



THAR DESERT RAPTORS DECLINE AGRICULTURE RESPONSIBLE

Harsh Vardhan

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Harsh Vardhan is based in India and in to wildlife conservation and enjoys citizen centric advocacy.

Steppe Eagle, migratory to India, was observed maximum during winter. It was usually found occupying electric poles along the road to Jaisalmer whether move from Bikaner or from Jodhpur.

Tawny Eagle and Short-toed Snake Eagle, which breed in Thar Desert, were common to come across, flying or occupying a tree top. Greater Spotted Eagle was an uncommon feature during winter in those areas. So was Eastern Imperial Eagle.

Eagles gone: Booted Eagle would reach from the Himalayan heights to this arid countryside during winter. Bonelli's Eagle, resident to India, was an uncommon visitor during same season in the desert.

Long-legged Buzzard was a fairly common sight during winter, reaching from the Himalayan region annually. White-eyed Buzzard being resident was observed occasionally.

Common Kestrel was always an interesting sight, hovering in air and eyeing at a rodent below on ground, during winter.

Falcons missing: Three falcons dominated the Thar scene during winter: Laggar, as resident, observed squatting over a tree top, Peregrine, likewise, was a fascinating sight while Barbary was a rare sight; Barbary is a cousin of



Steppe eagle, Naveen Kumar Singh



Gerbils missing, raptors missing, Naman Vardhan

Peregrine described as *Falco peregrinus pelegrinoides*.

Merlin used to be a great delight across arid grassland habitats searching for a rat or gird, only during winter.

Black-winged Kite was ubiquitous hovering like a helicopter not far above ground and to swoop vertically over a prey. Black Kite was in numbers, a common resident species.

The Desert has numerous small or tiny water bodies maintained by

villagers to let their livestock survive better. Osprey would often be sighted around.

Feed is lost: Gone are those days, alas!

This writer I visited the Thar Desert during late February 2024 and was aghast to see the disappearance of all these raptors from that landscape. Driving from Jodhpur to Phalodi, Pokaran and finally to Lathi, I observed only two Eagles soaring. None other was available in my luck. The most common to come across, Steppe Eagle was totally missed. We photographed a Long-legged Buzzard standing over an electric pole.

What wrong happened there? Green crops fluttered on either side of the road I travelled about 290 km during the day. Tube wells were gushing out underground water to irrigate crops. Vast swathes of semi arid and arid land have been converted in to productive parcels of commercial crops. To do so, people had to decimate rats, rodents, gerbils, desert girds, etc., which are staple diet of raptors.

Rodents gone, raptors gone!

Question-mark: Sad for the Thar Ecosystem. All wild species are inseparable part of this landscape. The landscape used to be thriving with raptors until end of last century. We sported species after species and totaled about a hundred within days claiming the Desert was most ideal place to live with.

Is lack of such birds of prey not a negative signal for sustenance of

life in the Thar? Who to answer? The Forest Department has twin roles there: plantation undertaken by its territorial wing, and wildlife protection by its another wing. Both usually remain at logger heads.

During this visit, I found six Indian Gazelles were poached near Ramdeora, crime was suspected to be committed by the Bhil community. Officials took a few days to take cognizance and the alleged poachers were not easy to be arrested. Post mortem was yet to be done on second day as we ascertained more details.

Angelic source: Come to my place and I will show you Vultures! Wiry and slim, Radheyshyam Pemani Vishnoi beckons us along the black-top road to Lathi village. With a suspicious mind we follow him. A lone room at corner of his organic farm provided much needed shade. He took us in his high-gear vehicle about 200 meters behind and switched off. Lo! A group of Vultures was indeed basking in the sun.

What are they doing there as there appears no feed for them? They take bath at the circular water body he created at an expenditure of about Rs 40,000 (USD 500). Even Great Indian Bustard, critically endangered, troops in during small hours of morning to have a comfortable drink before foraging across the vast grass field for feeding.

Himalayan Vulture was noticeable owing to its grey feathers. Griffon from Europe was by side of its shoulder.

Cinereous Vulture, coming from Mongolia, was having a wink nearby. Radhey informs – wait, Red-headed Vulture, Egyptian



Sprinkler irrigation in the desert, good or bad for ecology, wikimedia

Vulture and White-rumped Vulture would also land there.

Carrion comfort: He drives us to a sacred grove where some thousand cows are maintained and milk sent to city of Jaisalmer daily. Some die and are left aside. That attracts a number of Vultures and at times Eagles too. Egrets, Crows and Red-naped Ibis were found having gala feast, without having labored.

Local villagers have least concern about what we do: wildlife conservation. Own business, mostly agriculture and operating vehicles, keeps them going. Radheyshyam appeared like a bird of good omen, showing many avian species and also Spiny-tailed Lizards, one at a distance of about 10 feet, a few hundred west of Chacha village!

Sun dips down over sand dunes. Unison call of Demoiselle Cranes pours in to our ears. We observe a fast moving dark cloud over sky to land at a safe place to roost. We drive hurriedly for own roost.

Growth rate: Life has not been comfortable on return at work place in Jaipur: whom to report over colossal loss of wild species across the Thar Desert? Even if one of us shall report, what finally would result in? India is developing at the fastest growth rate, we read in newspaper.

DEVELOPMENT vis a vis CONSERVATION

Anand Mishra,
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GST (Goods and Service Tax) collections in India increased by 12.54% during February 2024. Cause for happiness for business, trade and industry and

many other sectors who are now remitting this tax on-line and without hassles usually faced in government dealings. India's GDP grew at 8.4% during October-December 2023. Gross domestic product (GDP) is the standard measure of the value created through the production of goods and services.

Such data, positive signals as they are for the country, need to be viewed through the proverbial prism of wellness-index for all strata of people in the country. Development rate is very high presently as declarations of new projects worth thousands of billion dollars are being made daily and for various locations across this now most populated nation in world.

Economic analysts also reason if the current phase of development embraces, in situ environmental needs, ecological values, climate related aspects, etc?

India has bought a colossal responsibility of bringing the temperature down in next decade and a half.

Conservation Times aims at strengthening ecological equity. The annual Indian Birding Fair is a glaring example, managed by volunteers who receive neither salary nor monetary incentive. Let it be development vis a vis conservation. Do you get it?

THEME FOR THE NEXT ISSUE

We welcome good articles on any wildlife or environmental topic, in India or elsewhere around the world. If you would like to write an article, please request a style sheet for Conservation Times from emccrea@ecg.org

The deadline for submitting articles for the next edition is May 31, 2024.

INTERNATIONAL CARBON MARKETS

Rohit Jindal, and Mamta Vardhan

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Carbon markets are an integral part of global efforts to mitigate climate change. These markets operate like any other market, with buyers and sellers competing to sell a good or a service and market forces determining the equilibrium price; except that in carbon markets, the good being exchanged is a carbon credit or an offset (right to emit a ton of CO₂-equivalent).

Compliance carbon markets originate from government regulation to reduce GHG emissions within a particular jurisdiction. All specified emitters within this jurisdiction (companies with emissions above a certain threshold or entities within a specific sector, such as power plants) are legally bound to reduce

their emissions as per the government notification; there are heavy fines if these entities fail to comply.

