



རང་བཞིན།

RANGZHIN



RSPN Bi-Annual Newsletter

Vol: 14 Issue: 2

Royal Society for Protection of Nature

December 2021

INSIDE THIS ISSUE

Introducing RSPN Conservation Mandala	pg. 2
Keeping an eye on White-bellied Heron	pg. 2
White-cheeked Starling <i>Spodiopsar cineraceus</i> , a new record of bird species for Bhutan	pg. 4
Aviary extension of Crane Karma and Pema	pg. 5
White-bellied Heron sighted in Wangchhu basin for the first time!	pg. 7
Inspiring personal responsibility, RSPN's journey in Environment Education	pg. 9
Biomonitoring of health of Chubachu stream using macroinvertebrate diversity	pg. 10
Learning and understanding the livelihood vulnerability and climate change impact with the communities of Dechheling Gewog, Pema Gatsel	pg. 11
In conversation with our institutional member - Bhutan for Life (BFL)	pg. 14
The public voices	pg. 15
A journey of thousand wingbeats	pg. 15
Inception meeting for 'Developing Ecosystem-based Solutions for Managing Biodiversity Landscapes in Bhutan'	pg. 16
Black-necked Crane spotted in Panbang, Zhemgang	pg. 16
RSPN completes 34 years of conservation	pg. 16

MESSAGE FROM RSPN

We are excited to share our newsletter, RANGZHIN-Volume 14, Issue 2 for the year 2021.

As we are taking unprecedented moments of journey to the future with looming cause of concerns due to increase global pandemic, climate change, loss of biodiversity, ecosystem degradation, and food and water crises, there are more demands of right action in mitigating every challenge and the mechanism of communicating the beneficial actions for adoption by the world. RANGZHIN, the biannual newsletter publishing by Royal Society for Protection of Nature (RSPN) is therefore the channel mechanism for sharing the approaches, activities and current concerns of issues relevant to safeguarding the environment, and it keeps us connected with our members in building common forum for attending to these issues in making better world to thrive.

RSPN being the experienced environmental NGO in the country plays significant role in assisting the government for safeguarding the rich diversity of flora and fauna of the country and also guiding the nation to the right direction of environmentally secured future. The conduct and management of RSPN is strongly rooted with guiding principles, putting on the finest efforts in upholding the country's strong environmental mandates enshrined in the Constitutions of the Kingdom of Bhutan and in fulfilling the aspiration of Gross National Happiness.

While we jot down this newsletter, we have realized that the 34 years of RSPN's conservation journey as a service to the nation has been finer with time and experiences through the use of modern technologies, techniques, and innovative efforts to combat the conservation challenges. Exactly, the articulation of these principles of conservation modes implemented by RSPN has been covered in this publication of RANGZHIN newsletter. Our members will definitely enjoy going through this newsletter in listening the inspiring story of conservation initiatives taken by our local conservation support group to the RSPN's engagement in enhancing environmental education in Bhutan.

We take this opportunity to acknowledge and extend our appreciation to our loyal philanthropists, donors, partners and collaborators for your unwavering support and faith. Our conservation efforts are possible only with the spirit of team work rendered by every individual and Institution. We are looking forward to the same spirit of support, partnership and collaboration. Happy reading!

Communications & Education Division

BECOME A MEMBER

We have over 2000 members across the world supporting our conservation works.

Keeping our mission at the core, the membership platform is another great way to inspire and get people on board to support our cause. Support us by becoming a member, today.

REGISTER ONLINE



Rangzhin is RSPN's bi-annual newsletter started in 2003. It is one of the communication tools to garner support for the organization. Through this platform, we inform, educate, engage and connect with our friends across the world.



Introducing RSPN Conservation Mandala



The circle represents RSPN’s conservation efforts. It is represented in the form of Mandala, a symbol of Mother Earth in harmony with nature and unity. The outer circle are RSPN’s approaches to implement the various conservation programs under the thematic areas. The six thematic areas in the middle are initiated based on the National and International priorities and concerns, which are also aligned to support some of the Sustainable Development Goals (SDGs), to reach the overarching goal of “Environmentally Sustainable Society”.

SPECIES & HABITAT



Keeping an eye on White-bellied Heron

It is quarter to five and the night is slowly passing to the dawn of morning. Making sure, the tranquility of sleep for rest of the family is undisturbed, Mr Phurba gently picks up his mobile phone and gets the binoculars that he had kept hanging over the rusted nail that is hammered half on the wall. Then, he treads softly towards the main door and opens half to keep squeaking sound of door hinge producing minimal sound.

Mr Phurba is walking almost 2 km every day towards his favourite vantage point from where he could take a glimpse of a bird, White-bellied Heron (WBH). On the way, to make his presence to any wildlife that may encounter, he recites prayer loudly and often makes a forceful cough. It is barely visible as he reaches the spot and settles on the slab of stone. He begins to take a thorough observation along the rivers using binoculars from the vantage point. The day favoured him, he saw the heron. After taking a good glimpse of heron, he updates in a WBH monitoring

project using an Epicollect5 app. He even shares the news of heron sightings in the social forum, Telegram group meant for sharing WBH sightings in Bhutan.

Like Phurba, there are many members in different communities that are inspired and concerned for conservation of WBH. Many of them are now aware that WBH is the world’s rarest heron, with only a population size of fewer than 60 individuals remaining in the world. These people are also active members of the Local Conservation Support Group formed by the Royal Society for Protection of Nature (RSPN).

Historically, WBH is known to occur across South Asia, but now it is restricted to less than 165000 Sq. km of freshwater river systems in Bhutan, northeast India, and Myanmar. The species is considered extinct in Nepal and Bangladesh. The primary habitat of WBH consists of undisturbed areas of rivers and rarely occupies inland lakes. It is a piscivorous

feeder and takes nesting on trees. On the basis of regular sighting areas and nesting ecology, their preference for habitat includes along the rivers of the temperate and broadleaved forests of tropical and subtropical. These preferred nature of the habitat and specific niche may consider WBH to be a specialist species.

During the mid-1970s this rare resident bird in Bhutan was first observed and after almost three decades in the year 2003, the observation of the first nest was made from a place called Zawa in Wangdue Phodrang. Since then, RSPN has become a key stakeholder to the government in assisting the conservation of WBH. RSPN has embarked on various programs to help the thriving of WBH through conservation activities that are justifiable to the scientific community and beneficial to the welfare of human society residing in the WBH landscape. The conservation approaches maintained by RSPN ensure to take community-based engagement, where community people



Vantage point, favorite spot of Mr. Phurba

become stewards of WBH conservation. Therefore, the series of conservation activities implemented in the community promotes ecosystem-based solutions and other environmentally friendly activities. These initiatives in the community in turn benefit in mitigating and abating the threats to WBH that are mainly anthropogenic in nature. For instance, communities residing in the landscapes of WBH are provided with alternative farming options through provisions of fishery ponds, hybrid livestock, and the establishment of agroforestry. Many of the farmers are also open to the means of entrepreneurship through sustainable harvesting of Non-Wood Forest Products, commercializing agriculture farming, and venturing in ecotourism. They are trained in the sustainable management of land, water, and forestry resources. Through such measures, it is now helping the conservation effort of WBH where community people learn to co-exist with WBH through reduced threats.

