



GREEN SCHOOL | COVER STORY | NEAR AND DEAR

# **gobar times**

ISSUE NO: 237, January 1-31, 2022

A DOWN TO EARTH SUPPLEMENT FOR THE YOUNG AND CURIOUS

## **BOUNTIFUL BEGINNINGS!**

Cheer-up with stories on harvest  
festivities and birds symbolising  
harbingers of hope



# Scrapbook



'Greenery through the Balcony Window' by Aarush Kumar, a 13-year-old student of the Delhi Public School, Patna.



This photograph was received as an entry for the Window Lights Mobile Photo Contest organised by Young Environmentalist in June 2021.

Send us your best pics at [young@downtoearth.org.in](mailto:young@downtoearth.org.in)

## Digits speak

The world's major forests store about 139 gigatonnes (Gt) carbon. Usually, once released, carbon can be recovered, though it takes centuries to fully naturally reintegrate it. But this 139 Gt is 'irrecoverable carbon,' meaning, once exploited, it will never get fully removed from the air and, therefore, exacerbate global warming. Here are some carbon hotspots:

Amazon rainforests

**31.5 Gt**

Southeast Asian equatorial forests

**13.2 Gt**



Canadian boreal forests

**12.4 Gt**

Congo Basin rainforests

**8.2 Gt**

Source: Mapping the irrecoverable carbon in Earth's ecosystems

Compiled by Anubhuti Sharma

We have enough institutions and policies... The need of the hour is to build on such synergies and ensure impact



**Shoko Noda**  
UNDP Resident Representative in India

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# A Partnership to Help Our Teachers

Centre for Science and Environment, New Delhi and Himachal Pradesh Council for Science, Technology and Environment join hands to build awareness on environmental issues among teachers

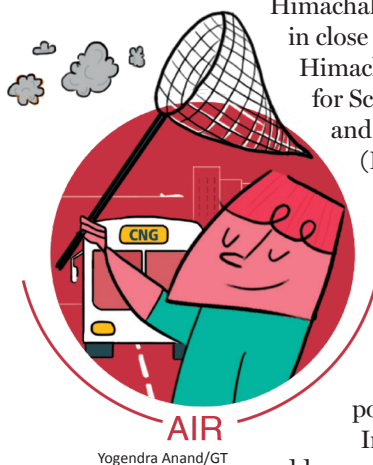
Neeraj Kumar

To be able to do something for our environment, we must first understand what this environment is, and how we as humans relate to it. In line with its initiative of helping schools understand and be aware of some of the most critical facets of environment, Centre for Science and Environment's (CSE) Green Schools Programme (GSP) has been conducting a series of capacity building workshops for teachers of



Himachal Pradesh. Organised in close association with the Himachal Pradesh Council for Science, Technology and Environment (HIMCOSTE), these workshops are aimed at building teachers' understanding on issues such as renewable energy, solid waste management, and air pollution and mobility.

In the last five odd years, through these



workshops, HIMCOSTE and CSE have interacted with more than 300 teachers from an equal number of schools. Most of these schools are now members of CSE's Green Schools Programme. In 2021-22, their partnership is conducting five workshops for teachers in the districts of Sirmaur, Una, Hamirpur, Shimla, and Kullu.

Schools from Himachal Pradesh have been among the most active participants in the GSP network. They have constantly made rapid strides in keeping themselves in step with the current learnings on environment. CSE and its GSP initiative, guided and supported by HIMCOSTE, have been regularly aiding schools through various audits and workshops.

## GSP in Himachal Pradesh: Impressive performance

- 2012: Only 44 schools were GSP members.
- 2017: GSP-HP Chief Minister's Trophy instituted with 14 schools and two districts winning the award. The Solan District has been a two-time winner of this trophy.
- 2019: 156 schools completed and submitted GSP audit. Among these, 15 schools bagged the topmost 'green' rating (up from barely four in 2018).
- 2020-21: 672 schools became part of GSP.

The author is a Programme Officer in the Environment Education Unit, Centre for Science and Environment, New Delhi.



*"Being a part of a two-day workshop with the GSP team was a wonderful experience—very valuable guidance with great execution. I loved the spirit and enthusiasm and the sense of coordination of our presenter."*

Shivani Patial, TGT Medical, Government High School, Dugha, Himachal Pradesh



*"GSP introduces an innovative methodology for assessing the performance of our schools. It helps our students develop a holistic perspective and suggests them practical, doable mitigation measures. The GSP activities are also recognised at our state and national levels."*

Ravi Sharma, Senior Scientific Assistant, HIMCOSTE



Green School





# Reaping Ripe

Understanding why we celebrate harvest festivals, what are their diversities, and how they connect us with our environment.

