

A proposal on



**Conservation of tortoise and freshwater turtles through outreach programs in Jhapa District, southeastern Nepal**



**Submitted to:**  
Herpetofauna Foundation  
The Netherlands



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2024/11/16

## INTRODUCTION

Turtles are four-limbed reptiles that belong to the order Testudines which are distinguished by their unique shell and toothless horny beak. They have been on Earth for more than 200 million years. Turtles have high biomass and play important roles as significant bioturbators of soils, infaunal miners of sea floors, seed dispersers and germination enhancers, nutrient cyclers, and predator-prey in the food chain (Lovich et al., 2018). Ganges-Brahmaputra River Basin drainages in South Asia is the world's greatest turtle species richness area based on the co-occurrence of species in hydrologic unit compartments (Buhlmann et al., 2009; Turtle Taxonomy Working Group, 2021) and Nepal is an integral part of the Ganges River Basin.

With the record of Black Softshell Turtle (*Nilssonina nigricans*) for the first time from Betana Wetland (Praschag et al., 2022), Nepal is reported to have 17 species and 2 subspecies or 19 taxa of turtles (Schleich and Kästle, 2002; Kästle et al., 2013; Turtle Taxonomy Working Group, 2021). Turtles are among the vertebrate groups with the highest risk of extinction (Turtle Taxonomy Working Group, 2021; Stanford et al., 2020). Their populations are dropping quickly due to habitat destruction, human food and traditional medicines consumption, and collecting for the global pet trade (Schleich and Kästle, 2002; Stanford et al., 2020).

Of 17 turtle species reported for Nepal, 13 (76%) are globally threatened in The IUCN Red List of Threatened Species (IUCN, 2024). Apart from Gharial (*Gavialis gangeticus*), reptiles are ignored fauna for conservation in Nepal (Schleich and Kästle, 2002; Kästle et al., 2013). Amphibian and Reptile Conservation Society of Nepal (ARCO-Nepal) is the only organization dedicated to conserving turtles in Nepal. It has supported the establishment of two government-operated turtle conservation centers, one in Chitwan National Park and another in Bardia National Park and a community-based turtle conservation center, Turtle Rescue and Conservation Centre (TRCC) in far eastern Nepal.

Table 1. Checklist of turtles known to exist in Jhapa District

SN	Turtle species		IUCN Status	CITES Appendix
	Scientific Name	Common Name		
1	<i>Indotestudo elongata</i>	Elongated Tortoise	Critically Endangered	II
2	<i>Melanochelys tricarinata</i>	Tricarinate Hill Turtle	Endangered	I
3	<i>Melanochelys trijuga</i>	Bengal Black Turtle	Least Concern	II
4	<i>Cyclemys gemeli</i>	Assam Leaf Turtle	Near Threatened	II
5	<i>Pangshura tentoria</i>	Yellow-bellied Tent Turtle	Least Concern	II
6	<i>Lissemys punctata</i>	Spotted Northern Indian Flapshell Turtle	Vulnerable	II
7	<i>Nilssonina hurum</i>	Indian Peacock Softshell Turtle	Endangered	I

8	<i>Nilssonia gangetica</i>	Indian Softshell Turtle	Endangered	I
9	<i>Chitra indica</i>	Indian Narrow-headed Softshell Turtle	Endangered	II

TRCC was established in 2012 as a joint venture program of the Sukhani Martyrs Memorial Foundation (SUMMEF) and ARCO-Nepal. Rai et al. (2021) have mentioned that TRCC rescues and raises turtles, and has successfully bred critically endangered Elongated Tortoise (*Indotestudo elongata*). Currently, TRCC is home to ten different kinds of turtles. In addition, the Centre has also been developing as a turtle research hub (Rai et al., 2021; Rai, 2021). TRCC welcomes students, researchers, and visitors from all over Nepal for educational programs free of cost, and has organized over a hundred outreach programs at the Centre. However, they rarely visit turtle habitats to organize outreach programs due to a lack of financial support. Nine species of turtles (Table 1) are reported to exist in Jhapa District (Schleich and Kästle, 2002; Kästle et al., 2013; Rai, 2019). Further, Rai (2017) revealed that if TRCC had not rescued the turtles, 78.95% would have consumed it as a delicacy. Therefore, this outreach program in turtle habitats of Jhapa District is indispensable for their conservation.