Besides the regular support of livelihood activities in the communities, RSPN has steadily maintained to use diverse scientific recommended conservation measures in saving WBH. The conservation methods, both insitu and exsitu have been operational. Annually, monitoring and surveys are carried out for

WBH with the help of local conservation support group members, rangers, nature guides and volunteers. These initiatives help in updating the regular population and distribution trend of WBH and also directs the future conservation priorities. To boost the success rate of breeding, WBH nests and juveniles are also regularly monitored and all the nesting behavior and biological information related to WBH are systematically documented.

In terms of ex situ, RSPN has been making some major efforts to recover the bird's population through a captive breeding program. Since, there is a need to have a secure gene pool of WBH and having a high risk of getting the species extinct in the wild, the ex-situ form of conservation has been given priority by RSPN since 2011. RSPN has already constructed a captive breeding center of WBH with the help of the government. Once the captive breeding center is fully operational, it is expected to complement the low population of WBH in the wild.

However, the global issues of climate change, population explosion, increased demand for natural resources and rampant developmental activities, and even huge financial requirements to sustain the WBH conservation may likely be a hindrance in the conservation of WBH. These threats

and measures, if not properly prioritized and mitigated, will eventually lead to the extinction of the species in this very era. Even, there is a greater reason to save the species considering the threats to any species, it threatens our own survival due to our co-occurrence and the nature of the food web we share the same ecosystem of earth. As an abiotic component in the ecosystem, birds are predators, they are prey and players in a food chain, and a biological indicator of nature. The decrease in the population of birds like WBH indicates the deteriorating condition of biodiversity, or questions the sustainability of all the living things on the Earth. Therefore, each one of us has an avenue to play like Phurba in saving this species. His constant effort to monitor WBH in his area has greatly benefitted both the scientific community through the regular fetching of data and as well to his community, where many sustainable socio-economic projects get implemented that are relevant to WBH.



Tshering Tobgay
Project Officer, RSPN



White-cheeked Starling *Spodiopsar cineraceus*, a new record of bird species for Bhutan

Birds that include both terrestrial and aquatic dependent species are observed to congregate in the area of open sewage lagoon (27.436688°N, 89.652212°E) located south of Thimphu city at an elevation of 2265 m asl. An area is of approximately 10 ha including the stretch of large Wangchhu river that flows adjacent to the lagoon. Sewage lagoon supports the varied species of birds (Zimmerling 2006; Tere & Parasharya 2013) due to the easy availability of food like zooplankton (Hamilton et al. 2005) and there is also the constant influx of organic human waste. As per the database of eBird, about 118 bird species are recorded by bird watchers from the area. The bird species observed there include both residents and migrants.

From the thirteen riverine bird species-specific to occur in Eastern Himalayan rivers (Buckton & Ormerod, 2002), birds that are regularly sighted in the Wangchhu river within the stretch of sewage lagoon area include Brown Dipper *Cinclus pallasii*, Plumbeous Water Redstart *Phoenicurus fuliginosus*, White Wagtail *Motacilla alba*, Blue Whistling thrush *Myophonus caeruleus*, Ibisbill *Ibidorhyncha struthersii* and River Lapwing *Vanellus duvaucelii*. Migratory birds are also commonly reported from the sewage lagoon area during spring and fall migration as many species migrate through the Central Asian Flyway in which Bhutan also falls in this pathway (Birdlife International 2021). Bird species like Ruddy Shelduck *Tadorna ferruginea*, Great Cormorant *Phalacrocorax carbo*, Red-crested Pochard *Netta rufina*, Northern Pintail *Anas acuta*, Eurasian Coot *Fulica atra*, Gadwall *Mareca strepera*, Eurasian Wigeon *Mareca penelope* and Green Sandpiper *Tringa ochropus* are regular to observe during the migratory period. Though the majority of these migratory bird species to Bhutan assemblage occurs in the Punatshangchhu basin (Kuensel 2019) there is an increasing trend of migratory bird species' arrival to Wangchhu

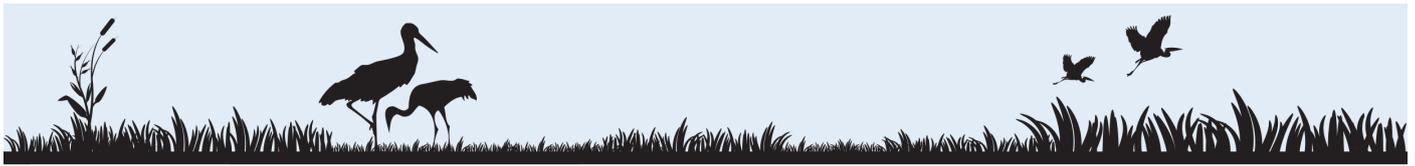


basin, in particular to sewage lagoon in recent years. Few terrestrial bird species like Hodgson's Redstart *Phoenicurus hodgsoni*, Grey-backed Shrike *Lanius tephronotus*, House Crow *Corvus splendens* and Feral Pigeon *Columba livia domestica* also frequent in the area. The area has become a regular birding hotspot for the bird watchers residing in Thimphu observing common species to some vagrant species.

It was almost 07h00 on the morning of 30 November 2021, a flock of birds was observed foraging on the strip of grassland surrounding the sewage pond. At first, from a distance of approximately 150 m, it was not very clear enough to identify the bird through the use of binoculars (10x42). After getting to close range, it was observed a single bird was unique among the flock of White Wagtails feeding on the grassland. The bird was medium-size, with a short tail and a pointed bill resembling Common Myna and Asian Pied Starling that are commonly distributed in the southern region of Bhutan (Spiereberg 2005). Later, using the camera Nikon D7200 with a 500 mm lens attached, the bird was photographed. With photographs, every feature of the bird was checked to confirm the species. The bird was confirmed as White-cheeked

Starling after referring to the description as vagrants in the field guide 'Birds of Bhutan and the Eastern Himalayas' (Grimmett et al. 2019). Some of the features that are distinct to the species that helped to confirm as White-cheeked Starling was having dark grey-brown plumage with an irregular white patch from the crown to the cheek. The leg and bill colour were orange, and when flying white rump was observable. However, the identification of gender could not be ascertained with only a single individual present. Both the sexes of White-cheeked starling birds have similar plumage and the species is only differentiable from the flocks (Yamaguchi 2011). The species is confirmed as a new record for Bhutan with reference to the ornithological bibliography of Bhutan (Pittie 2008), and unpublished annotated checklist of birds of Bhutan maintained by the author.

