Connecting Paws with Students: Fostering Awareness for Fishing Cat (*Prionailurus viverrinus*) Conservation in Shuklaphanta National Park, Nepal

Final Report
2025

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1. BACKGROUND

1.1 Introduction

The fishing cat (*Prionailurus viverrinus*) (Figure 1) is a medium-sized small cat species characterized by its strong, stocky build, short legs, webbed paws, and a stubby tail used as rudder while swimming (Timilsina et al., 2021). It is a globally threatened small cat (5-16 kg) classified as "Vulnerable" on the IUCN Red List (Mukherjee et al., 2016) and is also listed in the Appendix 2 of CITES. Being a habitat specialist, it displays a close affinity for wetland environments like swamps, marshes, rivers, and mangroves (Mishra et al., 2018; Mukherjee et al., 2016). Thus, fishing cats have a fragmented distribution across their habitat, predominantly inhabiting lowland regions of South and Southeast Asia (Mishra et al., 2018; Mukherjee et al., 2016; Silva et al., 2020).

Globally, fishing cats are predominantly found in the wetlands and marshy lowlands of various countries, including eastern Pakistan, India, Nepal, Sri Lanka, Thailand, Cambodia, Vietnam, and Bangladesh (Mishra et al., 2021). In Nepal, they primarily inhabit the lower Terai region, which possesses rich biodiversity and extensive wetland areas. The species have been observed in multiple locations within protected areas such as Chitwan National Park (CNP), Bardia National Park (BNP), Parsa National Park (PNP), Koshi Tappu Wildlife Reserve (KTWR), Shuklaphanta National Park (ShNP), as well as at sites like Jagadishpur reservoir and Ghodaghodi Lake (Suwal and Verheugt, 1995). Although other Ramsar sites on the plains are believed to offer potential habitats for fishing cats, there have been limited studies on their distribution and ecological characteristics in Nepal (Mukherjee et al., 2012). Jnawali et al. (2011) estimated that around 150 to 200 fishing cats, on average, thrive in Nepal's Terai region.

On a global scale, the fishing cat population has experienced a 30% decline over the past 15 years, and this downward trend is expected to persist in the future (Mukherjee et al., 2016). Poaching, retaliatory killing, guard dog, movement of cats and livestock around the fish farm as well as core areas and nowadays road accidents are also reported as the major threats to fishing cat throughout its distributional range (Mukherjee et al., 2016; Mishra et al., 2021).

1.2 Problem Justification

Fishing cats remain among Nepal's least understood species, potentially possessing a population smaller than that of tigers, and facing near extinction due to various human-induced activities (Sunquist and Sunquist, 2002). The IUCN's assessment in "The Status of Nepal's Mammals: The National Red List Series" identifies primary threats to fishing cats as habitat loss resulting from wetland pollution, wetland degradation, and overexploitation of fish populations (Jnawali et al., 2011). Detailed insights into the distribution and status of small cat species within Nepal are limited. Some historical references and sign surveys designed for larger felids within Nepal's protected areas offer limited information (Poudel et al., 2019).

The highest number of records of fishing cats were obtained from ShNP (Mishra et al., 2021). But the relevant authorities have shown limited commitment to exploring and protecting this vulnerable species, which hampers effective conservation efforts. This lack of prioritization has become a major barrier to successfully safeguarding fishing cats. Additionally, school students in proximity to fishing cat habitats often lack awareness about their presence, frequently confusing them with other domestic or wild feline species. This lack of awareness exacerbates the challenges faced in conservation endeavors.

Therefore, the project aimed to evaluate the conservation needs of this captivating species within the wetlands of ShNP. Through our project, we aimed to raise awareness among school students about fishing cat conservation in ShNP, prompting their active involvement in safeguarding this vulnerable species and its habitat. The outcomes of this project can potentially serve as a foundation for formulating a suitable conservation strategy to ensure the long-term survival of this vulnerable species.

