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ARCO-Nepal and the editor of these newsletters, CEO Prof. Dr. Hermann Schleich are extremely proud to have such friends, followers and engaged young generation challenging the conservation and collaboration for a turtle survival in the 21<sup>st</sup> century. We say thank you so much to all!! Lets continue to save what still can be saved in Nepal!

Hermann Schleich

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#### ARCO-Nepal reg. soc.

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#### Few words

It is my pleasure to express my best wishes to ARCO-Nepal for the publication of ARCO-Newsletter 20 on the celebration of World Turtle Day 2020.

Even in the lockdown period of COVID-19, the world turtle day was celebrated unprecedentedly by virtual way. Now, TRCC has expanded its activities on turtle conservation in nationwide from Mechi to Mahakali. I am very happy seeing many young generations participating in this turtle conservation campaign. They have been much more aware from the vanishing creature such as turtles and promising to save them from being extinct.

Even in this pandemic, they are composing scientific literature and art such as fantasy, fiction, poems, shot story, experiences of research fieldwork, travel account, autobiographic memoir, illustrative diagrams or model and paintings to create public aware for turtle conservation.

In this regard Shyam Kumar Pun (Chitwan), Omkar Bhatt (Kanchanpur), Balika Chapagain (Jhapa), Ashmita Shrestha (Sunsari), Sandeep Luitel (Jhapa), Samiksha Rai (Jhapa), Anjal Luitel (Lalitpur), Aavas Pradhan (Sarlahi), Bijay Rai (Sunsari), Ganita Subba (Bhaktapur), Julie Shrestha (Jhapa), Kashup Khatri (Bhaktapur), Kritagya Gyawali (Kaski), Manjita Kharel (Kirtipur), Pragati Khatiwada (Jhapa), Pragya Shrestha (Jhapa), Ram Chandra Wagle (Morang), Sajjan Regmi (Hetauda), Sandhya Dahal (Bhaktapur), Shishir Lamichhane (Chitwan), Shraddha Bhattarai (Kirtipur), Somy Bhattrai (Jhapa), Srijana Timilsina (Chitwan) and Sweta Karki (Kathmandu) have played pioneer role by presenting beautiful and emotional article, poem, poster and art on different aspects of turtle fauna.

In such occasion I always remember my supervisor Prof. Dr. Hermann Schleich who contributed a lot of time and labour for our country to set up the base of herpetofauna conservation programme. He established a research organization, ARCO-Nepal so as to protect and promote the conservation of herpetofauna of Nepal permanently. This organization had completed herpetological survey throughout the country in two decades and contributed a reliable checklist of herpetofauna of Nepal enlisting about 56 species of amphibians and 140 species of reptiles respectively. Presently, TRCC program is also going on under his instruction and many young generations of scientists are being organized around it.

Now, TRCC also got right leadership from a Mr. Tapil Prakash Rai and he became Lead keeper and representative of it. All these turtle conservation activities are concerned with TRCC at SUMMEF. He has been a leading figure in the campaign of turtle conservation in Nepal. I congratulate him and to all his team members (TRCC-Turtle's Club) who have been devoted for turtle conservation.

Likely, in the occasion of world turtle day, I also congratulate to the whole body of Martyrs Memorial Foundation and Park for taking vital initiation to promote such conservation activities concerning TRCC programs for herpetofauna.

Lastly, I would like to remember: Save Turtle! Save Wetland! Save Forest! Save Environment!

Thank you.

Dr. K.R. Khambu Rai Professor of Zoology Mechi Multiple Campus, Jhapa (Nepal) \*\*\*\*\*

## World Turtle Day - May 23, 2020 during Corona Lockdown

Turtle Rescue and Conservation Centre – TRCC has been celebrating world turtle day past four years organizing programs and this year it is our fifth celebration. TRCC is the first organization in Nepal to celebrate world turtle day officially. Last year on this occasion Arjundhara municipality of Jhapa district was declared as first ever "Turtle Protected Municipality" in Nepal. The mayor of Arjundhara along with district forest officer, members of SUMMEF, experts, representative of community forests, teachers, students and journalists committed for the conservation of turtles.