### Objectives

The specific objectives of the project are

- To create and print outreach materials (brochure, poster, and booklet) on turtle conservation and distribute them free of cost in Jhapa District.
- To conduct education programs at selected schools/colleges/campuses in the Jhapa District.
- To conduct awareness programs at selected Community Forests/Wetland Sites/Mini Zoo in the Jhapa District.

## MATERIALS AND METHODS

### Study area

Jhapa District lies in Koshi Province in eastern Nepal (Figure 1). It has borders with Bihar (India) to the south, West Bengal (India) to the east, Morang District to the west, and Ilam District to the north. There are seven rural and eight urban municipalities. The total area of Jhapa is 1,606 km<sup>2</sup>, with Krishnathumki having the highest altitude at 500 m and Kechana Kawal has the lowest at 58 m. Geographically, it is situated between latitudes 26°20' and 26°50' North and longitudes 87°39' and 88°12' East. There are numerous wetlands in Jhapa District such as Kechana, Budoholi, Birat pokhari, Jamunkhadi, Chawni pokhari, Indreni taal, Chillagad, and others as well as several river systems, including Mechi, Kankai, Biring, Deoniya, Ratuwa, etc. There are roughly 60 Community Forests in Jhapa including well-known forests like Jalthal, Telpani, Bahuban, Hachuwamasa, Charali, Dahijhoda, and others.

