# Whispering Wilds

A Product of Exploring Nature Call of The Wild

Edition - 5 (January 2024)



### **Awareness**

Wildlife Tourism Challenges and hazards due to rule breakers!

### **Featured Stories**

**Avian World** Wildlife Tales **Research Paper Nature Trails And Photowalk** 







**Avian World** The Himalayan Owl





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### **Dear Whispering Wilds Readers**

As we approach the festive season, I am filled with immense joy and gratitude to share some remarkable news with each and every one of you. Together, we have reached a new milestone - Whispering Wilds has surpassed 50,000 global readers! It warms my heart to know that our message of conservation, appreciation for nature, and the shared responsibility we bear for our planet is resonating with so many around the world.

This incredible journey has seen the successful publication of four editions of Whispering Wilds. Each edition has been a labor of love, a tapestry woven with words and images that aim to ignite the spark of environmental consciousness in every reader. The stories we've shared, the breathtaking visuals that have adorned our pages, and the positive impact highlighted in these editions are a testament to the collective effort we are making towards a more sustainable and harmonious coexistence with nature.

As we celebrate this milestone and the joyous occasion of Christmas and the New Year, I extend my warmest wishes to each and every one of you. Merry Christmas and a Happy New Year! May this festive season bring you moments of joy, reflection, and connection with the beauty that surrounds us.

Looking ahead to the New Year, I am excited to declare that it will be a year dedicated to nature. In a world that is constantly evolving, it becomes even more crucial for us to reaffirm our commitment to the well-being of our planet. Whispering Wilds will continue its mission to inspire, educate, and advocate for responsible interaction with the environment.

In the coming year, we aspire to deepen the impact we have on individuals and communities worldwide. The magazine will continue to showcase stories of positive change, spotlighting individuals and organizations that are making a difference in the environmental landscape. Through these stories, we aim to motivate and empower you, our



readers, to take small but meaningful steps towards making our world a better place to live in.

Your support has been the driving force behind our success. It is heartening to see a growing community of individuals who are passionate about preserving the wonders of our natural world. Together, we are part of something much larger than ourselves - a global movement towards a more sustainable and harmonious existence.

As we embark on this journey into a new year, let's carry the spirit of gratitude, determination, and responsibility with us. Let's make 2024 a year where our collective efforts create ripples of positive change, where every action, no matter how small, contributes to the greater good of our planet.

Chief Zoologist Dr. Mithilesh Dutta Dwivedi Whispering Wilds

"Thank you for being a part of the Whispering Wilds family. Your readership, engagement, and commitment to the cause inspire us every day. Here's to a Merry Christmas, a Happy New Year, and a year ahead dedicated to nature and making our world a better place for generations to come".

### **About Us**



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### **A Wildlife Consulting Company**

Exploring Nature is a Community of like-minded people who loves to be in Nature amidst. Mother Nature has its own rhythm and we must tune up to it for a better tomorrow.

We envision a future where people have developed a deep connection with the natural world, understanding and appreciating its rhythms and cycles. Through our community, we strive to inspire a collective consciousness that values and safeguards the environment, ensuring a sustainable and harmonious coexistence between humanity and nature.

We envision a tomorrow where every action is guided by the principles of conservation, allowing future generations to inherit a thriving and pristine natural world.

Our Vision is to create a world where every individual cherishes the beauty of nature and recognizes the importance of protecting its novelty.

Our Mission is to inspire and educate individuals to cherish the beauty of nature and create mass awareness.

Our aspiration is for a future where every decision and action is driven by conservation principles.

Join us on this journey of exploration, understanding, and commitment. Together, we will harmonize with the rhythms of nature and ensure a better, more sustainable tomorrow for all...

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https://exploringnature.net

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WeNaturalists is a global ecosystem for professionals and organizations working in nature. It appeals to everyone contributing to nature including children, youth, individuals, organizations, and institutions.





- For professionals, it is a storehouse of opportunities in nature
- For youth and children, it provides education, learning, and awareness options while interacting with
- For organizations, it provides solutions to manage projects, donors, community, and through integrated communication, and participation. Potentially saving costs and improving income - while creating an impact on the ground
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### **Challenges and Hazards due to Rule Breakers!**

In our society it is funny how rule breakers are almost everywhere! Even ambulances have to fight their way through traffic since nobody is willing to leave their spot and give way.

### Wildlife Tourism



More often than not, it only proves the truism that – 'Stupidity is hard to hide!"

It is with this thought that the Management at Tadoba Tiger Reserve took some firm decisions. They decided that wildlife comes first and we cannot allow any disregard for animal life in the forest. Sure enough, tourism is not a right, rather it is a tool for conservation - that comes with a sense of responsibility and respect for rules.

Author: Anirudh Chaoji, Wildlife Expert, Chief Naturalist, Tadoba Andhari Tiger Reserve

So, when it became obvious to the Management that some of the guides, drivers and even tourists were misusing their phones to call each other to the 'Tiger Viewing' locations, the moment they spotted a tiger, they realised that something had to be done. This is because the other vehicle could be on the other end of the zone. That vehicle would then speed on the dirt track putting at risk lives of the tourists as well as animals. Animals can't complain, tourists won't and as far as the drivers and guides are concerned, it is a matter of earning that extra tip!

Consequently, Tadoba management was forced to take the drastic step of banning the use of mobiles during safaris. However, we are all aware that a few dishonest members in our society create 'problems for every solution'. Tourists at places like Jhalana Leopard forest in Rajasthan act irresponsibly all the time, waiting for a bad accident to happen!!!

Similarly, many innocent lives are lost on our high-speed highways. Snakes, frogs, small mammals and sometimes even deer, bears, leopards and even tigers have been knocked down by speeding vehicles. We must not forget that these animals are not crossing our highways – instead, our roads are cutting across their homes. In response, signages were put up requesting drivers to reduce speed, which probably may not have been readable at that speed. So, speedbreakers had to be installed at regular intervals and specifically near crossing zones!!!

On the same road, often it was noticed that tourists in vehicles stopped to watch animals that came close to the road. These wildlife watchers did not realise that the animals needed to cross the road and by stopping their vehicles, these people were actually obstructing the free movement of animals. Some of them even stopped to take 'selfies' with the animals. Fortunately, since the 'no-stopping' signages specifying a penalty of Rs. 5,000/have been put up, the number of such enthusiastic 'selfie-clickers' has drastically reduced!

Another problem that the Tadoba management faced was very emotional. Sonam, Lara, Tara, Maya are not the names of delicate and gorgeous film-stars or models. They are Tadoba's tigers. So what was the problem with these cute names, instead of the regular T-12, T-36



### **Awareness**



Images by Mr. Upayan Chatterjee and Mr. Mukul Mukherjee

etc.? Let's go back in time when a famous tiger disappeared from a neighbouring tiger habitat. What followed was unprecedented. There were even some enthusiastic nature-lovers who were willing to go into the forest, in search of this particular tiger. However, the same enthusiasm was unseen for the other 79 nameless tigers that died in 2014 or the 81 that died in 2015.

So then, why was the public uproar only about this particular tiger?

Could it be because it had a name that made it famous?

What the people do not understand is that the mandate of the Forest Department is not to save one specific animal, but the entire species and its habitat as a whole!

Conservation efforts face many more similar challenges mainly due to the ever increasing tourist population crowding the forests with little regard for rules or responsibility!

This is perhaps the biggest problem that affects serious conservation efforts today.

### HIMALAYAN OWL

Himalayan Wood-owl, Chinese tawny owl

### The Himalayan Owl



Scientific Name: Strix nivicolum
Other names: Himalayan wood-owl,
Chinese tawny owl
Distribution: India, Nepal, Bhutan,
China, North Korea, South Korea,
Taiwan, Myanmar, Thailand, Laos,
Vietnam
Diet and feeding habits: insects,
small mammals, small birds
IUCN status listing: Least Concern

**Ecosystem and habitat** 

(LC)

The Himalayan owl species have a moderate forest dependence. These species normally occur in altitudes from 0 to 2350 meters. The natural ecosystem of these species include tropical and subtropical dry forests, coniferous forests, temperate forests, oak forests, Mediterraneantype shrublands, montane forests and rocky ravines and temperate shrublands.