But this year due to COVID-19 pandemic we could not organize any programs with physical presence. However, we were devoted to carry out virtual program with a prime motive to engage more people in turtle conservation. We published turtle material (Children's drawing book, description of turtle species, awareness poster, etc) till May 23. At the same time we did announcement to submit creations (poster, art, story, poem, experience, photo, etc) for celebration of world turtle day.

In early morning of May 23, I was pondering - how to start the world turtle day? At the same time our collaborator Deepa Kulung informed me that one of her friends has kept Indian flapshell turtle as pet in Itahari municipality of Sunsari district. Deepa convinced her friend to release that beautiful animal in its natural habitat. In this way our celebration of world turtle day begun, which followed by publication of various creative works submitted by participants from all over Nepal.

From the establishment of TRCC-Turtle's Club in 2016, it has become the strong pillar of TRCC. This year on the occasion of world turtle day they took a challenge of making incubator for turtle eggs. To prepare incubator at home, especially during this lockdown was not less challenging task. However, they succeeded in developing a workable incubator. It is the creation of very talented and intensely devoted (in turtle conservation) Sabin Adhikari, Saroj Chauhan, Roshan Pahari and Bigyan Kharel.



Fig. 1: From right Sabin Adhikari, Saroj Chauhan, Roshan Pahari and Bigyan Kharel with their constructed incubator.

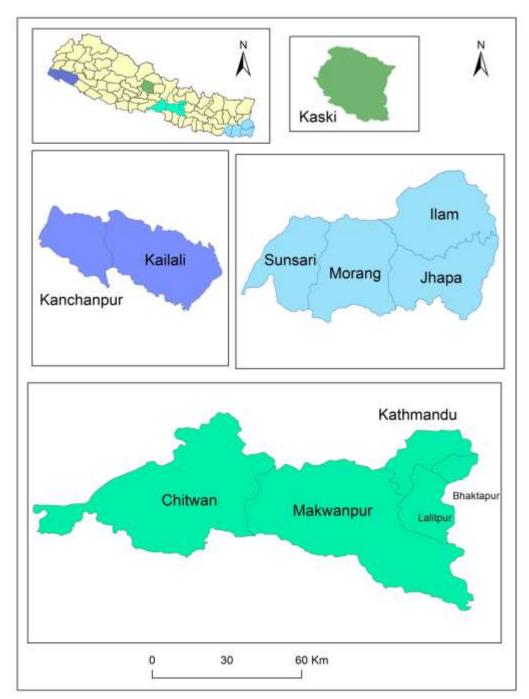


Fig. 2: Map of Nepal showing participants from 12 districts [Map prepared by Balika Chapagain] for World Turtle Conservation Day.

All together we received 33 creations from 12 districts of Nepal. One of our collaborators Balika Chapagain prepared a district map of participants. The friends contributing in world turtle day celebration are Aavash Pradhan, Anjal Kaushik Luitel, Ashmita Shrestha, Balika Chapagain, Bigyan Kharel, Bijay Rai, Ganita Subba, Julie Shrestha, Kahsup Khatri, Kritagya Gyawali, Manjita Kharel, Omkar Bhatt, Pragati Khatiwada, Pragya Shrestha, Ram Chandra Wagle, Sabin Adhikari, Sajjan Regmi, Samiksha Rai, Sandeep Luitel, Sandhya Dahal, Saroj Chauhan, Shiseer Khatiwada, Shishir Lamichhane, Shraddha Bhattarai, Shyam Kumar Pun, Somy Bhattrai, Srijana Timilsina and Sweta Karki. All the creations are beautiful, unique and informative. These creations are published here and on facebook at interval every day till last day of May.

