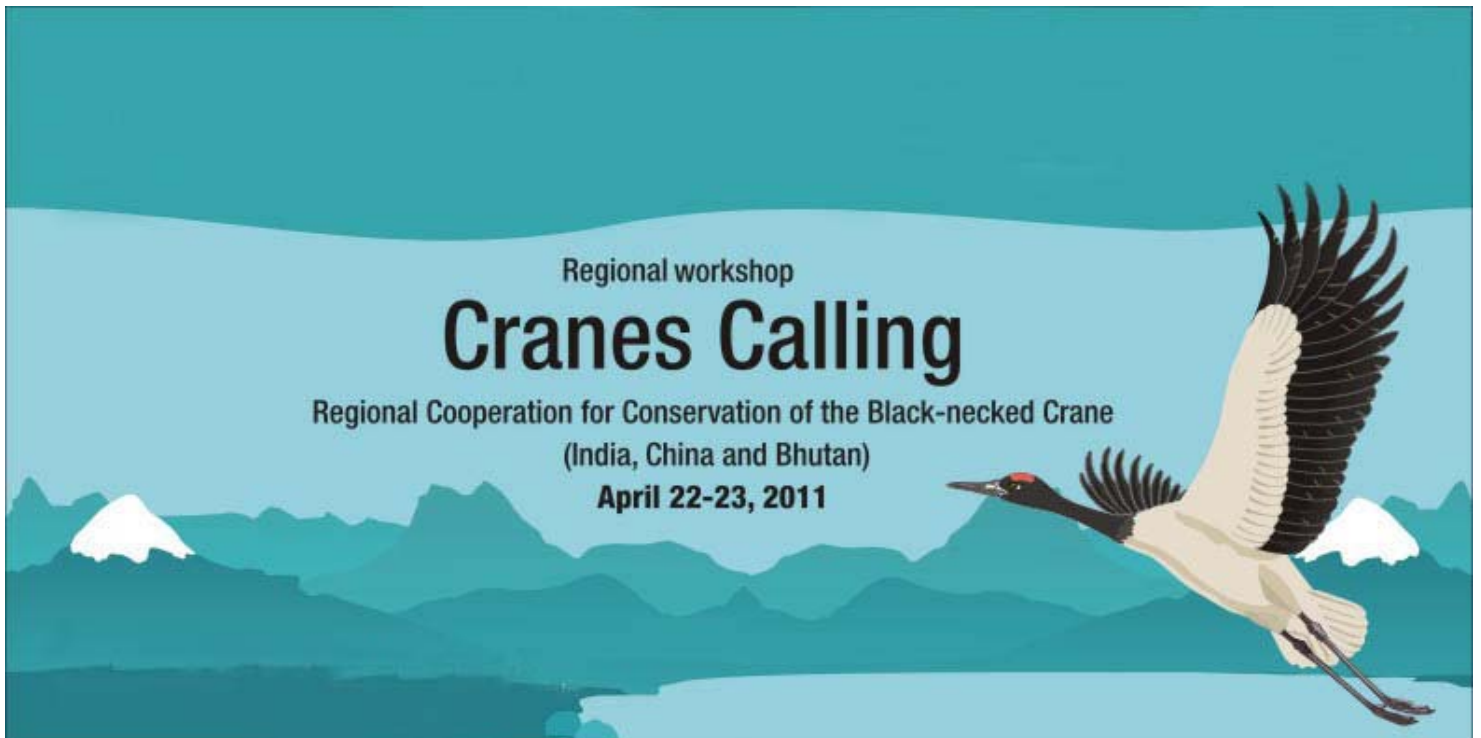


Workshop Report



Ministry of Environment & Forests, Government of India

WWF-India

Bombay Natural History Society (BNHS)

Indian Bird Conservation Network (IBCN)

Introduction

Cranes Calling, a regional workshop for cooperation for conservation of the Black-necked Crane (BNC), was held on April 22-23, 2011 in New Delhi, India. The workshop was attended by 81 participants from India and Bhutan including representatives of Birdlife International, Wetlands International and UNESCO. The workshop was organised by WWF-India, Ministry of Environment and Forests, BNHS and IBCN.

The workshop was inaugurated by **Shri Jairam Ramesh**, Hon'ble Minister of Environment and Forests, Government of India. Mr. Dasho Paljor Dorji, Chairman, National Environment



Commission of Bhutan and Founder Patron, RSPN Bhutan, Mr. Jagdish Kishwan, Additional Director General of Forests (WL), Government of India, Mr. A.K. Srivastava, Inspector General of Forests (WL), MoEF, Government of India, Dr. Asad R. Rahmani, Director, BNHS and Mr. Ravi Singh, Secretary General and CEO, WWF-India, were also present.