Diet and feeding behavior

The diet of the Himalayan owl is reported to consist mainly of insects. A variety of insects like mantids, locusts, grasshoppers, cicadas, beetles, moths, termites and also small vertebrates like rodents and birds are their primary food.

My Experience

On an overcast day in West Bengal's Northern extremities, it drizzled from the rumbling clouds. A car cut across the Eastern Himalayan landscape from Rongtong towards Senchal Wildlife Sanctuary. All hopes of a coveted sighting of the elusive Himalayan Wood-Owl were slashed. Heavy rain would mar our chances.
With Anjan Shau for company, I was chasing a life-time experience. We were ready to take the inclement weather in our stride. Our friends Peter and Ankit Beck knew the forests in this region like the back of their palms. We were banking on their expertise.

The intensity of rain was still moderate when we reached the Wildlife Sanctuary. But the Sun had set.

Peter demanded silence. Headlights of our car were turned off. Slightest of noise or the faintest hint of light could mean that we never see the owl. And then we waited. The insects' chorus carried on for an eternity before a loud call (who-huu) suddenly rang through the forests. A shrill screeching followed. There they were, the Himalayan Wood Owls! Two of them. Communicating with each other. The calls originated from the depths of a mountain slope. We needed to trek into the darkness off the main road amidst the rains. A decision had to be made.

There had been an ethical predetermination about not using recorded calls to bring the owls to us. Instead, we would reach out to them. Peter traced their call and we followed. The Visibility was at a bare minimum. We wanted no more disturbance to the night's darkness than was absolutely necessary.

Author: Sourashis Mukhopadhyay Software Developer Tata Consultancy Services



### **HIMALAYAN OWL**

Beyond a maze of hanging branches and sharp thorns, the owls' calls grew louder...

### The Himalayan Owl



There was a darkness in which one can usually see Himalayan Black Bears roam silently and prowling leopards glide like shadows amidst it. Here, rains entice snakes and warm blood entices leeches. A false step could send us hurling down the slope. Were the owls worth the risks?

The guides waited for our decision. My friend Anjan and I decided to go ahead. We may not have a second chance at finding these owls. Peter insisted that he and Ankit would go first and attempt to pinpoint the origins of the call. We shall follow only if they succeed. Both of us respected his decision and waited in abject darkness. Peter and Ankit returned soon. They brought positive news.

But then we had to traverse the slope without tripping off and reach the tree where the owls were seated. Beyond a maze of hanging branches and sharp thorns, the owls' calls grew louder. We could feel the owls on the tree right in front of us.

Peter and Ankit demanded readiness of our photography gear. The flashlight shall be turned on for a short window of time and photographs were to be made within it. We were anxious.

And then the lights turned on. We saw the majestic bird. Our cameras emanated the familiar click of satisfaction. Then, shade was reinstated.



We left the owls amidst the magnificent insect chorus and impermeable darkness of their abode. Night descended over the Eastern Himalayan forest.

We walked silently back to our car feeling fulfilled like never before!

« Night descended over the Eastern Himalayan forest »

### A TRUE STORY

Disclaimer: "Whispering Wilds" does not support and encourage taming of wild species.

## "TUNU" The Loving Parakeet: A True Story!

Bordehi is a small place in district Betul of Madhya Pradesh in central India; Being a remote area, it is not so accessible.

On a fine morning in October 2006, a cute little baby parakeet was put up for sale in a cage on a street in Bordehi. The baby had still not grown the feathers to fly and so was captured easily by the birdcatcher, although the thick forest must have posed a real challenge to spot the nest. Soon,the baby bird in the cage caught the attention of the passersby.

One man with a tough exterior but a tender heart could not resist it and bought the bird and carried it to the police station and handed it over to the station in charge, Mr. Samar.

Mr. Samar was furious to see the caged baby but was glad of its rescue to safety and sure enough, his heart melted. He took it home to take care of it and set it free later.

The baby was small, it had to be protected from all external invasions. Cats are instinctively very aggressive and would never spare a helpless baby bird and so the juvenile was kept in a bigger cage that was always latched.

Food was served inside the cage. Meanwhile, Samar and his family enjoyed watching the baby bird grow!

Slowly, as time passed by, the rose ring started showing around the bird's neck, it was confirmed that it was a Rose ringed parakeet.



"Stoned walls do not a prison make Neither the iron bars a cage."

### **AUTHOR**

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Whispering Wilds - January 2024

### Soon, Tunu was the center of attention at home.

What a loveful, beautiful moment for Samar!

The baby in its infancy was very affectionate. One fine day, it very skillfully broke out of the cage and opened the latch, opened the door, flew out and perched on Samar's shoulder.



Now there was always a fear of feral invasion so the gate of the cage was always locked. But to everybody's surprise the tiny bird opened the tiny lock too, to be with Samar all the time. Its beak perfectly obeyed its mind.

Richard Lovelace has rightly said in his poem "To Althea: In Prison:" "Stoned walls do not a prison make Neither the iron bars a cage."

Now it would eat lunch and dinner with Samar from the same plate. It would fly to the police station with him, be with him, fly out to the forest too sometimes and come back home on time.

By the time the baby bird was almost a year old it had become the most important member of the family. It was affectionately called 'Tunu'. Soon it got familiar with its new name and often responded sweetly.

It was so affectionate that it chatted with all members of the family. Language has never been a barrier to communication. When Samar's children moved out of the city for further studies, it would talk to them on video calls with Samar, it recognized and responded to the voice calls too.

Tunu's bond with Samar and his family was indeed special. Tunu could never bear the separation with Samar for long. Whenever Samar was out for many days, it used to stop eating and it would break its

fast only when it would hear his voice or see him on a video call. Soon, Tunu was the center of attention at home. The home always resonated with its presence.

Samar also had a German shepherd at home, a loud barking breed that is ferociously aggressive. However, Tunu had won the heart of this pet too. It would lovingly carry it on its back and was gentle with it.

Much like a human baby, If the bird felt that it was not being given due attention, it would take offense and sulk. Then however hard Samar would try to appease, it would show its tantrums and would not relent easily. Samar would then try to compensate for all the time for which it was ignored. What a lovely bond!

The parakeet was also very possessive of Samar. It could neither bear Samar loving his own baby nor could it tolerate his love being shared with anyone else.

It identified Samar's car very well. Once it was in his car with the driver, going to receive Samar. It flew out of the window and got back in the same car distinguishing it from so many on the road, miles ahead!

Every morning Samar would feed the birds. He would scatter peanuts and grains for the birds. It would fly over fluttering its wings, join them, enjoy their company, then fly away for a few hours but would inevitably come back home.

« It could neither bear Samar loving his own baby nor could it tolerate his love being shared with anyone else. »

### It always got back home.

It was so intelligent that even when Samar was transferred to other stations, it never failed to map the sky, it knew the exact coordinates of his home.

Sometimes Samar would get worried for its return but it unfailingly returned always, except one day when Samar was posted in Betul. Tunu was ten years old by then. On reaching Betul, it waited, watched and surveyed and had become quite familiar with the place.



Its interaction with people around earned him popularity. However, one day the bird flew out and did not return. Samar was dreadfully worried.

The police training and experience helped him to trace the lost bird. He declared a reward for the person who found it. Fortunately it worked. It was such a solace to find and see Tunu after three days since it went missing. In that emotionally charged moment Samar couldn't even open the door of the cage properly but the almost half-dead parakeet helped him open. As soon as it came out, it poured out his love for him. It hugged him, kissed him and both of them rode back from the caged clutches of that auto driver in Roda, a small hamlet twenty kms from

The informer, a Paan-vendor was duly rewarded in cash.