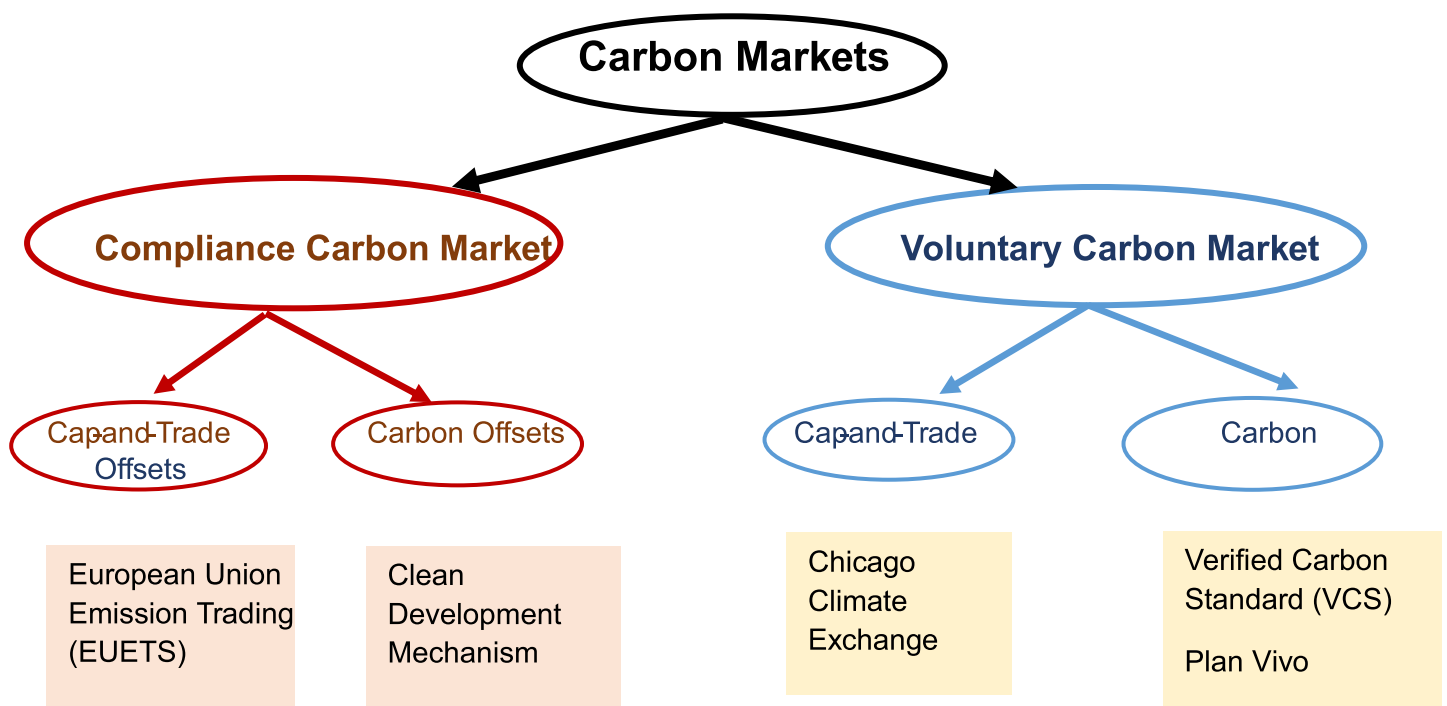
Voluntary carbon markets facilitate the exchange of carbon credits voluntarily, by investing in emission reduction activities that are not mandated by the government. An essential benefit of voluntary carbon markets is that they provide additional funding sources for projects that may not otherwise be viable, such as community-based renewable energy projects or sustainable agriculture interventions.

Cap-and-trade aims to reduce GHG emissions through trading. Under a cap-and-trade system, the government sets a limit, or cap, on the total amount of GHGs that regulated entities, such as power plants, factories, or airlines, can emit. The cap typically declines over time, which creates a pathway for reducing emissions. Once the cap is in place, the government issues permits or allowances representing the right to emit a

certain amount of GHGs (usually in the form of tons of CO₂ equivalent or tCO₂-eq). These permits are allocated to regulated entities, either for free or through auction, and can be bought and sold among these entities on the market. Regulated entities that emit more than their allotted permits must purchase additional allowances from those that have reduced their emissions below their allocation. This requirement creates a financial incentive for companies to reduce their emissions, as they can profit by selling their excess allowances. The interplay between the supply and demand of permits or allowances sets prices, which typically increase as the cap tightens and emissions become more expensive.

An economy has two companies, Emitter A and Emitter B (say, two power plants). The government allows them to emit a total (cap) of 400 t CO₂. Each of them receives permits for emitting 200 t CO₂. However, Emitter A will need to emit 300 t CO₂ (say it has old technology), while Emitter B will

Figure 1 : Types of Carbon Markets



only emit 100 tCO₂ (it invested in more efficient technology). Emitter B can then sell 100 t CO₂ to Emitter A so that, economy-wide, the total emissions stay at the legislated cap of 400 t CO₂. Thus, Emitter B is incentivized to invest in improved technology through the 100 t CO₂ carbon credits it can sell through the cap-and-trade system.

Carbon offsets help mitigate the carbon footprint of an entity or activity by reducing GHG emissions elsewhere. The basic idea is that emissions reductions are made in one place to compensate for emissions produced at another location. For example, a company may purchase carbon credits or offsets from a renewable energy project that reduces carbon emissions by generating electricity from wind or solar power instead of fossil fuels. The company can then use these emission reductions to offset their GHG emissions, such as from the operation of their factories or transportation of their goods (figure 3).

Extent of Carbon Markets

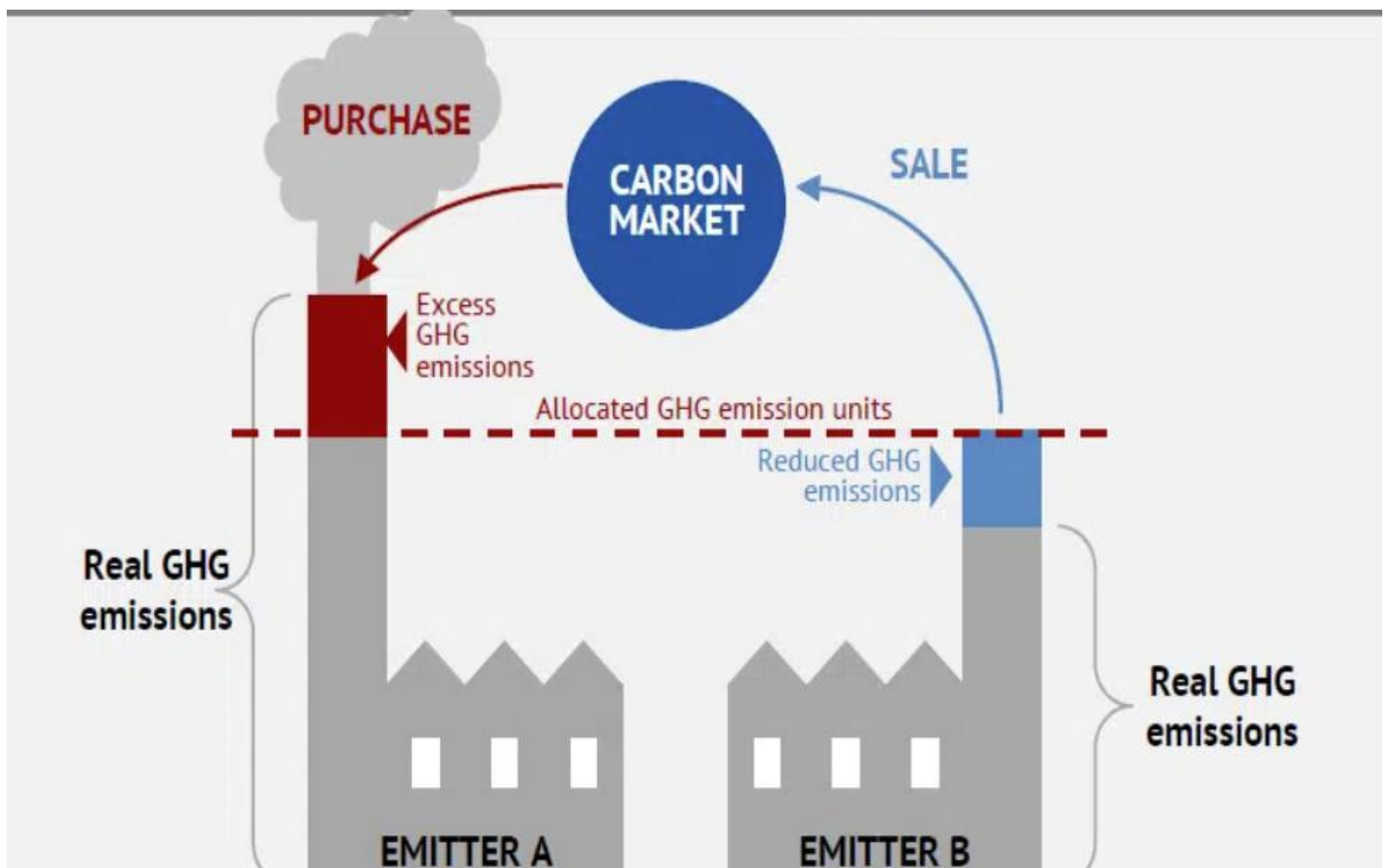
The European Union Emission Trading Scheme (EU ETS), set up in 2005, is the first and one of the largest **compliance-based carbon markets** in the world. Since its establishment, several other carbon markets have been set up across different jurisdictions, ranging from national programs to sub-national and even city-based programs (figure 4). When accounting for the major markets operating in the world, global carbon markets have been steadily increasing in value, with carbon transactions being worth \$ 950 billion in 2022 alone.