Figure 1: Fishing cat (*Prionailurus viverrinus*)

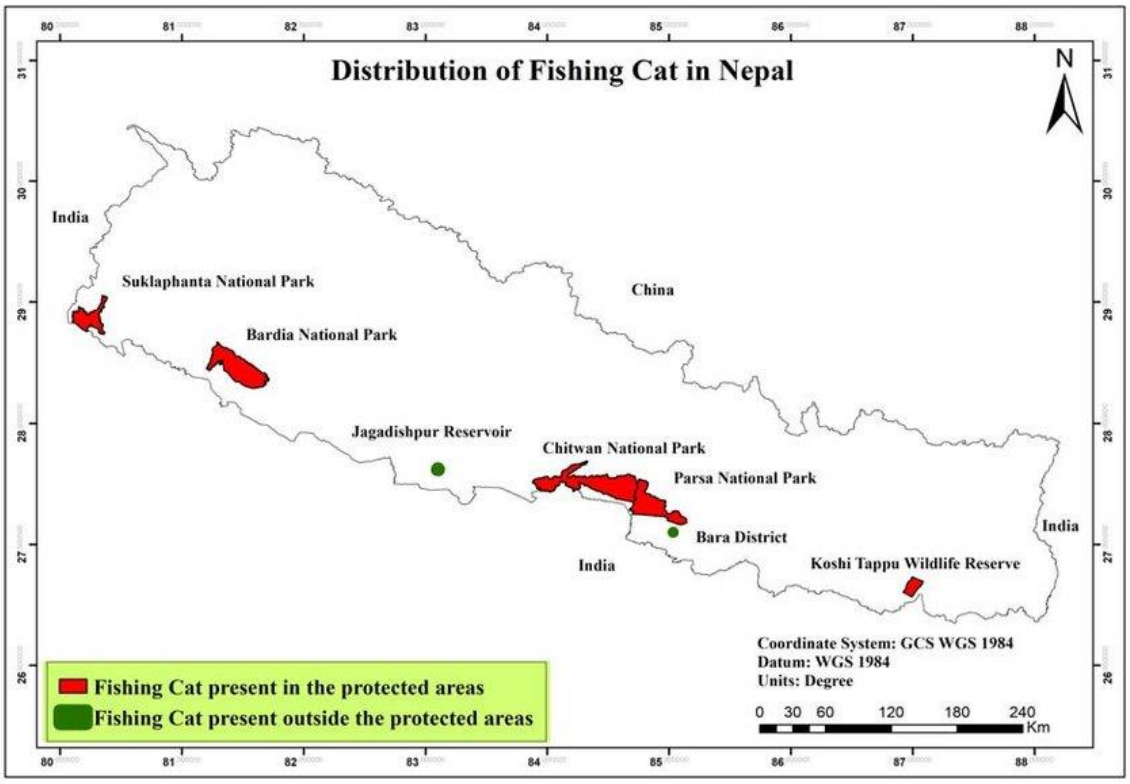


Figure 2: Distribution of fishing cat in Nepal

1.3 Objectives

The general objective of this project was to raise awareness among school students about Fishing Cat conservation in Shuklaphanta National Park, Nepal.

The specific objectives were:

a. To sensitize the school students towards the fishing cat and its conservation importance.

b. To build the capacity of school's students towards the fishing cat conservation.

c. To create sustainable channels for disseminating information about fishing cat conservation.

2. METHODOLOGY

2.1 Project Site

The project was implemented in the buffer zone area of the Shuklaphanta National Park (ShNP). ShNP is located at the southwestern corner of Sudurpaschim Province of Kanchanpur district in Nepal (latitude: 28°51′55″N and longitude: 80°16′0″E) (Figure 2). It covers an area of 305 km^2 extending from an altitude of 174 to 1,386 m from mean sea level. It was gazetted in 1976 as Royal Shuklaphanta Wildlife Reserve and later in 2017; it was converted into national park. The area of 243.5 km^2 surrounding the reserve was declared as buffer zone in 2004 and it is comprised of mainly agriculture land (70%) followed by forests (21%), water bodies (7%) and grasslands (2%) (ShNP, 2017).