# LOCATION MAP | JHAPA DISTRICT

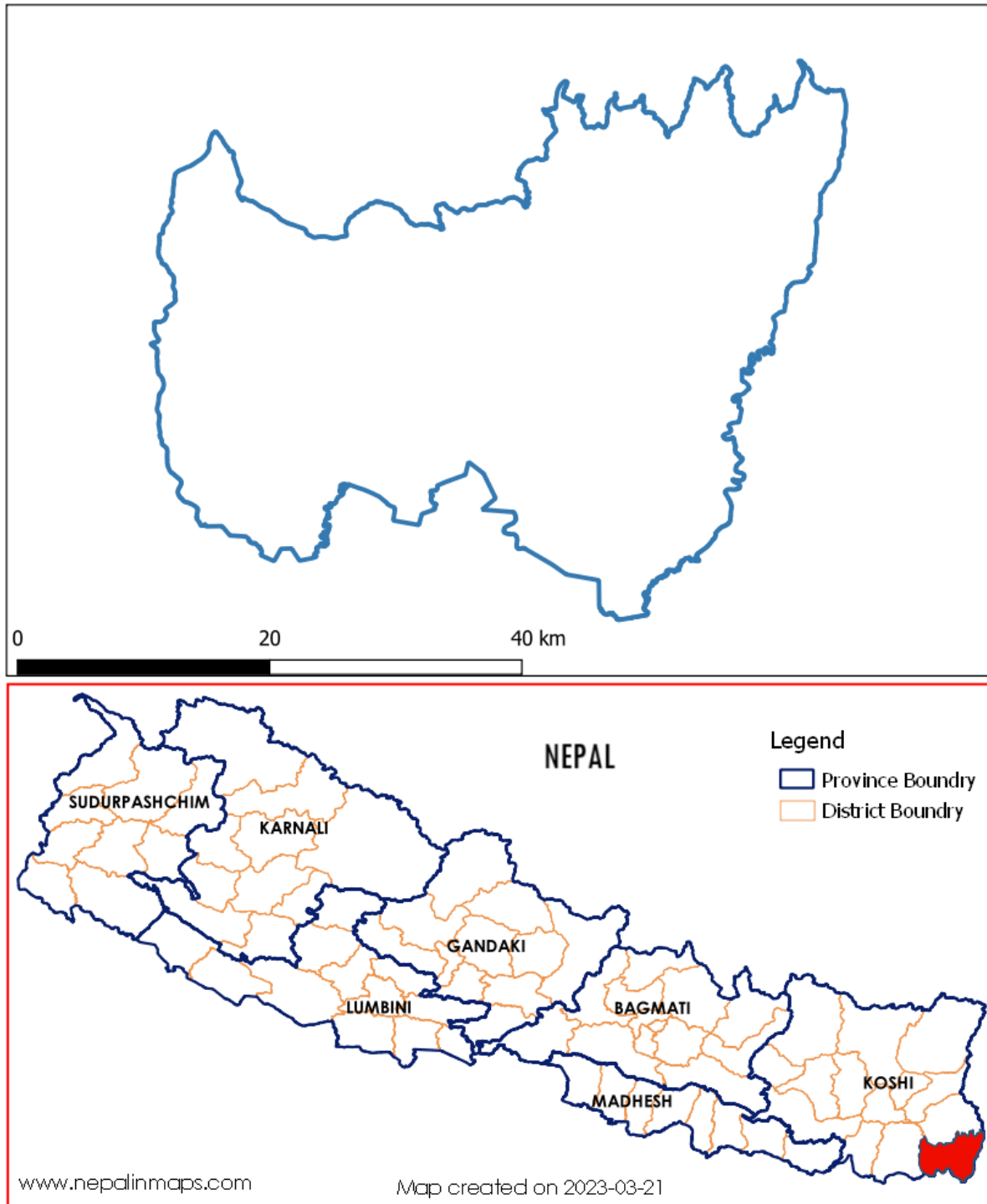


Figure 1. Location map of Jhapa District in Southeastern Nepal

## Methodology

The Kankai River flowing from north to south and East-West Highway running from east to west are considered demarcations to roughly divide Jhapa District into four quarters (Figure 2). Rather than using administrative areas, turtle habitats like forests, wetlands, etc. will be

taken into account when choosing appropriate outreach paces. The project is targeted to conduct education programs in six places (schools/colleges/campuses) and awareness programs in nine places (community forests/wetland sites/mini zoos) as per the work plan (Table 2). However, posters will be distributed and interaction will be carried out in more than 30 schools/colleges/campuses and 15 Community Forests/Wetland Areas/Mini Zoos.