The key objectives of the workshop were to facilitate knowledge-sharing and information exchange among conservation experts on the Black-necked Crane, to use the bird as a vehicle for international cooperation between India, China and Bhutan and to explore the opportunities of community exchange programmes between these countries.

The Black-necked Crane *Grus nigricollis* breeds in the high altitude wetlands of the Tibetan Plateau (China) Eastern Ladakh in J&K and Gurudongmar Lake in Sikkim (India). The species winters in lower altitudes in Tibetan Plateau, Yunan and Guizhou (China), Phobjika and Bumdeling (Bhutan) and Sangti, Zimithang valleys in Arunachal Pradesh (India). The species has strong cultural, spiritual and religious links to the local people in the region. The total global population of the species is estimated to be about 11,000 individuals and it is listed as a globally 'Vulnerable' species by IUCN.

A range of conservation measures have been initiated in all three countries. A protected species under the national legislation in all three countries, it is listed by the Convention on the Conservation of Migratory Species of Wild Animals (CMS) as an Appendix I species, and is on the appendix II of the Convention on the International Trade of Endangered Species (CITES). In India and Bhutan, it is considered a threatened species.

The wetland habitats used by the Black-necked Crane are ecologically unique and extremely fragile, the conservation of which is essential, as these wetlands are also hydrologically very important. The close cultural and spiritual link of the local Buddhist communities with this crane species along its distribution range also lends this landscape a sacred fervour. A small proportion

of the critically important sites have been designated under the Ramsar List of Internationally Important wetlands and East Asian – Australasian Flyway Site Network.

The priority issues for conservation of Black-necked Crane and its habitats include:

- Changes in wetlands due to natural and man-made causes,
- Expansion and changes in agricultural practices in and around wetlands and wetland reclamation for agriculture,
- Plantations of willows in wetlands,
- Increased mortality due to collision with power-lines in and around wetlands,
- Increasing tourism in and around wetlands, resulting in disturbance from road construction, vehicles, disposal of waste,
- Overgrazing and destruction of habitat by domestic yaks, sheep and goats within the marshes and surrounding habitats and fencing of wetlands,
- Growing human populations with increasing water demands that negatively impact the availability and quality of water in the marshes,
- Disturbance and predation of eggs and chicks by feral dogs,
- Conversion of crop fields used by cranes to greenhouse farming and urbanisation,
- Disturbance to birds and their habitats due to large populations of military and police, and
- Changes in rainfall, melting of glaciers and related impacts on climate

The following recommendations were made during the workshop for regional cooperation and conservation of the Black-necked Crane:

1. Promote the Black-necked Crane as a symbol of international cooperation and conservation of the high altitude wetland ecosystems of the Himalaya, trans-Himalaya and Qinghai-Tibetan Plateau.
2. Improve understanding on the impact of changes in habitat on the survival of the BNC.
3. Enhance understanding on the impacts of climate change on BNC habitats and populations.
4. Strengthen coordinated monitoring of BNC and other water birds in high altitude wetlands through their inclusion in the Asian Waterfowl Census and Important Bird Areas monitoring programmes.
5. Conduct research studies on BNC health and disease monitoring and strengthen regional cooperation on these issues.
6. Establish a regional information centre for generating awareness on the BNC.
7. Encourage Bhutan and India to join the East Asian – Australasian Flyway Partnership and to designate sites of international importance along the flyway and improve their management.
8. Initiate development of a Single Species Action Plan for the BNC under the Convention on Migratory Species (CMS) and East Asian – Australasian Flyway Partnership.
9. Strengthen management and scientific restoration (according to international guidelines) of wetlands of national and international importance for the BNC including supporting and strengthening traditional rangeland management practices.
10. Carry out realignment of power lines (as done in Bhutan) and removal of wire fences and plantations in and around wetlands used by the Black-necked Crane to reduce mortality and maintain good habitat.
11. Ensure that no new tree plantations are carried out in and around high altitude wetlands used by the Black-necked Crane and no man-made structures harming birds are allowed to come up in these areas.

12. Implement strict guidelines for tourism in high altitude wetlands and their catchments (potentially using the BNHS Bird Tourism Charter).
13. Establish a regional forum and an international working group to promote conservation of the BNC and its habitat.
14. Enhance awareness of local people, youth, decision-makers, military and paramilitary forces to recognise the importance of landscape approach to management of high altitude wetlands to conserve BNC and other unique fauna and flora.

