between 67°48'41"- 69°44'43" East longitudes and 30°26'54"-31°57'8" North latitudes consisting of 2 Tehsils and 24 Union Councils. (Government of Balochistan, 2011). District Zhob is at a distance of about 350 KM from the capital city of Quetta of Balochistan. It is bordered in the south-west by Quetta, in the east by FR D.I.Khan, in the north by South Waziristan and in the south-east by Musa Khel (District Census Report, 1998).

The climate of the District is extremely cold in the winter and is pleasant in the summer. June, July and August are months when monsoon rains are received. The annual precipitation is 305 mm while the mean maximum temperature is 27C°and the mean minimum temperature is 6°C (RMC Karachi, 2008).

The district is mainly inhabited by various Afghan tribes including Mandokhels, Kakars, Sheranis, Haripals, Babars, Lawoons, Khosty and Syeds. Sulemankhels, Nasars, Kharots and other tribes of Afghan origin are also inhabited in the district. (Government of Balochistan, 2011).

Cranes are the prominent and most important bird species that migrate through Zhob valley. However, information on the population of cranes visiting the study area is scanty and in most cases missing. There had been efforts on crane conservation in the past, but no consistent initiative took place. It was, therefore, necessary to assess the current status of cranes migrating through Zhob both in Spring as well as in Autumn.

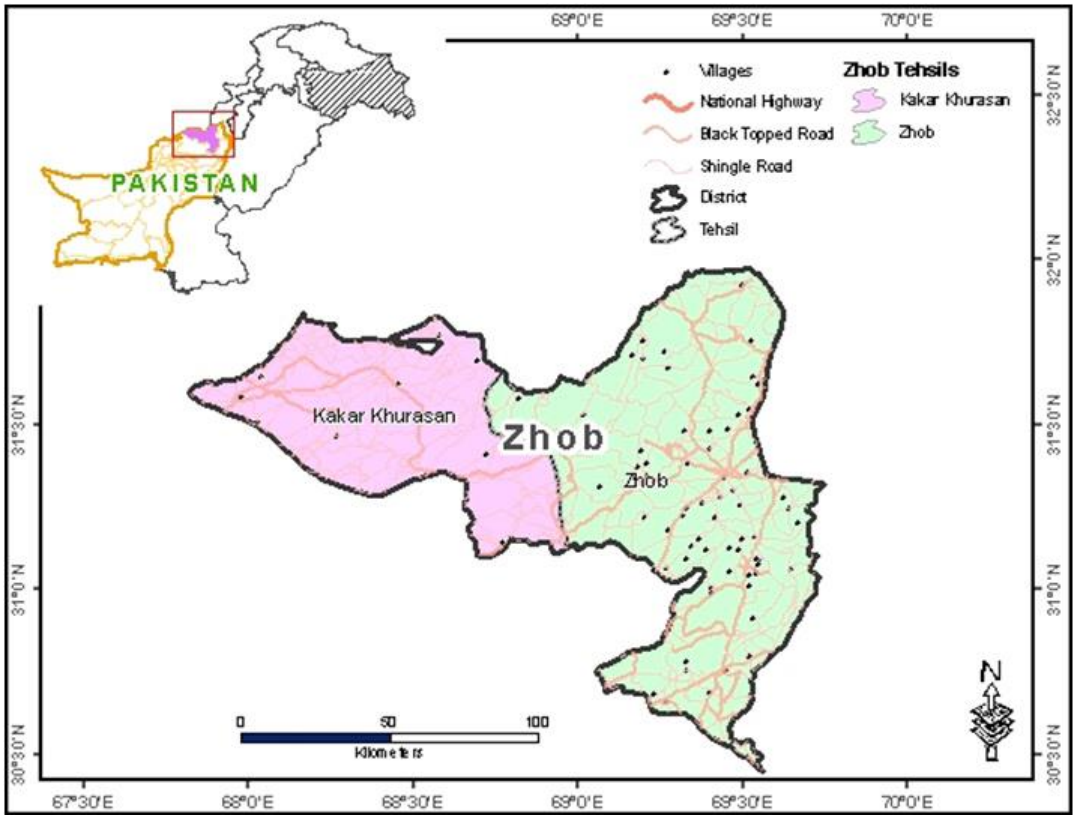

Figure 1. Map of District Zhob

Source: *District Development profile of District Zhob, 2011. Developed by Planning and Development Department, Balochistan in collaboration with UNICEF*

MATERIAL AND METHODS

Methodology

Three survey points were selected for crane monitoring. These include River Zhob, Wasta Lake and Abdul Wahab Dam. These are the well-known staging grounds for large number of cranes and other migratory birds visiting this part of the country. Point survey method was employed and all the obseservers were placed with binoculars during the evenings and morning through the migration season to record the over flying cranes (Haldin & Ulfvens 1987; Paul B. Hamel, 1996). The spring crane migration begins around the first week of March and continues until early April; the autumn migration runs from early September to mid-October (Roberts and Landfried 1987). Two teams each comprising two members collected the data on a total of six observation points. The data was recorded on all the three sites on

specially designed survey form. The data collection on population of cranes visiting study area commenced at the advent of migration season and remained operative till the completion of migration season. The survey was conducted both for autumn 2010 and spring 2011. Autumn 2010 survey was conducted from 25th August- 15th October, 2010 whereas spring 2011 survey was carried out from 15th March- 1st April 2011. Consequent upon data collection, the data was analyzed and results presented in interpretative manner.