Tapil P Rai Lead Keeper and Representative, TRCC (ARCO-Nepal and SUMMEF)

#### Conservation within the Conservation Area

The conservation area in Nepal mainly focuses on species-level conservation of large mammals. Turtles of Nepal have always been neglected. A limited number of research activities and conservation efforts have put turtles vulnerable. Immediate actions need to be taken for the effective conservation of these majestic species. Habitat loss, habitat fragmentation, and different anthropogenic activities are the major factors for the decline of their population. Most of the first-hand anthropogenic factors can be controlled to a certain limit inside the Protected Area (PA), though the secondary factors are still threatening their existence even inside PA. The wetlands are shrinking year by year. Some of the wetlands inside the conservation area are lacking water during summer. This primarily results in the habitat loss of animal and secondarily it reduces food availability. Other factors like eutrophication and ecological succession add up in the deterioration of their living environment. Multiple factors like these are playing a key role in harassing the existence of these species. The scanty population of turtles is demanding conservation efforts. Protecting these species may protect the whole wetland ecosystem Turtles of Nepal need conservation; conservation within the conservation area or the next generation will see them on photographs and books only.



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#### Photos (right)

Top: Which way shall I go searching water!!! Middle: Raani Taal, Beauty of Shuklaphanta National Park, Beauty without Water Bottom: I died searching for water, my brothers must not...

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#### The Moment I Encountered Elongated Tortoise in Wild

Indotestudo elongata (IUCN: Critically Endangered; CITES: Appendix II)

Engaging in wildlife research brings lot of thrills as well as surprises. One such moment is when we encounter wild species; especially the endangered and rare one is amazing. Such experiences are what keep us (researchers) from continuing our work with enthusiasm. Today, I would like to share one such experience I had during my field work.

As part of my thesis work, it was a kind of bliss to encounter Elongated tortoise (Indotestudo elongata) during my long and tiresome field work of searching tortoises. It was occupying the secondary habitat (burrows of porcupines) and hidden in leaf litters in Dahijhoda Community Forest of Jhapa District. I had an opportunity to note this majestic species in its natural habitat. With tiring field works filled with activities like sweeping floor to searching them in crevices, rolling down the hill while trying to look for signs, getting bitten from poisonous insects, etc was all worth with a sighting of single tortoise. Dealing with all these hardships for the conservation of species that still lack focus is what has inspired me keep going till date. A single sighting is definitely worth all the struggles we have to deal, from field works to harsh interactions with the local community.

In the end it was very productive facing several challenges and also getting opportunity to gain knowledge from research. I would heartily thank Sabin Adhikari (left) and Saroj Chauhan (middle) for continual support to achieve this blissful sighting.



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## World Turtle Day

May 23, 2020





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#### **World Turtle Day?**

World Turtle Day is celebrated every year on 23<sup>rd</sup> May. The main objective of this day is to spread awareness about the protection of the natural habitat of one of the oldest group of reptiles-the turtles and tortoise across the globe. Looking back at the history of World Turtle Day, it was found that a team of husband and wife named Marshal Thompson and Susan Tellem who had an organization named American Tortoise Rescue (ATR) celebrated it for the first time in 2000. Susan and Marshal had founded ATR in 1990 when they came to realize that these beautiful hard-shelled reptiles were very close to extinction. They took this issue on international platform and planned to spread awareness about the conservation of various species of turtle and tortoise across the globe. This initiative led to the emergence of World Turtle Day (WTD). The official announcement of WTD was done in 2000. In 2000, when the journey of World Turtle Day was about to start, ATR put lot of efforts to educate, aware and encourage people about the protection of turtles and tortoise along with the loss of their habitat. In 2002, American Tortoise Rescue announced that World Turtle Day to be celebrated in May 23<sup>rd</sup> every year. Since then, every year on May 23<sup>rd</sup>, World Turtle Day is celebrated across the globe annually with the different themes focusing mainly in its protection. The theme of World Turtle Day 2020 is to focus on bringing attention and increasing the respect and knowledge for tortoise and turtles.

In Nepal, Amphibian and Reptile Conservation of Nepal (ARCO-Nepal) has been working effectively from the start of its establishment in 1997 for the protection and conservation of turtles. ARCO-Nepal in collaboration with concerning government bodies and local organizations has been conducting different educational seminars, protecting the turtle's habitat, educating and informing people about turtles through posters and pamphlets in World Turtle Day. Even though we are facing this hard times with the ongoing COVID 19 pandemic, we can be the part of turtle conservation by staying home. We can raise awareness about turtle protection through social media. Almost half of all turtle species alive today are endangered due to global warming and human activities. So, it is our responsibility to take all the preventative measures, be it controlling waste generation at home or discarding the use of plastic, to protect turtles. Turtles have survived the dinosaurs, and we must make sure that they survive the humans too.