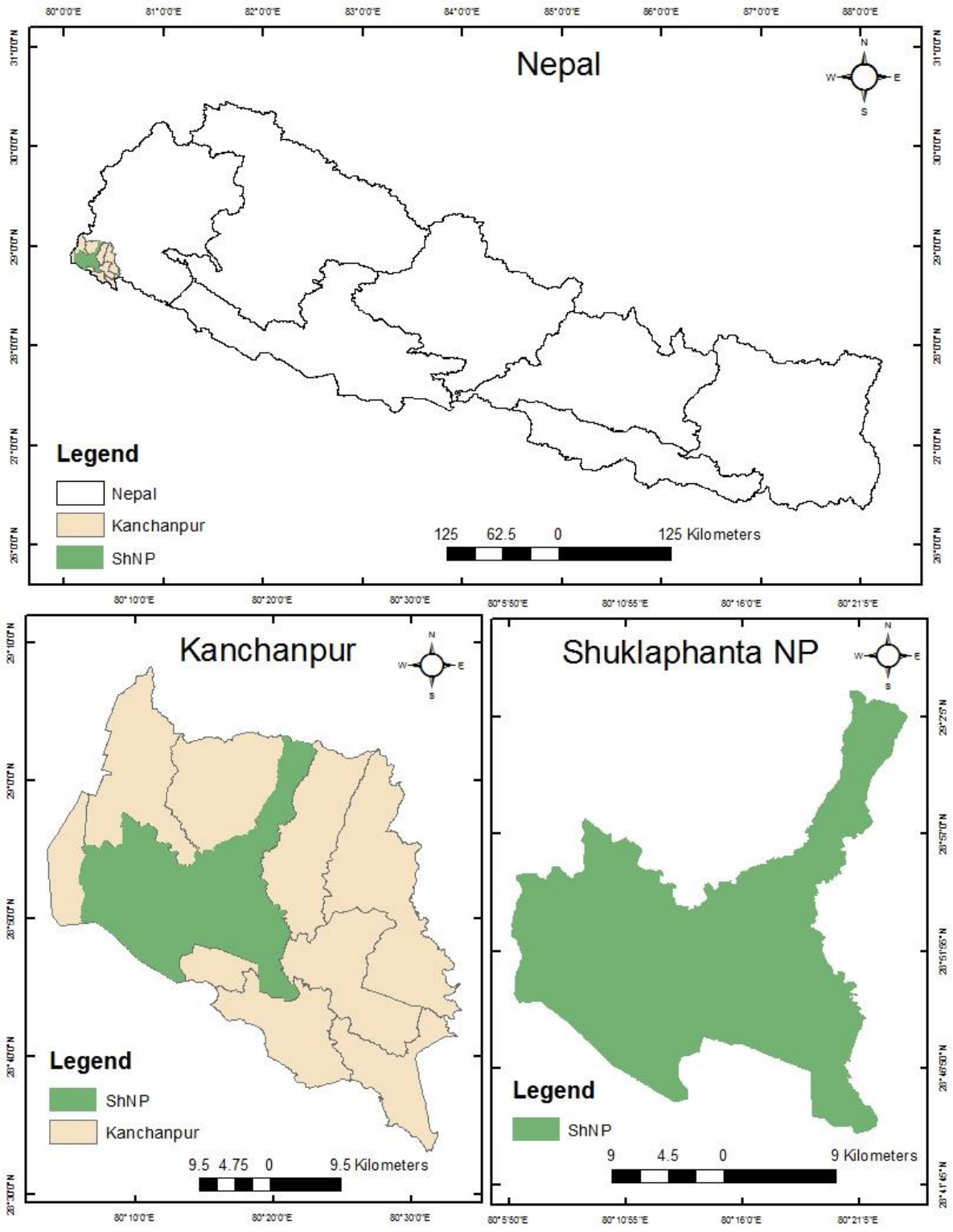


Figure 3: Location map of project site

2.2 Process of Project Implementation

2.2.1 Project Tools

Conservation Tools: Banner, Brochure, Poster, Projector, Notebooks and T-shirt.

2.2.2 Reconnaissance Survey

The first step in the project execution was an interview with the park officials, local fishermen, and wildlife technicians of the national park to identify the potential habitats of fishing cats in and around the ShNP (Choudhary et al., 2009). Similarly, the presence data of the species from journals, websites, and various published and unpublished sources were collected. Beside this, a meeting was be held with the representative of the local government. The importance of conservation for fishing cats and their habitats will be thoroughly explained.