Betul.

Tunu's connection with Samar was not an ordinary one. It was 4:00 A.M., June 07, 2009. It chirped loudly, being unusually noisy. The family tried to quieten it but it would not. Samar was on his way back home from an outstation trip. Fifteen minutes later, the wife received a call from Samar that their friends' car running ahead of them met with an accident.

There had been several instances that indicated the bird's strong intuitive power. Ever since it had accidentally entered the life of Samar, it had enriched his life.

Tunu loved people but it was specifically more friendly with people in Khaki. Though khaki projects a tough exterior, Tunu could scan through and had found a tender heart, and had written its life in the name of Samar, its soulmate.

On 22nd March, 2023, the first day of Navratri, Samar was doing his Pooja. Tunu did not join, but Samar was sure that he would as he always did. Time passed, the driver came running in shock, fear and guilt that Tunu got accidentally crushed when he slammed the gate of the car while cleaning. Tunu was no more.

As destiny must have wrote Tunu left for heavenly abode Breaking all its tethers Rose ring, green feathers His soulmate, Mr. Samar! The bereaved family, forever! I just wish and pray Be wherever he may Blissful he may be Boundless, jubilant, free!

« Tunu could scan through and had found a tender heart, and had written its life in the name of Samar, its soulmate.»



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Author: Gururaj Moorching, Bird Photographer, Bangalore.

## Namdapha National Park: A Birder's Haven!

My first meeting with Shashank Dalvi, (Naturalist, Conservationist, Scientist) happened during March of 2015 when he had organized a trek to Namdapha National Park and Tiger Reserve, in Arunachal Pradesh. After my initial foray into Kutch, I traveled every month of the year and covered the Central Himalayas extensively. I desperately wanted to photograph the colourful birds of the North East and grow my list to 1000 birds of India. I had covered most parts of India by the time I was ready to travel to Namdapha. I was seeking solitude and taking life at an easy pace during 2015. All the travel around the rest of India was done at a frenetic pace. Namdapha was that perfect place to watch birds at a gentle pace and that sense of solitude came from the serene and silent forest.



I had heard about Shashank Dalvi from various sources and especially about the work he had done in Doyang, Nagaland. He and his team had put a stop to the annual culling of the Amur Falcon in Nagaland, especially in Doyang.

Roko and I spent the next couple of days filming the slaughter and interacting with the hunters to understand the extent and nature of the hunt. It remains the most difficult and emotionally harrowing experience of my career." Since then, I have always wanted to bird alongside this man and learn skills and patience from him. When you are in love with all creatures around you and understand their crucial role in the ecological environment, you become patient in your role towards contribution. I became a bit more patient. Seven days in Namdapha and its surroundings gave me ample time to listen about snakes, and the behaviour of many mammals.

Namdapha has been declared a Project Tiger Reserve. It is also known as the land of the four big cats. It is the only place on earth to host them all in one forest. This is also the place for rare mammals like the Takin, Musk Deer and the very rare Slow Loris. The fragrant Agarwood is also found here. With an area of 2000 square kilo-meters, Namdapha is the largest virgin forest of India.

While approaching Namdapha, as soon as you cross the turbulent and frequent course altering river Neo Dhing and trek beside the elephant grass and walk towards Hornbill point, one thing is very palpable.... the empty forest syndrome... There is absolute silence. At times you hear the rustle of leaves drifting from sky high canopies. The trees stand very tall and the fragrance of their resins and fresh mood fill the air.

Any sign of the big cats was not visible and their prey base is almost non existent except for a few barking deers. You can feel the glory of the largest reserve forest in North east India as you amble along the 44 kms trek towards Namdapha from Deban.

After an overnight stay at Miao, we crossed river Deban with 8 trekkers and 23 porters. They had gathered luggage, tents, groceries including gas cylinders in bamboo baskets. They would always reach the destination much in advance and pitch tents, arrange the kitchen and the buffet table.

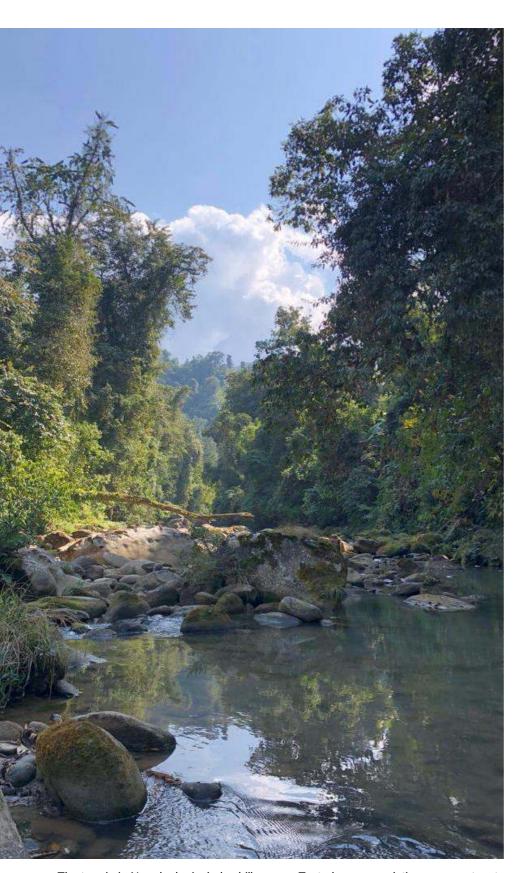
The team of 23 enablers were a group of self motivated individuals, who would pitch in to fit in multiple roles. They pitched residence tents, toilet tents, made ready the sit out layouts, made ready the buffet and every conceivable convenience, for the trekkers. Every meal was planned to perfection and included a dessert and fruits.

Initially, we gathered at Dibrugarh airport and moved toward Tinsukia, where we stayed overnight at a hotel. We drove around to watch and photograph birds at Maguri Beel and in the oil fields of Digboi for two days. Maguri Beel had totally captivated my heart and it is one destination I did not want to miss going to.

I visited the grasslands at least once in 6 months on average. It is a great birding destination and food connoisseur's destination. It throws in a rare avian visitor at regular frequency.

#### **Devastation**

In Shashank's own words "We had heard rumors of large-scale bird hunting around the Doyang Reservoir in Nagaland some time ago. In September 2012, Bano Haralu, Ramki Sreenivasan, Rokohebi Kuotsu and I decided to investigate. What we saw shocked us - a massacre of thousands of Amur Falcons.



The terrain in Namdapha includes hills, valleys, dense forests, and riverine area

Tented accommodations were set up to offer a unique experience while staying in close proximity to nature.





Trekking and hiking in Namdapha can indeed be challenging and potentially treacherous







The fire-tailed myzornis is a small warbler, 11 to 13 cm long and weighing 10–13 g, commonly found in the upper ridges of the Sikkim and Arunachal Himalayas, between 9,000 ft and 13,000 ft. It prefers habitats like bamboo thickets, Rhododendron shrubs, birches, and junipers in subtropical or tropical moist montane forests.

Fire-tailed myzornis



Black-breasted Thrush The black-breasted thrush, a forest bird rarely seen in the open, measures 22–23.5 centimeters in length and is found from northeastern India to northern Vietnam.



breeding in southwest 13–14 cm long, it has upperparts, yellowishnear water, feeding on



Later we drove into Arunachal Pradesh and halted at Miao. We drove around to watch birds and very high on my target was the 'Snowy-throated Babbler'. Owing to the dense greenery, the birds were not completely visible and I had to make peace with photographing just the top-half of the bird. Till now, I was used to shooting my muse completely and not concealed behind leaves.