Source: Earthreminder.com/world-turtle-day; https://en.wikipedia.org/wiki/World\_Turtle\_Day



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#### World Turtle Day May 23, 2020



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#### **Toto and Fogi**

The gentle breeze made leaves of tree to flutter like butterfly wings. As it was a dense forest, the surrounding was silent and only the sound of flowing river and bird's song could be heard. Here in the forest different species of animals and bird's lived, including a turtle named 'Toto'. He had no family members because they were all killed by humans and some of them died of diseases. So, he was the only one remaining in their whole group (species). But he was a good boy and had many friends. They used to call him 'Toto the turtle'. His friend's names were 'Fog( Fily, Mika and many others. They used to play entire day at the bank of river. Every day they used to change the type of game to make it interesting. Some day they used to play hide and seek, while on other day swimming competition. If any sort of new or scary noise was heard, then they used to hide swiftly in safe places. On land, 'Toto used to remain still and withdraw its limbs and head. In this way it became disguised as nonliving objects. If near river then he immediately dived into water and disappeared.

The days were passing by. One day some people came to the forest white *Toto* and his friends were playing. *Toto's* friends ran as fast as they could to safety and *Toto* disguised as nonliving object. They all people from safety to understand the purpose of visiting forest by those people. Afterwards, they came to know that those people were not hunters but turtle researchers. And they had come here specifically to search *Toto* like species as they had found one a year ago. Though the researchers tried very hard, they were unsuccessful and at last they were returning. Seeing all this activity *Toto* instantly thought it could be his one of the family member that was found by those researchers. While he was lost in nostalgia, his friends were yelling at him to continue their play. They played as usual and returned home late that day.

Time was passing in its usual pace and the days were going on nicely. One fine day *Toto* looked very happy and he was sitting tike chieftain. On seeing jovial mood of *Toto*; his best friend *Fogi* came near him and asked, "What's new today? You look very happy." *Toto* replied with bright smite, "Today is mine day". The words of *Toto* made *Fogi* confused and he inquired more "What do it mean by your day? I can't understand anything". Then, *Toto* responded valiantly "Today, 23 May is **World Turtle Day**, which is entirely dedicated to our species. Humans are realizing their insanity and have started to conserve us. Today turtle lovers and conservationists celebrate turtle day all over the world by doing different types of awareness activities to alert more people." This saying of *Toto* made *Fogi* totally surprised and interrupts in the middle "Ohi Then you may find species same like you in future. Isn't it?" As their conversation got exciting, suddenly they heard some intruder's sound and both escaped to safety. After few minutes, they found out that farmers from the village had come to cut grass and collect firewood.

At present we do not know what Toto and his friends are doing.



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World Turtle Day



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#### कछ्वाको पुकार

हामी त जलवर प्राणी हों. एक वाहीं जिमनमा पाईन्छ्न विवले हामीलाई सरीश्प वर्णमा राख्यछ्न । भारपात, फलफूल, व्याउ, शङ्खे किरा र स-साना मरेका माछा आदि नै हामो मनपर्ने हो खाना॥

सिमसार, खोला आदिमा वरदछौँ रमाई सिकारी पापीले किन बेरन सक्बेन हामीलाई? बु:ख र उद्देक लाग्द्छ, मान्छेको सम देखेर दबाई र मासुका लागि भन्दै पञ्जन्छन छेकेर॥

प्रदछ्त भगवान विष्णुको दोशो अवतार मनेर सहटमा खाँ नि अचेल अतिऋमण बढेर। डाइनासोर पनि साथी थिए हामा, छैनन ती मासीए डर लाग्छ हाम्रो होला त्यही हाल संरक्षण नगए॥

"सपटा राखे रक्षा पो हुन्छ", भन्छन रे कोही कोही "रक्षा त हुन्छ हामी बाँचेमा", अन्दर्धों हामी चैं। बुद्धिमान भए ए मान्छे यस्तो हुर्कत छोडीदेउ संरक्षण गर्नका लागि तिमी हातमा हात जोडीदेउ॥