2.2.3 Project Design

The project was mainly based on the conservation needs of the fishing cat population in ShNP. Reconnaissance survey will identify potential fishing cat habitats and their threats. Awareness campaigns will enhance the awareness level of school students towards fishing cat conservation. Capacity building program will enhance conservation efforts through skill development. Based on the information obtained from the reconnaissance survey, the project will create questionnaire as well as print awareness materials.

2.2.4 Sensitizing schools

a. School Awareness Campaigns

The school awareness campaigns (Balakrishnan, 2010) were done in the schools of buffer zone areas of the ShNP. It had focus on fishing cats, their habitat, threats, and the importance of their conservation. This involved creating banners, brochures, or informative pamphlets to aware school students. Interactive presentations with visual aids were shown to effectively communicate with the students. Students' knowledge about the topic was evaluated through pre- and post-questionnaires. Students were asked predetermined questions about subject matter before and after the program to determine the effectiveness of the campaign.

b. Field Trip to the National Park

The field trip was arranged for the students to the national park. The trip guide provided valuable insights into the conservation efforts for fishing cats, their habitats, and the challenges faced. The students were encouraged to ask questions and engage in discussions.

c. Follow-up Educational Resources

The students were provided with educational resources, such as brochures, summarizing key information about fishing cat conservation. The students were encouraged to further explore resources and ongoing engagement with conservation topics.

2.2.5 Capacity Building Program

a. Essay Competition in Schools

At the initial stage, the competition began from the school. The students were given the topic "Fishing Cat Conservation" for an essay competition (Mujaasi et al., 2006). From each school, one winning pair were selected to participate in the final round. Winners of the competition received awards, aimed at motivating and supporting them for future conservation initiatives. This competition fostered students' skills, critical thinking, ethical understanding, and leadership qualities in addressing related issues. The venue details were coordinated with the respective school teachers. The competition involved and build the capacity of more than 1000 students.

2.2.6 Sustainable channels for information dissemination

a. Wildlife Conservation Clubs

Collaboration was done with the respective schools to establish and support clubs focused on wildlife conservation, with a specific emphasis on fishing cats. These clubs served as platforms for ongoing discussions, activities, and initiatives related to fishing cat conservation even after the project concludes.

b. Notice Board Establishment in the Schools

The notice board was handed over to the respective school in the project area. The students were be encouraged to write about fishing cats and draw drawings showing fishing cats on their boards so that many students will get information about the species. These notice boards were established with the aim of encouraging other students to actively participate in the utilization of notice boards for sharing conservation issues for the long term, even after the project is completed. For

monitoring the utilization of those boards, wildlife conservation clubs in respective schools were given the authority. All students from 10 schools have direct access to utilize notice board.

2.3 Data Analysis and Report Writing

The qualitative and quantitative data were subjected to analysis using suitable analytical tools such as SPSS, MS Excel and other statistical tools. Furthermore, the report was submitted to donor in two forms such as progress report and final report.

3. KEY INTERVENTIONS AND RESULTS

3.1 Interaction with Stakeholders and Preliminary Visit

Preliminary field visit was conducted to identify the potential habitats of fishing cats in and around the ShNP. Meeting and semi structured questionnaire with local government, school administration, school management committee, parent's committee and other focal groups were done during preliminary field visit to discuss the knowledge level of students regarding fishing cat.

3.1.1. Selection of schools

Altogether 11 schools were selected from the buffer zone based on the level of schools i.e. Schools with class 7-10 were chosen.

Table 1: Details of the camp schools

SN	Name of Schools	Total Number of Students	Total Students in Awareness Camp	Location
1	Shree Baijanath Secondary School, Kasroul	470	194	N 28°55'57" E 80°21'41"
2	Shree Panchakriti Baijanath Secondary School, Baghphanta	655	185	N 28°54'10" E 80°13'39"
3	Shree Laxmi Secondary School, Baghphanta	600	192	N 28°55'19" E 80°13'10"
4	Shree Ratna Secondary School, Chatahari	485	145	N 28°55'42" E 80°15'48"
5	Shree Baijanath Secondary School, Jadepani	1170	315	N 28°58'5" E 80°17'53"
6	Shree Sharada Secondary School, Daijee	678	173	N 28°57'0" E 80°16'46"