India

1. Improve our scientific knowledge on Black-necked Crane through
 - understanding of migration routes and habits of birds breeding in Ladakh and the origins of the birds wintering in Arunachal Pradesh using telemetry
 - survey and documentation of other potential sites for Black-necked Crane in northeast India
 - ecological and behavioral studies
2. Considering that, of the 15 breeding pairs in Ladakh, recruitment rate being only 5-6 individuals per year, protection of nesting sites, eggs and chicks of BNC should be accorded top priority. This could be done in partnership with local communities, Army and ITBP personnel.
3. Consider the BNC for inclusion under the species recovery programme of the MoEF in recognition of its restricted range and very small population in the country.
4. Designate and manage Ramsar sites in Sikkim, Arunachal Pradesh, and Jammu & Kashmir that have BNC populations.
5. Link the BNC with other important species like the Snow Leopard for promoting landscape level conservation.
6. Control encroachment of agriculture, use of pesticides and chemical fertilisers into wetlands used by cranes and other associated bird species. Organic agriculture practices should be promoted around these areas.
7. Curb the entry and spread of exotic species (flora and fauna) in BNC habitats.
8. Carry out strategic spatial planning for improved wetland ecosystem management.
9. Address the issues related to management and improvement of BNC habitat with the active involvement of local communities.
10. Address the issue of feral dogs at Army Camps through a constructive dialogue with Ministry of Defence, Govt of India.
11. Establish an information centre for the BNC, the State Bird of J&K at Leh.
12. Form a core group to take forward recommendations.

Bhutan

1. Develop capacity for research and monitoring of BNC including initiation of a community-based monitoring programme.
2. Carry out site specific habitat restoration and management.
3. Conduct a comprehensive wetland survey and documentation.
4. Establish a crane information centre in Bumdeling.
5. Initiate the process of Bhutan joining CMS.
6. Ratify the Ramsar Convention and declare crane habitats in Bumdeling and Phobjikha as Ramsar Sites (and strengthen their management).

7. Strengthen institutional linkages to support collaborative research and to promote exchange visits for information and experience sharing.
8. Enhance awareness and education (e.g. through Black-necked Crane festivals).
9. Explore sustainable alternate livelihood options for communities living in BNC habitats.
10. Address threats to BNC populations including feral dogs, tourism pressure, land use changes, settlement expansion, infrastructure development, livestock grazing and changes in agricultural practices.

Workshop Proceedings

Day 1 - April 22, 2011

Inaugural session

The workshop commenced with the welcome address given by Mr. Ravi Singh, Secretary General and CEO, WWF-India. He expressed his happiness on the gathering of experts working on BNC conservation. He mentioned that BNC is a symbolic heritage across the countries and is a very important species for regional cooperation in India, Bhutan and China.

Mr. Jagdish Kishwan (Addl. Director General, Forests (WL)) spoke about the role of MoEF for BNC conservation. The conservation action planned for this species would also check the degradation of its habitat in this region. He highlighted the importance of the birds for regional cooperation and emphasised that more research on BNC needs to be undertaken.

Mr. Pankaj Chandan, Senior Programme Manager, WWF-India talked about his decade long association with Black-necked Crane. He gave an overview of the species and its habitat – the high altitude wetlands. He mentioned that the migratory pattern of the bird binds the nations in the region together. The major threats to BNC are electrocution and feral dogs and indirect threats are habitat degradation due to plantations in the high altitude region. He proposed that since BNC is the State bird of Jammu and Kashmir, a BNC information centre should be established in the State. He emphasised the importance of army personnel in conservation actions. He thanked ITBP for starting a practice where ITBP personnel posted in the area protect the nests of the of BNC and keep regular records about the number of eggs and chicks. He stressed that this species has a huge potential to act as a vehicle for international cooperation among India, China and Bhutan.



Dr. Asad Rahmani highlighted the research work being undertaken on BNC. He stated that the two most important research themes are breeding success of BNC and its migration pattern, and that

BNHS could provide assistance in researching these themes. He mentioned that action on the threats, especially feral dog, is of utmost priority.

Sh. Dasho Paljor Dorji congratulated Mr. Chandan for his passion towards conservation of BNC. He narrated the story of his three and half decade long association with BNC and the importance of wetlands for these birds. He thanked Mr. Phurpa Wangdi (recipient of the Regional Crane Conservation Award), the minister and the media for attending the event, which brings together people in the region.

This was followed by the felicitation of Mr. Wangdi for his 35 years of tireless commitment to BNC conservation by the Hon'ble Minister of Environment and Forests, Government of India.



Mr. Ramesh in his address focused on the importance of habitat conservation approach in conserving the species. He mentioned that the inaugural session had been quite informative and brings out clearly the need for regional cooperation for conservation of the Black-necked Crane. He mentioned that the workshop was being held at the opportune moment since the SAARC



(South Asian Association for Regional Cooperation) Summit was going to be held in Thimpu (Bhutan) in May and the BNC issue could be discussed there. The Government of India is planning to contribute \$1million towards biodiversity conservation through SAARC. A portion of this money can be pooled in for conservation of BNC too. He mentioned that environment and biodiversity is emerging as a strong tool to enhance regional cooperation. Giving examples he informed that initiatives like Mount