Although **voluntary carbon markets** are comparatively small compared to compliance-based carbon markets, they are increasingly important due to their flexibility in creating carbon offsets. In 2020-21 alone, voluntary markets traded in carbon offsets from more than 170 project types. Among these, Agriculture, Forestry, and other Land Uses sectors contributed

more than half of the total value of carbon offsets traded. Most voluntary carbon markets use a carbon offset mechanism:

- ◆ **Verified Carbon Standard (VCS):** allows for trading carbon offsets from a wide range of emissions reduction projects, including forestry and land use projects.
- ◆ **Climate, Community & Biodiversity Standards (CCB Standards):** guidelines for emissions reduction projects that benefit local communities and biodiversity.
- ◆ **Plan Vivo Standard:** focuses specifically on land use projects supporting rural communities in developing countries.
- ◆ **The Gold Standard:** requires additionality, environmental integrity, social and environmental sustainability, stakeholder engagement, and financial transparency.

Figure 2: Working of a Cap-and-Trade System



Source: www.carboncredits.com

Carbon offsets traded through voluntary carbon markets reached almost \$2 billion in 2021, with a cumulative value of over \$ 8 billion (Ecosystem Marketplace, 2022). Despite this impressive growth, it is worth noting that the total annual trade in voluntary carbon markets is still less than 1% of the value of carbon trading in compliance markets.

Pros and Cons of Carbon Markets

Carbon markets have grown rapidly, with more growth expected in coming years. The main benefits of carbon markets are that they offer an efficient way to reduce carbon emissions through an incentive mechanism. These markets work

well for large emitters such as big companies and point sources of pollution such as power plants. Carbon markets also provide economic incentives to local communities to conserve their natural resources, as the amount of carbon sequestered through these activities can be sold as carbon offsets in voluntary carbon markets. Another advantage of carbon markets versus alternatives such as emission caps is that entities can benefit from investing in innovation and technological development.

However, carbon markets cannot be a panacea for addressing climate change. So far, they have had a limited impact on reduction of carbon emissions. Markets can

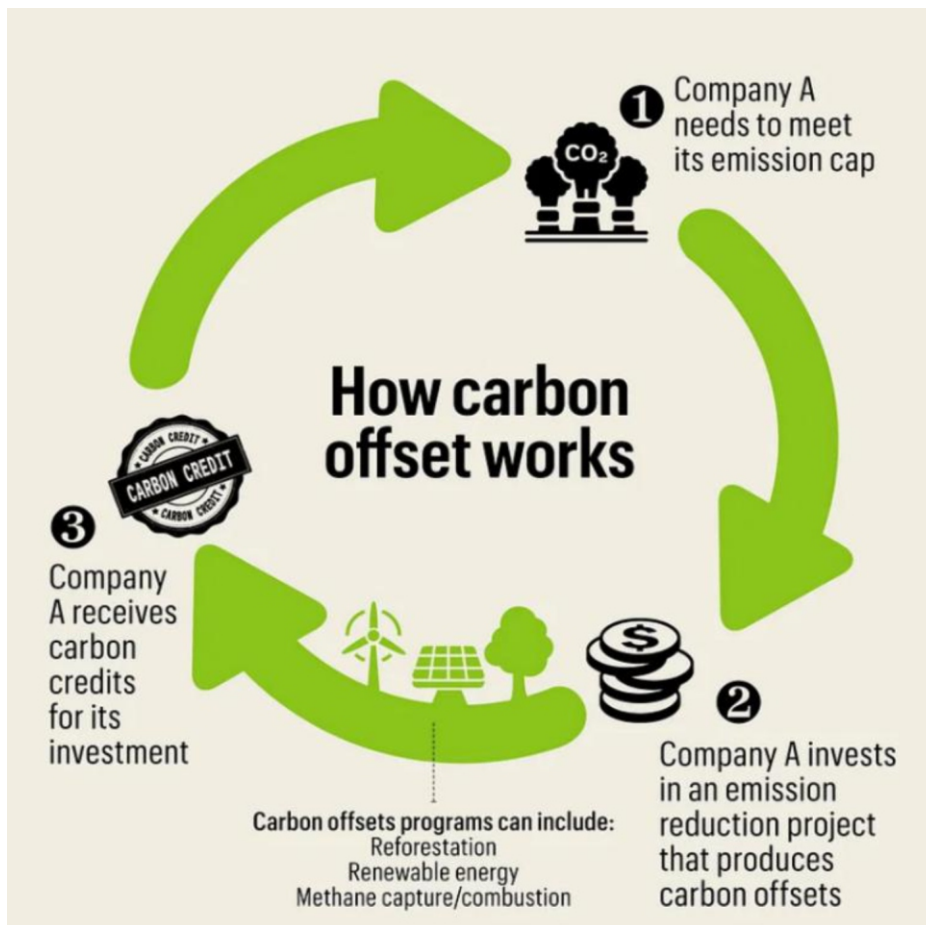
work well only when the emission caps are meaningful, and the day-to-day administration is efficient. In many cases, governments have been too lax in placing carbon limits. Carbon markets are also hampered by significant transaction costs of developing, registering, and supervising emission reduction projects. Although carbon standards such as the Verified Carbon Standard aim to reduce the financial burden of wasteful transaction costs, their impact too has been limited. In the case of forestry projects, there is a large scope, especially in developing countries, but there are concerns of leakage and impermanence of carbon stocks, that have restricted their adoption in large compliance markets such as EU ETS. There are also concerns that forestry carbon projects may encourage monocultures, harming the local biodiversity.

While a lot has been written about the expansion of voluntary carbon markets, in effect they remain small. The total value of voluntary carbon markets is less than 1% of the value of carbon trading on compliance markets. In 2021, for instance, the total annual trade across all compliance markets was close to \$900 billion. In comparison, the value of carbon trading on the voluntary market was much lower at \$2 billion.

Conclusion

Carbon markets are expanding rapidly, whether compliance or voluntary. From the perspective of smallholders in developing countries, even though voluntary carbon markets are small, they still offer them the best opportunity to participate in carbon mitigation measures. Compliance markets, on the other hand, are more dependent on political willingness to address climate change. Many NGOs and field researchers are concerned that carbon markets should not harm the global poor, who already are facing the vagaries of climate change. Overall, however, the effectiveness

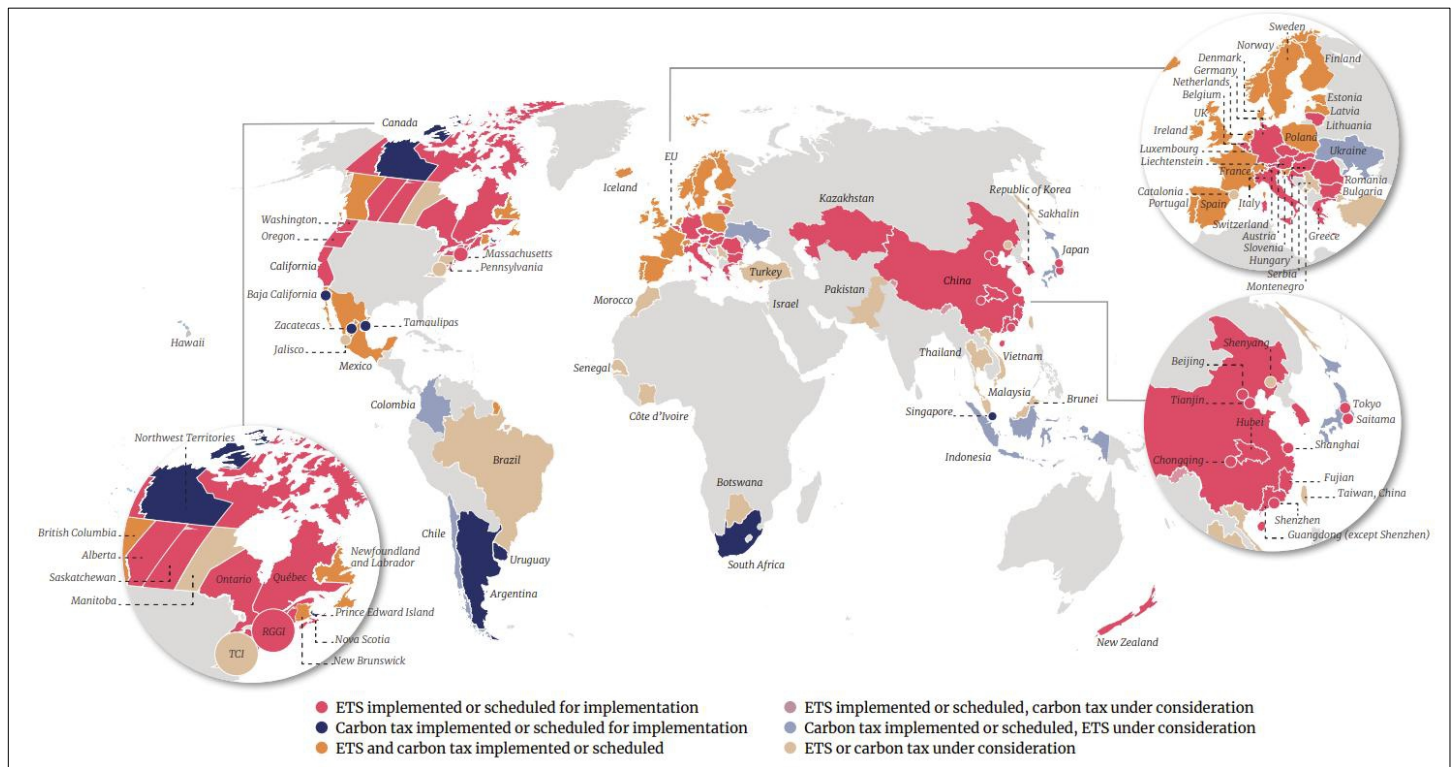
Figure 3: Working of a Carbon Offset Mechanism