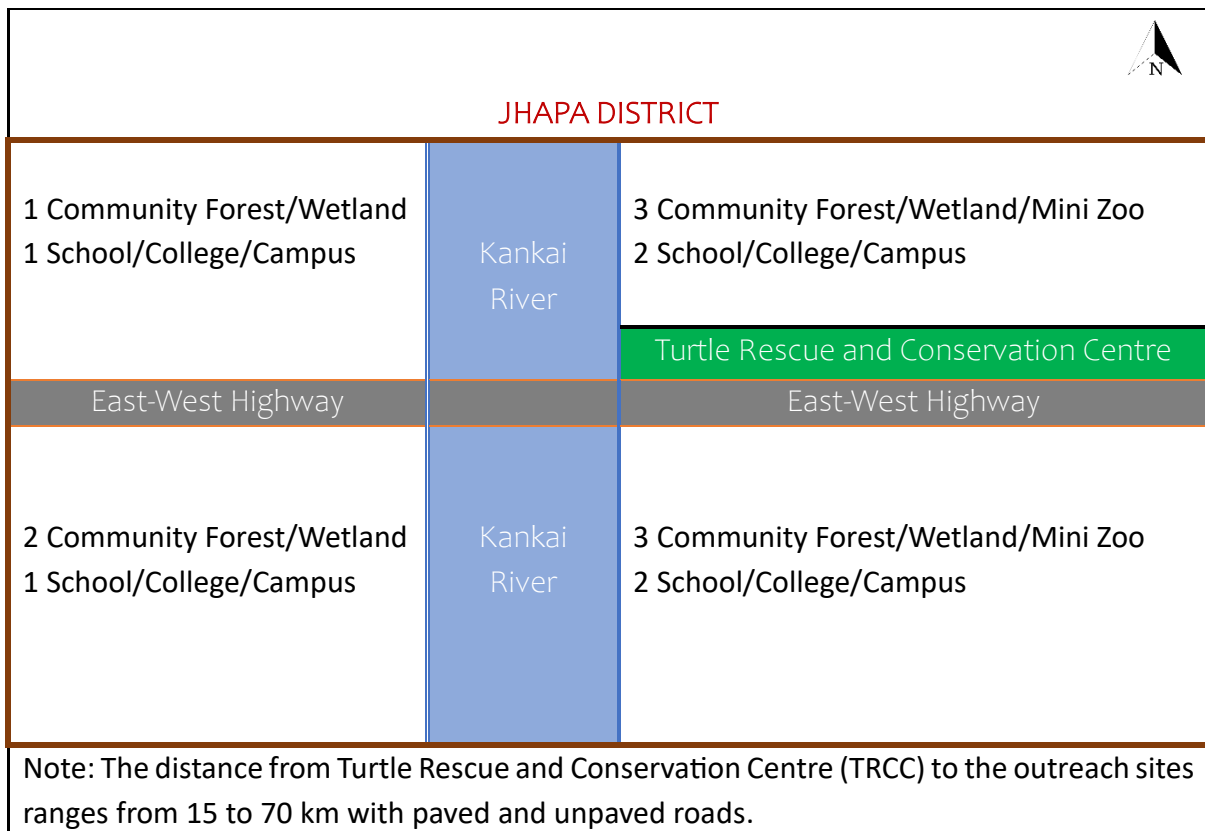


Figure 2. Outreach program sites in Jhapa District

## WORK PLAN

Table 2. Workplan for the project

SN	Action	2025					
		Mar.	Apr.	May	June	July	Aug.
1	PREPARATORY PHASE						
	1.1 Necessary preparation (references, stationery, health and safety, etc.)						
	1.2 Reconnaissance						
	1.3 Preparing outreach materials (brochure, poster, and banner)						
	1.4 Developing two different presentations for education and awareness						
	1.5 Drafting 'Photographic guide to tortoise and freshwater turtles of Nepal'						
2	IMPLEMENTATION PHASE						
	2.1 Printing outreach materials (brochure, poster, and banner)						
	2.2 Printing turtle T-shirts						
	2.3 Color printing a booklet 'Photographic guide to tortoise and freshwater turtles of Nepal'						
	2.4 Hiring equipment (projector, voice amplifier, etc.)						
	2.5 Submitting three-monthly report						
	2.6 Conducting an awareness program in selective sites (Community Forests, Wetland Sites, Mini Zoo, etc.) of Jhapa District						
	2.7 Conducting education programs in selective schools/colleges/campuses of Jhapa District						
	2.8 Formation of Turtle's Club						
3	CONCLUDING PHASE						
	3.1 Submitting the final report						

## ESTIMATED BUDGET

Table 3. Estimated budget details for the implementation of the project

SN	Description	Unit	Cost
1	PREPARATORY PHASE		
1.1	Communication and mobile data	-	Applicant
1.2	References and stationery (Notebook, stapler, tape, etc.)	-	Applicant
1.3	Health and Safety	-	Applicant
1.4	Reconnaissance (Transportation and Consumables)	-	Applicant
1.5	Preparing outreach materials (brochure, poster, and banner)	-	Applicant
1.6	Developing two presentations (Educational and awareness)	-	Applicant
1.7	Drafting 'Photographic guide to tortoise and freshwater turtles of Nepal'	-	Applicant
2	IMPLEMENTATION PHASE		
2.1	Printing brochures for free distribution	1,000 pieces	90
2.2	Printing posters to be hung at selected sites (5) and banner (1)	6 pieces	80
2.3	Printing turtle T-shirts	6 pieces	50
2.4	Color printing a booklet 'Photographic guide to tortoise and freshwater turtles of Nepal'	2 pieces	30
2.5	Hiring equipment (projector, voice amplifier, etc.)	15 days	30
2.6*	Transportation (fuel cost)	15 days	140
2.7	Consumables	15 days	80
	<b>Total</b>		€ 500

\*The researcher will use his bike to reduce the cost

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## CURRICULUM VITAE OF RESEARCHER

Full Name : Mr. Tapil Prakash Rai  
Address : Arjundhara Municipality-11, Jhapa, Province-I, Nepal  
DoB : 16 January 1985  
Nationality : Nepali  
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### Experience & Affiliation