Kailash eco-restoration tri-lateral initiative among India, Nepal and China to protect the source of Indus and Sundarbans bilateral initiative between India and Bangladesh to protect Sundarbans for tigers are examples of how regional cooperation is important to protect the biodiversity which recognises no boundaries. He expressed his desire to help in similar regional initiatives between India and Pakistan as well. He emphasised that species like BNC can also be used to protect the high altitude wetlands which are the sources of mighty rivers originating from the region. He informed that MoEF has also come up with wetland mapping exercise and wetland protection rules, which will be a valuable tool to protect wetlands in India. He also emphasised on the importance of assigning values to these wetlands so that they are not treated as wastelands, and in this direction MOEF is undertaking Indian TEEB study. He concluded by reiterating his commitment to facilitate regional initiatives for the conservation of biodiversity in the region.

Technical Session 1 *Past and Present Status of BNC*

Chair: Mr. Dasho Paljor Dorji

I. Dr. Afifullah Khan, Aligarh Muslim University, India

- Presented the extensive literature survey on BNC which involved scanning 2400 papers
- Of all the 15 species of crane which have been studied, the Sandhill Crane tops the list.
- There is not much research done on BNC.
- Research on cranes in developed countries is more extensive.
- The most common topic discussed is status and distribution. The diet and feeding research theme is underrepresented.
- Literature on this is mostly available in China.
- The earlier records of BNC are not found in scientific papers but in the accounts of travellers and wildlife enthusiasts.
- In India, the technical report was first published by BNHS after 1986.
- Highlighted the gaps in research, habitat used pattern of BNC, dietary pattern of the birds, BNC habitat monitoring, and satellite tracking to understand the migration.

II. Mr. Sherub, Ugyen Wangchuk Institute for Conservation and Environment, Bhutan

- Status of BNC conservation in Bhutan: wintering population of 500 birds
 - Major winter grounds (Phobjikha, Khotokha, Bumdeling, Bumthang, Lhuntshe) of BNC in Bhutan.
 - Population of BNC is increasing in Phobjikha, decreasing in Bumdeling
 - With loss of each paddy field there is a loss of one crane
 - Cultural value of BNC - Longevity, fidelity and love
 - Political status: Bhutan's first ruling party has chosen BNC as their symbol
- Awareness status: Crane festival held every year, A Film on BNC: *Wings of prayer* released in SAARC summit in Kathmandu
- Habitat status: Habitat varies from *farm lands to wetlands to dwarf bamboos and temperate conifer belt* in Phobjikha to *paddy wetlands and dry farmlands, warm broadleaf forests belt* in Bumdeling
 - Importance of knowledge sharing
 - Research papers: eight studies in two decades

III. Mr. John Farrington, WWF-China (via Skype)

Presented on the conservation of BNC on the Tibetan plateau which included:

- Understanding the migration route of BNC: Late October to late March in Yarlung Tsangpo (Brahmaputra) valley and vicinity, and late March to early November in the northern grasslands
- Tracking the BNC range on the Tibetan plateau (including summer and winter habitats)
- Threats to BNC: land-use change (barley fields to greenhouses/ urbanisation), egg collection, grazing pressure (on wetlands) and barbed wire fences in the wetlands

IV. Mr. Praksh Gole, Ecological Society of India

Mr. Gole presented a historic perspective on the conservation of BNC in the region. He described the initial surveys conducted in the late 1970s in Ladakh followed by several others in Arunachal

Pradesh and Bhutan. He shared his experiences of various conservation issues related to the species in the region.

V. Dr. Bharat Jethva, Wetlands International

Presentation on the potential of monitoring crane populations using Asian Waterfowl Census (AWC) which included:

- Overview of AWC, its network and coverage since 1987
- Gist of AWC database users and current publications
- Currently 200 sites in 8 countries and regions are being monitored for cranes using AWC
- Encouraged the researchers present to contribute their latest information on BNC status to AWC

VI. **Ms. Poornima Bakshi, National Museum**, New Delhi displayed her paintings of Black-necked Crane and spoke about the inter-linkage of art and species conservation. BNC is a symbol of sacredness of the Himalayas. Ms. Bakshi through her paintings of BNC has depicted the sacred values of fidelity, longevity and good luck. She mentioned that her art is inspired by the Chinese art.

Technical Session 2 Threats and Conservation

Chair: Shri A K Srivastava

Co Chair: Dr. C M Seth

In his opening remarks, Mr. Srivastava highlighted MoEF's (Ministry of Environment & Forests, Government of India) role in BNC conservation, the need for more research and inter-sectoral partnerships, and the need for India to join the East Asian-Australasian Flyway Partnership to strengthen conservation initiatives.

I. Dr. Taej Mundkur, Wetlands International

Stressed on promoting a strategic approach for global conservation of migratory birds.