Source: www.civildaily.com

Company A can only emit 200 t CO₂. However, its emissions this year will be 300 t CO₂. It can invest in an emission reduction project that produces carbon offsets. Carbon offsets can be created through an activity that avoids (renewable energy) or removes (reforestation) GHG emissions. The activity produces 100 tCO₂ of emission reduction in the form of carbon offsets. Company A can then use these offsets against its emissions to achieve its cap (300 tCO₂ emissions – 100 tCO₂ offsets = 200 tCO₂).

Figure 4: Global Coverage of Compliance Carbon Markets



Source: The World Bank (2022). Currently, 34 compliance-based carbon markets are operating worldwide, with newer systems coming on board each successive year. Many of these markets are interlinked, creating an architecture for a possible global carbon market in the future.

of these markets in tackling climate change will depend on how well they can address concerns regarding the integrity of carbon offsets.

Only if the offsets are real, verifiable, and sustainable will they lead to a reduction in global GHG emissions and to mitigation of climate change.

Citations

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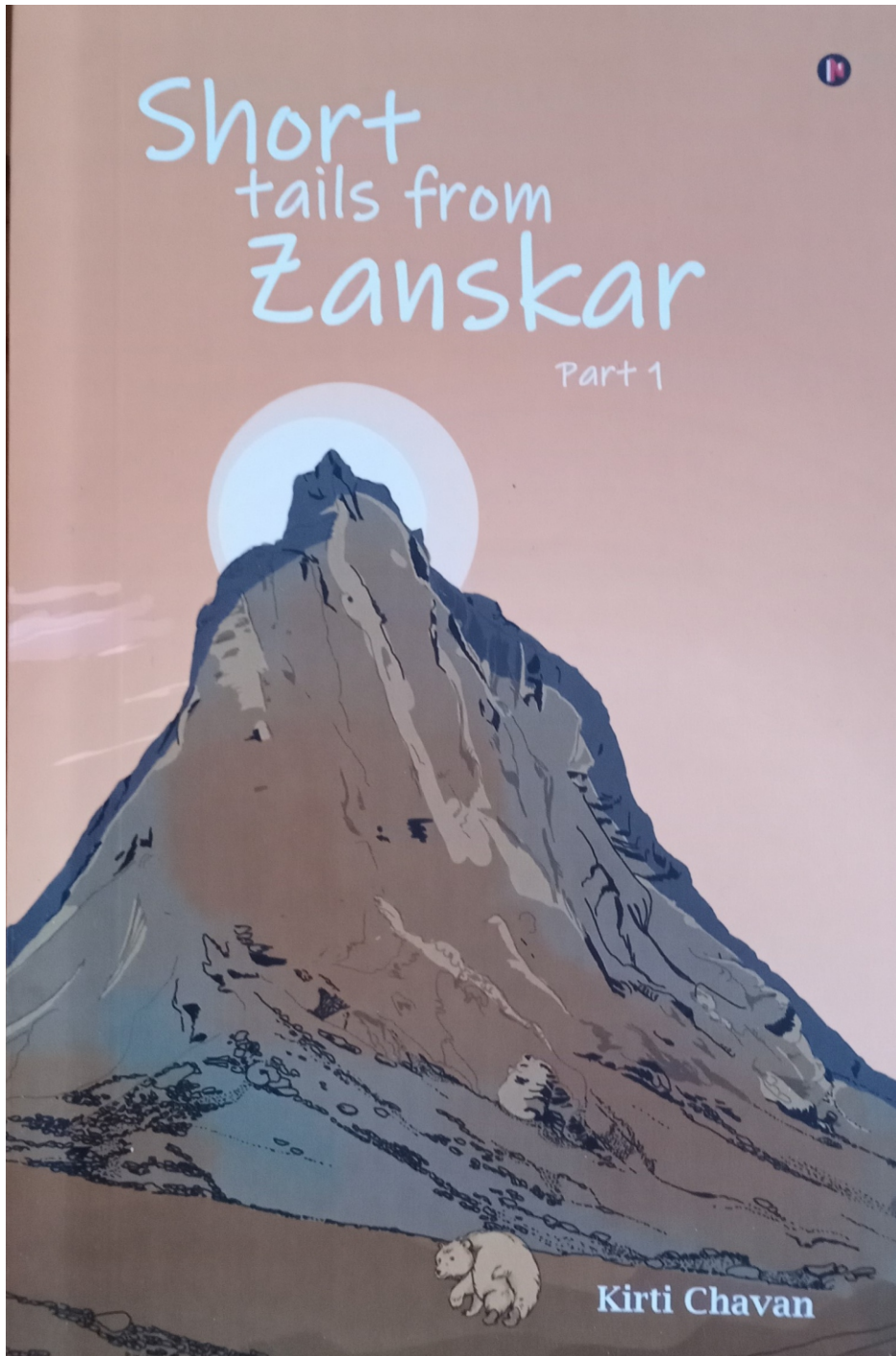
Solar panel use is aimed at reducing carbon stock, how much will it help?

SHORT TAILS FROM ZANSKAR

A New Book by Kirti Chavan

Foreword by Ashish Kothari

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Kirti's book cover

Ashish Kothari is an Indian environmentalist working on development-environment interface, biodiversity policy, and alternatives.

Kirti Chavan is a conservationist studying human-wildlife interactions in the Indian landscape. He has been at the center of human-bear conflict.

Much of what we hear of the interactions between wild animals like bears and humans, are stories of conflict. Animals attacking people, preying on livestock, raiding food stores, and in general creating fear, abound across the Himalaya and elsewhere. We hear of the desire for revenge from affected people, and every once in a while, of retaliatory

actions such as poisoning and shooting.

Co-existence: That this is only a partial picture becomes evident to anyone who goes to such areas and talks to 'ordinary' people. Certainly, they will talk about these incidents and of the need for some drastic action.

But they will also talk of past or continuing atmosphere of co-existence, the strong ethical or spiritual belief that troublesome animals also have a right to live, and that what they would like most are peaceful means of resolving conflicts. And some, especially elders, will recount incidents of how a potentially conflictual situation was miraculously avoided or resolved, or potentially dangerous animals behaving with what they see as compassion or an understanding that is akin to what a human might display.

Overall, one gets the feeling of a curious mix of conflict and co-existence, or rather that the coexistence does not conform to some romantic notion of peaceful, harmonious relationship, but nor to the exaggerated narrative of constant conflict.

Reasons: That said, there is plenty of evidence that incidents of conflict and tension have increased in some areas, due both to local changes and to factors emanating from outside the region, such as the climate crisis, or some mega-infrastructure project that has displaced animals into alien areas, or even, sadly, where official agencies have relocated animals from one place to another. When I visited Zanskar in Ladakh in 2021, I found this was the situation with the Himalayan brown bear in a couple of valleys.