As I waited for the bird to show up completely in the open, the bird would quickly scurry across the road. As on date my camera sensor still waits to imprint this beautiful bird in its memory. I have seen the bird well, but could not capture it in its entirety. One important lesson I learnt on this trip was to let go of the need to search for birds with a clean and uncluttered background. A bird found in any environment and surrounding is also a highly regarded subject. This attitude is essential while photographing birds in the entire northeastern India.



nce the trek into Namdapha forests began, the first break after 6 kilometers of trek was at Haldibari. This trek was moderately easy. The weather was perfect. There were plenty of butterflies and several lepidopterists who opted for a day visit to watch and photograph the colourful butterflies flutter around. We watched several varieties of butterflies while enjoying a packed meal handed over by one of the catering team from a bamboo basket, while the rest of his team had moved on to set up the camp. We sat on a couple of scattered bamboo benches. We continued our trek towards Hornbill Glade. We had to navigate around and over huge

fallen trees on the track. We encountered this situation quite often. We watched several birds and basically all of them were in the canopies, except for a few Whitebellied Epornis and clean sighting of the Streaked Wren-Babbler. When we arrived at our spot of residence for the next two days we were greeted with the aroma of food wafting across towards us. Hornbill Glade has two large open sheds. We slept in one while the other shed was used as a kitchen. As evening approached, we watched the Giant Flying Squirrels leaping across and latching on to trees almost 50 meters apart.







The Oriental Dwarf Kingfisher (ODKF)

Black-Faced Wabbler

Rhacophorus Maximus is a genus of tree frogs commonly known as "flying frogs" or "gliding frogs" due to their ability to glide between trees using their webbed feet.

The Namdapha River is one of the significant water bodies in the park. The Namdapha River flows through the park, contributing to the overall ecosystem and providing a habitat for various aquatic species. The park is home to a variety of wildlife, including several endangered and rare species







White-bellied Epornis Large Babbler

The next trek to Ranijheel was a bit more steep and via a narrow path. One could see several species of orchids on the tall trees. Tents were pitched up in an open patch of land close to the lake at Ranijheel, and the kitchen was set up in an open area. Leeches were in abundance with a total number of 5 species.

Finally, we spotted the most famous state bird of Assam around the area. I had waited 3 long years for this sight and had been on 8 earlier trips before I saw the 'White-winged Duck' at Dihing Patkai in Assam. The lake at Ranijheel was swarming with frogs. It was during the breeding season we watched these frogs. We also included a trek to a natural spring at Bulbulia into our itinerary.

All along the trek you can notice that the forest is rich and intact. The inaccessibility of the terrain is a blessing in disguise as it has helped to save the forest from destruction. The roads are virtually meant for walks alone and the camps within the forest at Haldibari, Hornbill Glade, Ranijheel, and Firmbase cannot be accessed by motor vehicles.

I had hired a boy from the Lisu tribe personally as a porter to carry my gear. He confirmed that the only food for his family came from hunting. They also grew rice. They are completely dependent on the forest for survival. A saying goes that even the wild animals run away from Lisu to protect themselves.



not to be missed. You are completely cut off from civilisation once you enter Namdapha. The joy of being isolated from the world is a very special feeling.



## FROM **MAXIMUM FIELD OF VIEW**TO MAXIMUM **MAGNIFICATION**.

### **VICTORY HARPIA**

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#### ComfortVision concept

Exceptionally wide viewing angle from  $23 \times$  to  $70 \times$  magnification for a noticeably enhanced overview in the field.





23 x/30 x

70×

Field of view comparison of a spotting scope at  $30 \times$  minimum magnification (small circle) with the field of view of the Harpia at  $23 \times$  minimum magnification (large circle).

ZEISS



Author: Dr Shardul Dongaonkar, MD, karanja (LAD), Maharashtra

Photography by, Dr Shardul Dongaonkar, Dr. Amol A. Tamhane & Biswajit Ghosh

### "ZINDAGI EK SAFAR HAI SUHANA!"

### Life is a beautiful voyage!

Our minds are constantly preoccupied with work. The most effective way to detoxify your mind is by immersing yourself in the tranquility of Mother Nature. I engage in bird watching and nature photography for this very reason. My friend, Dr. Amol Tamhane from Nagpur and I came to know about the Great Himalayan Bird Count and booked our seats in the month of May. I frequently visit the Himalayas for family tours and leisure activities, but this was my first time visiting the Himalayas solely for bird watching and counting. Neither Amol nor I received any communication from the organizers for six months after the first confirmation mail. On 18th November, we received a second email instructing us to report to the Cultural Centre in Dehradun on 27th November.

Long-tailed Shrike

Photographed by Dr. Shardul Dongaonkar



Day 1

On the first day, Amol and I reached Dehradun via Delhi at 6 am and reported to the Cultural Centre. It was very dark and quiet with no visible activity. We felt a little nervous seeing the locked door, but people started coming in around 7 am.

The chief organizer of GHBC, Mr. Prateek ji Panwar, and his family members have devoted their lives to ARCH (Action and Research for Conservation of Himalayan Birds).

hey have been conducting this survey since 2008. ARCH has identified 105 nature trails for bird watching enthusiasts after thorough research of more than 15 years. ARCH is a fantastic team of Nature and Bird Lovers.

We received guidance regarding GHBC (Great Himalayan Bird Count) and expectations from us in the next hour of briefing. They sorted all the expeditioners in groups of 4-5 persons each, and each group had a dedicated Gypsy vehicle, a driver, a route map, and a first aid kit. Each group was allotted a trail in different regions of Garhwal, Uttarakhand.

We left for our allotted trail of Asan Barrage and Chakrata trail. This 70 km journey was a beautiful road woven through nature. We utilized the time to get familiar with each other.

Everyone had very different backgrounds: Mr. Mukul Mukherjee from Bokaro is a Wildlife Consultant, Mr. Vishwajeet Ghosh from Kolkata is an Advertising company owner, Mr. Rajesh Panwar is a lab technician at Delhi University, Dr. Amol Tamhane is a pediatric ophthalmologist, and myself, Dr. Shardul Dongaonkar, a physician. Such was our group—Unity in Diversity!





Indian Grey Hornbill Photographed by Dr. Shardul Dongaonkar

Indian spot-billed duck Photographed by Dr. Shardul Dongaonkar

Arriving in Asan near Rampur, Uttarakhand sometime in the afternoon, we found ourselves at the union of the Yamuna and Asan River. Nestled along the banks of the Asan Barrage, our abode GMVN (Garhwal Mandal Vikas Nigam) guest house was a haven immersed in the serenity of its waters.

After checking in, we immediately started our bird watching. As the winter sunset was at 5.30 pm, we had little time for the activity that day. We were strolling by the lakeside. There were hundreds of wetland birds: Spot-billed Duck, Ruddy Shelduck, Northern Pintail, Little Grebe, and some Raptors like Marsh Harrier and Black Kite as well. All the birds were joyfully frolicking about, busy playing and stuffing their little tummies, getting ready for a cold night ahead. We could see many small birds across from us hiding in small bushes.

There was a Forest Department Training Camp nearby. It was a lush green forest-like area on the banks of the Yamuna River. After entering the camp, we could immediately see lots of Grey Hornbills, Barbets, and many more birds. We captured as many pictures as we could before it got too dark and returned to the GMVN guest house. While preparing a consolidated list of birds seen during the day, we were also getting to know each other. Every one of us had different life stories, varied struggles, but a common passion—bird watching!



Asan Conservation Reserve and the first Ramsar site in Uttarakhand



White Throated Kingfisher Photographed by Dr. Shardul Dongaonkar



White-capped Redstart Photographed by Dr. Shardul Dongaonkar



Rufous Treepie Photographed by Dr. Shardul Dongaonkar

### Day 2

We woke up early on day 2 and started the day with a nice hot cup of tea! Our plans for the day included a visit to the western part of Asan Barrage in the morning hours. Our adventure tour of bird

watching started with finding a way through the jungle, the river and lakeside. We could see some local and some migratory birds during our trek. We were so engrossed in bird watching that we didn't notice how close we got to the dumping ground!

After this session of birdwatching, we returned to the guest house and got ready for the afternoon.



