

**Conservation awareness of Critically Endangered Gharial (*Gavialis gangeticus*) in Chitwan , Nepal**

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Category: **Education**

**I declare that “I will comply with all applicable permit regulations, and adhere to all appropriate animal care guidelines in the course of conducting funded projects.”**

## **Background**

The Himalayan country of Nepal owes its rich diversity of 56 amphibian and 142 reptile species (including both confirmed and possible occurrences) to its unique geographic situation (Kästle et al., 2013). The landform varies greatly in its physical form, ranging from the Tarai Plain in the south to the Himalayans in the north. In between these regions, there are middle hills and lesser mountains consisting of the Churia (Siwalik) and Mahabharat Range. This makes Nepal rich in the diversity of amphibians and reptiles.

The gharial (*Gavialis gangeticus*) is a Critically Endangered crocodylian found only in Nepal and India (Lang et al., 2019). In Nepal, gharials inhabit the rivers within Chitwan and Bardia National Parks, with an estimated population of 238 individuals nationwide (Poudyal, 2018; Bashyal et al., 2021). Gharials face threats from habitat destruction, declining prey due to overfishing, and entanglement in fishing nets (Khadka et al., 2020). According to annual report of Chitwan National Park (2023 -2024) AD there is already 9 deaths of Gharials due to such entanglement in fishing nets. Also Chitwan's Gharial population is not only important for Nepal but it has equal importance for transboundary conservation in India because Nepal's Gharial population is a source population in downstream of Indian rivers in Gandak which is known as Narayani river in Nepal.

Chitwan National Park (CNP) holds Nepal's largest population of gharials, making it vital for the species' conservation (Lang et al., 2019; Khadka et al., 2020). Human activities are significant threats to gharial survival, underscoring the need to understand local views on conservation. Fishing is common among nearby villagers. Communities illegally do fishing activities inside the park river systems which is the greatest threats due to use of fishing gillnets and entanglements on those nets. According to annual report of Chitwan National Park (2023 -2024) AD there is already 9 deaths of Gharials. Also, Chitwan's Gharial population is not only important for Nepal but it has equal importance for transboundary conservation in India because Nepal's Gharial population is source population in downstream of Indian rivers in Gandak which is known as Narayani river in Nepal.

Additionally, there is a misconception that gharials can harm humans, fueling negative perceptions. The rivers where gharials live also face pollution and illegal sand mining, which are major challenges for their conservation. In Nepal conservation activities are largely biased for charismatic mammals only and overlooked ecosystem importance of wetland species such as Gharials. Therefore dedicated conservation outreach for Gharial conservation among bufferzone communities and school/ college students could be crucial in saving the last home of Gharials. Nevertheless, this project aims to raise awareness among students and local communities about gharial conservation, addressing these misconceptions and promoting sustainable practices in the area.

## **General Objective:**

To contribute for Conservation awareness of Critically Endangered Gharial (*Gavialis gangeticus*) in the buffer zone of Chitwan, Nepal.

## **Specific Objectives:**

- ❖ Conservation awareness targeting local-fishing community tribe such as Bote, Majhis , Mushar
- ❖ Conservation awareness for school students about ecological significance of the Gharial in the wild

## **Methods**

### **Project area:**

The project will be conducted in the Chitwan National Park, Nepal where there is largest population of Gharial in Nepal. We will implement this programme in the Megghauli, Chitwan, Nepal. In this project we will conduct 5 outreach programmes in the schools and conduct interaction programmes with local community groups in that area. We will also develop 500 copies of conservation poster related to Gharial to distribute among the students and community people.

### **Activities:**

#### **1. Design and print posters for conservation outreach sessions:**

I will design and print 500 copies of posters and I will include the identifying characters, prey, threats and conservation measures related to Gharial. All the posters will be distributed along the community outreach and school programs.

#### **2. Community outreach :**

Two Community teaching programs will be conducted in Megghauli village of Chitwan district coordinating with representatives of community forest user groups, youth clubs local leaders, guides and local conservationist with the participants of more than 50 people altogether. Our main target will be local tribes like Bote, Majhis, Musahar who are directly connected with rivers for their livelihood. They are important to aware as they are dependent on rivers for fishing and uses gillnet which are the greatest threats to Gharials. Along with them I will conduct session with nature guides as they could be crucial for informing if they find Gharail in the problems. The time and location for the teaching will be fixed in easily accessible place in the village. The teaching materials will be focused on status, identification techniques (Mugger crocodile and Gharial Crocodile), ecological roles, threats of Gharial and their conservation needs. Projector will be used to display the slides related to the Gharials.

#### **3. School teaching:**

A total of 5 schools (including both government and private) of the Megghauli village will be coordinated to conduct the school teaching programs. Students will be taught about status,

identification techniques, ecological roles of Gharials , threats and their conservation needs. Projector will be used to display the slides. The aim will be encouraging students not to kill the snakes whenever they see it. Similarly, a short documentary related to Gharial will be also shown to the students. Moreover to engage the students a game (Quiz) will be played related to Gharial and the highest scorer will be awarded with the gifts.

#### **4. Audience and expected outputs and outcomes:**

The project will target the local community people and groups, students and related stakeholders. The outcomes would be as highlighted below:

- I. The local communities/ students will be aware about ecological importance of critically endangered Gharials and their roles in the ecosystems.
- II. Nature's guides could inform the ecological information of Gharials, their behavior and conservation threats to visitors
- III. School students' mind will be cultivated with ecological significance of rivers, river dependent wildlife such as Gharials and how they could contribute to Gharial conservation in the future.

#### **How will you know if you have accomplished your outcomes? How will they be useful to amphibian and/or reptile conservation?**

##### **I. Questionnaire survey:**

Sample people from the village, sample students, Key informant interviewers will be interviewed before and after the project.

##### **I. Focus group discussion:**

Before and after the project two focus group discussions will be conducted in each village to know about people's knowledge about Gharials and their conservation needs, their perception about Gharial , what they learned, use of gill nets, over fishing in river.

##### **II. Informal interview:**

The informal interview with representative from community and schools will be conducted and recorded for communication through online media. It will focus on outcomes of overall project.

The results of the project and its evaluation will be useful to extend the project in other parts of the district.

## **Literature cited:**

Bashyal, A., Shrestha, S., Luitel, K. P., Yadav, B. P., Khadka, B., Lang, J. W., & Densmore, L. D. (2021). Gharials (*Gavialis gangeticus*) in Bardiya National Park, Nepal: population, habitat and threats. *Aquatic Conservation: Marine and Freshwater Ecosystems*, 31(9), 2594-2602.

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## **Project budget**

S.N	Particulars	Unit	Rate	Total
1	Conservation Poster	500 pcs	£0.65 / pcs	£325
2	Banner	1 pcs	£10	£10
3	Winner prize for top 5 students (Notebook and pen)	5 persons	£11 / person	£55
4	Travel	2 persons	2 times	£50
5	Food and accommodation	2 persons	4 days	£60
	Total			£500

**Declaration:**

I hereby certify that all the information stated in this CV is true and complete to the best of my knowledge.

**Reference:**

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**Evaluation Draft**

For the evaluation the impact of our project we will take post interview with the students as well as local community groups in which 30 people will be asked 10 questions for each individual about Gharial conservation and present status of Gharial in their area. So, we will provide scoring card to each individual for their answer.

Score	Impact
1 to 4	less impact
5 to 7	Average Impact
8 to 10	Great Impact