Richard Mahapatra



Yogendra Anand/GT

**T**he next time you shop for some food—even simple vegetables—mark your emotions. You might experience an inexplicable sense of happiness while laying out the veggies in front of you. You might also follow this up briefly by talking about them. You could also feel a strange sense of achievement when the effort symbolised by your shopping basket is recognised.

Psychologists and evolutionary scientists explain this emotion as originating from our ancestors who were hunter-gatherers. (Psst: Do

ask your psychology teacher for some more info on this interesting point).

## From Foraging Food to Farms

Hardly 10,000 years ago when humans did not form a settled society, the early men and women spent all day foraging for food. At the end of a tiresome exercise, it was their foodstuffs which comprised the high point of their entire day. They usually celebrated this excitement through a gala dinner among their group—or call it a harvest festival for every day!

Such partying could well be the origin of many harvesting festivals that we now celebrate with great pomp and gaiety. The only difference being, that unlike the daily Stone Age dinners, we now celebrate only the first crop harvest of each year. The practice of observing such annual or periodic festivities evolved over countless years along with our agricultural developments.

Humans started settled cultivation around 9,000 BC. Then onwards, the pre-historic people developed their farming according to seasons and specific crops. In the Indian subcontinent, two monsoons blessed the flora, thousands of fruits and vegetables flourished the forests, and weeds like paddy colonised the landscape. Thus, eastern India became one of the first places on the planet to domesticate rice.

Over the centuries, humans undertook selective cultivation of several wild crops, fruits, and vegetables. Their cornucopia forms our current agrarian world and sustains over seven billion people worldwide. Many peoples' and tribes still collect the undomesticated, wild food plant varieties and even have a set calendar or season to do so.

## Fun and Frolics Far and Wide

Harvest festivals are quite a commemoration of our evolution into a settled agrarian society. A conservative listing would have nearly 3,000 such fests being observed around the world; India alone has over a hundred of them. There is not a single country across the globe that doesn't honour its harvests. Nor is there a single community that doesn't celebrate such fetes as major cultural events. But their geographical distribution offers interesting aspects: the richer the biodiversity of an area, the higher are the number of its harvest festivals.

Example: in Arunachal Pradesh in India, the Adi tribe feasts during some 13 harvest festivals. This is understandable as Arunachal is one of the most



Yogendra Anand/GT

biodiverse places in our country. Similar is the case of forested states like Chhattisgarh, Odisha, and Jharkhand. Over there, one would find a range of 10-15 such festivals, each representing varied agrarian aspects. Their get-togethers could symbolize the first harvest of a particular food grain, the first day of consuming a particular fruit or vegetable, or even mark the beginning or end of their farming cycles.

In case you did not notice anytime earlier, in most Indian states, there is a day when people celebrate the first harvest of mango when it is offered to the gods. Similarly, there are first-eat festivals for radish, beans, pumpkin, and nearly all the major fruits and veggies which are eaten and enjoyed in different parts of our country.

Thus, in a way, the harvest festivals of a region serve as the agricultural diary of its local communities. That is why wherever you go,



Yogendra Anand/GT



# Cover Story

irrespective of the climate and geography, you will certainly find a harvest festivity.

Consider this: in May-June each year people in Bali in Indonesia gather for their rice harvest. In August-September, the Ewe people of Ghana rejoice the arrival of yams, a major crop, after the end of their rainy season. In October, Thanksgiving, a major harvest carnival, is a time of merrymaking in Canada and the United States.

In India, too, from January onwards, we have a series of folk harvest festivals known by varied names. I'm sure you would've heard of Lohri, Makar Sankranti, Baisakhi, Onam, Pongal, Uttarayana, Khichdi, Shishur Saenkraat, and Magh Bihu.

The Indian harvest festive season starts from Makar Sankranti, which usually falls on January 14. This day marks the first day of the Sun's movement from the Tropic of Capricorn towards the Tropic of Cancer. In other words, it marks the waning of winters and the onset of summers in the northern hemisphere, where India lies. (Hey! Before you begin flying kites, ask your Geography teacher to explain you more about the astronomical importance of these festivals.)

## Thought for Food

Most crop festivals are predominantly about paddy. Further, most of these occasions also mark an 'auspicious' period in which people prefer to fix marriages or similar significant life events. Such a crop-reaping period in an agrarian society is also a time of thriving commerce. That's when the prosperous and affluent sections tend to spend exuberantly. In fact, not so in the distant past, schools around the country were also closed for what was known as the 'harvest holiday'—to enable little kids like you to jump with joy.