Plumbeous Redstart female, Photographed by Biswajeet Ghosh





Great Barbet, Photographed by Biswajeet Ghosh





Velvet Fronted Nuthatch Photographed by Dr. Amol A. Tamhane

White tailed Nuthatch Photographed by Dr. Amol A. Tamhane

Our destination was the area surrounding Tiger waterfall. On the way, we could see a forest department guest house from the British-era amidst the dense forest in Timli. We decided to check out the area before heading to the fall. After some trekking through the dense forest, we could capture white-capped Redstart, Nuthatch, Fantail, a few types of Woodpeckers,

and many other birds. It was only when our stomachs started rumbling that we noticed the time was 3 pm. None of us wanted to leave the abode of birds. After a late lunch, we went to the waterbody again and tried to capture the beautiful birds with our eyes, minds, and lenses. We started our return journey reluctantly by pushing each other!

We decided to utilize the later part of the day to visit the Forest Department Training Centre, which itself was a haven for birds and bird lovers. We returned to our rest house only when the sun neared the horizon. As a part of the camp guidelines, we had to prepare a detailed list of birds seen on the day. Today's list of birds was even more expansive.

We retired for the day with a sense of achievement and satisfaction!



Himalayan Bulbul Photographed by Dr. Amol A. Tamhane





Scaly-bellied woodpecker Photographed by Mukul Mukherjee

Grey bushchat female Photographed by Dr. Shardul Dongaonkar

### Day 3

We started very early on the third day as we had to travel to Chakrata, around 60 km from Asan. We were provided with an old PWD bungalow as our rest house at Ghurodi village. Despite being an old building with very basic amenities, it was a fantastic location near a valley. Immediately after checking in, we came out of the guest house and were discussing the day's program.

Suddenly Mukul noted some movements at the top of the mountain. After confirming through his Zeiss Binoculars, he and Rajesh ji called us to view the spectacular display of 8 to 10 Griffon vultures, Lammergeier, and a few black Eagles.

The scavengers of nature were feasting on some Carrion. They were a little too far from the camera lens, but we captured the best possible shots whenever they flew closer to us. Rajesh ji suddenly pointed to a black mountain lizard crawling uphill. Rajesh ji was our spotter for birds due to his excellent eyesight. He noticed even the slightest movement and would let us know about color, shape, beak, and



View from Chakrata FRH Photographed by Dr. Shardul Dongaonkar









position of the bird. He was not carrying any camera, he had come with the aim of experiencing the Avifauna of the great Himalayas and observing birds with the naked eye. He was embodying the true spirit of the GHBC program.

After breakfast, we started for the highlight of our expedition, the Deoban trek. It was a 15 km trek with rough roads! During the trail, we saw an Army Rock Climbing training unit and a few shepherds en route. A 100-year-old forest station with an old fireplace at the height of 9232 feet, and a 15 km stretch of dense forest, protected only by one forest guard! Hats off to his courage!

Sky-touching pine trees, a very beautiful meadow, cool breeze, and a very pleasant afternoon—what else do you need for a perfect escape to Mother Nature? Untouched nature, mysterious silence, and very clean air. Although we didn't see many birds, it was a very different experience from any hill stations.

During the journey and trekking, we stopped frequently for listening, observing, and photographing the small birds. We were able to catch a glimpse of a scaly-bellied Woodpecker and a few other birds.

On the return journey from the Deoban trek, we saw a mating pair of Griffon vultures. It was one of the highlights of our trek. After capturing the spectacle in our lenses, we resumed our trek. By the end of our trek, we had many new bird species to add to the list.

Grey-capped pygmy woodpecker by Dr. Amol A. Tamhane

White-browed wagtail & Himalayan Griffon Vulture by Dr. Shardul Dongaonkar

Black-throated bushtit by Biswajeet Ghosh

### **Photographers:**

Dr. Amol A. Tamhane, MD (Opthalmology) Nagpur, Maharashtra

Biswajeet Ghosh, Specialist in Commercial Art, Designing & Photography, Managing Director, Global Exposure, Kolkata



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Forest Rest House at Chakrata

Sunset Point Chakrata

### Final Day

On the final day of our tour, the reluctance to part from the heavenly embrace of nature was unanimous among us. However, the inevitable departure loomed.

After savoring our morning tea, we embarked on a journey towards the ZilMil top, a sprawling plateau near Chakrata. A vast lush green valley on one side and dense, deep and eerie forest on the other. We met a group of youngsters from Delhi camping at the top of the plateau. They had spent the night in small tents in the chilling weather of Himalayas. Only the passionate and adventurous can enjoy life at this height.

We continued our bird-watching expedition at the plateau. We could see Striated Laughing Thrush, a few Woodpeckers, and many small birds.

We started our journey back to Dehradun to reach there at 2 pm. Prateek ji greeted us with a great smile. He enquired about the GHBC experience and cleared our doubts regarding the identities of a few birds.

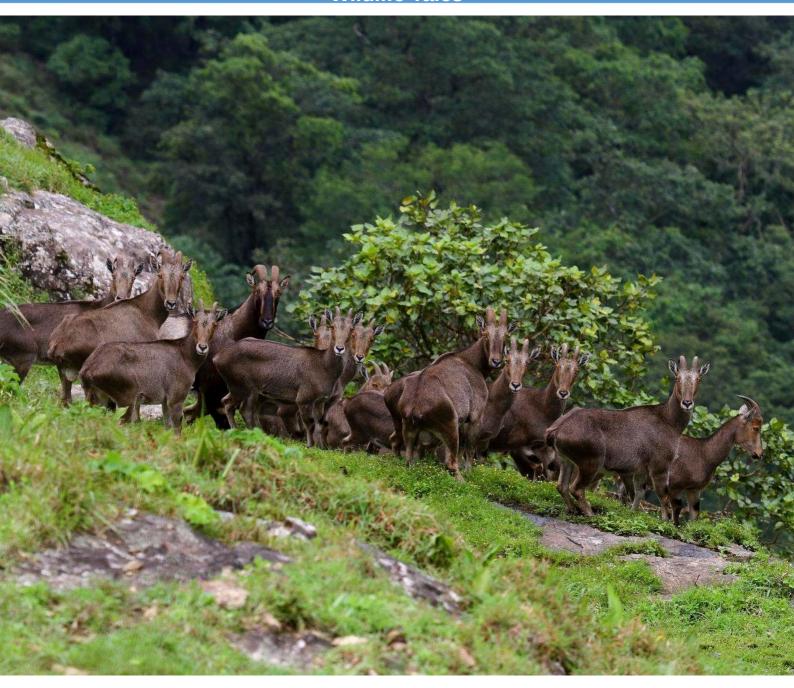


### The Great Himalayan Bird Count (GHBC)

The Great Himalayan Bird Count (GHBC) ended with 150 individuals from across the country saying goodbye and making a promise to come again next year! My takeaway from the trip: Happiness cannot be purchased; it can only be experienced! And we were lucky to experience it by spending a few days in the lap of Mother Nature!

Striated Laughingthrush
Photographed by Dr. Amol A. Tamhane





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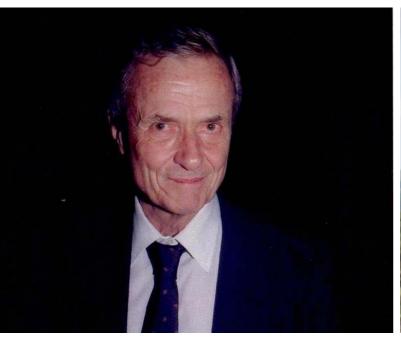
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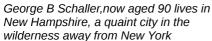
### SAVING THE "TAHRS": ENDANGERED SPECIES IN THE NILGIRIS.

