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Be a Member of RSPN:

When you become a member of RSPN, you become a part of a dedicated network of individuals and groups working to preserve Bhutan's pristine natural environment and incredible biodiversity for generations to come. Whatever financial support you pledge will be used to aid our projects in schools, communities, and protected areas throughout the country. As the nation's oldest environmental NGO, we depend on the generosity of concerned individuals like yourself to enable our research and advocacy – we can't do it without you, and every bit counts!

www.rspnbhutan.org/be-a-member

RSPN Members Observed International Wetland Day



Members on a field trip in Phobjikha

International Wetlands Day was observed on 2 February 2013 in Thimphu by a small group of individuals who are registered members of the Royal Society for Protection of Nature (RSPN). The day marks the adoption of the Convention on Wetlands on 2nd February 1971 in the Iranian city of

Ramsar and is more popularly known as the Ramsar Convention. Currently there are 163 countries as parties to the convention. Bhutan is the 161st member of the convention and has two Ramsar sites – Bumdeling in Trashiyangtse and Khotokha in Wangduephodrang

>> *Contd. on page 4*

Amateur Naturalist Camp



Participants study quality of water

The Royal Society for Protection of Nature organized a nature study camp for amateur naturalists from 6 – 12 January 2013 at Wolathang under Punakha Dzongkhag. The purpose of the camp was to help the youth understand their roles, both as individuals and global citizens, in the preservation and promotion of nature.

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“As a student, I consider myself as an immature naturalist as now I have learnt who are naturalists and his/her role in conserving the rich biodiversity of our country. I would like to thank RSPN for this camping.”

Tashi Choden

Crane Mail from Tibet



Tagged black-necked crane (Picture: UWICE)

Around 2pm on February 27, Ugyen Wangchuck Institute of Conservation and Environment (UWICE) director in Bumthang received an email. It was from Kangmar County under Shigatse province in Tibet.

What director Ngawang Norbu received on his Gmail account was sent from the back-packed global positioning system (GPS) tag of a black-necked crane, pet named Ugyenling that left Phobjikha in the morning of the same day.

With the mail was a link to Google earth showing the location of the crane along with

areas it had covered, speed, height of flight and places along its migratory route.

At the height of more than 20,000ft and maximum speed of 90km an hour, the crane from Phobjikha took two hours to reach Kangmar County in Tibet. "The adult male crane weighing about 6.9kg had returned to its habitat in Tibet on February 27 around 11am," Ngawang Norbu said. It had landed in Phobjikha towards early November last year.

"The mail we received confirms the real time information for the first time in Bhutan," he said. Of the three GPS tagged cranes early this year, two are still in Phobjikha.

UWICE conducted the study in collaboration with Max-Planck institute in Germany. "Max-Planck had donated three GPS tags worth Nu 300,000 each," Bird Sherub said. "It confirms our first ever study on the black-necked crane's transboundary ecology movement."

Researchers are recording crane habitat use, territoriality and home range along with precise documented migration pathways, elevations at which the cranes use to navigate and energetics during the migration.

Bird Sherub said between 2011-12, eight accelerometer global positioning system (GPS) tags, six in Phobjikha and two in Bumdeling, were attached to black-necked cranes. Of that four returned with the back-packed data to Phobjikha last winter. "These three cranes were again recently GPS tagged," he said.

Wooden pole spring traps, pitfall rubber spring traps and reverse fish line traps were used to catch the cranes to tag them.

(Source: Kuensel)

The Library includes 10 complete workstations as well as study carrels with WIFI for those who have their own laptops. There is a quiet reading area towards the back of the library with comfortable seating, for those who wish to peruse the available material. With over 2500 print volumes, there is a lot to look at! To see what is available in the Library, please visit our online catalogue at the following website:

<http://opac.libraryworld.com/opac/home>
Library Name: RSPN

JKERC Library



The Jigme Khesar Environmental Resource Centre

As of October 24, 2012, RSPN has a fully functioning high-level research library in its new headquarters in Kawajansa, Thimphu. It is the first library of its kind in the region. The goal is to provide current environmental resources to researchers across Bhutan. To that aim, we have a vast

collection of print and electronic materials.

The Jigme Khesar Environmental Resource Centre (JKERC) Library is open to the public during standard office hours. To make full use of our array of electronic resources and internet facilities, you must be a member of RSPN.

The catalogue is accessible anywhere you have access to the internet. You can search by title, author or subject to see what resources we have available in the Library. Some records will direct you to other resources on the internet, whereas for print materials you will have to come to Library to consult them.