The NGO Snow Leopard Conservancy – India Trust (SLC-IT) reported this, as did villagers, a common complaint being that of bears coming into houses and raiding food stocks. Resentment against bears was growing, as was fear of such a large, potentially

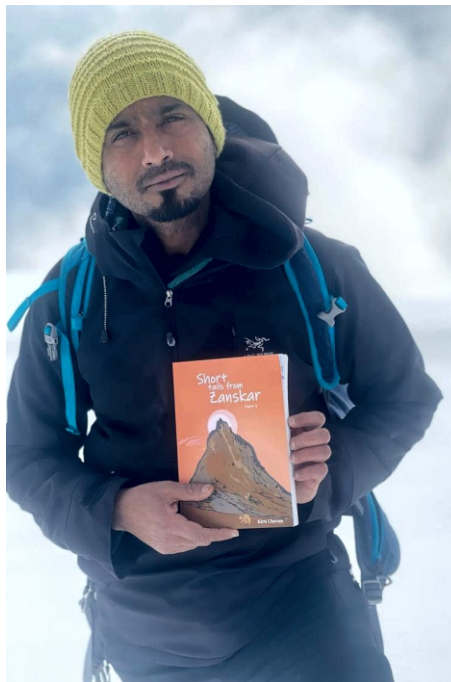
dangerous animal entering houses.

SLC-IT was doing what it could to reduce damage and take up other actions to reduce the tension. But it was also aware that much more needed to be done.

Kirti's thrust: The author of this little book has been at the centre of this situation for some years. Having made Zanskar his home and working with SLC-IT, Kirti has tried to understand the factors leading to this relatively new conflict and find innovative solutions.

Equally important, he has also kept his eyes and ears open to the counter-narrative, one where people have positive experiences and attitudes towards brown bears. The stories contained in this book are a result of this keen sense of observation and listening. Each is simply and conversationally written, and eloquently illustrated by Kirti himself.

Many have the element of the unknown, bordering on the philosophical or metaphysical, the hint of miracle not far from sight. Who is to say that Dorjey's sudden realization that the bear he was waiting to kill, as revenge for its breaking into his house four times,



Kirti with his book

was simply coming for food, and that he had no right to end its life, was not connected in some way to the bear never again breaking in?

Kinship with animals: Some powerful unsaid heart-mind waves passing between them, a manifestation of the Buddha's teachings about rebirth-related kinship between humans and other animals? Or simple coincidence?

Mercifully, Kirti does not dwell on reasons and reasoning, he tells the

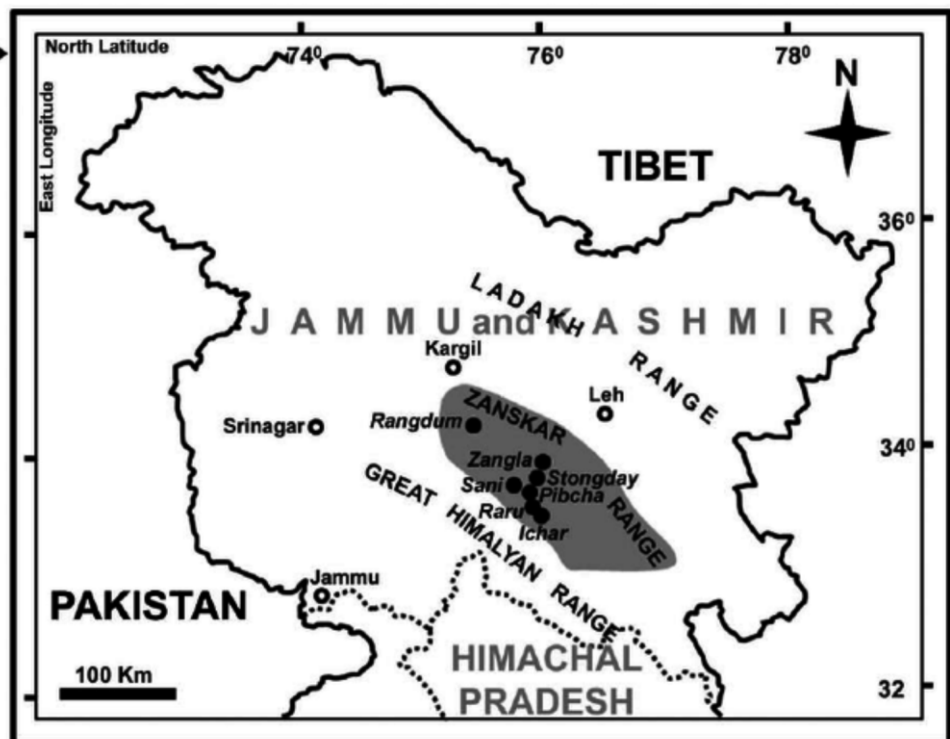
stories as he has heard or experienced them. He lets us, readers and viewers, ponder these things for ourselves. There is no preaching here, only a retelling of real-life encounters that show that on the other side of the human-bear conflict saga, there is the realm of human-bear kinship and co-existence.

If all of us were to focus as much or more on that counter-narrative of good news, as we do on the bad news, we may yet emerge out of the multiple crises we are facing. This is what I have learnt from my own work on alternative pathways of well-being, and this is what I read and see in Kirti's delightful little book.

Respect needed: May the children (and adults!) of not only Zanskar but the entire Himalayan belt, and beyond, enjoy this offering as much as I have ... and learn from it to live with respect and humility towards the rest of nature.

Order your copy of this book at [https://www-amazon-in.translate.google/-/hi/Kirti-](https://www-amazon-in.translate.google/-/hi/Kirti-Chavan/dp/B0CT5VN21K?_x_tr_sl=hi&_x_tr_tl=en&_x_tr_hl=en&_x_tr_pto=sc)

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Mao of Zanskar in India

DEDICATE LIFE TO BIRD WATCHING

By *Martin Goodman*

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Bucard's wren making a communal nest in a cactus, Martin Goodman

The writer is a novelist and ardent wildlife supporter known for his ecological advocacy. He is based in Britain. – Editors

Dedicate your life to birdwatching in Mexico, and you could see over eleven hundred species. The southern state of Oaxaca, sharing a border with Guatemala, has seven hundred of these. We had just a week, based in Oaxaca city, to see as many as possible. It was time to call in the expert!

Edgar' passion: Edgar de Valle's first close contact with birds was through bird banding twenty-two years ago. Those early encounters built into a passion. We rose in the dark each day to arrive at the birding

sites when the birds woke up at dawn.

Oaxaca city sits as an elevation of 5000 feet, and our early birding days were in the plains and fields around there. Serenaded by the song of the Happy Wren, one morning saw us treading fields where agriculture first started in the Americas, squash seeds found in a local cave dating back 10,000 years. Increasingly those fields now fill with the spikes of agave plants. Fueling the new global craze for drinking mezcal, thousands of acres of scrubland that once made for terrific bird habitat have now been cleared for agave.

Edgar was an English teacher, before birding took over

completely. One morning we headed to Monte Alban, a spectacular ruin from the local Zapotec civilization that spreads across a hilltop on the edge of the city. Early morning birding treats included a blue mockingbird, spiralling around the branches of a tree to gobble down berries; a nightingale thrush, tracked by its song to a spot on the ground inside a shrub's deep shade; and a red capped warbler darting among agaves.

Canvassing birds: When the site opened to visitors, images of these local birds bordered the flight of steps up to the entrance, vivid in photos on welcoming banners. These are not dead ruins, the banners declare, but living habitat whose wildlife is inviting you in.

Edgar let us admire these banners. Days later we learned that he and two colleagues arranged to have them in place. Together the three of them run Terra de Aves (Land of Birds), a not-for-profit who gather data on the region's birds through regular bird banding. Edgar has plans to take the message of bird conservation into schools and prisons too, but for now interaction with the public comes on the bird banding sessions at Monte Alban. "The more people know about birds," he says, "they open their eyes and start to care more."

Parties of children cross the famous site to investigate the banders. They step closer, eager to pet the birds, gently, one by one.

Botany-impact: "They release them too," Edgar says. "A nine year-old boy took a rufous-backed robin into his hands and released it. It flew up a few feet and was snatched in the air by a Cooper's hawk. At first he was really upset, of course he was, but he came to see that this was part of nature's cycle."