यस पृथ्वीमा हरेक जीवको आफ्नै छ अस्तित्व तिमी में श्रेष्ट, तिमें हो सबलाई बचाउने दायित्व। समाजमा व्याप्त भुमलाई चिर्न दियो बाल ज्ञानको भुमको खेती नगर, गरन प्रचार विज्ञानको ॥

रम्म देउ हामीलाई हामें स्थानमा, सकभर बचाउ सङ्घरमा हामी परेको देखे केन्द्रमा लिएर आउ। एकदिन दिवस मनाउँदा मात्र केही हुन्न हामीलाई लागि पर न ए हरेक मानव, यसरी सधें नै ॥



**World Turtle Day** 

May 23, 2020





अञ्जल कौशिक लइटेल अजनधारा ०६, भनापा एमएससी तेथी सेमेस्टर पाटन संयुक्त क्याम्पस

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### कछ्वा

क बाट कछ्वा पढेर मान्छे आकाशगङ्काका कण गन्ने भयो तर पुरै कछ्वाको "महत्व" कहिल्यै नबुइने भयो

कस्वा, नजिक हृदाहुदै दूर भयो भईकन समिप आँखैको, अदृश्य भयो साथी मान्छे के हो तर मान्छे ने शत्रु भयो र पो त धरापमा कछ्वाको जीवन भयो मित्री मास् त्या कछ्वााको खान सबैले लोभ गर्ने मान्छेको "नमेटिने भोक"ले कछुवाको भोग गर्ने

मित्र प्रकृतिको हो यो असल कर्मचारी पर्यावरण सन्तुलन कछुवाको काम छ जारी संकटमा छ शान्त, शिष्ट, सौम्य कछ्वा स्थिर, अडिग, धैर्यवान कछ्वा ढिलो नगरी संरक्षणमा अब जुटौँ सारा मनुवा।