RSPN also has access to the research for life databases as well as EBSCO Environment Complete and The Sustainability Reference Centre. Combined we have access to the abstracts and indexes of over 10,000 peer reviewed journals. The EBSCO databases provide access to nearly 1000 full-text journals and 200 e-reference books on the environment and sustainable development.

RSPN members can access these databases from anywhere across Bhutan with internet access.

The Library is actively seeking sources for sustainable funding so that we continue to grow our collection and provide better service to our clients. Come visit us and see for yourself what we have to offer.

RSPN contributes books and publications to Zhemgang Dzongkhag



On 23rd March 2013: RSPN donated about 165 children's books and an assortment of RSPN's publications to Zhemgang Dzongkhag. The children's books include works of fiction, comic and other general reference books.

Upon delivering the books on the final day of Zhemgang Tshechu, the Dasho Dzongda Mr. Karma Drukpa, said that "these books will be useful to our school children who are studying in the remote parts of the Dzongkhag". "I will take the books to the gewogs this afternoon" he added.

The books were provided as a good will gesture from RSPN and the RSPN field office in Zhemgang which was opened in December of last year. Dasho Dzongda reassured his support for the project and wished RSPN good luck with their project activities.

RSPN's field office is staffed with two Project Officers.

Goodbye Cranes!



Artist's depiction of co-existence of local community and the cranes

The last group of Black-necked Cranes consisting of two adults and a juvenile flew from Phobjikha valley at around mid-day of 22nd March 2013. The migration of the black-necked cranes usually occurs between the last week of February to the first week of April annually. However this year the cranes left the valley in the second week of February. The Black-necked cranes had stayed for around five months in the valley. The first group of Black-necked Cranes consisting of two adults and a juvenile arrived in the valley at around 12:30 PM BST on the 27th October, 2012. There were cranes present for 147 days or 21 weeks equivalent of 4.9 months.

This winter period (October 2012- March 2013), a total of 368 Black-necked Cranes were seen in the valley including 46 juveniles. Bumdeling in Trashiyangtse recorded 107 Cranes (including 10 Juveniles), Khotokha (in Wangduephodrang) and Chumey (in Bumthang) recorded 7 and 5 Black-necked Cranes respectively. The total arrival of Black-necked crane arrival in Bhutan was 487 (with 56 Juveniles).

(Note: All information on Black-necked Crane arrival in various habitats in Bhutan was collected from stakeholders including the Department of Forest and Park Services, Volunteers and individual enthusiasts. We thank all the stakeholders for providing reliable information and data).

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Amateur Naturalist Camp



Participants on a hike studying local vegetation

very important and the survival of one depends on the other. I enjoyed this activity."

The camp as also meant to enhance a wider comprehension of various aspects of nature and to instill in participants the sense of responsibility towards the nature. The entire camping session was dedicated towards

"Till date I had no idea of how important animals were and I thought that little creatures like insects were not of any use to us. I know I have directly or indirectly harmed them in the past but now after learning about ecosystems and the food web, I promise not to harm any lives in nature", said Kinley Choki.

"I now know that even small creatures are

making the participants visualize, listen and conceptualize the unaware issues and thus provide them with the platform from where they can act wisely as naturalists.

The sessions included bird watching, plant identification and classification, wild life, water management, nature trail walks and scouting activities.

"Having been an academic-minded student, this camp has triggered my interest in floral diversity. It was a thrilling experience to feel close to the nature after having been ignorant of its' wonders", said Sherub Dorji.

"Now I've learnt to appreciate it and I've every reason to cherish it. The class has familiarized local plants to me in a new way so that those plants now appear unique and special to me in their own ways."

The activity was organized with support from JSP-GNHIC.

Going green!

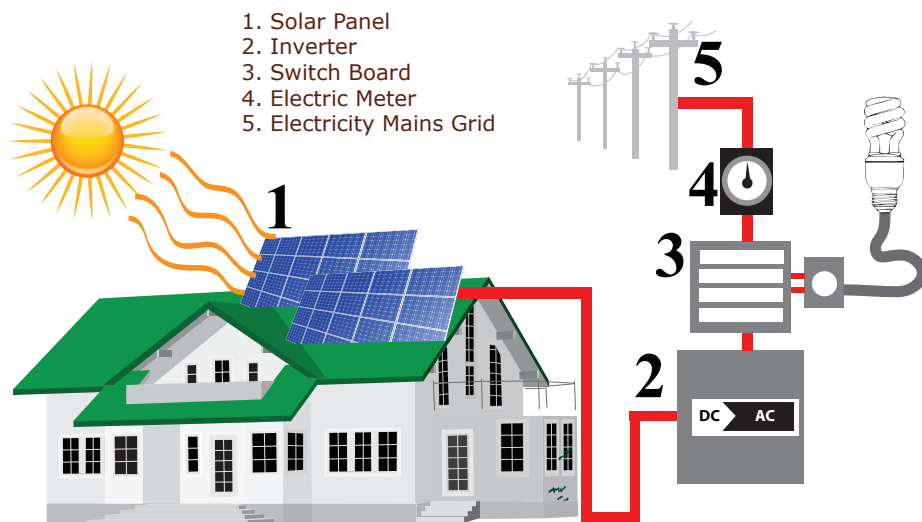


Illustration showing how a grid-connect solar works.