- Since 1980s, migratory birds in southern hemisphere have declined, yet lesser than the northern hemisphere.
- Trend shows that long-distance migratory birds have declined more than short-distance migratory birds.
- In every region more waterbird populations are declining than are increasing
- Waterbirds in Asia-Pacific region have a worse status than elsewhere.
- Threats to migratory birds (habitat loss, poisoning by accident through pesticides and fertilisers, hunting, being caught in nets or snares by accident, disease, invasive species, climate change impact)
- Overview of CMS's initiatives across the world

Presented Recommendations/ future plans

- Improving the data on migratory birds and extend the appendices to CMS.
- Action plans and implementation for a) conservation and management of the natural habitats, stop-overs and breeding grounds, and b) regulating and managing human activities to aid the conservation process rather than to obstruct it.
- Global coordination by development of flyway frameworks/ agreements for migratory birds. Requirement of regional cooperation for making this a success.

Dr. Parikshit Gautam and Mr. Srivastava both emphasised the importance of practical implementation of the proposed framework/ partnerships. Dr. Mundkur agreed that it was a challenge but awareness and eagerness to address the issue has been increasing among the various governments.

II. Vtrn. Col. R.T. Chacko

Col. Chacko presented a historic perspective on the conservation of BNC in the region. He described his three decade long association with the species during his postings in the remote trans-Himalaya. The audience learnt about the breeding habits and other behavioural aspects of the species via a series of photographs taken by the presenter during his field surveys. He emphasised that while a lot yet remained to be learnt about the BNC (such as its migratory route), threats to the species are increasing steadily.



III. Mr. John Farrington, WWF-China (via Skype)

The presentation focused on climate change and BNC on the Tibetan plateau. This included:

- Current research using sparse data provides a generalised picture of how climate on the plateau is changing
- Temperature variation (on an unprecedented rise since 1970s) has been found based on analysis of oxygen isotopes in glacial ice cores, tree ring data and temperature data (since 1950s)
- Impact of variation in precipitation on lake water levels was discussed. Overall, precipitation on the plateau has actually increased slightly from 1951 to 2004.
- Glacier melt has been recorded for Geladandong glaciers
- Due to increasing temperatures the total area of permafrost lakes on the plateau is decreasing
- Increasing precipitation and glacier melt is causing water levels in many large lakes on the Tibetan Plateau to rise. This may be increasing crane habitat but is severely reducing the size of pasture lands around wetlands



- From 1990-2004, the area of wetlands in a 9252 km² study area in the Longbaotan Region of southern Qinghai were found to be decreasing at a rate of 4.9 km²/year, primarily due to permafrost degradation
- A combination of overgrazing, permafrost degradation, and other climate change effects is leading to severe grassland

degradation throughout much of the BNC's Tibetan Plateau habitat

- Grassland degradation is forcing nomadic herders to occupy BNC wetlands for longer periods each year, leading to further degradation of wetlands
- Any climate adaptation strategy developed for Tibetan Plateau wetlands needs to include a component on developing alternative livelihood training for herders

IV. Mr. Jigme Tshering, RSPN, Bhutan

The presentation focused on:

- Introduction to Royal Society for Protection of Nature (RSPN)
- Providing a background on Crane conservation programme in Phobjikha – focus on community participation mechanism and crane festival
- The BNC banding programme being undertaken by RSPN and problems faced such as the PTTs depending on solar energy and emitting data only once in three days
- Highlighted the importance of community exchange programmes at regional level, like the one done between India and Bhutan in 2006.

V. Mr. Rinchen Wangdi, Forest Department, Bhutan

The presentation focused on the status and conservation of BNC in Bumdeling Wildlife Sanctuary. The issues highlighted were:

- Bumdeling has been the largest wintering home for BNC in Bhutan until 1994 (203 BNC)
- Threats to BNC in Bumdeling: Flooding of feeding ground, predation, anthropogenic pressure
- Conservation measures undertaken include rehabilitation and cleaning of roosting areas, and education and awareness among different stakeholders
- Involvement of local community to protect the cranes

VI. Mr. Pijush Kumar Dutta, WWF-India

Mr. Dutta's presentation highlighted the status and conservation of BNC in Western Arunachal Pradesh. This included the following points:

- Overview of the rich biodiversity in the Western Arunachal Landscape
- Past and present sightings of BNC in the region
- Status and threats to BNC in Sangti and Pangchen valleys (change in cropping pattern, electric poles, deforestation along hill slopes and their impact on wetlands, infrastructure development)
- Conservation initiatives taken on a landscape level such as the Community Conserved Areas (CCAs) and their dual purpose (community development and habitat conservation)
- Way forward: Long term monitoring of BNC in the region, community involvement required in conserving the species, education and awareness among stakeholders, Linking of BNC conservation with Red Panda conservation.