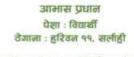


**World Turtle Day** 

May 23, 2020

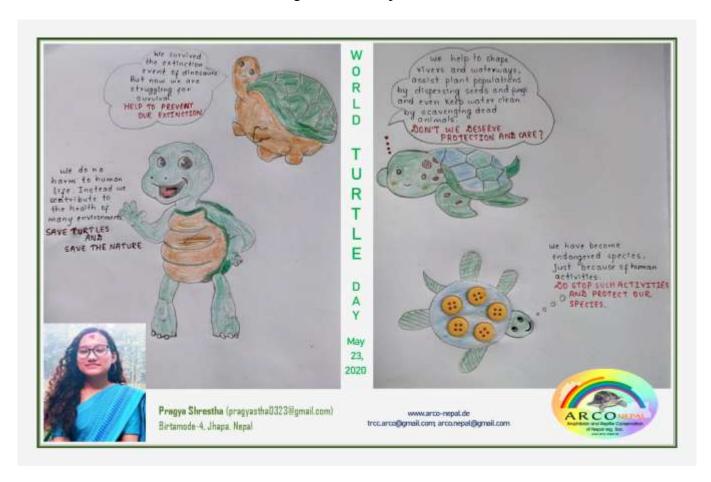


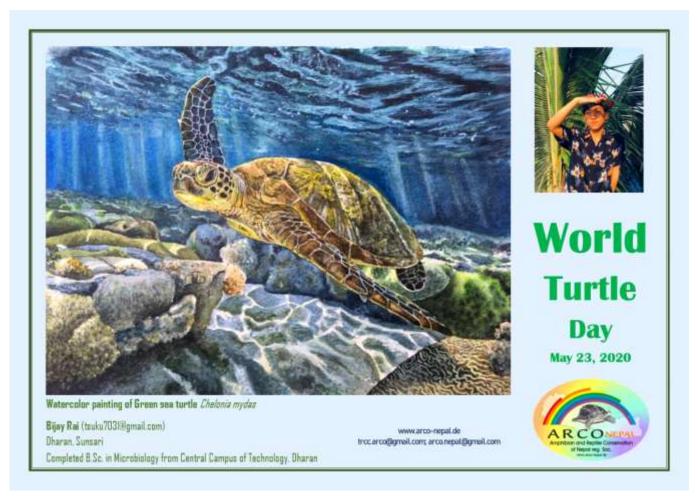
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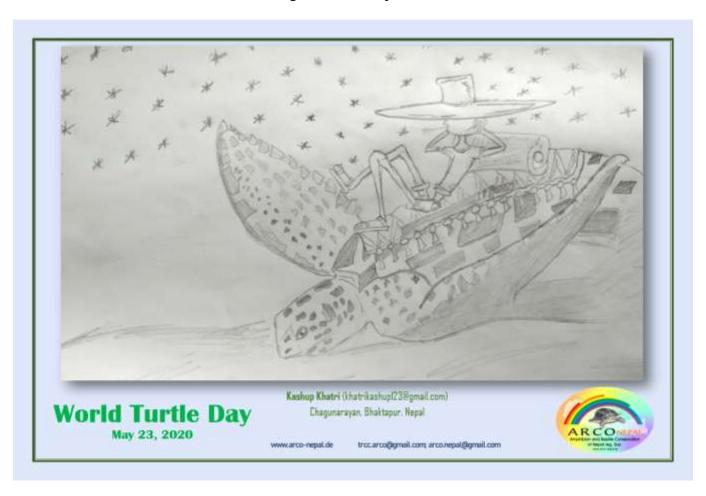


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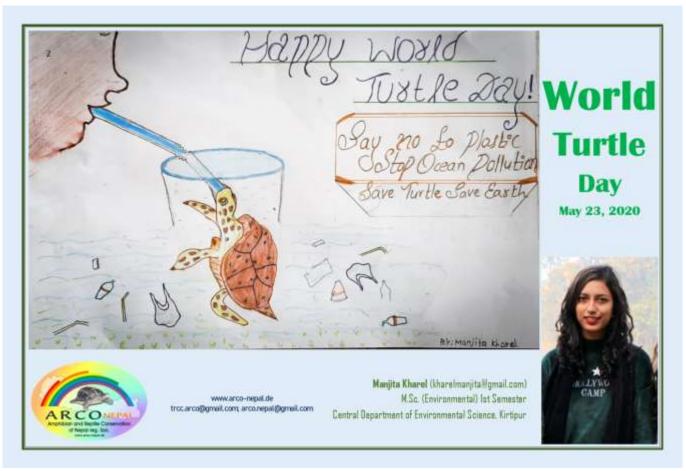
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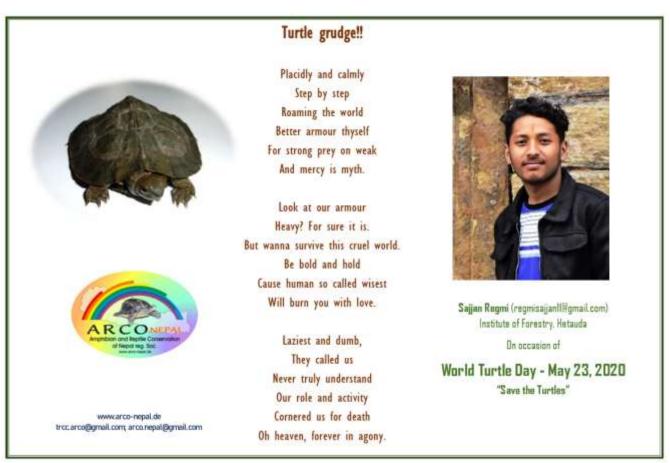


















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#### कछ्वा - महत्व र संरक्षण

धेरे वर्ष प्रिले यसको महत्वलाई जानी सृष्टि स्थिति चलाउनलाई आवश्यक पर्ने ठानी। द्वितीय अवतार प्रभु विष्णुको, कुर्म रूप धारण गरी कछुवा भनी विन्छी जसलाई आज, हामी संसार मरी।

शमुन्द्र, दुला नदी र सिमसार यसको वासस्यान हजारी हजार जन्म भयो पंछी यसका सन्तान। कोही जमिनमा कोही पानीमा बरने, प्रजाति मिन्न मिन्न अद्मुत प्राणी अरू भन्दा, खबटा है यसको चिन्ह।