It was a great day for George B Schaller, a legendary American Biologist as he revived half a century old memories of treks he had undertaken in the Nilgiri and Munnar Hills of South India. The scenic beauty of these hills and the lush green tea estates housed there was truly captivating. In his book on Tahrs (a goatlike mammal that inhabits cliffs and mountain slopes in Oman, southern India, and the Himalayas.) he devoted a special chapter to these animals titled "Cloud Goats". He undertook a study of the ecology and behavior of these magnificent wild goats roaming freely in the dramatic landscape. He was amazed by the sure footed animals scaling mountain heights, cliffs and escarpments to get draped in the clouds.



#### Wildlife Tales







E.R.C Davidar, who was a lawyer in Coonoor as well a legendary naturalist, who had guided Schaller in his study on "Tahrs"

## The pioneers leading a movement to conserve "Tahrs"

Schaller, now aged 90 lives in New Hampshire, a quaint city in the wilderness away from New York. From his college days onwards, he undertook numerous treks in the mysterious forests. He crossed many continents over the years. Starting out from North America, Schaller had covered a kaleidoscope of countries of different

landscapes, wild life, climate, culture, language and inhabitants by the time he reached Tibet and China.

He did scientific studies on the ecology of wild animals in 40 countries and wrote 32 books only to be reckoned as one of the formative authorities on wildlife biology. Some of his books on tigers of India, gorillas and lions of Africa, pandas of China and wildlife of Tibet are astounding in their detailed analysis, erudition and insights.

One fine day, Schaller got a message from his friend and leading ecologist, Dr. Ullas Karanth. It was about E.R.C Davidar, who was a lawyer in Coonoor as well a legendary naturalist, who had guided Schaller in his study on "Tahrs". Davidar was one of the earliest Conservationists of South India at a time when nature and wildlife conservation was unheard of. Despite his busy life as a lawyer, Davidar pioneered a movement by building up a network of like minded persons to save the "Tahr" which was heavily hunted.

#### "Tahr" finally got legal protection

Poaching was let loose in the Nilgiris and Englishmen there during the colonial days gunned down wild animals as sport. As Secretary of the Nilgiri WildLife Association and associated with Nilgiri Game Association and Tamil Nadu Planters Association, Davidar's contributions were remarkable in the annals of South Indian wildlife history. When the Wild Life Protection Act was promulgated by the Government of India in 1972, the "Tahr" finally got legal protection. Today the "Tahr" is the state animal of Tamil Nadu.

#### Wildlife Tales



A mother Tahr gently caressing her child...

Schaller read again the message of Ullas Karath with a glint in his eyes. The Tamil Nadu Government had bestowed upon Davidar a great honour by marking his birthday which falls on October 7 as "Nilgiri Tahr day" to arouse public opinion and to strengthen protective measures as the "Tahr" was in the endangered category. The Government had proudly declared that Devidar was responsible for pioneering one of the first surveys of the "Tahr" in the State.

This move by the government further emboldened Tahr protection movements in the State. Later, the Government launched a project for protection at the cost of Rs. 25 Crores and an action plan had

The notification also stated that there are multiple references to the Tahr in Tamil Sangam literature written 2000 years ago. Two great epics of Tamil Nadu, Chilappathikkaram and Civaka Chinthamani have depicted the Tahr. A Tamil Play written by Rasappa Kaviraja described the Tahr as one of the animals indicating richness of biodiversity in a region. Mesolithic paintings speak about the age-old association between the Tahr and the humans. The Tahr was designated as the state animal of Tamil Nadu in recognition of its ecology and cultural significance.



#### Schaller expressed happiness over the Government's decision.

According to him, the "Tahr" is a natural treasure of the country. It has persisted only because of the efforts of people like Davidar who worked with dedication and passion for its protection.

#### Honour to Davidar and the Tahr



Davidar conducted the first Tahr census and tirelessly monitored the species and its habitats. When Schaller visited him in 1969 to learn about the animal, he generously hosted him and introduced him to the animals".

"The decision of the Government to designate October 7 as Tahr day is a wonderful way to honour both the Tahr and those who have fought to retain the beauty of the species". Schaller wrote in his reply.

Davidar conducted the first Tahr census and tirelessly monitored the species and its habitats.

Schaller had read with absorbing interest an article written by Davidar in 1963 in the journal of BNHS (Bombay Natural History Society) an institution headed by India's then bird activist Salim Ali. The article was the result of his first survey in the Nilgiris and dealt with the sad plight of being hunted and habitats destroyed due to human encroachments. He gave a warning that the Tahr may become extinct soon.

Schaller pondered. Davidar must be an unusual person. Despite his preoccupation as a lawyer, he cared more for the Tahr. The moment he read the article, he could not resist the temptation of meeting Davidar.

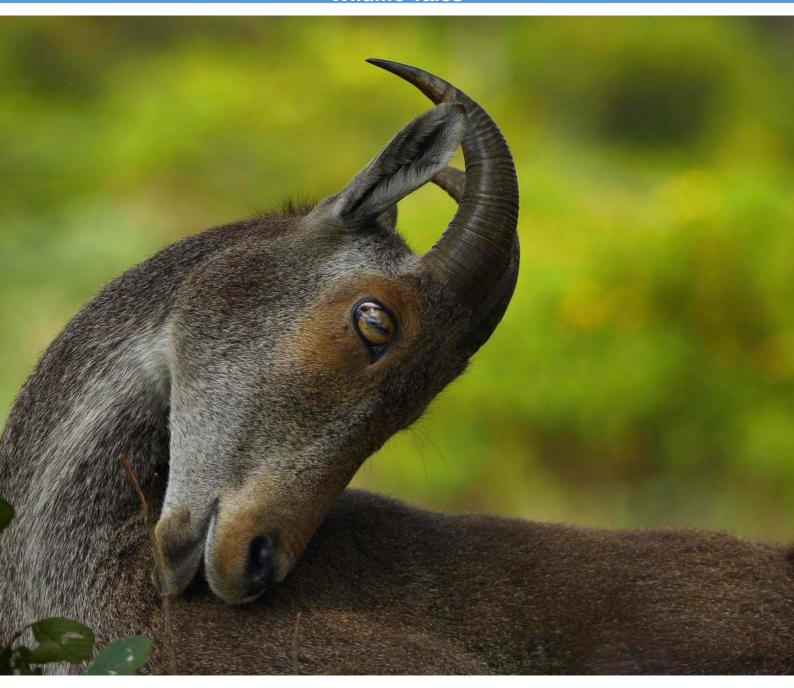
The lawyer Davidar in fact opened the floodgate to Schaller in Nilgiris and Munnar to follow and study the Tahr. In his celebrated book, "Stones of Silence", Schaller described his first meeting with Davidar in 1969 at his office in Coonoor.

He knocked at the lawyer's office. It was opened by Davidar. There was no need for an introduction.

"In Schaller's words, Davidar had the appearance of an amiable lawyer. He had especially dedicated himself to the welfare of the Tahr and generously helped him to prepare a visit to their habitat".

Schaller had met Davidar after he had done his homework. He had read the history of the Nilgiris. He had had discussions with tribal people. Also, he had collected the information about the wild goats of Europe and America. A leading Canadian biologist, Valerius Geist had given him data. However, Schaller's meeting with Davidar was a turning point. After treks and studies both wrote romantic and enthralling articles in BNHS journals that captured global attention. By the time Schaller reached Coonoor, he had a great reputation in India because of his studies on tiger in the Kanha National park in Madhya Pradesh during 1962-1965. It was the first scientific study of tigers in the world. His book "The Deer and the Tiger" was an astounding one that inspired generations. Formerly, his studies on the Gorillas of Africa had dispelled the notion that they were cruel. Schaller established that the Gorillas have a human touch and can build up a fine rapport with men, a very revolutionary finding.

#### Wildlife Tales



Just a year back before reaching Coonoor, he had been to the Himalayan snowy wilderness to observe goral goats. Before that he had close sittings of the Marco Polo sheep in the rugged terrains of Afghanistan. His second book "Mountain Monarchs" was about mountain goats of different countries facing harsh climates, disasters, massive snowfall, earthquakes and volcanic eruptions.