White-cheeked Starling is a passerine bird and forage on the meadow and farmland taking cherries and the seeds of dogwood, and was seen feeding on insects (Hatibaruah 2017). It has a large range of distribution (Birdlife International 2021). The breeding range of the species includes Russia, China, Japan and the Korean Peninsula (Yamaguchi 2011). It is during the non-breeding season,



they migrate to Taiwan, southeastern China and Japan, and occasionally few flocks move into Myanmar, Thailand and the Philippines (Feare and Craig 1999, eBird 2021). Their arrival to breeding ground picks up from March and the non-breeding migration occurs from October month (Maheswaran et al. 2018). White-cheeked Starling is considered a possible vagrant to the South Asian countries (Praveen et al. 2019). With only a few sighting records from northern India (Hatibaruah 2017; Maheswaran et al. 2018; Ash & Sinha 2019), this record of the species in Bhutan would be only the fourth record in the Indian Subcontinent to the knowledge of the author. Though the present sewage lagoon hosts a

diversity of birds, there is uncertainty of the area with rapid development and land use changes taking place. The study by Giri and Singh (2013) had revealed increased land use change in Thimphu for the past years with the establishment of more dominant structures of roads and buildings. The land-use change includes conversion of wetlands to urban structure that was earlier identified as Important Bird Area. The obvious assemblage of birds to the sewage lagoon can be also attributed to the limited wetlands remaining in Thimphu. With the increased infrastructural development happening at the periphery of the sewage lagoon and a new technological system to replace the sewage treatment system in Thimphu

(Kuensel 2021), there is the greatest risk of losing this easy foraging ground of the migrant and resident bird species to Bhutan.

Acknowledgement

I am extremely grateful to my five year old son, Tenzin Thinley Tobgye, for accompanying me for bird watching at the sewage lagoon where we saw White-cheeked Starling.



Tshering Tobgay
Project Officer, RSPN

Aviary extension of Crane Karma and Pema



Jigme Tshering
BNC National
Coordinator, RSPN

Black-necked Crane Rehab Facility

The existing crane Karma’s aviary was constructed at the Black-necked Crane Visitor Centre in Phobjikha in 2018. It is a dome shaped structure measuring 10 x10 meters with cricket-net roofing and wire-mesh fencing. A small shallow pond, fed by a spring water emerging near the aviary, was constructed for the crane to drink, clean and find food. On the concrete wall of the aviary, a mural painting of Tibetan wetlands, cranes’ summer habitat, is painted to enhance the aesthetic of the enclosure. The aviary is attached to a medication facility for fresh injuries.

Crane Karma and Pema

On 7th Feb 2021, a Black-necked Crane was rescued from a pack of stray dogs at Langthel in Trongsa. The crane was then

moved to Phobjikha at the Black-necked Crane Visitor Centre by Forest officials of the Jigme Singye Wangchuck National Park. Veterinarian Doctors from the National Veterinary Hospital inspected and found fresh bruises on both the joints of humerus and radius ulna (Elbow). The crane was initially placed in the enclosure alongside Crane karma with a partition, dividing the aviary with green net to avoid any harm among each other. After

a few first rough encounters, the two cranes gradually bonded and got along with occasional unison calls. Through DNA analysis carried out by Japanese scientists, Professor Isao Nishiumi and Professor Satoshi Shimano, the new crane was found to be a female crane. Hearing the news of the crane, Her Majesty Royal Queen Mother Ashi Sangay Choden Wangchuck, graced the crane with the name, Pema. *Contd. on page 6*



Crane Karma and Pema in the existing aviary



Contd. from page 5

Aviary Expansion

The current aviary in Phobjikha is the only facility to rehabilitate injured Black-necked Cranes in Bhutan. However, with addition of crane Pema and possible addition of more injured cranes in the future, the available space in the enclosure will not be adequate. The National Wildlife Rehabilitators Association and International Wildlife Rehabilitation Council (USA) recommends a minimum aviary size of 3 x 8 x 3 meters (W L H) for cranes. Since the existing facility already houses two cranes, expansion of the aviary is deemed eminent. The plan of expanding the aviary is further necessitated by the nature of the species being territorial in the wild.



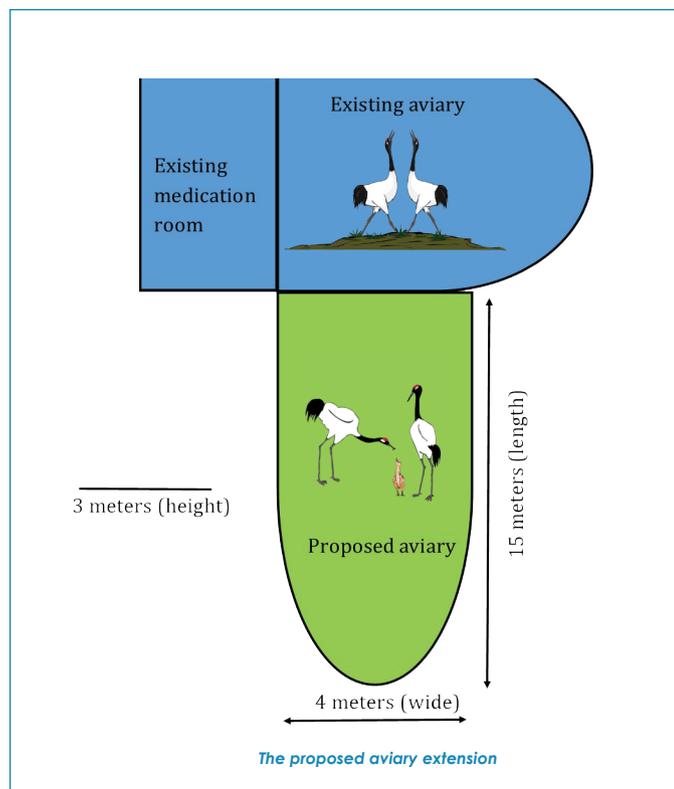
The existing aviary

Plan

The aviary will have the environment expanded and enriched. On the right side of the existing aviary, additional structure is planned to be built with 15 meter in length by 4 meters wide and 3 meters high. On all sides, wire mesh fencing will be used to keep away predators while allowing visitors to view the beauty of the cranes. As well as having an enlarged aviary, the vegetation and the landscape within the aviary will be kept undisturbed. Currently, the two cranes are fed with chicken feed (Karma feed) and vegetables. With the enlarged space, and natural swampy area, the cranes can find adequate natural food within the aviary. The overall cost is estimated at Nu. 2.2 million for the construction and management.

Opportunity

For more than 5 years Crane Karma has fascinated hundreds and thousands of visitors visiting the centre especially during the off-crane season. While Crane Pema relieved the loneliness of Crane Karma as a potential partner for life, visitors can now witness the magnificence of diverse behaviors. The two cranes would be the ambassadors of our crane conservation program. [DOWNLOAD BROCHURE](#)

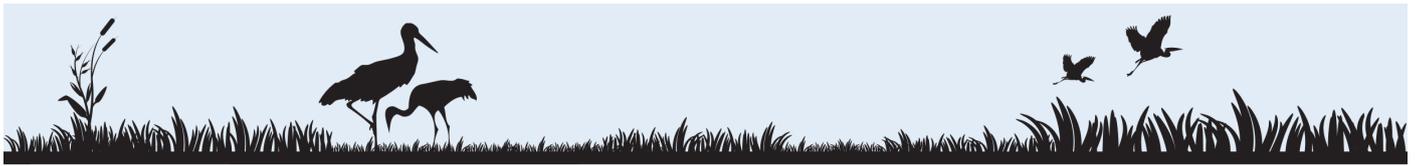


The proposed aviary extension

Make a **Donation** if you haven't done yet.
Our **Cranes** need you and your support!