VII. Ms. Usha Ganguli Lachungpa, Dept. of Forest, Environment and Wildlife Management, Government of Sikkim, India

Ms. Lachungpa's presentation focused on the status and conservation of BNC in Sikkim. This involved the following issues:

- Informed that Sikkim falls on the East Asian migratory flyway
- The River Teesta is under potential threat from climate change since the river receives water from the glacier Tista Khangse and the high altitude lake Khangchung Tso
- Two potential BNC sites have been identified in Snow Leopard habitat in the state
- Need to study the distribution of the species further within the state since it will show which regions are linked and need to be conserved
- Work in progress on sustainable and environment-sensitive tourism
- State is eager to work on these issues and is partnering with NGOs

During the discussion round, the main point that emerged was to include BNC conservation work in Snow Leopard funded projects, as both the species are found in similar landscape.

VIII. Ms. Nisa Khatoon, WWF-India

Ms. Khatoon presented the conservation initiatives being undertaken by WWF-India in Ladakh. This included decade long initiatives like education and awareness among different stakeholders, scientific documentation of wetland habitat and their associated species, partnering with different organisations (scientific institutions to Army and ITBP), challenges faced and lessons learnt in the process.

Day 2 - April 23, 2011

Technical Session 3 Migration and Flyways

Chair: Dr. Asad R. Rahmani)

I. Mr. Phurba Lhendup , WWF-Bhutan

Mr. Lhendup's presentation focused on the migratory route, threats and conservation aspects of BNC in Bhutan. He emphasised the following points:

- The research objectives were to map: the wintering habitat of BNC, flyway paths and stopover areas; analyse threats and then propose conservation measures
 - The threat analysis provided a score for different threats identified (for BNC conservation) among which infrastructure development, change in agricultural practices and hunting pressure topped the list for former wintering areas. In current wintering areas, tourist pressure, infrastructure development and vehicular movement topped the list.
- Proposed Conservation actions :
- Identify and recommend activities for crane conservation
 - Convey information to other regions and countries
 - Provide researchers and conservationists with direction
- Suggested National Conservation policy measures:
- Ban construction activities that claims the crane habitats
 - Forest clearance permit to prioritize on crane habitats
 - Mandatory for clearance from conservation organisations
 - Requirement of education and awareness among stakeholders, community-based conservation programmes, and the need for regional cooperation in conducting research.

II. Dr. Simba Chan, BirdLife International

Dr. Chan shared his experience of working on crane conservation and focused on the topic of *East Asian Australasian Flyway Site Network and the Conservation of Black-necked Crane*. The main points discussed were:

- Overview of the East Asian Australasian Flyway
- Requirement of international cooperation for conservation of key wetlands
- Requirement of international, national and local frameworks to plan and coordinate conservation actions
- The Migratory Waterbird Conservation Strategy includes strategy plans for the following three groups: Anatidae, Cranes and Shorebirds. The strategy is such that it links the overarching policy to individual action plans and their corresponding site networks.
- There are over a 100 sites under the flyway partnership
- A historic overview of avian conservation in the region – emphasis on understanding the migration routes of different species
- The main focus now has been on to avoid over-concentration of wintering cranes, to promote involvement of local communities to crane conservation and to using cranes as flagship species to promote habitat conservation.
- Challenges to the BNCs in China: Winter wheat planting in Lhasa River basin, disturbance from tourism, unsustainable land use and economic development.
- Need for exchange of information and collaborative research on BNC conservation
- Focused on some migratory routes of BNC in China



III. Dr. Taej Mundkur, Wetlands International

Dr. Mundkur's presentation focused on the '**Critical Site Network Tool**'. This internet-based tool provides up-to-date and accurate information on migratory species across the African-Eurasian region.

- The **IWC, IBA and Ramsar databases** have been incorporated (in an integrated way)
- Developed under the **Wings Over Wetlands** (www.wingsoverwetlands.org) project under UNEP/GEF, (ended December 2010) led by Wetlands International and Birdlife International
- 3020 sites information is available via this tool
- Participants were given a quick run through the tool

Ms. Amrita enquired whether the data and shape files were downloadable for research work. Dr. Mundkur replied that this was not yet possible but would be looked into.

IV. Dr. G. Areendran, WWF-India

Dr. Areendran's presentation on '**Mapping the potential ecological niche of Black-necked Crane**' informed the audience about the potential shift in the habitat of BNC in the Ladakh landscape as a result of potential climate change (by 2020).

More research regarding the habitat (especially hydrological parameters) is required to increase the efficiency of the model.

V. Mr. Anupam Anand, University of Maryland, USA (via Skype)

Mr. Anand's presentation gave :

- An overview of habitat mapping of BNC in Changthang using remote sensing.
- His study described the BNC distribution, land cover classification, the terrain and topography of the region and home range of BNC.
- However, bio-climatic variables and other habitat parameters are required to improve the model and then provide a better picture regarding the BNC home range.

