

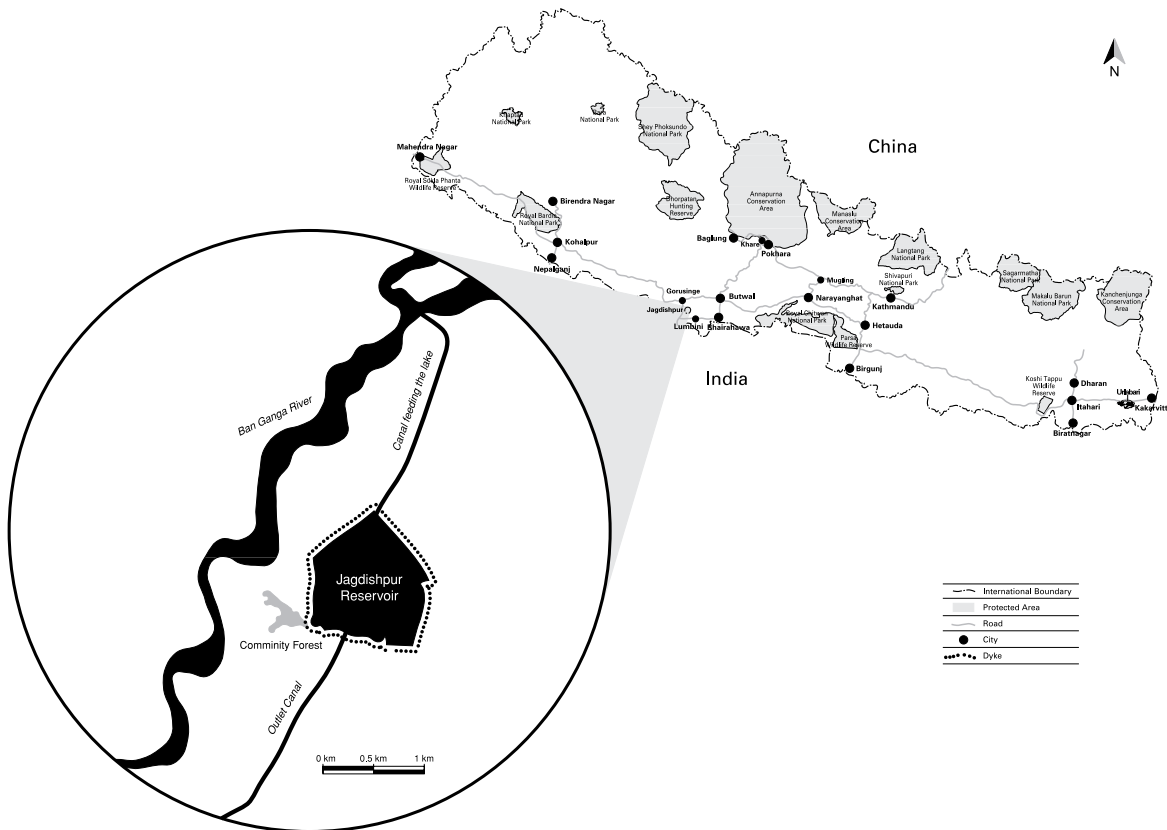


CONVENTION ON WETLANDS  
(Ramsar, Iran, 1971)



# Jagdishpur Lake Conservation Programme

## Description of the Area



Map of Nepal showing location of Jagdishpur wetlands

Jagdishpur Reservoir lies in the terai of central Nepal, west of the famous Lumbini area, a world heritage site and is part of the Important Bird Area (IBA) network of Nepal. This Reservoir is currently the largest reservoir in the country with a core area of 157 ha, and with surrounding wetlands the area is approximately 225 ha.

It was constructed for the purpose of irrigation over the location of Jakhira Lake and surrounding agricultural land in the early 1970s. The construction of a rock-fill dyke took place in the early 1980s. The water in the reservoir is fed from the nearby Banganga River that has a catchment area in the Churia Hills. Incoming suspended silts and nutrients are deposited in the reservoir mouth. The water depth at the reservoir's deepest point varies from a maximum of 5 - 7 metres to a minimum of 2 -3 metres. The reservoir is surrounded by cultivated land and there are two smaller lakes known as Sagarhawa and Niglihawa situated in the area that serve as a buffer habitat for bird movements.



Google image of the lake with Banganga River and forest patch on its west, and a site photo of the Lake

The wetland area was declared a Ramsar Site in 2003 mainly on the basis of migratory waterbirds and threatened mammals found in the area.

### Local People and Wetland Use



Fishermen in the lake



Children enjoying bathing in the lake

The site is owned by the state. The surrounding areas are privately owned. An estimated 1000 families live in the Niglihawa Village Development Committee (VDC), and Jadishpur lake is part of the VDC. Nearly 2000 people live in the immediate vicinity of the lake within 500m radius. The majority of people living in the area are from Tharu, Yadav and Muslim communities. There are also hill tribes eg Brahmin, Chhetris, Gurungs, Magars and others. Most villagers that live in the adjacent area are farmers and are poor.