DONATE TODAY

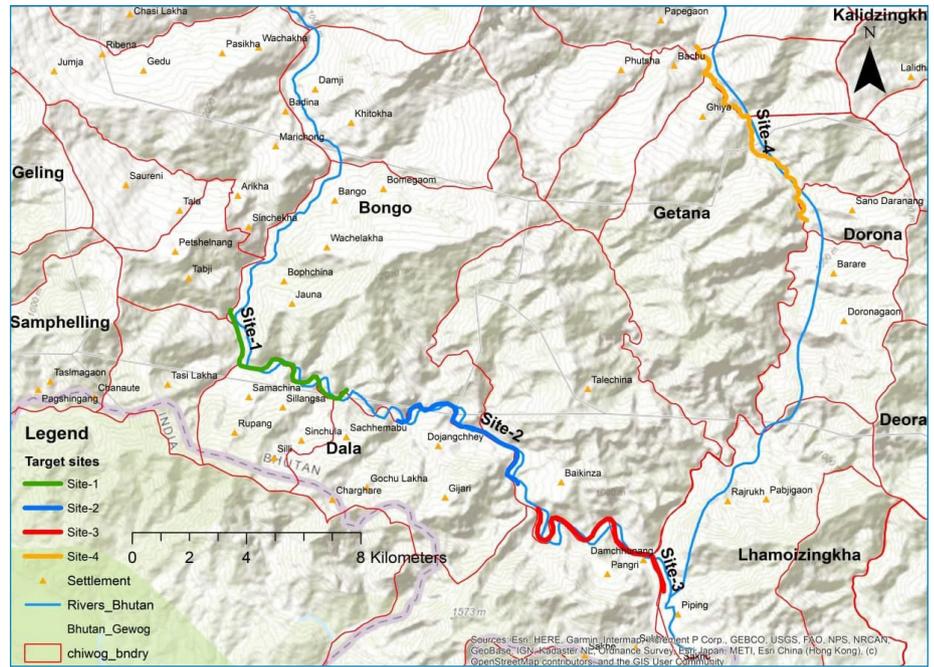




White-bellied Heron sighted in Wangchhu basin for the first time!

During the early 1990s, Phochhu was a synonym to White-bellied Heron in Bhutan. It was the only place where the rare bird was frequently seen and presumed to occupy. And, during the late 1990s, it was observed in Adha Lake, Zawa, Nangzhina, Kamichhu, and then in a few other parts of Punatsangchhu. Only after 2006, herons were sighted from Mangdichhu basin. And in 2016, for the first time, a lone heron was sighted near Kholongchhu confluence in Drangmechhu and later in Kurichhu. In recent years, it has been found in many new sites, with overall expansion in the distribution of previously assumed 600 – 1500 m of altitude to as low as 150m in the South to up to 1800m in the inner Himalayas.

However, the change in the distribution to our understanding has been mostly driven by vigilant observation by researchers, birdwatchers, RSPN's local conservation



Map of the area surveyed under Wangchhu basin; Wangchhu and Jigmechhu



Fig 1: An adult White-bellied Heron sighted flying downstream Wangchhu at Badenia on 19th Oct 2021 (Photo by Sangay Thinley, EDO, Chhukha)



support group's network and inventories of new potential sites in recent years. But potentially, herons are more widely distributed and perhaps dispersing across the rivers systems in Bhutan, seasonally.

Lower Wangchhu and its tributaries are the most recently identified WBH range in Bhutan. Although the presence of the bird in the area was suspected much earlier through local communities, it was confirmed through direct sighting only in October 2021. The inventory conducted by RSPN in collaboration with Gaedu Forestry Division and Chhukha Dzongkhag administration found herons both in Wangchhu and Jigmechhu. It was the first sighting in the basin and the district.

In the afternoon of 19th October 2021, the team sighted a lone bird flying downstream the Wangchhu near the Badinia bridge. The area is a moderately open valley riverine ecosystem dominated by broadleaf forest at an altitude of 700 meters. It was raining heavily and the excess water from the Tala Dam was released which resulted in sudden swelling of the river. Most of the areas were flooded and perhaps the heron was scanning a suitable feeding site in the area.

However, as per the information from locals, it was not Wangchhu where they have seen WBH but in Jigmechhu, a tributary of Wangchhu that flows bordering Chhukaha and Dagana districts. It is a pristine riverscape, mostly uninhabited and undisturbed, biodiversity-rich area.

From 20th – 26th October, the team surveyed the upper catchment of Jigmechhu and some parts of Wangchhu but no herons were sighted. Thamchen village, one of the remotest in the area has just two households and is located just by the river. Mr Suk Bdr, a youth living there, staring at the picture we showed, said “we see this bird here quite frequently. Mostly one but I saw two birds a few times. It was perching here yesterday”, he said pointing to a large rock in the middle of the river



Fig 2: An adult White-bellied Heron sighting at Jigmechhu on 27th Oct 2021 (Photo by Indra Prasad Acharja/RSPN)

a few hundred meters from his cattle shed. The next two days, we scanned the whole stretch but found no birds although droppings and footprints resembling WBH were quite abundant.

On 27th October the team surveyed the lower catchment of Jigmechhu. And to our surprise, a lone heron was sighted feeding less than 3 km from the village. However, the area is uninhabited, mostly inaccessible, and highly biodiverse. It is a thick broadleaved forest at an altitude of around 160m where Asiatic elephants, Wild Gour, Hornbills, Otters and some of the highly venomous snakes are thriving.

Sighting of WBH in the Wangchhu basin, particularly in the Jigmechhu area is significant as those areas are pristine and perhaps will remain so in the future. Wangchhu already has two hydropower dams in operation, and it has less potential for more, at least in the near future. Therefore, herons occupying these areas will have a safe refuge and undisturbed feeding and breeding grounds.

Moving ahead, a more detailed and multi-season population and nest surveys in the area could help better understand the population size, site occupancy and resource utilization by the herons in the area. The local communities, both in Wangchhu and Jigmechhu are unaware of WBH, it's status and conservation importance. Creating public awareness, bringing local communities on board and expanding the network on monitoring teams and local conservation groups would lay a good foundation to begin the conservation work in the basin.



Indra Prasad Acharja
Chief, SHCD, RSPN



Thinley Phuntsho
Project Officer, RSPN



ENVIRONMENTAL EDUCATION



Inspiring personal responsibility, RSPN's journey in environment education

Bhutan is known for its strong environmental policy and globally recognized for its commitment and efforts in environment conservation. However, maintaining the delicate balance between conservation and development at a time when the country is on the path to rapid modernization and economic growth is a huge challenge. The increasing environmental threats that come with the developmental changes necessitate efforts that go beyond treating symptoms of environmental issues. All changes have its roots in people's world-view and mindset that inevitably translates to action at the individual or collective level. In view of this, environmental education and awareness as a continuous effort is seen as extremely important. In Bhutan environment education as a concept arrived quite late with a few elements integrated in the primary school level. RSPN has been one of the few organizations that stepped in to introduce environment education in formal and informal sectors in the country.