Figure 2. Cranes observed at Wasta Lake during spring, 2011 Photo

RESULTS

Population Monitoring of Cranes

The data regarding the population monitoring of cranes was collected both for autumn 2010 and spring 2011. The data analysis resulted in 4,710 number of Demoiselle and 1,250 numbers of Eurasian Cranes in autumn, 2010 and 35,688 Demoiselle and 2,652 Eurasian Cranes in spring, 2011. The total number of cranes counted during autumn 2010 and spring 2011

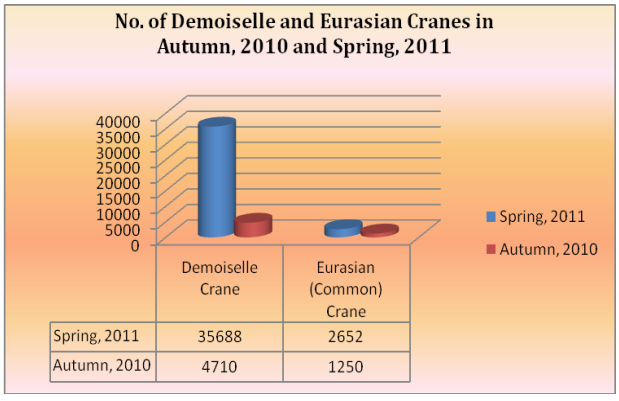

Figure 3. No. of cranes in different seasons

are 5960 and 38340. It means that the cranes migrating to Zhob during spring 2011 is much higher than the autumn 2010 (Figure 3).

Sighting of cranes in different positions

The data analysis depicts that 77% of the cranes counted during the autumn 2010 and spring 2011 survey were in flying position. Thirteen (13%) of the cranes were sighted while feeding whereas 10% of the cranes were found to be in the state of resting. The three sighted positions against the number of cranes estimated are shown in the Figure 4.

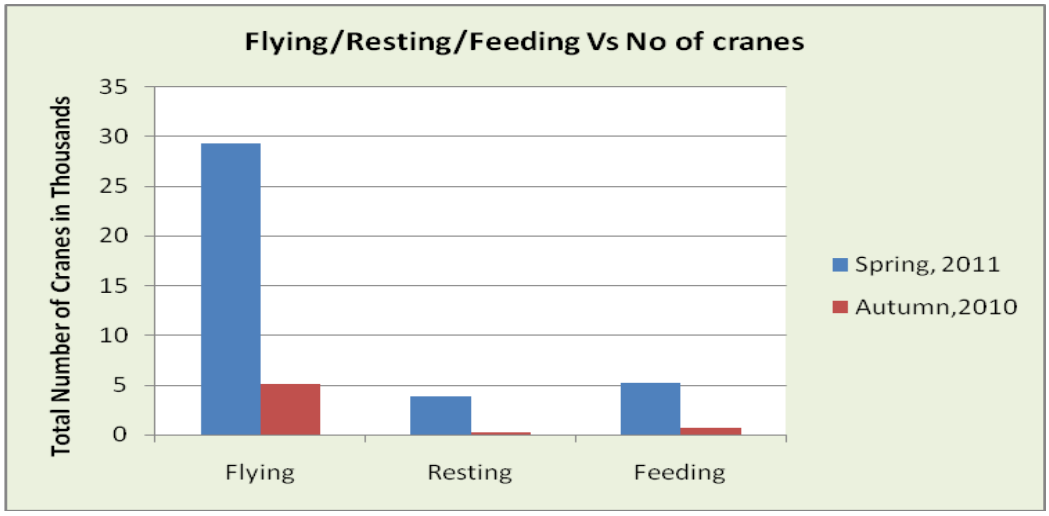

Figure 4. Estimated number of cranes sighted in different positions

Comparison of crane flights during day and night

During the survey a total of 35% of cranes were observed during day time of the total, where as 65% of the total cranes were observed at night.

From the results of the survey, it could be concluded that most of the cranes travel at nighttime, especially in full moon nights (Habitat Report, 2012). Since, full moon offers opportunities to travel freely due visibility at nighttime, that's why cranes feel comfortable while traveling at night due to absence of any disturbance in their migratory routes.

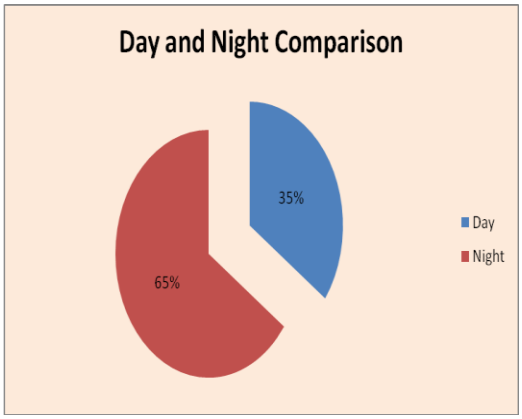

Figure 5. Comparison of cranes flights during day and nights

Shape of Flock

31045 numbers of cranes were observed in V-shaped flight (Clarke, 2002) whereas only 3313 numbers of cranes were sighted having Line shaped flight pattern. These numbers exclude those cranes which were sighted either feeding or resting.