Current uses of the reservoir by the local population include fishing, grazing, fuel wood and fodder collection, domestic use (e.g. laundry), harvesting of wetland products, recreation (e.g. have a picnic, bathing, boating) and supply of water for irrigation in 6,200 ha of surrounding cultivated land. Its surroundings are mainly used for farming. The reservoir dyke is used as a road especially during monsoon when the site is flooded lower down. Feeder and outlet canals are used for swimming by the local people and their livestock.

# Natural Resources

## Plants

The vegetation is mainly in a submerged succession stage with patches of floating species and reed swamp formations. Marsh meadows and extensive mudflat fringed by marsh lies in the northern part. The terrestrial vegetation is dominated by sisoo *Dalbergia sisoo* and khair *Acacia catechu* along the dyke. The wetland vegetation consists of morning glory *Ipomea carnea ssp. fistulosa* and cattail *Typha angustifolia*. The aquatic vegetation is represented by extensive coverage of floating leaf species mainly lotus *Nelumbo nucifera* followed by wild rice *Hygrorhiza aristata* and pondweed *Potamogeton nodosus*. The free floating species include water velvet *Azolla imbricata* and duckweed *Lemna spp.* The abundant submerged species include water nymph *Naja minor*, hydrilla *Hydrilla verticillata* and hornwort *Ceratophyllum demersum*. The site provides shelter for an assemblage of some rare conservation importance species of plants, which include threatened Serpentine *Rauwolfia serpentine*, pondweed *Potamogeton lucens*, and lotus *Nelumbo nucifera*.

## Fauna

### Fish

A total of 39 fish species has been recorded in the Reservoir. This represents 12 families and 7 orders including lowland Terai endemics e.g. *Notopterus notopterus*, *Oxygaster bacaila*, threatened *Puntius chola* and common species being prey for waders and water birds *Dhawai*, *Pirawa*, *Tilwa*, *Sidhari*, *Thothana*, *Kauwa*, *Chanari*, *Khesti* are recorded in the reservoir.

### Herpetofauna

Maskey's Frog



As many as 30 species of reptiles and 8 species of amphibians have been recorded in the reservoir area. These include Bengal *Varanus bengalensis* and Golden Monitors *V. flavescens*, Burmese Rock Python *Python molurus bivittatus*, Maskey's Burrowing Frog, Ornate Rice Frog etc. An year round survey will yield more species in the area.

### Birds

Pair of Sarus Crane



BirdLife International has identified Jagdishpur as an Important Bird Area (IBA) because of its international importance for threatened species and their habitat conservation. BCN has been carrying out bird surveys in the area for a long time. The reservoir is surrounded by smaller lakes (e.g. Sagarhawa and Niglihawa) serving as a buffer zone for bird movements of nearly 150 recorded species but many more species are likely to occur. The site provides an important habitat for resident, wintering and passage migrant, wetland and

small passerine birds. Noteworthy are the grebes, cormorants, herons and egrets, storks, ducks and geese, terns and gulls, birds of prey, rails, coot and waterhens, jacanas, as well as cranes and kingfishers.

Eight globally threatened and near threatened bird species have been recorded including White-rumped Vulture *Gyps bengalensis*, Slender-billed Vulture *Gyps tenuirostris*, Egyptian Vulture *Neophron percnopterus*, Greater Spotted Eagle *Aquila clanga*, Indian Spotted Eagle *Aquila hastata*, Lesser Adjutant *Leptoptilos javanicus* and the tallest of all the flying birds, Sarus Crane *Grus antigone*.

### Mammals

Due to its position being surrounded by cultivated land and its moderate size, it is not a suitable site for large mammal conservation. Though it supports small population of Smooth-coated Otter *Lutrogale perspicillata* and other common species such as Jungle Cat *Felis chaus*, Golden Jackal *Canis aureus*, Indian Fox *Vulpes bengalensis* etc. Otter is the only wetland dependent mammal recorded here. A dozen terrestrial mammals and some unidentified bats have been reported from here.

### Problems



Dead tortoise within the lake area

Fish farming in the lake has posed problems to ecosystem health

Threats and problems to the site include hunting, disturbance, deposition of aquatic macrophytes, water pollution from agricultural chemicals (fertilizers and pesticides), and invasive alien species such as *Eichhornia crassipes*, *Mikania micrantha* and other aquatic macrophytes (particularly of lotus, water nymph and hornwort), water hyacinth etc. Since 2007, fish farming for commercial purpose has started. Fish farming is taken by contractors who usually come from outside the area and have no interest in the long term management of the site—other than for their own commercial interest. The reservoir has been leased for a period of ten years for fish stocking at a cost of Rs. 4 million. The effect of exotic fish to native fish fauna could be detrimental to the ecosystem of the lake.