7	Shree Saraswoti Secondary School, Parkhadi	650	135	N 28°56'45" E 80°8'46"
8	Shree Siddhanath Secondary School, Badaipur	360	94	N 28°56'24" E 80°7'39"
9	Shree Saraswoti Secondary School, Ultakham	895	193	N 28°56'44" E 80°12'17"
10	Shree Shrijana Aadharbhut School, Dhakanaghat	248	98	N 28°51'29" E 80°21'41"
11	Shree Baijanath Secondary School, Mahendranagar	1450	282	
	Total		**2,006**	

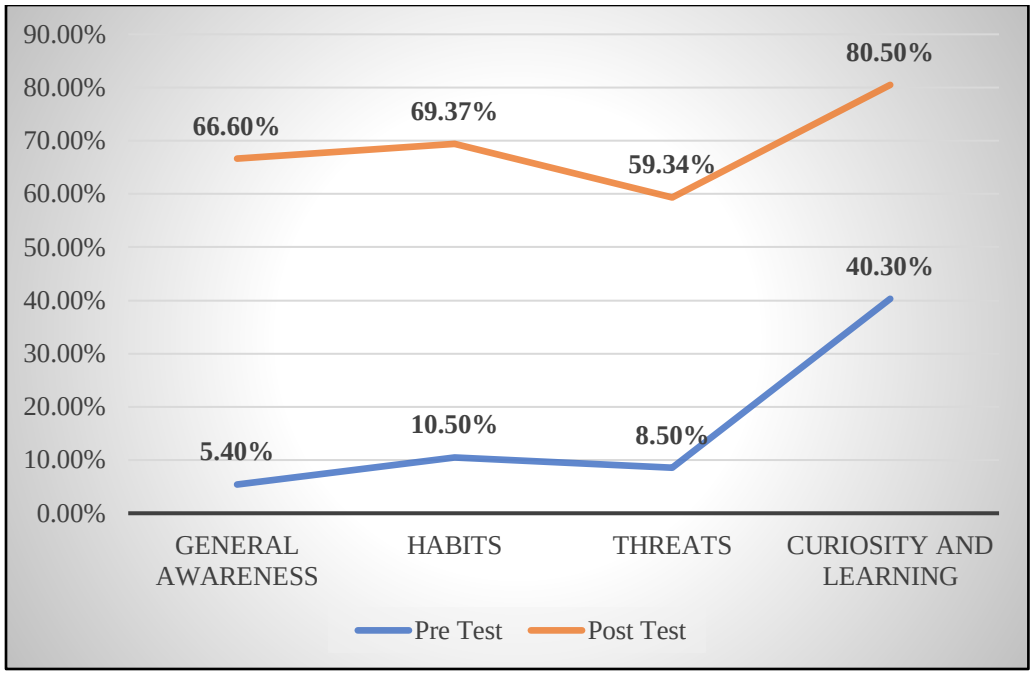
3.2 School Awareness Campaigns

Eleven different schools from the buffer zone of the ShNP were chosen for the school awareness campaigns. The schools were chosen with the help of ShNP and buffer zone committee members. The school teaching was provided by the project leader and project members with the help of multimedia and poster presentation. Different games (face mask, question answering and rewarding them with pencil and pen) were used and played by students for the effective means of learning. Lecture along with pictorial presentation, meta card, and videos were also used to aware the students about fishing cat conservation.

Before going to the school teaching, a presentation has been shared with HBCS officials and to receive the suggestions and feedbacks for effective teaching process. That helped team members to know the depth of the subject matter which collectively increased the delivery capacity of them as well.

Altogether 2006 students from the following 11 schools gained knowledge from our school awareness campaigns. Student's knowledge about the topic was evaluated through pre & post questionnaires. Students were asked predetermined questions about subject matter before the school teaching and after the program to know the effectiveness of teaching.

Figure 4: Some glimpse of school conservation camps



Picture 1: School camp impact assessment

All students were participated in pretest and posttest questionnaire. In the pretest and posttest questionnaire, we had set 3 questions about general awareness on fishing cat, 2 questions for their habits, 2 questions for threats, and 3 questions for curiosity and learning. Later on, just after the school teaching, we had again taken the posttest questionnaire of same questions to know the effectiveness of the program. In figure 6, we can see the percentage of students giving the correct answers on different topics in pretest and posttest questionnaires. In pretest questionnaire, 5.4%, 10.5%, 8.5% and 40.3% correct answer was given on the general awareness on fishing cat, habits, threats, and curiosity and learning. respectively. Similarly, in posttest questionnaire, 66.6%, 69.3%, 59.3% and 80.5% correct answer was given in the above-mentioned topics respectively. Thus, this result showed that there is an increase in student's knowledge after the school teaching program.