Mr. Anand in response to Ms. Joanna Van Gruisen's feedback on the accuracy of land classification, especially of shrubs, grasses and borax deposits in Changthang, replied that availability and use of higher resolution satellite images and training data from ground will significantly improve the results. Mr. Pankaj Chandan also agreed on the importance of ground reference data for better land cover classification. Joanna further added that shrubs or borax classification may not be important for BNCs, which was the primary focus of the research and the workshop.

Mr. Sherub enquired whether the model could also include BNC migration routes. Mr. Anand replied that telemetry data would be required for this.

VI. Dr. Nita Shah & Ms. Joanna Van Gruisen

Dr. Shah's presentation was regarding the potential trans-boundary range of BNC based on her study in South and Central Tibet.

BNC distribution has been predicted using a model (Maxent). The model suggests that BNC must be present in the Mustang valley in Nepal.

This was followed by a focused discussion on BNC issues in India and Bhutan in two groups (one for each country). The final recommendations have been presented above.

Concluding Session

The final session included presentation of the recommendations by Ms. Archana Chatterjee and adoption of the same by all the participants.

Following this, concluding remarks were shared by: Mr. A.K. Srivastava, Inspector General of Forests (Wildlife), MoEF, Government of India and Mr. Ravi Singh (SG & CEO, WWF-India).

Mr. Ravi Singh:

- Requirement of enabling solutions in place of blanket bans (such as 'no plantations')
- Top priority-Protection of BNC nests
- To decide on the top three recommendations of the workshop
- To decide on a follow-up plan (timeline), set targets and outputs
- Thrust on community-based conservation
- To maximise the platform being provided by the Government of India in the upcoming Thimpu meeting
- Requirement of an institutional setup within the Government so that different departments can work in a coordinated manner
- Proposed a meeting with Prime Minister of India to take this forward at a regional level

Sh. A.K.Srivastava

- Emphasised MoEF's resolve to work towards regional cooperation for BNC conservation
- First draft of the proposal 'Project Black-necked Crane' could be submitted to MoEF for further action and funding
- Based on the workshop recommendations, MoEF to consider inclusion of BNC in the Species Recovery Programme of Government of India
- To facilitate the process for India to join the East Asian Australasian Flyway partnership

In conclusion, Mr. Pankaj Chandan proposed a formal vote of thanks in which he extended his gratitude to the MoEF, BNHS, IBCN and participants. He also called upon all the participants as well as the crane experts who could not make it to the workshop for working together towards implementation of the recommendations of the workshop.



List of Participants

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Workshop Agenda

Date	Time	Event
April 22	9:00 – 10:00 AM	Registration
Inaugural Session		
	10:00 – 10:05	Welcome address by Mr. Ravi Singh, Secretary General and CEO, WWF-India
	10:05 – 10:15	Black-necked Crane Conservation and Role of MoEF by Mr. Jagdish Kishwan, Addl. Director General of Forests (WL), Government of India
	10:15 – 10:25	Conservation of Black-necked Crane through regional cooperation among India, China and Bhutan by Mr. Pankaj Chandan, Programme Manager, Regional Programme on Himalayan High Altitude Wetlands Conservation, WWF-India
	10:25 – 10:30	Address by Dr. Asad R. Rahmani, Director, BNHS
	10:30 – 10:35	Address by Mr. Dasho Paljor Dorji, Chairman, National Environment Commission of Bhutan and Founder Patron, RSPN, Bhutan
	10:35 – 10:40	Presentation of the Regional Crane Conservation Award to Mr. Phurpa Wangdi for his 35 years of commitment to Black-necked Crane conservation in Bhutan
	10:40 – 10:50	Inaugural Address by the Chief Guest, Mr. Jairam Ramesh, Hon'ble Minister of Environment & Forests, Government of India
	10:50 – 10:55	Vote of Thanks by Ms. Archana Chatterjee, Head, Regional Programme on Himalayan High Altitude Wetlands Conservation, WWF-India
	10:55 – 11:30	Opening of the exhibition on Black-necked Crane paintings and photographs, Group Photo and Tea Break

1st Technical Session

Past and Present Status

Chair : Mr. Dasho Paljor Dorji, Chairman, National Environment Commission of Bhutan and Founder Patron, RSPN, Bhutan.