Edgar de Valle, Martin Goodman

A recent survey showed that botanical gardens lower the temperature in a city's surrounding streets by five degrees centigrade. Twenty-five years ago an ethnobotanical garden was planted in the city of Oaxaca for the first time. Edgar and his colleagues started bird banding there. "It proved that

with water and plants a lot of birds will come even in the middle of the city." Five years ago they were banding a hundred birds a session, higher than any other station in the whole continent. Records show that their birds are resident, not travelling more than a kilometer from the garden.

The city's biology students now head from the university to the gardens. "Previously they were only interested in mammals," Edgar explains. "Now they bring their friends, and more and more come."

Inoculated: For our final days we head into the mountains, birdwatching different bands of habitat up to ten thousand feet. It's a patient game. I'm the least proficient at birdwatching, it's hard to spot a warbler in the full canopy of a high tree. "Did you see it?" Edgar would ask. I did, a snatch of the bird in my binoculars. "No you didn't," Edgar says in response, for he knows what my excitement sounds like when I truly see something. "Not really." And we work and wait and look, Edgar, guided by his acute sense of bird song, till the bird comes into full view and I cry out my wonder.

174 species later, most of these bird species new to us, our week of absorption in the life of birds comes to an end. But it doesn't of course. You become richer, watching birds, and carry these experiences with you, enfolded in your life.



Map of Mexico

A BALD EAGLE AT HOME

By Mamta Vardhan

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A Bald Eagle at home, Mamta Vardhan

Mamta Vardhan works on Gender and Environmental Management, and is based in Edmonton, Canada.

I live in Edmonton, Alberta, Canada. I am thrilled to share an extraordinary experience that unfolded right in my own backyard recently – an unexpected visit from none other than a majestic Bald Eagle.

It was a sunny afternoon, and the snow was melting all around. I was returning from my work when my neighbor, camera in hand, called me out. “Mamta, there is an eagle in your backyard.” I backed up in the front yard when he pointed it out to me. I was astonished to see a large bird with striking white head and tail feathers. It was perched high on the pole behind my garage and even from 70 meters away and from its high perch it looked impressive.

Disbelief: Instantly recognizing it as a Bald Eagle, I was filled with a mix of excitement and disbelief. Although Edmonton is not the usual habitat for the Bald Eagle in Canada, there it was in my backyard. I imagine it came over as

a visitor from the Boreal forests around Edmonton. Since this bird is not commonly sighted in our area, this chance encounter became even more special.

I quickly crossed over my front yard, unlocked the front door, dropped my backpack, and dashed to the backyard for a closer look. In close-up the bird was even bigger and more striking. It was busy devouring a rabbit and in-between mouthfuls scanned the surroundings with its keen eyes and air of nonchalant royalty.

A flock of Magpies stayed close by to pick up any morsels that the eagle dropped on the ground. In an upspoken way, the Magpies just knew who was in-charge.

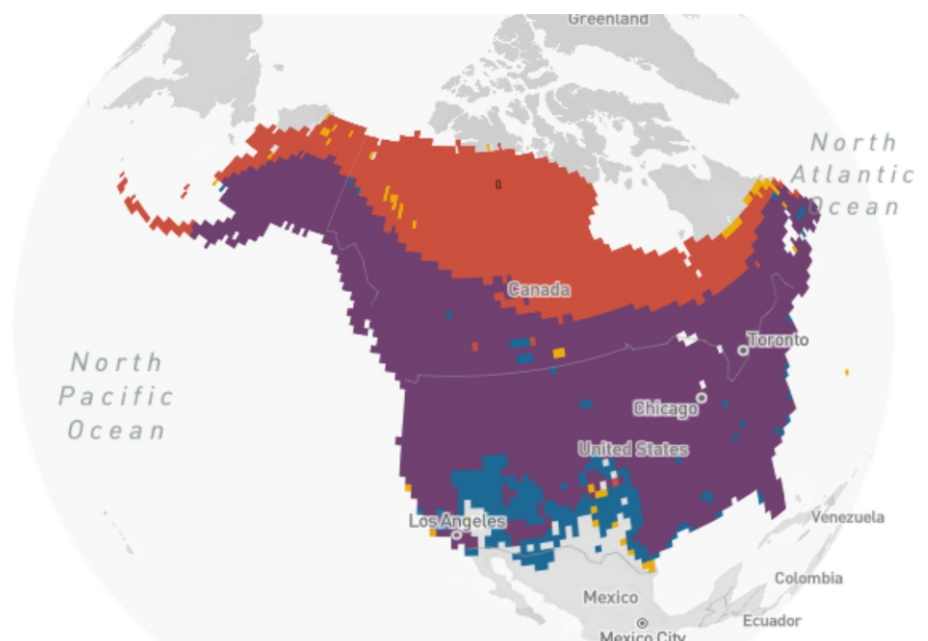
Gift: I stood there for over 30 minutes, transfixed, watching this rare moment unfolding before me. I couldn't help but feel a sense of wonder and reverence in its presence – a reminder of the power and beauty of nature. It felt like a gift, a glimpse into the untamed wilderness that still exists amidst our bustling suburban lives. In that instant, all worries and distractions melted away, replaced by a profound sense of connection to the natural world.

Bald Eagles hold a special place in American culture and symbolism, representing strength, freedom, and resilience. A fun fact about the Bald Eagle: Did you know that if a Bald Eagle loses a feather on one wing, it will shed a feather on the other wing to keep its balance?

To have one grace my backyard felt like a symbolic affirmation of these values, reminding me of the importance of preserving and protecting our environment for future generations.

Hopeful: As quickly as it had arrived, the eagle spread its wings and took flight, disappearing into the endless expanse of sky. Though it was gone, its presence lingered, leaving an indelible mark on my heart.

In sharing this experience with you, I hope to inspire a deeper appreciation for the wonders of nature that surround us, even in the most unexpected of places. Let us cherish these moments of connection and strive to be stewards of the earth, ensuring that future generations may also have the privilege of encountering such awe-inspiring creatures in their own backyards.



Bald Eagle's migration in Canada and USA, eBird

LIMESTONE MINING IN KENYA THREAT TO BIODIVERSITY

By Peter Mwangangi Njeru



Chasimba limestone outcrops with rare plants by Cornelius Kyalo

Peter Njeru is an active professional from Kenya with a background in Natural Resources - Wildlife Management, with proficiencies in policy analysis, policy influencing and science-led advocacy. He is passionate in biodiversity conservation and sustainable development, including the overall nature positive mission of the Global Biodiversity Framework.

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The Kunming – Montreal Global Biodiversity Framework targets to halt extinctions, decrease biodiversity loss and protect 30 per

cent of the planet by 2030. Goal A of the framework, calls for the halting of human-induced extinction of known threatened species. It also calls for the reduction of extinction rates and risks of all species tenfold by 2050. Target 15 requires businesses to disclose their dependencies on biodiversity.

In Kenya, a site called Chasimba - a biodiversity hotspot - faces imminent danger from a proposed open-cast limestone mine and the establishment of a cement manufacturing plant. The move is ill-advised, culturally insensitive and environmentally disastrous. This project will lead to the extinction of species only found in this area should it be granted a

license by the mandated agencies.

Mining impact: The mining industry plays a crucial role in Kenya's economy. However, mining is very destructive to the environment. The mining sector must position itself to prospect for critical minerals while ensuring they are extracted and traded responsibly. The key to achieving this is the recognition of no-go zones – areas that must not be subjected to mining.

Deliberate efforts must be made by proponents, financiers and investors to ensure comprehensive biodiversity assessments are carried out in potential mining sites. Such projects should be subjected to



Critically Endangered African Violet *Streptocarpus ionanthus* subsp. *rupicola* (formerly *Saintpaulia ionantha* subsp. *rupicola*) at Chasimba limestone outcrops by Cornelius M. Kyalo.

cumulative analysis of impacts using an ecosystem approach, net gain feasibility models, and wider and genuine consultations with relevant stakeholders and experts. They should also adhere to international best practices like the Mitigation Hierarchy and IFC Standard 6.

Arguments: Conservation sector stakeholders led by Nature Kenya – the East Africa Natural History Society strongly object to the proposed project for the following reasons:

1. Chasimba's biodiversity is irreplaceable. The Chasimba site has more than 196 plant species, of which 31 species are on the IUCN Red List, classified as Critically Endangered (2 spp.), Endangered (9 spp.), Vulnerable (11 spp.) and Near Threatened (9 spp.).