# Jadishpur Lake Conservation Programme

## Background

Initially, small funding was received from the Oriental Bird Club UK to do bird surveys in the area. Support received from the last SGF, we were able to carry out participatory rural appraisal, survey on bird and human conflict, various biological surveys, basic weaving training programme, water quality test, national workshop on wetland bird monitoring and setting up micro-credit for the villagers living close to the lake. Nearly 150 bird species have been now recorded from Jagdishpur alone which is a significant increase from 43 which was the number given on the RIS. Eight bird species are threatened and near-threatened globally. Similarly a number of herpetofauna and fish species has been recorded here as part of the survey conducted through SGF programme. A micro-credit worth Rs. 5,00,000/- has been initiated which is now in the process of being converted into a Cooperative. The latter is more beneficial, has legal identity and better check and balance regarding the money. On the request of the community members, we have decided to change the fund from micro-credit to Cooperative.



Local market

## Project Partners

BCN has a policy to work with local conservation groups (LCGs) to execute conservation activities in any area especially for Important Bird Areas (IBAs). An internal process within BCN identifies such organisation and terms the group as Site Support Group (SSG). BCN does not have enough resources to safeguard all the IBAs (eight of which are /or include Ramsar Sites of Nepal) and also if we can build

capacity of SSG to safeguard the sites, it is effective and economical. After all conservation of any site is best done by the locals living in the area.



Ramsar, DNPWC, Local NGO and BCN staff

Jagdishpur Lake Conservation and Tourism Promotion Centre (JLCTPC) is such NGO working in the area and we have identified them as a local partner. Through them we have been able to recruit local staffing, keeping volunteer, conducting training programmes, initiating cooperative for local people etc. They also do most of the local coordination work.

We however keep more technical subject to ourself and share those

with local people in village level meetings organised by the SSG. We have now built a very good working relations with this SSG. This practice has benefits in all scenario and seems to be the only way for a long term conservation of such important sites.

Other partners include the Department of National Parks and Wildlife Conservation who are informed of all activities through periodic meetings and exchange of emails. There is very little coordination with Department of Irrigation who manage the lake and through this project we would like to bring them and associated organisations for more active role in managing lake for birds and biodiversity.

### **Danone-Evian Support through Ramsar and Field Activities**

Most of our field activities are coordinated by local SSG. We have made significant process on finalising the by laws of the cooperative which was earlier only a micro-credit set up. A cooperative is recognised by Nepal government, has stronger mechanism to monitor activities and from the experience elsewhere in the country has flourished hugely.

Education and awareness activities and perception survey for better understanding how local's value wetlands are underway. This is primarily being carried out by Danone-Evian volunteer Cecile Chenu who reached the site in September. She has been helped by BCN local staff Meena. A simple presentation has

been made by Cecile and has been tested twice to see its effectiveness. The final version will be used for visiting schools and campuses as well as village elders. There is also a plan to translate the presentation in Nepali language so that BCN field staff can continue once the volunteer would have left the area.

A local newspaper has published interview of Danone volunteer Cecile Chenu.

Recently, local photo journalists are sending



Bird watching in the lake area

different photos related with lake to national dailies and these have been published too. There is a plan for Al Jazeera Television to do a short documentary for the area this winter.

Work on making a visitor centre is underway. A number of bird illustrations has been completed. For other animals we will borrow some paintings and use photographs so that we have enough materials for designing the visitor centre. On the site, we are looking for possibilities of changing an incomplete cemented structure into the visitor centre. A permission for this is needed from the Department of Irrigation.



National workshop to discuss wetland conservation issues

As part of our programme to promote tourism, we have started collecting information of the various places related with Lord Buddha's life. So far information on nearly 10 cultural places and 2 sites for natural beauty have been collected. The information will be published in English and Nepali both in small brochures. These activities will be carried out with local institutions and people so that considerable benefits are shared to locals.



Kudan, more than 2000 years old Buddhist monastery (top left), Peace Pagoda (top right), and Thai Buddhist Temple in Lumbini (above)

A monitoring team comprising Jhamark Karki, Department of National Parks and Wildlife Conservation, Nathalie Rizzotti, Ramsar Secretariat, Hem Sagar Baral, Bird Conservation Nepal visited the site in October. The visit has helped to coordinate between the other departments eg. Department of Irrigation (the management authority of the Jagdishpur Lake) and Department of Forest (the authority through which Department of National Parks and Wildlife Conservation can potentially delegate its Ramsar related responsibilities on the ground) and the Department of National Parks and Wildlife Conservation.



### District level gathering to discuss conservation and management of Jagdishpur Lake

During this occasion a district level meeting was held which was supported by our project. Other series of meetings took place with Department of Forest (district level) and with Director General of Department of National Parks and Wildlife Conservation in presence of Ramsar Representative.

### **Ways Forward**

Now the activities of the project have been finalised, the project activities will speed up. BCN will have recruiting a Project Officer to work on the programme by beginning of December. Similarly, after the Tihar festival, we will be conducting a month long training programme on weaving mats and bamboo products.

Because of increased disturbance, bird monitoring has been started again since the October. The monitoring data will indicate if there has been any change in species composition and their numbers.

Cooperative will be fully functional by the end of this year and we aim to closely monitor the functioning of this scheme. Furthermore we will be coordinating more with district bodies and centrally with Department of National Parks and Wildlife Conservation.

Visitor centre will be set up after getting permission from the relevant authorities early next year. Similarly brochures will be also published regarding the site and its introduction.