समुन्द्रको पानी तिमी शुद्ध पनि गर्छौ रोगी, सडे गलेका आहारा सतहबाद हर्छौ। ज्युदी जीवारोष भनि फैलिएको छ तिस्रो नाम समुन्द्रको खाद्य पञ्ज सन्तुलन राख्नु मुल तिस्रो काम।

जलवर प्राणीहरूरी सहयात्रा गर्दै पृथ्वीलाई सुन्दर पार्ज सधै अगि सर्दै । पारिस्थितिक प्रणाली सफल पार्ने कखुवाको काम अनि कखुवा रक्षा गर्नु संसारको काम।

प्लास्टिक प्रबुषणलाई हटाउनु पर्छ स्वस्थ वातावरणले आफै कछुवाको रक्षा गर्छ । यति राम्रो प्राणीको रक्षा हामीले गरौ येतना र ज्ञानको दियो बालन सबै आगि बढी ।

पानी खराब भयों भने सबै जलचर माईन सबै जलचर मारे भने मानव कष्टमा पाईन। जलचर, थलचर, अंतरिक्ष सबको हित हुने पार्यावरण सफल भए सबैको जीत हुने।



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World Turtle Day
May 23, 2020



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#### Let's shellebrate and free the nets of threats

Every year, 23 May is celebrated as World Turtle Day (WTD). It is celebrated not only to show respect and compassion to these animals but also to make human aware about their life-threatening struggle for the existence. On this occasion, WTD voice for the conservation of turtles. Turtles are also famously cited as ancient animals which shared their history with the dinosaurs in past.



Even though, turtles are characterized as animals with hard shells on their back, there are some aquatic turtles that have leathery skin and are called softshells. Typically, turtles are characterized as slow-moving and long-lived animals. But in contrary, some aquatic turtle like e.g. *Pangshura* species, softshells and marine turtles are very fast, and generally live for 20- over 50 years. However, tortoise live entirely on land and can live comparatively longer; some more than over hundred years.

Turtles are ecologically important, for instance, Gopher tortoise (*Gopherus polyphemus*) is best known as environment engineers as they dig holes. When they leave those holes, it will be used by others animals. Also, tortoises eat fallen fruits and defecate semi-digested food to new places and helps in seed dispersal. Similarly, softshells cleans the wetlands by scavenging on dead and decayed animals. Turtles are totally harmless when left undisturbed but some large softshells have very strong bite and can cause severe wound when mishandled. Though harmless in nature, turtles are one of the most endangered vertebrates in the world along with primates.

While the majority of turtle species are threatened, mainly due to hunting and smuggling for its meat, shells, eggs, hatchlings and as pets in illegal wildlife trade, and occasionally as bycatch in commercial fishing and along that habitat loss (e.g., human settlement, dam construction etc.), plastic pollution (microplastics are mistaken as food and ingested by turtles which damages their digestive systems and results in painful deaths) and climate change (e.g., sea level rise due to melting of polar ice impacts its nesting habitats at the beaches) etc. further worsens their threatened status.

In addition to it, many get entangled at the abandoned fish nets, notoriously known as "ghost nets". As well thousands of turtle eggs and hatchlings are smuggled away from wild every year which additionally gravitate them towards the harrowing odds of extinction. Because of these reasons their population

declines rapidly before they get chance to revive and impact their healthy populations. Similarly, mating failures due to less fertile populations may result in unviable eggs avoiding further their chances of survival.

Unfortunately, Yangtze giant softshell turtle (*Rafetus swinhoei*) faced similar tragedy when its last known female died in 2019. As one of the world's rarest turtle, this species stands on the slightest edge away from extinction as leaving only three individuals in the whole world. Scientists claim the intensity of threats to Yangtze giant softshell were unsustainable hunting for meat, habitat loss due to the building of dams and unsuccessful mating resulting unviable eggs. Similarly, last male species of Pinta Island tortoise (Chelonoidis abingdonii) died leaving its species as "functionally extinct" in 2012. The above cases clearly illustrate the bleak situation of turtles all around the world.