For RSPN, people have been at the core of conservation. From the onset, RSPN has considered communities not just as beneficiaries but an important partner to conservation. This is confirmed further in the organization's Mission that states *"To inspire personal responsibility and active involvement of people of Bhutan in the conservation of the kingdom's environment through education, community engagement and sustainable livelihood opportunities"*.

People's participation in conservation can be effective and meaningful only if they understand the value of conservation. For this reason, RSPN considers environmental education as an integral part of its conservation initiatives. Over

the years, environment education tailored to specific conservation requirements has been implemented across all programs. Besides empowering communities, this has enabled a meaningful engagement of communities in conservation. What has also become apparent over the years is that applying environment education independently will not be effective, particularly among the rural mass. People will not value nature/conservation if they are unable to relate it to their day-to-day activities or if it has no relevance to their life. In this respect, RSPN has been orienting much of its conservation education to the lives of communities by propounding and demonstrating conservation as a basis for sustaining livelihoods. For instance, how protecting and conserving indicator species like Black-necked Crane can also assure viable tourism, healthy wetlands and watersheds essential for livelihood.

In the formal sector, one of the notable efforts has been the introduction of nature clubs in schools in the country. By 2009, about 102 nature clubs

were established and handed over to the Ministry of Education. From bird watching and plant identification to waste management and school greening; the nature clubs exposed youths to the natural world around them and helped generate interest in environment conservation. Winter camps with nature club students and teachers were among the popular programs organized every winter engaging children in meaningful activities. The curiosity and interest generated in young minds through such programs have often led them to pursue higher study in the environment or choose a career in conservation, later in life. Nature clubs have thus played an important role not just in promoting environment education in schools but also inspired many young minds. Sustainability of the nature clubs was given due importance, so a lot of effort went in building the capacity of the nature club teachers. Training workshops related to managing and implementing nature club activities were organized annually. Several manuals and guidebooks were also developed to support the nature clubs.



Some publications for environmental education developed by RSPN



Beyond schools, RSPN also initiated cooperation with the Non-formal Education program of the Department of Adult and Higher Education by integrating environment education components in their program. The WATER manual incorporating basic action research was one of such contributions made by RSPN. Among others, nature clubs were also initiated within the monk-body and teacher's training institutes. The intention was to promote environmental initiatives across all levels of the society. Later in 2012, RSPN made a milestone contribution by instituting Environmental Science as an optional subject in class 9 and 10, which was later upscaled to

11 and 12th standard by the Ministry of Education. This will play an important role in connecting students to higher learning in the environmental field later. Similarly, institutions like the College of Natural Resources, under Royal University of Bhutan, are also making an effort to promote environmental education in higher studies. Yet, much remains to be done to mainstream environmental education in both formal and informal sectors. In the informal sector, its outreach is not widespread and limited to specific locations of conservation importance and has not adequately covered the general mass outside these areas. RSPN as an organization will continue its endeavor

in environment education but it is only through a collective effort a visible impact can be made.

Our effort in conservation must begin with education and awareness that will nurture and groom our citizens at all levels to individually take responsibility in conserving the country's environment.



Rinchen Wangmo
Director, PDD, RSPN

WASTE & POLLUTIONS



Biomonitoring of health of Chubachu stream using macroinvertebrate diversity

Biomonitoring, to assess the water quality of the Chubachu stream was conducted using macroinvertebrate diversity as an indicator to determine the level of pollution and the impact of wastewater discharge from settlements along the stream. The study site was divided into two zones based on the density of settlements as dense or sparse, with 3 sampling points in each zone. The assessment was performed using the Biological Monitoring

Working Party (BMWP) score system. A total of 693 specimens were collected belonging to 19 families. The study found that the level of water pollution is directly correlated to settlement density. The water flowing through the sparse settlements is substantially lesser polluted compared to a densely populated area. The study found 4.5-61500 CFU/100mL of thermotolerant coliform in the area, significantly higher than the

permissible limit for drinking water as per Bhutan Drinking Water Quality Standard (BDWQS) & World Health Organization (WHO); which is 0 CFU/100mL. The study also found that the discharge of untreated sewage and dumping waste directly into the stream is the primary source of pollution. Realigning sewage discharge into municipality sewage network, treatment of wastewater, and proper management of waste by residents living along the stream can help reduce pollution and improve the water quality.



Sewage outlets in Chubachu stream

[DOWNLOAD FULL ARTICLE](#)



Indra Prasad Acharja
Chief, SHCD, RSPN



Tandin Dorji
Teacher, MoE



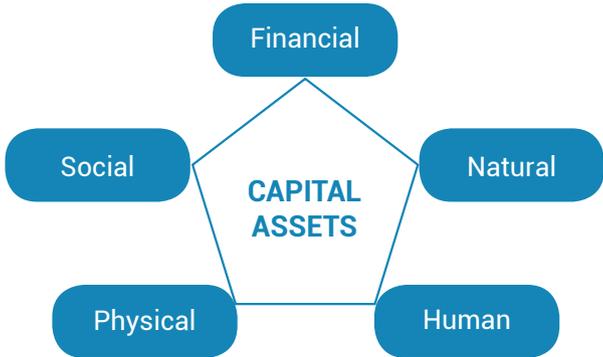
SUSTAINABLE LIVELIHOODS



Learning and understanding the livelihood vulnerability and climate change impact with the communities of Dechheling Gewog, Pema Gatshel



Lungten Norbu, PhD
Specialist, PDD, RSPN



RSPN with support from GEF-Small Grants Programme implemented by UNDP in partnership with Royal Government of Bhutan had conducted Household Survey and Key Informant Interview in three Chiwogs of Dechheling covering 70 households within the context of Sustainable Livelihood Framework (SLF), an analytical tool developed by Chambers & Conway in 1991; Department of International Development (DFID) in 1999. The Human, Physical, Natural, Financial and Social Capitals and vulnerability of the households were assessed and adaptive livelihood options and interventions were identified for implementation in the context of climate change.

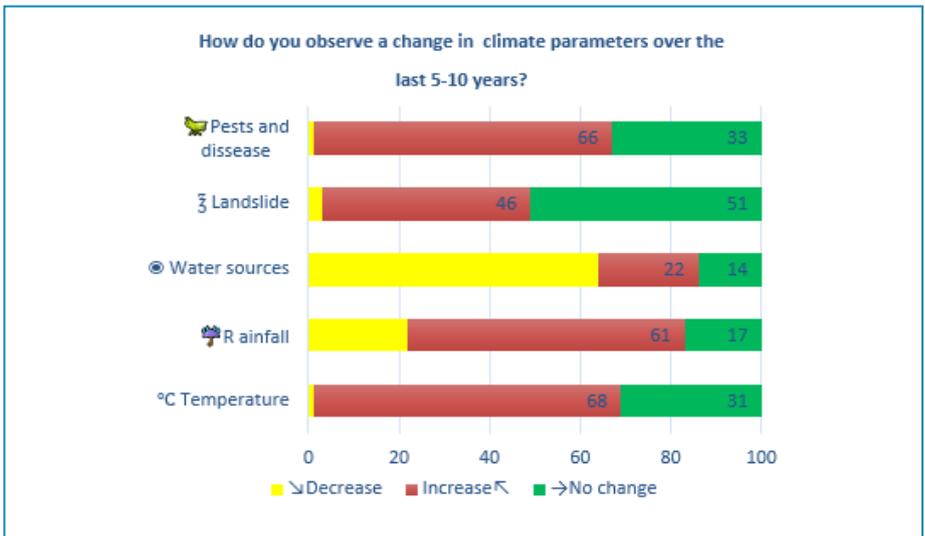
What do Dechheling communities know about climate change and what are their perceived changes on climate parameters ?