The new RSPN Headquarters building is now equipped with a 3 Kilowatt Grid connect solar system along with a 1000 liter solar water heating system in its effort on demonstrating and advocating options for environmental and economic

benefits through use of eco-friendly building technologies.

What is Grid connect solar system?

It is a power system generated by photovoltaic panels, which are connected to the normal grid electricity. The grid connect

solar system comprises of photovoltaic panels, solar inverter, power conditioning units and grid connection equipment. Unlike a conventional stand-alone photovoltaic power system, our connection does not have batteries to store energy which itself is harmful to the environment in terms of production and disposal.

The energy tapped from the sunlight supplies the power directly into the utility grid and is consumed instantly in the building for running computers and other office equipment.

How useful is this initiative?

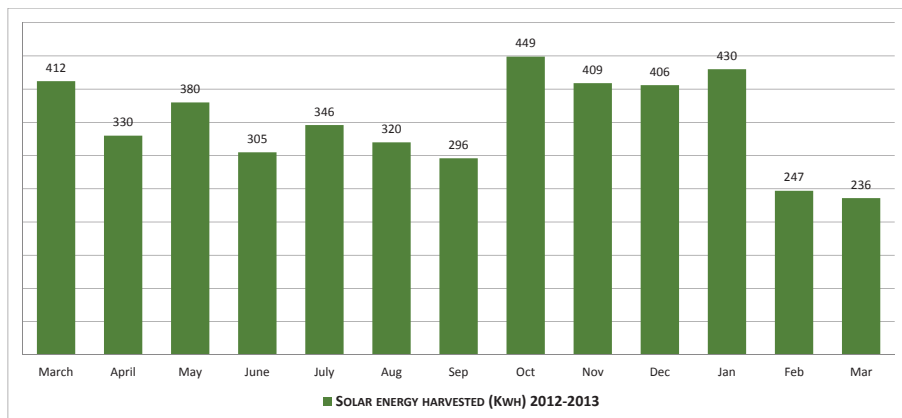
The grid connect solar technology offers immense opportunity for Bhutan to benefit economically while contributing to the mitigation of climate change. Additionally, as a Himalayan country, we have fairly good exposure to solar radiation especially during the autumn, winter and spring. During the winter, when the hydropower plants generate the least amount of electricity, the grid connect solar technology appears suitable for us to optimize the environmental and economic benefits of solar energy.

Findings

Over a period of thirteen months, RSPN has collected daily data on the solar energy harvested. 4566 KWh of solar energy has been tapped and used in the building. In economic terms, the energy generated and used is equivalent to Nu. Nine Thousand. Currently, the Solar grid technology is fairly new and capital intensive. Due to its affordability, it is targeted only at bigger institutions who have the capital capacity. Nevertheless, with conducive policies, there is an opportunity to introduce subsidies and rebates on this technology as has been done in other parts of the region.

Continuous effort on data collection will be carried out and reports produced to study the impact of the system in the long term to and advocate on policy interventions if necessary.

The project was initiated in collaboration with the Department of Energy, Ministry of Economic Affairs and Bhutan Power Corporation Ltd. with financial support from USAID /SARI Energy.



Graph showing usage of electricity solar

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RSPN Members Observed International Wetland Day

(Wetlands of International Importance).

The 2013 World Wetlands Day theme was “Wetlands and Water Management,” reflecting how the wise use of wetlands is essential to sustainable water management. This year’s slogan was “Wetlands Take Care of Water.” 2013 is also United Nations International Year of Water Cooperation. As such, RSPN organized the event mainly to cre-

ate awareness among its members who were then taken to Phobjikha valley to see Bhutan’s largest natural wetland that receives the largest number of Black-necked Cranes annually. In 2012–2013 winter, 368 cranes visited Phobjikha.

The participants spent two days in Phobjikha exploring the wetland ecosystem, watching the majestic Black-necked Cranes and appreciating the unique landscape of Phobjikha wetland.

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Do you have any articles or pictures related to any environment conservation works that you have carried out?