3.3 Essay Competition

At the initial stage, the competition began from the school. The students were given the topic "Fishing Cat Conservation" for an essay competition. From each school, one winning pair were selected to participate in the final round. The final essay competition was held in the office hall of Shuklaphanta National Park at Majhgaun, Kanchanpur. Winners of the competition received awards, aimed at motivating and supporting them for future conservation initiatives. This competition fostered students' skills, critical thinking, ethical understanding, and leadership qualities in addressing related issues. Essay competition was not conducted in one school.

Table 2: List of the winners from 1st phase essay competition

SN	School	Winners
1	Shree Baijanath Secondary School, Kasroul	1st: Menuka Joshi
		2nd: Sapana Bhatt
2	Shree Panchakriti Baijanath Secondary School	1st: Bhaskar Bohara
		2nd: Sudikshya Mahara
3	Shree Laxmi Secondary School	1st: Bhawana Bhatt
		2nd: Kanchan Joshi
4	Shree Ratna Secondary School	1st: Aayush Bayani
		2nd: Saraswoti Rana
5	Shree Baijanath Secondary School, Jadepani	1st: Durga Gurdhami
		2nd: Rabina Khadka
6	Shree Sharada Secondary School	1st: Gyanu Bhul
		2nd: Majish Sarki
7	Shree Saraswoti Secondary School, Parkhadi	1st: Kabita Nayak
		2nd: Sandesh Bhandari
8	Shree Siddhanath Secondary School	1st: Laxmi Sunar
		2nd: Tulsi Rawat
9	Shree Saraswoti Secondary School, Ultakham	1st: Prince Bhandari
		2nd: Samir Karki
10	Shree Shrijana Aadharbhut School	1st: Prakash Dhanuk
		2nd: Bhanad Chadara


School Teaching Program
& Essay Competition
On

Figure 5: Some glimpse of 1st phase essay competition

Table 3: List of the winners of final essay competition

Position	**Winner**	**Name of School**
1st	Sapana Bhatt	Shree Baijanath Secondary School, Kasroul
2nd	Bhawana Bhatt	Shree Laxmi Secondary School, Baghphanta
3rd	Menuka Joshi	Shree Baijanath Secondary School, Kasroul
4th	Bhaskar Bohora	Shree Panchakriti Baijanath Secondary School, Baghphanta

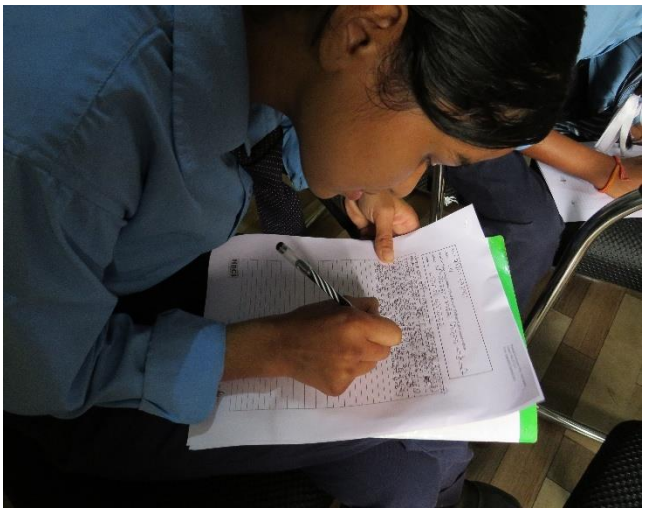


Figure 6: Some glimpse of final essay competition

3.4 Field Trip to National Park

The field trip was arranged for the 20 students selected through the essay competition, with briefing sessions conducted by tour guide from the national park. They provided valuable insights into the conservation efforts for fishing cats, their habitats, and the challenges faced. Interactive presentations were organized at the national park office, covering topics such as the ecological importance of fishing cats, ongoing conservation initiatives, and the role of students in conservation. The students were encouraged to ask questions and actively participate in discussions.