Many households were unaware of the climate change phenomena and its



potential adverse impact on community resources and basic facilities. Only 37 % were aware of climate change and its likely impact while 63% were not. The temperature was said to be increasing yearly while rainfall was erratic and decreasing over the years. Many respondents (64%) thought that water sources had dwindled as evident from field observation of Peling Tso, streams and natural springs drying up. However, 22 % of the respondents reported seeing

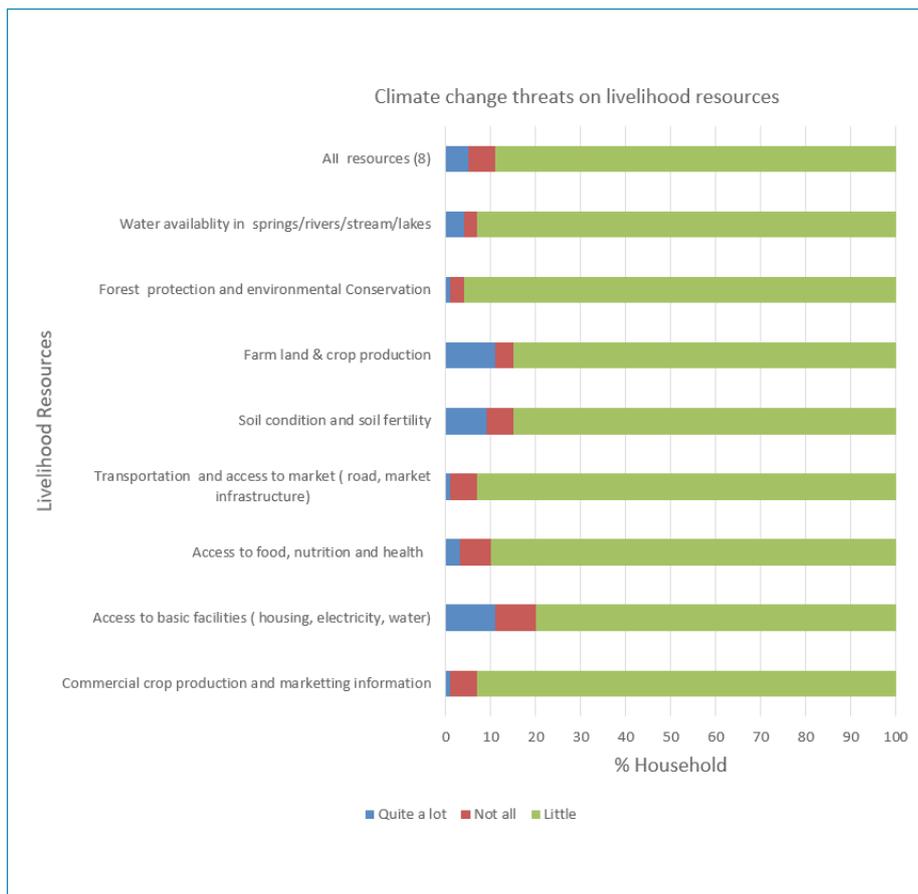
an increase in water at water sources while 14 % saw no change in water source condition. The respondents' responses on landslides were mixed with 51% seeing no change in landslide occurrence while 46% were of the view that the slide incidence had increased over the years. On the 'Pest and Disease' in crop production, majority (66%) affirmed the increasing trend while also 33 % thought there was no change in pest and disease occurrence.





Is climate change a threat to a community's livelihood resources?

People were asked to assign the risk weightages (i.e. *quite a lot*, *not all*, *little*) against their important livelihood resources in the context of climate change. In general, most people attach very *little* risk factor with climate change to getting access to their livelihood resources. While the majority (89%) thought that climate change would pose *little* risk on various livelihood resources, 6 % claimed that there would be *quite a lot* of climate change threats on livelihood resources, particularly on access to basic facilities such as housing water, electricity, farmland & crop production, and soil condition and fertility. Surprisingly, 6% of households perceived that climate change could have no effect at all on the livelihood resources, especially on basic facilities and agriculture production. This observation contradicted the other observation where *quite a lot* of climate change threat was expected on the same resources-basic facilities and agriculture production.



Capital Asset Pentagon Interpretation and Propose Interventions for Dechheling Gewog

The Human, Physical, Natural, Financial and Social Capital assessment is done within the Sustainable Livelihood Framework (SLA). During the Asset pentagon construction, the scores* were given on the selected Capital indicators, based on the information obtained during the household survey. The Physical (8/10) and Human (7/10) Capitals had secured very high scores, this is because all villages in Dechheling have easy access to roads, schools, health and forest & extension services. Land holding per household is comparatively high (6 Ac/HH), which is above the national average of 2 Ac/HH. All households are connected to basic facilities-water, toilet and electricity. Most families (86%) own stone/concrete-based house types and almost every household (99%) possesses a mobile phone. High scores in Physical and Human Capitals suggest that a huge

Capital Pentagon Construction and Scoring Method*

“...Each Capital Asset is represented by five indicators and each indicator is given a mark out of two. 0 signifies minimal, or no access or command of a particular Capital and 2 signify complete, or almost complete, access or command of a particular capital . A mark of one (1) was given if the level of asset was thought to lie somewhere between these poles. A mark of ten could be obtained for each Capital Asset.”

The methodology detail of Capital Asset Construction & Scoring method can be found in “Survey Report-Assessment of sustainable livelihoods in the context of climate change at Dechheling, Nganglam Dungkag, Pemagatshel Dzongkhag, Royal Society for Protection of Nature & The GEF-Small Grants Programme, UNDP.

potential exists amongst communities to adapt or adjust to the changes, should a disaster strike due to climate change or other anthropogenic pressures. The score of Natural Capital is very low

(3/10) because many natural resources such as Peling Tso and natural springs are drying up, forest & grazing resources are dwindling, agricultural production is largely subsistence and soil fertility is