And, turtles of Nepal are not an outsider to this brutal scenario. They are hunted and consumed for its meat by local communities and these are often believed to bring good luck and prosperity for any business or at home.

Though, many species of turtles found in Nepal are categorized as threatened by IUCN and are also listed in CITES, sadly they are not yet protected species in Nepal. Kästle et al. (2013) and Turtle Taxonomy Working Group (2017) mentions 16 species of turtles with 18 taxa for Nepal. However, there aren't proven records of *Geoclemys hamiltonii*, *Morenia petersi* or *Batagur* in Nepal.

Turtles are one of the least researched fauna elements in Nepal and thus, there lacks the knowledge about their present status, distribution, biology, threats, etc. Nevertheless, it can't be generalized as if there have never been any works or efforts done regarding these vertebrates. Since, many notable works are not publicized well, where renowned herpetologist Prof. Dr. Hermann Schleich from Germany has relentlessly contributed in the herpetofauna researches in Nepal for more than three decades. Likewise, Prof. Dr. Kalu Ram Rai 'Khambu' from Jhapa, Eastern Nepal is another iconic personality in the field of herpetofauna, especially about turtles who publicize them through his researches, conservation works and teaching.

And without talking about the works done by Amphibians and Reptile Conservation of Nepal (ARCO-Nepal) will not be justified while talking about turtle conservation in Nepal. ARCO-Nepal assisted in the establishment of Turtle Conservation Program in 2000 at Chitwan National Park. It is also the first turtle conservation and breeding project in Nepal. ARCO-Nepal has been working for many years relentlessly on conservation of turtles like rescuing, rearing, breeding, etc. along with disseminating awareness about turtles to local communities. Similarly, Turtle Rescue and Conservation Centre (TRCC) at Sukhani Martyrs Memorial Foundation (SUMMEF) Park Jhapa was established in 2012 with the assistance of ARCO-Nepal. In brief, TRCC is a "turtle-sanctuary" which has all the necessary infrastructures like quarantine section, caged breeding center, terrestrial enclosures, rearing ponds, laboratory with necessary equipment and well-fenced natural wetlands for softshells. Currently the TRCC accommodates species like Tricarinate hill turtle, Indian peacock softshell turtle, Indian flapshell turtle, Elongated tortoise, Asian Leaf turtle, etc.

In the plethora of these serious persisting threats which have potential to severely impact their numbers, their future doesn't seem hopeful. But if viewed with an optimistic vision, actually many things can be done. Many human interventions can be carried out, like protection of wetlands and forests, discouraging turtles as pets, promoting effective conservation activities and conducting extensive awareness program. Along this proper inaction of stringent laws and enforcement is more likely to discourage illegal trade of turtles where strict monitoring and regulation of its trade is imperative.

Let's conserve one of the most threatened vertebrate i.e. turtles, value their historical existence and educate people about their conservation.

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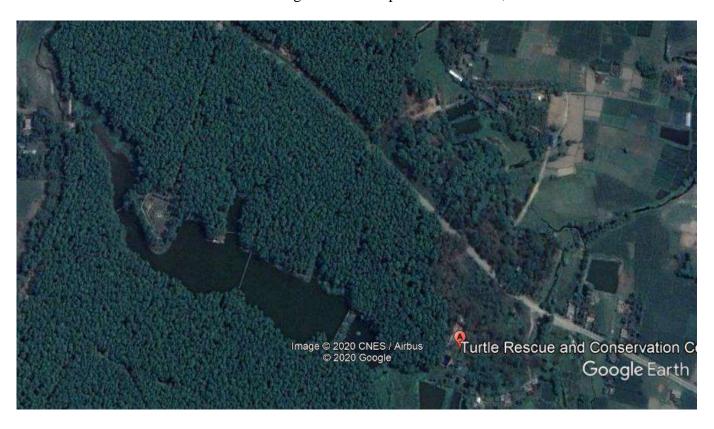
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SUMMEF Park and below TURTLE RESCUE & CONSERVATION CENTRE at Shani Arjun, Nepal. Photo credit by Google Earth Pro, 2020