♦ Chasimba hosts a population of the African Violet (now classified as *Streptocarpus ionanthus* subspecies *rupicola*) – a Critically Endangered, Kenyan endemic subspecies that prefers limestone outcrop crevices/substrate and is represented by only three populations, all in Kilifi County.

♦ Chasimba's Endangered species include the plants *Premna discolour* var *discolor*, *Cola*

octoloboides, *Zehneria monocarpa* and *Premna mwadime* which were discovered in 2020 and 2021 respectively.

♦ Spectacular underground limestone outcrop features will be destroyed. The Chasimba block and surrounding areas have a well-formed cave system that has taken millions of years to form by percolating ground and surface water resulting in subterranean passages that display amazing formations such as the Kambe Limestone Belt. Chasimba is a heritage site with historical and cultural values. It is also a potential UNESCO Geo Park with outstanding universal values for humanity and tourism.

2. The Environment and Social Impact Assessment (ESIA) management plan fails to capture Chasimba's threatened biodiversity. The proponent, despite the huge project budget of Ksh 12 billion, has not demonstrated an understanding of the site or local population, nor any commitment to safeguard ecosystems or save species and their habitats. The ESIA indicates scientific ignorance as it contains carelessly worded generic statements such as “*the site is devoid of any eco-sensitive area*”, or “*impact on biodiversity and wildlife*

is minimal”. The experts ignored the threatened plants, geological features and cultural values of the Chasimba rock outcrops.

3. The cultural significance of the unique Chasimba rock outcrops and caves has not been considered.

4. Inadequate biodiversity assessments, disregard for biodiversity values and lack of cumulative analysis of impacts create an incorrect and biased assertion that the project is environmentally viable. The proposed mitigation measures for biodiversity threats are vague, generic and impractical.

5. The project is not sustainable as presented. In addition to the above, the use of coal as an energy source adds to the global climate change and biodiversity loss crises. The project is ill-informed, ill-conceived and environmentally untenable.

Stop it: It is a NO to limestone mining at or near Chasimba outcrops, for, even with the best mitigation strategies the project will have irreversible impacts on nature. Experts in Kenya have urged the environmental management authority in Kenya to require the proponent and other mining companies to STOP forever any mining-associated activities on the Chasimba site.

Comprehensive surveys of African Violet and other rare plants in the entire coast region engaging relevant stakeholders are recommended.

In addition, comprehensive studies in the cave system of Chasimba and other similar sites including early human use, bat colonies, endemic insects and reptiles in the caves are recommended, to enhance species recovery, reduce extinction risks and unify the studies with community conservation initiatives.

Kenya's duty: Under the Convention on Biological Diversity, it is Kenya's obligation to safeguard all species.

PRESERVING CANOPIES BIG-LEAF MAHOGANY

By *Gautam Balasaria*



A Mahogany tree in Africa, wikimedia

Gautam is studying in XI standard in Jaipur and started conserving biodiversity at home along with four other students, thus forming a school-group on nature conservation – Editors
Email:ggbalasaria@gmail.com

Imagine a world where you had to wear oxygen masks and carry oxygen cylinders everywhere you go. A world where you had to eat preserved food from cans. In a dry world with frequent droughts, you had to wear suits to prevent sunburn and wear eye protection to prevent blindness from harmful ultraviolet radiations. Or rather, a world without trees.

Imagine the number of animals and birds that are becoming endangered and decreasing in population due to deforestation and a decrease in the number of trees or plants and also us getting closer to the world I made you imagine above when each tree is cut and not replaced.

Dependence: Animals are dependent on the trees and plants as they provide shelter to animals and food for the herbivores as we all

know. A lack of flora can lead to a disruption in the food chain of nature. These trees and plants are cut down for various reasons; some are natural like wildfires or climate change while many are from human activities like mining, timber extraction, agricultural expansion, or urbanization.

The World Wildlife Fund (WWF), a global NGO that is committed to preserving worldwide ecosystems by focusing conservation efforts on endangered habitats and global



Peepal leaves serve immense benefits, wikimedia

threats, stated that in 2022, the deforestation worldwide was 6.6 million hectares, with primary tropical forest loss of more than four million hectares and 96% of this happened in tropical regions.

NASA Earth Observatory, an online website where NASA publishes its report on climate change and the environment, reported that direct causes of deforestation include agricultural expansion (the expansion of agricultural land), wood extraction (e.g., logging), and infrastructure expansion such as road construction and urbanization.

Mahogany: According to the IUCN (International Union for Conservation of Nature) Red List 2024 report, Big Leaf Mahogany, also known as Brazilian Mahogany or Honduran Mahogany, with leaves up to 45 cm, has been listed from vulnerable to endangered in 2023.

Fauna such as birds, insects, and mammals take shelter under Honduran Mahogany. Birds such as macaws and parrots, woodpeckers, barbets, flycatchers, and more make nests on the Mahogany trees and even animals such as squirrels and bats take shelter under this tree.

Mahogany is a valuable timber that is used for furniture, and jewelry making and the bark is useful for medicines that can cure fever, diarrhea, and rheumatism. The major threat to the survival of Big Leaf Mahogany trees is illegal logging done to meet the extensive demand for the timber and mahogany that it provides.

CITES also: The Economic Times, a reliable news source, found that most of Big Leaf Mahogany is cultivated in Asian countries like India, Indonesia, Malaysia, Bangladesh, Fiji, the Philippines, Singapore, and others. India and Fiji are the biggest suppliers globally. However, as its alternate name suggests, Brazilian Mahogany is a common mahogany ranging from Mexico to Brazil.

It is important to note that Honduran



Ficus benghalensis causes ideal canopy, Harsh Vardhan

Mahogany needs fertile soil to grow and grow in tropical and subtropical climates.

The Big Leaf Mahogany is listed in Appendix II of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). Appendix II lists "all species which although not necessarily now threatened with extinction may become so unless trade in specimens of such species is subject to strict regulation".

India has been a part of CITES since 1976 and therefore follows the trade restrictions implemented by CITES. Therefore, to trade big-leaf mahogany, India or any other country following CITES must follow the following procedures and rules:

I. Non-detriment finding.

- ◆ Population status - population of the species in the wild.
- ◆ Regeneration - the time it takes for this species to reproduce.
- ◆ Threats faced by species

- ◆ The impact of trade on the species

II. Legal acquisition - to check if the mahogany was obtained legally.

The mahogany imported into India should also follow the CITES export rules.

It is a shame to cut down trees with unique qualities for private benefits in the greed of money. Cutting down Big Leaf Mahogany trees for their unique mahogany timber is as unfair as killing an elephant for their ivory tusks or killing a tiger for their skin, bones, and organs.



Ficus benghalensis krishnaiya at Lesser Florican site, Harsh Vardhan

Green economics: Thinking about it from an economic perspective, cutting down big leaf mahogany leads to negative externalities of production as due to the production of the mahogany timber leads to third-party costs because it leads to deforestation which leads to extreme climate change, more greenhouse gas emissions, leading to air pollution, damaging the ozone layer, and soil erosion.

Imagine the illegal logging and timber extraction that cause this on a large scale, making it hard for the government to keep track of the count of these trees.

To prevent this, we, as citizens, can plant trees on occasion if not regularly like in the Piplantri village where villagers plant 111 trees every time a girl is born.

Or the least we can do is spread awareness about such endangered species with a declining population rate which can be by either joining an NGO that supports such a cause of preserving biodiversity like TWSI.

Houbara AS A SPY IN INDIA RESEARCH IN ARAB WORLD

From Conservation Times Desk



Radheyshyam Pemani Bishnoi taking care of a Houbara at his agricultural farm near Lathi in the Thar Desert, Harsh Vardhan

A mystery bird having a satellite transmitter over its back caught!

That is how some Indian newspapers carry news about it. The personnel of Border Security Force, who man the Indo-Pakistan border round the clock, happen to be responsible for capturing such stray birds. They remain clue less as no description is found over the bird

barring a colour tag over one of the legs, saying UAE. They consider it a case of spying on Indian affairs!

The captured bird is handed over to the forest authorities after it is detained in custody by the BSF personnel. The foresters seek help of bird experts, located far away, to know better about the bird. It is Houbara! A migratory bird species

that reaches the western arid parts of India from far west. The tag is sufficient to outline the bird belonged to UAE where it would have been under experimental studies and a tag was applied to ascertain its winter migration range. It is part of on going research on such species in the United Arab Emirates.