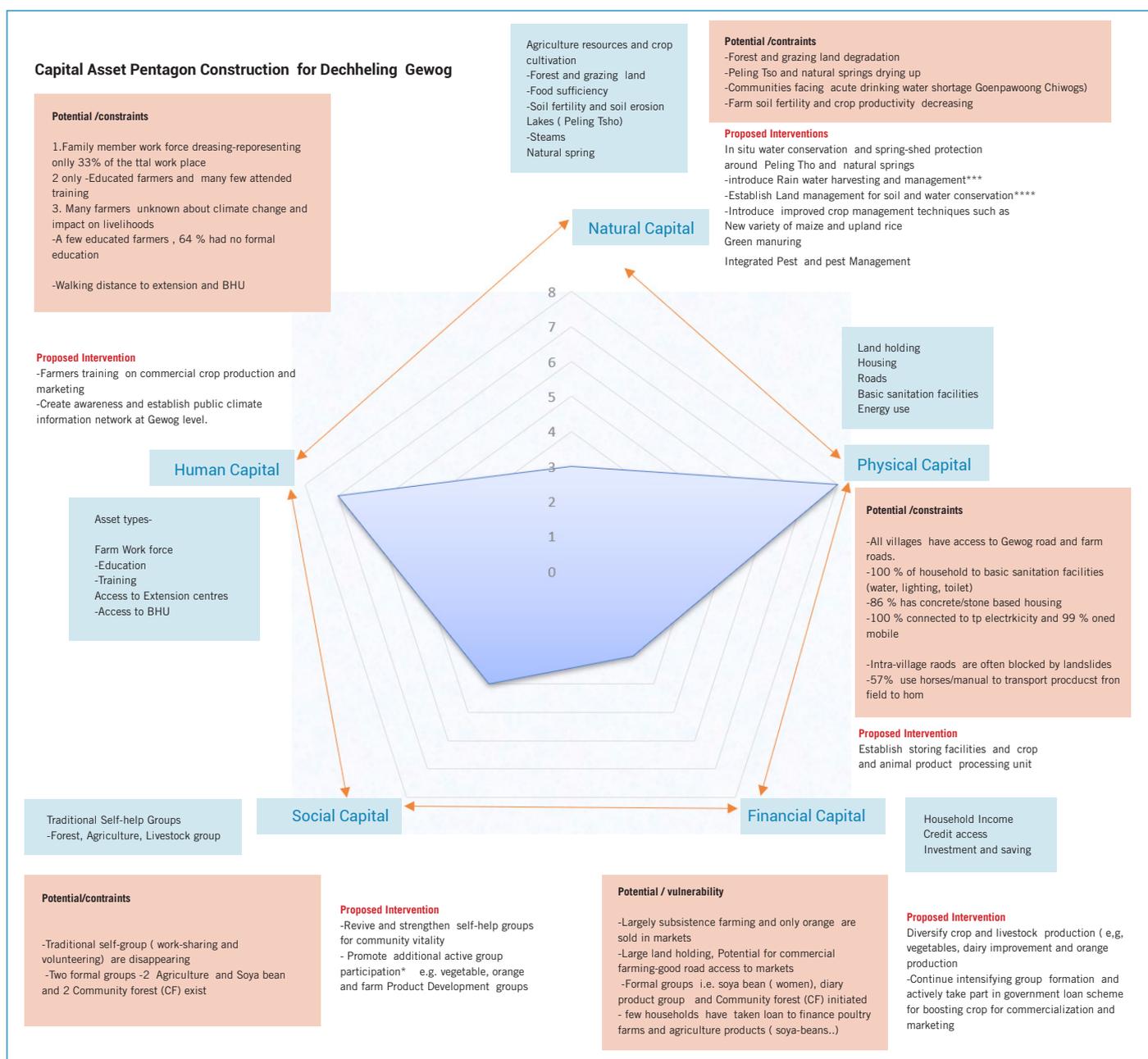


deteriorating. The increasing dependency on the natural resources combined with the climate change impact can further exacerbate the degradation processes. Immediate interventions are essential to put in place to bring about improvement of natural resource management and agricultural practices.

The Financial Capital (3/10) score is very low too because the agriculture practice and crop production are still subsistence

and very few farm products, except for oranges, are sold in the market. Further, access to credit facilities and networking for promoting agricultural marketing is not yet established. A big potential to go commercial growing of vegetables, mushrooms, fruit trees and dairy farming prevail because Dechheling has congenial sub-tropical climate for crop production, comparatively large land holding per household and Gewog Road and farm roads connect all villages to the markets.

The Social Capital (4/10) is also comparatively low, indicating gradual degradation of traditional social networks of self-help groups and volunteerism taking place and they are being replaced by a daily wage payment system. Formal networks and groups supporting forest and agriculture are growing numbers. Recently, Dairy and poultry groups have been established and monthly production and monthly income generated by these groups are quite encouraging.





OPINIONS



In conversation with our Institutional Member - Bhutan for Life (BFL)



Dr. Pema Wangda
Executive Director, BFL

What is your perception regarding RSPN's Institutional Membership initiative/ platform.?

RSPN initiatives are a reflection of the collective effort. The members are encouraged to, not only take part in the development of the program, but also in its implementation. This way, the members participate in projects and initiatives at a larger scale which compliments & supplements the progress of the overall programme eventually contributing to achieve common goals. Conservation success is often predicated on a supportive approach which is strongly influenced by perceptions of the impacts that are experienced through collaborative measures.

It provides a unique window of opportunity to work together and become part of the community who are dedicated to improving Bhutan's pristine natural environment and incredible biodiversity for generations to come. RSPN has successfully demonstrated its strength in taking the membership platform to another level.

Why do you feel it is important for BFL to be an Institutional Member?

Bhutan For Life believes that significant progress in environmental conservation is possible through close partnerships and collaboration between different and diverse stakeholders. BFL has always combined fieldwork with innovations in science, policy and finance and we leverage our expertise and global reach to attain our conservation goals similar to that of RSPN. For BFL it is an opportunity to broaden our horizons, share with colleagues from across the world and be part of a strong and growing network of RSPN. BFL as a conservation institution can act as agents of change.

As both RSPN and BFL share a common goal, what are some areas of collaboration to further strengthen conservation efforts through the membership channel

By being part of each other's association, we have the possibility to share our work experiences and to learn from each other's success and failure. This will also increase each other's sphere of influence and collective voice to achieve our common goals. Both organization's key objectives is to act as an accelerator for environmental progress by sharing knowledge and helping to build the capacity.

Partnerships play a key role in BFL's efforts to influence the course of conservation. We leverage the strengths of these collaborations to achieve great success. So this will strengthen collaboration and coordination. RSPN and BFL can share resources and expertise to be more efficient, promote conservation, and ensure knowledge is made available for others to learn and progress.

From your perspective, why membership is important and your key message to promote the same

It's building relationships with your members, adding value to their lives and the work they are into and capturing their attention just often enough to remind them of the vital role they play and contribute. I encourage everyone to be a conservation member. As a conservation member, you'll receive added benefits and increase your support to the RSPN mission. With your help, our earth/nature will continue to inspire the next generation of conservationists while making the future a little safer for everyone around the world.

I think the best reward for the membership is knowing you've helped bring more nature to life and made the lives of your loved ones a little happier and healthier. It will provide a positive sense of accomplishment that you will share with hundreds of other members in the preservation of our precious nature.

We can all do more together than we can alone. Join the collective momentum – become a member of RSPN today.

BECOME A MEMBER

We have over 2000 members across the world supporting our conservation works. Keeping our mission at the core, the membership platform is another great way to inspire and get people on board to support our cause. Support us by becoming a member, today. **Enroll Now** by registering online or scan the **QR Code**:

[REGISTER ONLINE](#)





The public voices

While I was executing the road widening project between 2015 to 2019 as project manager, Historical Thomandra stretch (Rocky sheer cliff area) of 800m in Trongsa had to be widened as well. My company - Gyalcon infrastructures Private Limited was the contractor to execute the 5 km road project and the Department of Roads (DoR) was our client to implement the project. We were penalized several times during the execution of the project by the Department of Forests and Park Services for the destruction of the environment and forest as we were carrying out blasting activities to widen the road.