Please send us your articles and pictures to be featured in our next issue of Rangzhin.

We will also publish on our website which has a wider reach. You can send us your materials to rspn@rspnbhutan.org any time.

Momentum for nature's 'blue carbon' solution to climate change



Community mangrove restoration (Photo: Ben Brown)

Efforts to restore marine ecosystems that store vast amounts of carbon have received a boost with the launch of a new website that provides the latest blue carbon science and policy.

Coastal ecosystems are some of the most productive on Earth. They provide essential services such as protection from storms and nursery grounds for fish. By storing 'blue' carbon from the atmosphere and oceans, they are an essential part of the solution to climate change.

"Our knowledge and action to maintain and restore coastal ecosystems such as mangroves, saltmarshes and seagrasses have increased significantly in the last two years," says Dorothee Herr, IUCN's Coordinator of the International Blue Carbon Initiative, of which IUCN is a partner.

"Several efforts are under way to further improve the management responses we can take to make coastal ecosystems one of the solutions to reducing climate change," she adds. This week sees the launch of the International Blue Carbon Initiative's new website. The initiative, which focuses on mitigating climate change through the conservation and restoration of coastal and marine ecosystems, is a collaboration between IUCN, Conserva-

tion International and the Intergovernmental Oceanographic Commission of the United Nations Educational, Social and Cultural Organization. www.thebluecarboninitiative.org. The website provides up-to-date information on the Initiative's scientific and policy working groups, a general overview of blue carbon science and policy, as well as a compilation

of existing field projects led by many partner organisations around the world. It will also foster greater collaboration and coordination within the global blue carbon community.

As part of wider climate change mitigation and adaptation efforts, the United Nations Framework Convention on Climate Change (UNFCCC) is organizing a workshop later this year on the technical and scientific aspects of ecosystems with high-carbon reservoirs such as coastal marine ecosystems.

"This is an encouraging step on the international policy front to ensure coastal 'blue carbon' ecosystems are appropriately integrated into global mitigation activities," says Dorothee.

In parallel to international discussions, many field projects are continuously gathering new information from the ground and have started to stimulate management responses. A new report Profiles in Blue Carbon Field Work shows that a global community of scientists, policy makers and stakeholders is rallying around the concept of blue carbon as a nature-based tool to help mitigate global climate change.

The International Blue Carbon Initiative's website can be viewed under the following link: <http://thebluecarboninitiative.org/>.

Source: www.iucn.org



Mangrove and boardwalk

(Photo: CI/photo by Sarah Hoyt)

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WORD SAFARI

In this edition, we have compiled a list of Partridge-like birds, birds living on or near water and other large birds and have listed the parks they are found. We will continue to publish this data in our next Rangzhin editions. (Source: page 87-89 of *Bhutan's Natural Heritage - A Legacy of the Monarchs*, published by RSPN, Thimphu).

Find and encircle the words which are **bold** and underlined. We have encircled one to help you get start with.

IUCN Status	Partridge-like birds, birds living on or near water and other large birds		Protected Areas**									
	Common name	Latin name	J D N P	J S W N P	B W S	R M N P	T N P	S W S	P W S	W C P	T S N R	K W S
Endangered	Chestnut-breasted Partridge	<i>Arborophila madellii</i>	X	X	X	X	X	X				
Endangered	Blyth's <u>Tragopan</u>	<i>Tragopan blythii</i>						X				
Near threatened	<u>Satyr</u> Traopan	<i>Tragopan satyra</i>	X	X	X	X	X	X				X
Critically Endangered	White-belleid heron	<i>Ardea insignis</i>	X	X		X						
Near Threatened	Blyth's Kingfisher	<i>Alcedo hercules</i>		X		X						
Near Threatened	Ferruginous Duck	<i>Aythya nyroca</i>	X			X						
Endangered	Black-necked crane	<i>Grus nigricollis</i>		X	X		X	X				
Endangered	Rufous-necked Hornbill	<i>Aceros nipalensis</i>		X	X	X	X		X		X	
Near threatened	Great Hornbill	<i>Buceros bicornis</i>		X		X	X		X		X	



** **JDNP**: Jigme Dorji National Park; **JSWNP**: Jigme Singye Wangchuck National Park; **BWS**: Bumdeling Wildlife Sanctuary; **RMNP**: Royal Manas National Park; **TNP**: Thrumshingla National Park; **SWS**: Sakten Wildlife Sanctuary; **PWS**: Phibsoo Wildlife Sanctuary; **WCP**: Wangchuck Centennial Park; **TSNR**: Toorsa Strict Nature Reserve; **KWS**: Khaling Wildlife Sanctuary

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