Falconry: The bird is sent to Jodhpur based forest department's captive enclosures as a new entry. Several Houbaras have reached this Machia located biological park which has rocky habitat. Houbara needs loose sandy habitat to survive and vast areas to walk fast and search feed, usually insects and lizards. Five birds live there presently. An official told this writer that they would attempt breeding. That was three years ago. Wonder if breeding progressed?

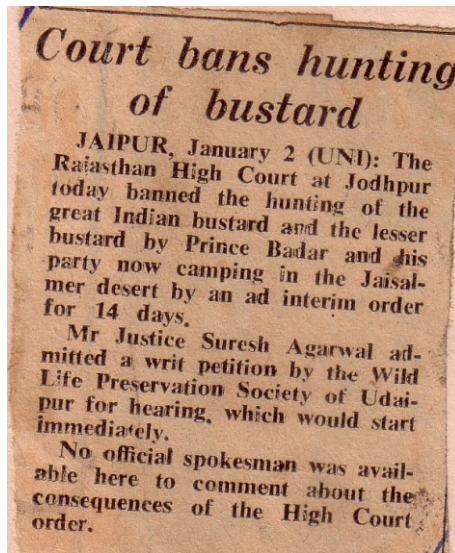
The birds used to be in thousands in number till 70s reaching India's Thar Desert and Rann of Kutchh and even beyond. The Arab Sheikhs used to reach the Desert to sport falconry, using high speed jeeps. The falcon was released in air by one of the Emirs. It would spot a Houbara and swoop over it. The Emir would drive fast to reach the spot and release the captured bird, keep it in deep freeze facilities adjusted within vehicles. Immediately a piece of meat was offered to the falcon. A reward for having done a good job.

Falconry continued for long. Houbara number also continued to decline. Until a public agitation rose in streets of Jaipur to oppose such falconry which happened to be violation of India's Wildlife Protection Act. The Government sided with the Emirs. A writ petition was granted by High Court, Jodhpur, ordering stoppage of falconry. The Emirs had to withdraw from the scene. It led to Bustard conservation at country level in India joined in by overseas experts. The US Fish & Wildlife Service came forward to fund new stream of studies on the species.

Arab reason: The Arab royalty saw treason. They invited western experts to decide. Houbara breeding centres were set up at several places with the objective to breed the species and reintroduce in wild. So that falconry may continue at places historically known for Houbara migration during winter. Research gains thus landed in lap of Emirs.

On a visit to the Thar Desert, this writer spent time during February 2024 with Radheyshyam Pemani Bishnoi at his agricultural farm near Lathi. He displayed an injured Houbara kept in a nice enclosure he had created to rescue birds and mammals. It had a tag over its leg written: UAE.

Across the Arab world, ex situ breeding of Houbaras continues as a planned approach. A UAE daily reported: The UAE has bred and released more than 549,816 Houbara bustards into the wild through the efforts of the International Fund for Houbara Conservation (IFHC) since 1998.



A clipping from *The Times of India* (3 January 1980), stating how Bustard (Houbara) falconry by Arab royalty came to a halt through a Court Order in India, a rare feat in wildlife conservation, HV's archives.

The programme fulfils the vision of the UAE's Founding Father, the late Sheikh Zayed bin Sultan Al Nahyan, in ensuring the sustained population of Houbaras.

What in India: The data, captured based on the latest scientific satellite tracking, confirmed that the captive-bred Houbara released in Kazakhstan during the months of July to September arrived in the

Arabian Peninsula during the month of November. The research findings support the fund in its evaluation to strategically consider the location and genetics of each bird when releasing Houbara into the wild.

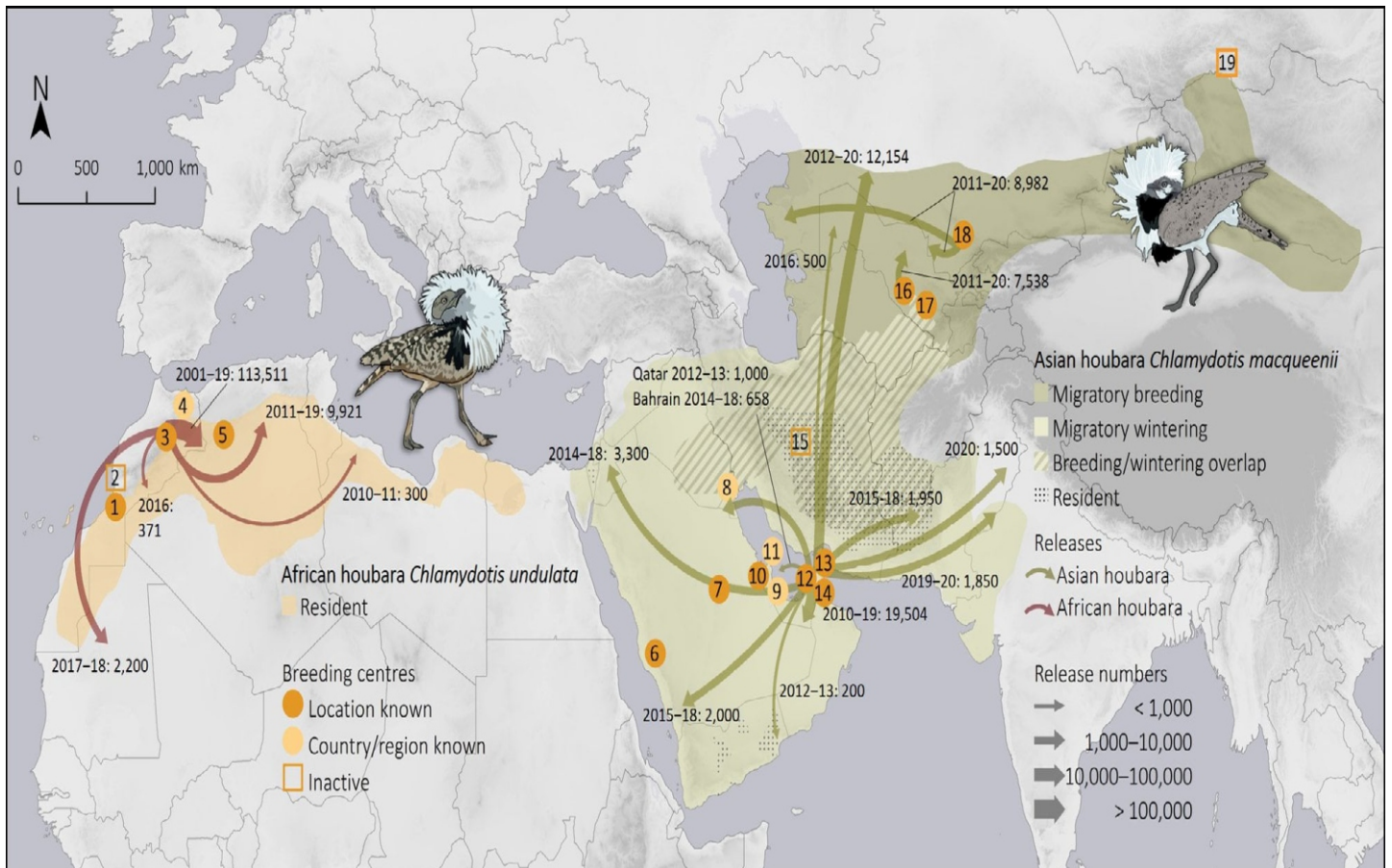
Globally, a total of 706,284 Houbara bustards have been bred in captivity since 1996, with UAE as the top contributor producing 340,527.

The IFHC is a world leader in preventing Houbara bustard extinction.

It has a global network of conservation efforts that aim to bring the number of Houbara bustards back up to a sustainable level worldwide.

Against this, India waited for four decades to initiate ex situ breeding of Great Indian Bustard in Desert National Park, Jaisalmer, kick started during 2019.

It is successful. Third generation birds await reintroduction in the wild during 2024, a daunting task for forest authorities.



Houbara migration map, UAE source

Photo Feature



Courtship display by Indian Skimmers at the Chambal river; Ravindra Singh Tomar



Indian Skimmer, tagged by BNHS, Ravindra Singh Tomar

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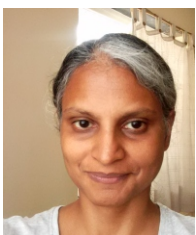
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