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Figure 7: Some glimpse of the student trip to Shuklaphanta National Park

3.5 Wildlife Conservation Clubs

Collaboration was done with the respective schools to establish and support clubs focused on wildlife conservation, with a specific emphasis on fishing cats. These clubs served as platforms for ongoing discussions, activities, and initiatives related to fishing cat conservation even after the project concluded. Existing eco clubs in the schools were provided with the responsibility of wildlife conservation club.

Figure 8: Members of the club with notice board along with teachers and project leader

3.6 Notice Board Establishment in Schools

In preliminary field visit, we had also checked the availability of existing notice board for students to use it. Most of the schools have notice board. Out of 11, 9 schools have notice board meaning that 2 schools have no notice board till date. Out of 9 schools, 6 schools use their notice board as administrative purpose only. Students from those 6 schools didn't have any access to use notice board directly. In 3 schools, students use notice board as to display their arts and creations but mostly, the notice boards were used for the administrative purpose rather than environmental purpose. We handed over the notice board to the respective school's principal and school management committee in 10 different schools from the project area. The students were encouraged to write wildlife issues, drawings showing fishing cat and other wildlife in their board so that many students will get information about Fishing cat. These notice boards were established in the aim to encourage other students for active participation for the utilization of notice board for long term even after the project completion for sharing conservation issue. For the monitoring utilization of those boards, wildlife clubs in respective schools were given the authority.

Figure 9: Some glimpse of notice board establishment in schools

4. OUTPUT OF THE PROJECT

Key outputs from completion of the project include the following:

- Through preliminary field visits, potential habitats of fishing cats were identified in and around ShNP.
- Engagement with various stakeholders, including local government representatives, school administrations, school management committees, parent committees, and other focal groups, helped assess the knowledge level of students regarding fishing cat conservation.
- A total of 11 schools from the buffer zone of ShNP were selected, focusing on institutions with classes 7 to 10 for targeted awareness campaigns.
- The school awareness campaigns were successfully implemented, educating altogether 2006 students through multimedia presentations, interactive games, lectures, and activities centered on fishing cat conservation.
- An essay competition on the theme 'Fishing Cat Conservation' was organized, involving over 1,000 students and enhancing their critical thinking, ethical understanding, and leadership skills.
- A field trip to the national park was arranged for selected students from the essay competition, offering them practical exposure to conservation efforts under the guidance of national park officials.
- Wildlife conservation clubs were established in collaboration with schools, fostering long-term engagement in conservation activities, particularly for fishing cats.
- Notice boards were installed in 10 schools, encouraging students to share information on wildlife issues, showcase creative drawings, and contribute to sustained awareness of conservation topics.
- Regular monitoring and guidance were provided to schools to ensure the effective use of notice boards, with wildlife clubs given the responsibility to oversee their ongoing use and engagement.

5. ISSUES, CHALLENGES AND LESSON LEARNT

Issues

- Limited accessibility of transportation services to the buffer zone surrounding Shuklaphanta National Park.
- Difficulty in reaching certain schools, hindering the effective implementation of awareness programs.

Challenges

- Navigating logistical constraints due to poor transportation infrastructure.
- Coordinating with schools in remote areas while managing time and resources efficiently.

Lessons Learned

- The importance of collaborating with local government officials and community leaders to identify feasible routes and transportation methods.
- The need for adaptive planning and scheduling to maximize available resources and ensure all targeted schools are reached despite logistical difficulties.

6. WAY FORWARD

The fishing cat remains one of the most overlooked and underappreciated endangered mammal species, especially when compared to other large mammals. In the areas surrounding ShNP, there has been minimal to no significant effort by local communities or authorities toward its conservation. This is largely due to a lack of awareness regarding the presence and importance of fishing cats in these regions. Therefore, it is essential to continue and expand research and awareness programs related to fishing cat conservation across the broader landscape of ShNP. Doing so will not only educate local communities about the species and its conservation needs but also help foster stronger community support for our long-term conservation initiatives.