Davidar told Schaller as recorded in his book, "Whispers in the Wild", "when I first became acquainted with the Tahrs in the 1950s, there were no roads within miles of the Tahr country and only a bridle path. I am not a hill man by birth. My low practices tied me down to a sedate life.

But during weekends, I went trekking in the Tahr country. They were strenuous and exhaustive. Moreover, disappointments were there because I could not penetrate the wilderness deeply".

He wondered as written in his book "Mystery Surrounds the presence of the Tahr in Nilgiris." Its closest relative, the Himalayan Tahr lives 2500 kilometers away in the sections between Kashmir and Bhutan. Many theories have been advanced to explain the presence of their cousins in the south".

Venkitachalam, a smart guide accompanied Schaller to Mukurthi Peak, 8380 feet height surrounded by clouds. The Toda tribes described the Peak as a gateway to heaven.

#### He had the first sight of nine Tahrs at the edge of an escarpment.

He lay in the wet and watched for an hour. He took notes. It was quite a different experience from the Himalayas and Afghanistan.

He remembered that during the colonial days, Tahrs were heavily hunted. He wrote "By Jove what a beautiful day. Let us go and kill something". That is how Englishmen greeted each other during the morning. They then rushed to the jungles with guns and indulged in a killing spree. Many Tahrs were killed.

After the Nilgiris, Schaller left for Munnar and Eravikulam plateau. He trekked the Anamudi, Everest of the south. Eravikulam had the largest single population of the Tahr in western ghats. Tahr is endemic to the western ghats spread in Kerala and Tamil Nadu. One of the major attractions of the Eravikulam was that even in blazing summers, there were gurgling streams. The high altitude emerald grass lands were so captivating. There were nearly a thousand shola forests.



A British Officer, Douglas Hamilton had been one of the earliest visitors to this area in 1954. He recalled. "The area is surpassingly grand and incomparably beautiful". Schaller noted that Englishmen were managers of many tea estates in Munnar. The high range game preservation association had protected the Tahrs in 1895. J.C Goulsbury was the manager of the Vaguvarai Tea Estate and was a keen naturalist. His father and grandfather were in the tea business since 1905.

The entire Eravikulam area and grass lands were owned by Kannan Devan Tea Company. In 1971 the Kerala Government promulgated Forest Vesting Act. Then the entire land got vested in the Government. It was however declared as a National Park in 1978 for Ranjith Sinh, JC Goulsbury and K.K. Nair, then Kerala Chief Conservator of Forests played key roles.

"Mystery Surrounds the presence of the Tahr in Nilgiris."

Schaller had the opportunity to follow Tahrs here and he studied their social behaviour and breeding biology. K.N. Changappa, then Assistant Manager, who later was officer bearer of high range wildlife preservation association had accompanied Schaller many times for his study. Davidar also visited Munnar and Eravikulam as well Parmbikulam, Nelliampathy, Silent Valley and other spots for a detailed survey. Dr. R. Sugathan says that Davidar had keen observation as well as he wanted to explore more.

Dr. Ranjith Singh, former Secretary of Forest, Government of India had close associations with the Tahr. Since he was close to Prime Minister Indira Gandhi, she knew about the Tahrs. In 1973, she wrote a letter to the then Kerala Chief Minister, C. Achutha Menon to declare Eravikulam as the National Park for Tahrs.

In 2001, Mukurthi in Tamil Nadu was declared as a National Park. There are other fragments of the population there as in Kerala. Both states may have around 4500 Tahrs. In 1972 the Wild Protection Act of Government of India gave Tahr legal protection. In Eravikulam, there are 840 Tahrs according to the latest census. In 2006, Schaller had the opportunity to visit Munnar and Eravikulam in 2006 when IUCN had conducted an international conference on mountain goats. Schaller spoke remembering his association with Davidar.

Davidar in turn pays a glowing tribute to Schaller in his book, "Whispers in the Wild". 'Schaller was a very hard working field biologist. He was prepared to suffer hardships and discomforts. He faced harsh weather very cheerfully. He is a man of few words. I studied his field notes and was struck by the wealth of data he had collected. I was determined to pursue the surefooted animals to any remote corners of the forest".

Sadly, Davidar passed away in 2010.

#### Wildlife Tales



"Tahr" the state animal of Tamil Nadu

Prof. Priya Davidar, his daughter, recalls that Schaller "had encouraged her father to make a systematic estimate of the Tahr. His power of dedication was remarkable. He stayed with us in Coonoor. He was reticent and quiet.

Dr. Clifford G Rice who studied the ecology of Tahrs in Eravikulam I 1980 and took his Ph.D from Agriculture and Mechanical University, Texas says that though Davidar was not a biologist, he took keen interest in wildlife especially Tahr. His delineations of the Tahr in Eravikulam are a landmark contribution to the history of Indian wildlife.

Dr. P.V. Karunakaran, Principal Scientist, SACON, Coimbatore says that the works of both Schaller and Davidar opened up new horizons in Tahr studies. Dr. Karunakaran had his Ph.D on the grassland ecology of Eravikulam.

Since the formation of the National Park in 1978, the protection for the Tahrs in Eravikulam were strengthened. A notable feature is that the entire staff of the park at all levels showed keen interest in its upkeep and protection. Eravikulam has been adjudged as one of the cleanest National Parks in the country today.

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#### Climate change its impact on Ecosystem: International strategies to curb GHGs

Researcher
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Author: Adv in Envl Science (APH, New Delhi),
ENV, Ecology and Sustainable Development, FC Env (AU)

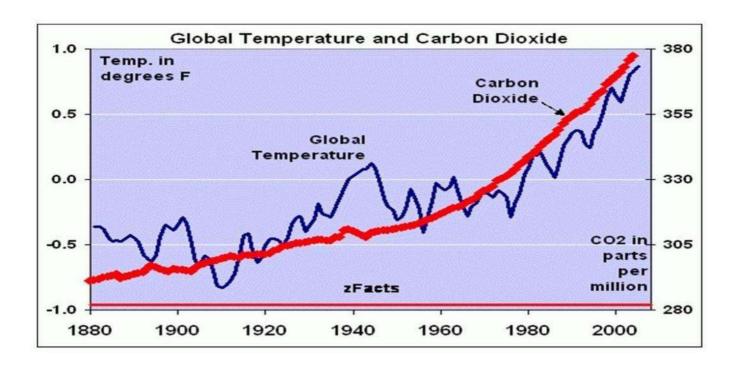
#### ABSTRACT:

In the modern period, along with the means of transportation, industrialization, energy consumption is also increasing. Expansion of human population, increase in per capita demand of natural resources sand release of chemicals (GHG) altogether new to natural ecosystems innovated by humans over the last two centuries has resulted in global environmental changes with adverse consequences for human well-being. One of the environmental threats our planet faces today is potential for long term changes in the Earth's climate and temperature patterns known as 'global climate change'. The problem appears too large and too daunting, more so far India, as it strives to meet its development challenges. Many credible researches have confirmed that climate is changing over the last few decades and humans are realising and experiencing such changes in their everyday life. Hence, mitigation and adaptation measures are to be taken and we must work together to control global climate change. This paper aims to discuss on climate crisis and its mitigation measures and the current state of our planet demands responses that go beyond technology. An attempt has also been made in this paper to discuss the perceptions for climate change and to examine the consequences of alternative carbon dioxide reduction strategies. This paper also seeks an adaptive strategy that we need to adopt the best available solution with knowledge and experiences. To prevent the sort of disruption we all must work together to control global climate change.

Key word: Global warming potential (GWP), Carbon sequestration, emission reduction goals, Assessment report, Carbon footprint, Carbon sink, Biofuels.