However, we planted trees and fodder grass seed bought from Bumthang were

sown to replenish the affected area. The blessing came in disguise from the JICA, Bhutan to construct a tunnel at Thomandra stretch where DoR asked my company to carry out widening activities only 2m width instead of 5 m width.

With much relief, we executed the widening project, however, to carry out the widening of 2m width was as good as carrying out 5 m width because of the rocky sheer cliffs. So I proposed to my management to request DoR to not carry out a road widening project in that area as the JICA tunnel is going to come soon. DoR put our proposal to the Ministry of Works and Human Settlements (MoWHS). Our plea was approved and only asked to carry out black blacktopping works in

the existing road along the Thomandra stretch. Thus, we have saved a large amount of forest and animal habitats located below the Historical Thomandra stretch under Trongsa District of Bhutan.



Ugyen Dorji
Founder, Druk GPS Team

A journey of thousand wingbeats

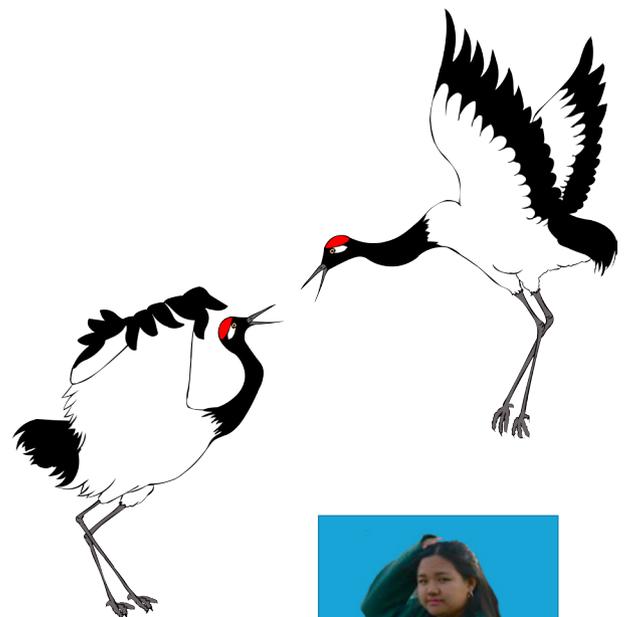
Come as you will
Now and forever
The canvas of the wetlands yearns for your presence
The marshes have been left untamed for you

Raise your black and white feathery arms in the air
And soar to the thunder dragon's domain
As you fly through mountain ranges and river valleys,
Feather to feather, you pass the tonality of the sky

Come as a guest and sing us a song, and we shall dance to your melody
Elation and zeal fills us
As we observe you and your flock flutter your flaps
Dancing to the hymns of locals

The edge of winter nears and you must leave us
As you and your flock sweep off, we can't help but shed a tear
You promise to return next winter as you glide and circle into the depths of the sky

The vista has been glorified by your touch to the landscape
Your footprints will be etched on our hearts
The simple thought of meeting you again, warms our raging spirits
If only, you could stay here, now and forever.



Yeshey Seldron Tobgyel
Intern, RSPN



NEWS HIGHLIGHTS



Inception meeting for 'Developing Ecosystem-based Solutions for Managing Biodiversity Landscapes in Bhutan'

A new ray of hope for the Critically Endangered White-bellied Heron (WBH), as the Royal Society for Protection of Nature (RSPN) commenced a Euro 4.11 million project “**Developing Ecosystem-based Solutions for Managing Biodiversity Landscapes in Bhutan**”, with effect from July 1, 2021. White-bellied Heron (*Ardea*

insignis Hume, 1878) is one of the rarest birds in the world with an estimated population of fewer than 60 individuals and inhabit the freshwater riverine ecosystems of the Himalayas. Bhutan, as one of the hotspots for the White-bellied Heron, hosts almost half the population in the river basins of Punatsangchhu and

Mangdechhu. Recognizing the urgency, RSPN initiated the conservation of WBH under the Royal Command from His Majesty Fourth Druk Gyalpo, in 2003.

[READ MORE...](#)

Black-necked Crane spotted in Panbang, Zhemgang

The recent sighting of 4 Black-necked Cranes (BNC) in Panbang, south-central Bhutan, raised a lot of questions among the general public in the country. In the morning of November 17, 2021, the Panbang Youth Cooperatives spotted 4 adult Black-necked Cranes in Panbang for the first time as per the record maintained

at RSPN. The cranes were spotted in the farm fields located near the confluence of Mangdechhu and Manas River, a common migratory route for the cranes.

According to one of the members of the Cooperatives, a strange bird call was heard in the late evening of November

16, 2021, around the locality which confirmed the calls of Black-necked Crane, the following day.

[READ MORE...](#)

RSPN completes 34 years in conservation

The Royal Society for Protection of Nature (RSPN) completes its 34 years and enters into 35 years of environmental conservation services to the nation, clearing the big milestone in the history of the organization.

His Majesty the Fourth Druk Gyalpo's strong conviction in the kingdom's environmental conservation has led to the visionary foundation and establishment of RSPN in 1987 as the first environmental NGO in the country. The strong conservation legacy has been carried forward under the guidance and stewardship of His Majesty The King

and Her Majesty The Queen guiding the organization as the Royal Patron.

Under the blessings and inspiration from the golden throne, RSPN has evolved as a strong complementary partner to the Royal Government of Bhutan in the conservation of the kingdom's environment and has pioneered in many important conservation programs and succeeded in leveraging its works receiving the highest recognition both national and international. This in turn has resulted in the success of mobilizing milestone mega projects in the conservation of our thematic programs through immense support from our

partners and donors globally.

On the special occasion of our anniversary, RSPN would like to express our gratitude and admiration for Their Majesties' guiding inspiration and leadership towards the conservation of the environment. We would also like to take this opportunity to acknowledge our donors, partners, members, and friends all across the world who trusted the organization to provide immaculate services. We want you to know that your trust and support have always been the biggest drivers for our continued growth. RSPN shall continue to remain your trusted organization.

34 YEARS IN CONSERVATION



RSPN Head Office, Thimphu



Inspiring personal responsibility in conservation
of the Kingdom's environment since 1987

www.rspnbhutan.org

HEAD OFFICE

P.O. Box: 325, Building No.: 25
Lhado Lam, Kawajangsa
Thimphu 11001, Bhutan
Tele: +975 2 322056/326130
Fax: +975 2 323189

BLACK-NECKED CRANE EDUCATION CENTER

Gangtey - Phobjikha
WangduePhodrang 14001, Bhutan
Tele: +975 1776 7330 (Officer In-Charge)

WHITE-BELLIED HERON CONSERVATION CENTER

Chachey Dovan
Tsirang 36001, Bhutan
Tele: +975 1752 3744 (Officer In-Charge)

PROJECT OFFICE, ZHEMGANG

Zhemgang 34001, Bhutan
Tele: +975 1749 3732 (Officer In-Charge)

CONTACT US VIA

Email: rspn@rspnbhutan.org

CONNECT US: [f](#) [t](#) [i](#) [v](#) [y](#) /rspnbhutan