- Member of Sukhani Martyrs Memorial Park Management Committee (*September 2023 to Present*)
- Three months training at Turtle Island Austria, category A zoo (*January to March 2023*)
- One-week training at Amphibian and Reptile Conservation of Spain (ARCO-Spain) (*March 2023*)
- Member of Society for the Study of Amphibians and Reptiles (SSAR), US (*January 2021 to Present*)
- Lead Keeper and Representative of Turtle Rescue and Conservation Centre-TRCC (a conservative initiative of Amphibian and Reptile Conservation Society of Nepal and Sukhani Martyrs Memorial Foundation), Arjundhara, Jhapa (*January 2016 to Present*)
- Lecturer of Environmental Science at Mechi Multiple Campus (TU), Bhadrapur, Jhapa (*March 2012 to Present*)
- President of Aagan FM 89.6 MHz, Birtamod, Jhapa (*2013 to Present*)
- Three-day field visits (cum training) on rearing and breeding of endangered Asian turtles with renowned herpetologist Prof. Hermann Schleich, PhD at Turtle Survival Alliance India Program in Lucknow, Uttar Pradesh, India (*22 - 24 March 2018*)
- Herpetological field survey in Ilam District for 5 days with eminent herpetologists from the US Peter Uetz, PhD and Paul Freed (*22 - 26 October 2019*)
- One-day training on “Visual Storytelling and Social Journalism” by Kayle Hope (Prof. of Visual Journalism, New York, USA) organized by Federation of Nepali Journalists (FNJ), Jhapa (*14 April 2017 in Birtamod, Jhapa*)
- Three-day training on “Enhancing B.Sc. Faculty Capacity under the framework of Green House Gas Technology Transfer and Training” organized by Central Department of Environmental Science (CDES), Tribhuvan University and Ministry of Population and Environment (MOPE-GoN/TNC) (*6 - 8 March 2017 in Janakpur*)
- Lecturer of Zoology at Kanchanjunga Institute of Health Sciences (CTEVT), Birtamod, Jhapa (*2015 to 2017*)
- Editor of Pratidin Daily Newspaper, Birtamod, Jhapa (*2012*)
- Coordinator of The Universal Environmental Coordinator (TUEC) (*2009 to 2012*)
- Field Coordinator and Research Assistant of an amphibian project run by the Environment Conservation Society (ECS-Nepal) (*2007 to 2010*)

- Volunteering at Turtle Conservation Program (Amphibian and Reptile Conservation Society of Nepal and Environment Conservation Society, Nepal) (2007 to 2015)

### Education

- M.Sc. (Environmental) from Central Department of Environmental Science, Tribhuvan University (Academic year: 2008 to 2010)

### Other Credentials

- Published more than a dozen scientific articles in national and international peer-reviewed journals
- Participated in national and international conferences (Bangladesh and Austria)
- Supervised dozens of M.Sc. and B.Sc. students for their thesis work (January 2016 to Present)
- Lead author on the first record of leucism in Cope's Assam Frog *Hydophylax leptoglossa* for the world (2023)
- First report of new fish species, Drape Fin Barb *Oreochthys crenuchoides* for Nepal (2023)
- Co-author on the first record of Black Softshell Turtle *Nilssonina nigricans* for Nepal (2022)
- First record of necrophilia in Himalayan Toads *Duttaphrynus himalayanus* for the world (2022)
- Lead author to update the checklist of amphibians and reptiles of Nepal since 2012 (2022)
- Lead author on confirming the occurrence of Indian Eyed Turtle *Morenia petersi* in Nepal (2021)
- Co-author on the first record of Common Slug Snake *Pareas monticola* for Nepal (2021)
- Successful breeding of Critically Endangered Elongated Tortoise *Indotestudo elongata* at the Turtle Rescue and Conservation Centre-TRCC (2020)
- Felicitations and prize from District Forest Office Jhapa on the occasion of 2<sup>nd</sup> National Community Forest Day for playing a significant role in wildlife conservation (2017)
- Co-translator of the book 'Amphibians and Reptiles of Nepal – Turtles: A Children's Book' (2016)
- Felicitations by Mechi Multiple Campus, Jhapa for contributing to education on the occasion of the 50<sup>th</sup> anniversary (2014 AD)
- Assistant author of the book, Amphibians of Kangchenjunga-Singalilla Complex, Nepal: A Field Guide for Identification, Species Documentation and Conservation Action (2011)



Photo 2. Researcher holding neonates of critically endangered Elongated Tortoise *Indotestudo elongata* at the Turtle Rescue and Conservation Centre (TRCC) on August 2023

Sincerely,

Tapil Prakash Rai

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