	11:30 – 11:50	Past and Present Studies and Distribution of Black-necked Crane: A Literature Review by Prof. Afifullah Khan, Chairman, Department of Wildlife Sciences, AMU
	11:50 AM – 12:10 PM	Status and Distribution of Black-necked Crane in Bhutan by Mr. Sherub, Head, Programmes, Ugyen Wangchuk Institute for Conservation and Environment, Royal Government of Bhutan
	12:10 – 12:30	Status and Conservation of Black-necked Crane in some selected wetlands of Tibet by Mr. Norbu Kelsang, WWF-China

	12:30 – 12:50	Study of Black-necked Crane in Ladakh, Arunachal Pradesh and Bhutan by Mr. Prakash Gole, Director, Ecological Society of India
	12:50 – 1:10	Current Status and Breeding Productivity of Black-necked Crane in Ladakh, India by Mr. Pankaj Chandan & Mr. Phuntsog Tashi, WWF-India
	1:10 – 1:30	Estimating Crane population in India using Asian Waterfowl Count by Mr. Bharat Jethva, Coordinator AWC, Wetlands International
	1:30 – 1:40	Remarks by the session Chair
	1:40 – 2:30	Lunch
2nd Technical Session Threats & Conservation		
Chair: Sh. A K Srivastava, Inspector General of Forests (Wildlife), MoEF, Government of India.		
	2:30–2:50	Global Conservation of Migratory Birds by Dr. Taej Mundkur, Wetlands International
	2:50–3:10	Threats to the Black-necked Crane Breeding in Ladakh and Wintering in Bhutan by Vtrn. Col. R T Chacko
	3:10–3:30	Climate Change and Black-necked Crane Habitat on the Tibetan Plateau by Mr. John D. Farrington, WWF-China
	3:30–3:50	Threats to the wintering population of Black-necked Crane at Phobjika in Bhutan and Conservation activities by RSPN by Mr. Jigme Tshering, RSPN, Bhutan
	3:50–4:10	Conservation of Black-necked Crane at Bomdeling Bhutan by Mr. Pankey Dukpa & Mr. Rinchen Wangdi, Forest Department, Bhutan
	4:10–4:20	Tea Break
	4:20–4:40	Status and Conservation of Black-necked Crane in Arunachal Pradesh by Mr. Pijush Kr. Dutta, WWF-India
	4:40–5:00	Status and Conservation of Black-necked Crane in Sikkim by Ms. Usha Ganguli-Lachungpa, Sr. Research Officer, Deptt. of Forest, Environment and WL Management, Government of Sikkim
	5:00–5:10	Conservation of Black-necked Crane in Ladakh by Ms. Nisa Khatoon, Project Officer, WWF-India
	5:10–5:20	Using Art as a tool for the conservation of Black-necked Crane by Ms. Purnima Bakshi Kanwar, National Museum, New Delhi
	5:20–5:30	Remarks by session Chair
April 23		
3rd Technical Session Migration and Flyways		
Chair: Dr. Asad R. Rahmani, Director, BNHS.		
	9:30–9:50 AM	Migratory Route, Threats and Conservation Prospects of Black-necked Crane in Bhutan by Mr. Phurba Lhendup, WWF-Bhutan

	9:50–10:10	EAAF Site Network and Conservation of Black-necked Crane by Mr. Simba Chan, Birdlife International
	10:10–10:30	Critical Site Network Tool and Conservation of Black-necked Crane by Dr. Taej Mundkur, Wetlands International
	10:30–10:45	Tea Break
	10:45–11:05	Habitat Modelling as a conservation tool for Black-necked Crane by Dr. G Areendran, WWF-India
	11:05–11:25	Mapping Habitat of Black-necked Crane in Changthang, Ladakh, India by Mr. Anupam Anand, University of Maryland, USA and Mr. Pankaj Chandan, WWF-India
	11:25–11:35	Remarks by session Chair
4th Technical Session		
Group Discussion and Formulation of Recommendations		
Chair: Dr. Parikshit Gautam, Director, Freshwater & Wetlands Conservation Programme, WWF-India		
	11:35–11:45	Group Formation (Three Groups) and Discussion
	11:45AM–1:30PM	Group Discussion
	1:30–2:30	Lunch
	2:30–3:30	Continue group discussion and get the group presentations ready
	3:30–3:45	Presentation Group 1: Issues in India and Need for Transboundary cooperation for Conservation of Black-necked Crane
	3:45–4:00	Presentation Group 2: Issues in China and Need for Transboundary cooperation for Conservation of Black-necked Crane
	4:00–4:15	Tea Break
	4:15–4:30	Presentation Group 3: Issues in Bhutan and Need for Transboundary cooperation for Conservation of Black-necked Crane
	4:30–5:00	Drafting of Recommendations and Finalization through a presentation: Facilitated by Dr. Taej Mundkur
Concluding Session		
	5:00–5:10	Presentation of Final Recommendations by Ms. Yamini Panchaksharam, WWF-India
	5:10–5:25	Concluding remarks by Mr. A K Srivastava, IFS, Inspector General of Forests (Wildlife), MoEF, Government of India and Mr. Ravi Singh, Secretary General and CEO, WWF-India
	5:25–5:30	Vote of Thanks by Mr. Pankaj Chandan, WWF-India