In fact, apart from the yield, many tribes also celebrate the collection of seeds after their crops are reaped. These lesser-known festivals are hardly



documented but their celebration can still be noticed in remote areas. Recently, the Kutia Kondh tribe of Kandhamal district in Odisha revived their 'Burlang Yatra,' a fair held in February-March that focuses on the seeds of millet, their staple crop.

All these festivals usually involve worshipping the land, honouring the farm tools, and reading the panchang. The panchang is the traditional Hindu calendar, based on the movements of moon, and holds importance for our agriculture. It is often referred by farmers to plan their sowing and reaping season, learn about the weather and potential climatic events, plan harvest, etc.

If you map the agrarian festivals of India in the Gregorian calendar, it will overflow by nearly three times with the number of festivals we celebrate per month across our country!

And if you look closely at these fests, you will know exactly how our food ecosystem is closely integrated with our seasons and climate.

So, more than celebrating our agrarian heritage in the harvest festivals this year, let us express our gratitude to our Mother Earth who provides us for the very food for our survival.

*The author is  
Managing Editor,  
Down To Earth*



Yogendra Anand/GT



# The Roller Coaster

Roll with every punch, inspires the Indian Roller

Gargi Mishra



Near and Dear

“Why didn’t you spot the *Tiha* today, dear?” That’s what my mother used to remind me on the New Year eves, when I was a little child like you. The Indian Roller bird, or the *Tiha* in Odia, is a very good omen. Believed to be a harbinger of happiness, sighting it is considered auspicious, especially at the beginning of any major life event. In fact, such is the faith in its sanctity that its feathers are preserved as lucky charms. Do you know Odisha, Telangana, and Karnataka have also declared it as their state bird?

Formerly known as ‘Blue Jay,’ the Indian Roller is a member of the roller family. Widespread in the Indian Subcontinent and, though non-migratory, it moves seasonally. When perched, it appears significantly dull brown. But when in flight, its brilliant colouration—predominantly the blue shades—flare up, revealing its enchanting beauty.

Being highly skillful, Rollers perform astounding aerobatics to impress their lady love, including a series of ‘rolls’. Hence, their name. Two dominant subspecies of Indian Rollers are as follows.

1. ***Coracias benghalensis benghalensis***: This species is comparatively larger in size and also has a longer tail. It displays a blue crown with white streaks on its throat and chest. Pale orange extends from its lower mandible till its orbital skin—the skin around its eye. However, pale blue covers

its belly, leaving the back with a brown tinge.

2. ***Coracias benghalensis indicus***: This variety is smaller and darker. It displays less blue on its crown but flashes dark blue in its primaries—part of flight feathers. There are neither any whitish streaks on its throat nor any yellows on its orbital skin. Instead, it has a short neck, short tail, and brown belly.

The Rollers call is a harsh *khak...kak...kak* or a metallic *boink*. Easily attracted to fire and artificial lights, it often suffers from traffic collision and electrocution. Beetles, crickets, grasshoppers, frogs, lizards and other such insects and vertebrates comprise its preferred diet. As Rollers feed upon many infectious agricultural pests, they clearly become a farmers’ favourite.

At the peak of plume trade in the early 1900s, the Rollers were hunted widely. Nonetheless, they are sacred in

Hindu mythology and are celebrated as *Neelkanth*, meaning ‘blue throat’ in Hindi. Associated with Lord Shiva—a Hindu God who drank poison resulting in blue throat—spotting Rollers on Maha-Shivratri is a popular practice. No wonder I spent a delightful childhood, in the hope of collecting its feathers near electric poles, farmlands, bare tree branches, and anywhere, everywhere.

*The author is an amateur ornithologist and closely follows the avian world.*



PHOTO: ATHIYA MAHAPATRA

## VIRUS FOUND



## VIRUS ALERT

Another year of Covid-19, variants and restrictions

**STAY SAFE**

Ritika Bohra/GT

Are viruses alive? This maybe difficult to answer but like all living things, they do evolve. Their evolution is abundantly confirmed as new COVID variants are emerging every few months. These variants don't usually affect how the virus works. But, sometimes, they make the virus act in different ways. When viruses infect us, they attach themselves to our cells. They get inside them and make copies of their RNA (ribonucleic acid), which helps them spread. If there's a copying mistake, the RNA gets changed. Scientists call those changes, mutations.

Hence, keep your guard and mask up all the times!