To protect and enhance the fishing cat population, this conservation project will carry forward its efforts in close collaboration with local stakeholders, conservation partners, and fishing cat-focused groups. Given our current understanding of the species within ShNP, it is clear that greater awareness is still needed. As a result, we plan to expand our conservation activities to additional areas of the park in the near future.

7. RECOMMENDATION

The following recommendations have been transpired from this project which will help in the conservation of fishing cats in near future.

- Mass awareness: Use of different mediums to increase the awareness at an individual level through radio jingles, newspapers, articles, posters, etc.
- Community-level intervention: Enhance the capacity of local communities through training and opportunities to participate in the local conservation activities which will guarantee long-term monitoring and conservation of the fishing cat species.
- Government level intervention: The Government of Nepal should also provide special attention to fishing cat conservation.
- Adjacent communities: Awareness campaigns need to be carried out among other adjacent communities, living close to the fishing cat habitat, as people have not fully understood the significance of fishing cat and its importance for conservation.

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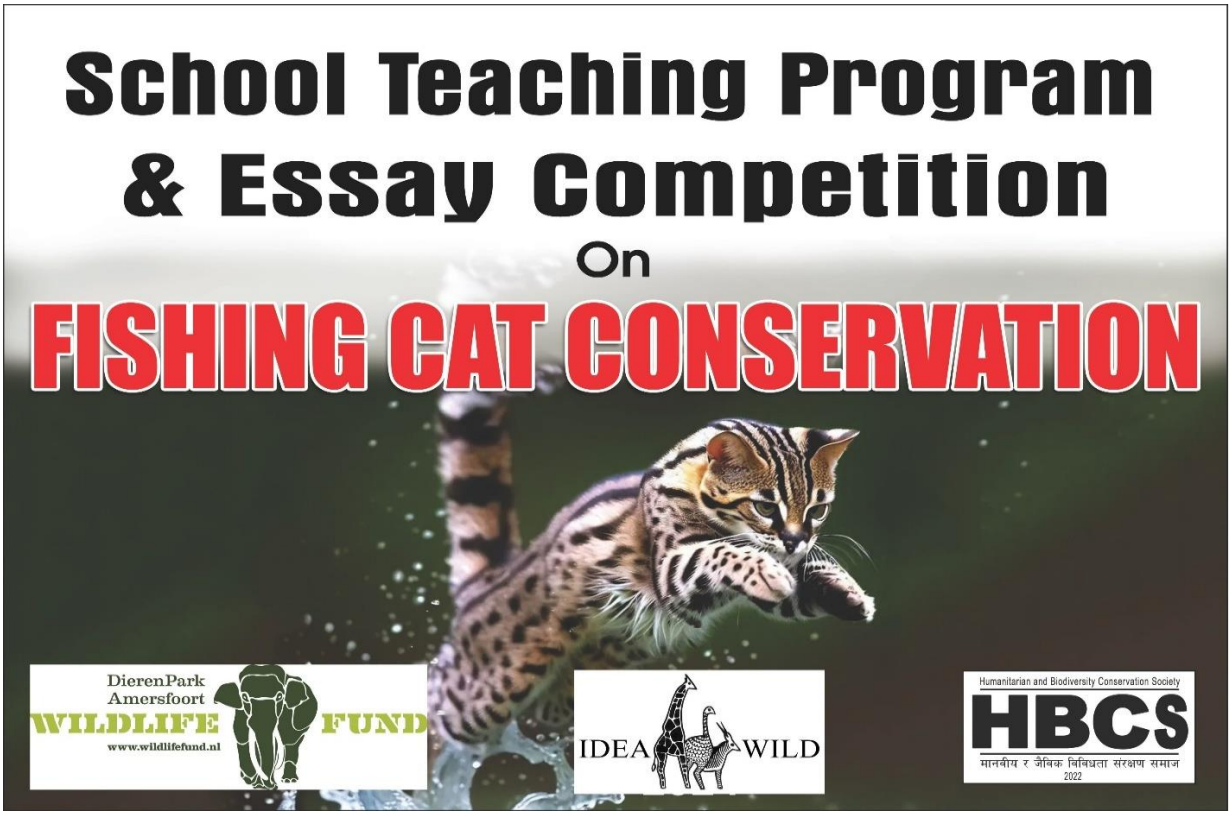
APPENDICES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