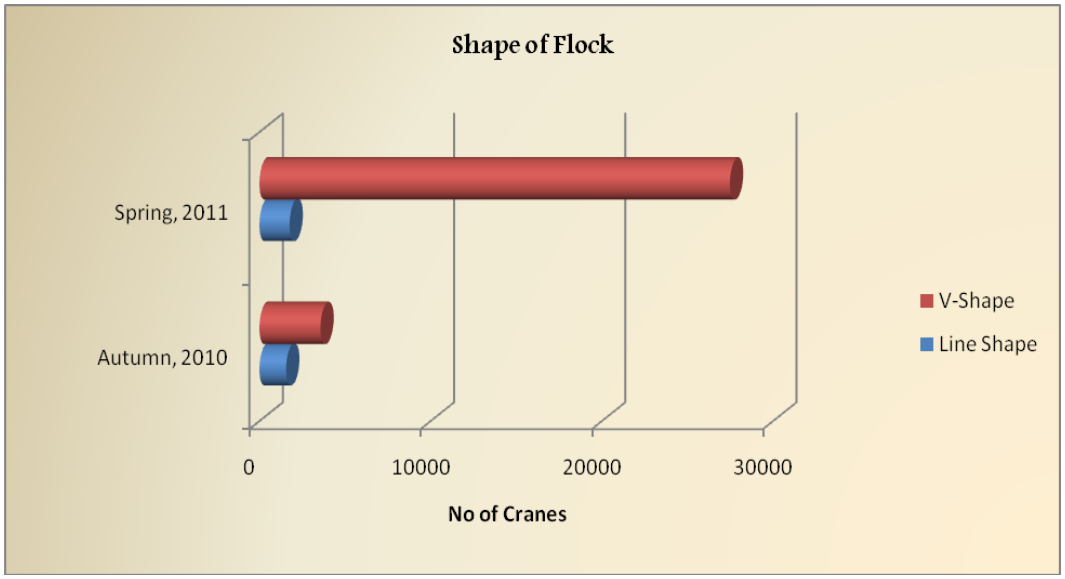

Figure 6. Shape of the flying cranes

DISCUSSION

Detailed and accurate information on the population status of migratory cranes in Pakistan is not available and this subject is still data deficient (Khan, 2004). The findings of the current study are encouraging that significant number of cranes of the two species, namely Demoiselle and Eurasian, are still visiting the Zhob valley. In the absence of authentic, reliable and up-dated information on the population assessment/status of migratory cranes to this part of the country, it is hard to compare the results of our study with any previous work. However, these findings are in conformity with other researchers findings as reported by Ahmad and Jan (1995) that total crane population on the major migratory routes including D.I. Khan-Bannu-Parachinar route and Zhob is about 35000-50000. Similarly, Ahmad (1989) reported that the game staff and local villagers in the district of Chaghai observed about 20,000 cranes enter through Zaro-Anam Bostan in Balochistan in fall each year and fly eastwards. Perveen and Khan (2010) concluded that about 7,000 cranes passed through Lakki and Bannu Districts of Khyber Pakhtunkhwa in fall 2008 and spring 2009. Nawaz *et al*. (2006) reported that Zhob receives more cranes as compare to Bannu and Kurrum valley.

CONCLUSION AND RECOMMENDATIONS

Zhob valley is an important staging ground of cranes in Pakistan. This study estimated that 4,710 number of Demoiselle and 1,250 numbers of Eurasian Cranes visited the area in autumn, 2010 and 35,688 Demoiselle and 2,652 Eurasian Cranes visited the area in spring, 2011 at three sites, Abdul Wahab Dam, Wasta Lake and River Zhob. Majority of the cranes were observed in flying position during night times. The results of this study provide a baseline for future studies.

Following recommendations are made for conservation of migratory cranes in the Zhob valley:

- Seasonal population monitoring surveys need to be conducted for longer period of time to assess the population trends of the migratory cranes.

- Capacity of the staff, both professional and para-professional, should be built in survey techniques of migratory cranes and other key wildlife species including data collection, data analysis and report writing. This will ensure in-house capacity and hence they can conduct such surveys and formulate action plans locally and independently.

- The wetlands used traditionally by cranes should be protected and comprehensive conservation strategy needs to be formulated by using multi-stakeholder approach.

- Environmental education strategy should be worked out at all levels and be implemented in letter and spirit to bring out positive change in their attitudes towards conservation.

- District administration and Wildlife Department should mobilize their resources to stop crane hunting and trapping. The implementation of Section 144 regarding imposition of ban on crane hunting by the District administration of Zhob is a good step towards conservation of cranes.

- Community should be provided with incentives to control cranes hunting and trapping.

ACKNOWLEDGMENTS

The authors are thankful to OBC for providing financial assistance to support this study.

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