#### INTRODUCTION:

At present, the planet has two major global ecological crises: first, the climate change; and second, then extinction of species of flora and fauna. Since the industrial Revolution in Western Europe, there has been a substantial increase in earth's surface temperature and if no proactive mitigation steps are taken in time, we may experience up to 4 degree Centigrade increase in temperature by the end of twenty first century. Since 1980, temperatures have risen faster than ever before, as far as scientists can ascertain. An attempt has been made in this paper to discuss consequences of global climate change and an adaptive problem-solving strategy to stimulate sustainable development and reduce GHG emissions. Climate change concerns gained global attention. Since 1980, temperatures have risen faster than ever before, as far as scientists can ascertain. Undoubtedly, climate change is taking place and the human activity is a factor – so this potential global crisis requires a response, a coordinated one from everyone. It is predicted that global warming will cause significant rise in the sea level in the 21st century. According to the IPCC, by 2080, sea levels could rise from 9 to 48 cm in a 'low emissions scenario' and from 16 no 69 cm in a high emissions scenario. The rise in sea levels has had or is expected to have calamitous impacts on several countries. Climate change on account of build up of Green House gases in the atmosphere leading to global warming, poses threat to ecosystem and the goods and services they provide. This radical climate change is leading towards a sudden loss of biodiversity – a dwindling number and variety of plants and animals. Many species simple won't be able to adapt fast enough. According to the recent UN assessment, 20 to 30 percent of the Earth's plant and animal species face extinction if the world warms by between 1.5 to 2.5 deg Celsius. It is found that after the unprecedented 5.4 percent fall in emission in 2020 due to lockdown and travel restrictions, preliminary data shows from Jan to May this year's shows global CO2 emission 1.2% higher than that during Covid period. And though they still account for only 0.04% of the atmosphere, that still adds up to billions u of tons of heat - trapping gas.



#### GLOBAL MEAN ANNUAL TEMPERATURE AVERAGE PER DECADE

1880s	13.73	56.71	
1890s	13.75	56.74	
1900s	13.74	56.73	
1910s	13.72	56.70	
1920s	13.83	56.89	
1930s	13.96	57.12	
1940s	14.04	57.26	
1950s	13.98	57.16	
1960s	13.99	57.18	
1970s	14.00	57.20	
1980s	14.18	57.52	
1990s	14.31	57.76	
2000s	14.51	58.12	
2023	14.60	59.00	

(Ref: GISS, Surface Temperature Analyses,)

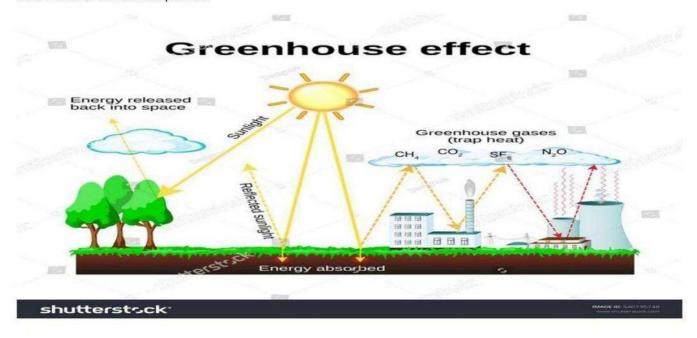
The world has mainly grown hotter since 1980, at a rate of nearly 0.2 deg centigrade per decade. Worldwide 2016 was the warmest year on record, 2020 was the second warmest and 2012-2021 was the warmest decades on record since thermometer-based observation began. CO2 into the atmosphere, where it will linger for hundreds of years'. So there are plenty of CO2 molecules to provide a heat-trapping blanket across the entire atmosphere. The Global warming is essentially contributed through the presence of the greenhouse gases in the atmosphere. Each greenhouse gas has active radioactive or heat trapping properties. To compare greenhouse gases, they are indexed according to their GWP. Global warming potential is the ability of a GHG to trap heat in the atmosphere relative toan equal amount of Carbon dioxide. Carbon dioxide though the GWP value one, the most prevalent, is the least powerful GHG. India emits only 3 percent of the world's total emissions of Carbon dioxide and our per capita emissions are only one-fifth of the global average. However, Indian electricity utilization in industries are very CO2 emissions intensive due to their large coal use and somewhat obsolete technologies.

#### Greenhouse gases and their global warming potential

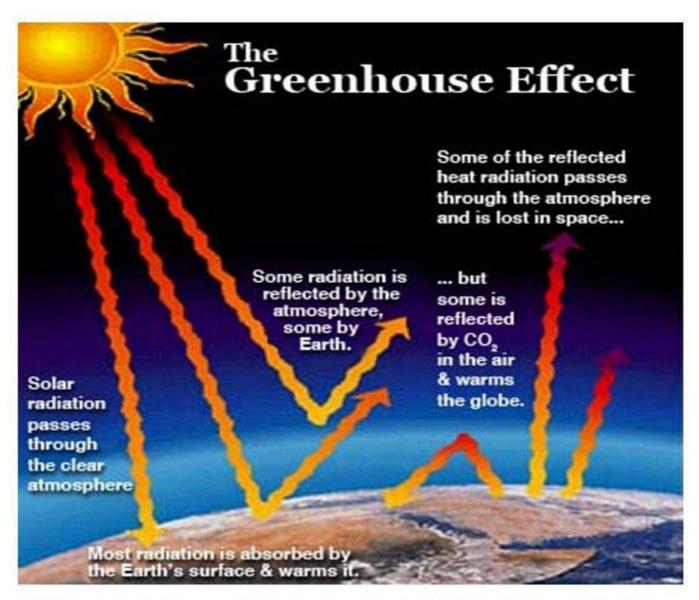
Gas	GWP	Sources	
Carbon dioxide	1	Fossil fuel combustion, forest clearing, cement production etc.	
Methane	21	Landfills, production and distribution of natural gas and petroleum, fermentation from the digestive system of livestock, rice cultivation, fossil fuel combustion etc.	
Nitrous Oxide	310	Fossil fuel combustion, fertilizers, nylon production, manure etc.	
Hydro fluorocarbons (HFC`s)	140-11700	Refrigeration gases, aluminium smelting, semiconductor manufacturing etc.	
PGC's Perfluorocarbons	6500-9200	Aluminium production, semiconductor industry, etc	
Sulfur Hexafluoride ,SF <sub>6</sub>	23900	Electrical transmissions and distribution systems, circuit breakers, magnesium production	

#### Science behind Greenhouse effect:

The sun is then Earth's primary energy is reflected back into the universe by shimmering glaciers, water and other bright surfaces. Two thirds, however, is absorbed by the Earth, thus warming land, oceans and the atmosphere.



Greenhouse effect was first recognised by French scientist jean Baptist Fourier. Earth's mean surface temperature will warm to 1.4 to 5.8 DEG C by the end of the 21st century. Land areas warming more than the ocean, high latitudes more than tropics. Sea level will rise 0.09 to 0.88m. Global warming is a phenomenon where there is a sustained rise in the average temperature of the world. Global warming is a gradual process over several decades. Gradually, the significant portion of the earth that was covered with ice began to melt. The early signs of global warming showed in the 19th century. Global warming as the term indicates, is the increase in the average temperature of the earth's near surface air and oceans.



In cold countries, a room made of glass is used to save the plants from extreme cold. The room that is made to save the plants from extreme cold is known as `greenhouse`. The air within the greenhouse remains heated though the environment is very cold. sunlight enters into the house but do not escape outside. As a result, greenhouse can retain heat within it which helps the plants to survive. The atmosphere temperature increases due to increasing the concentration of carbon dioxide in the air. This is called `greenhouse effect. The earth`s surface receives most of its energy in short wavelengths. The energy received by the earth is known as incoming solar radiation which in short is termed as insulation. In an average the earth receives 1.94 calories per sq.cm per minute at the top of its atmosphere. The incoming radiation passes through the atmosphere before striking the earth`s surface. Within the troposphere water vapour, ozone and other gases absorb much of the near infra-red radiation. The insulation received at the surface varies from about 320 watt/m.

#### THE CULPRIT:

Water vapour and Carbon dioxide are the main greenhouse gas. Carbon dioxide is a non-pollutant gas in the atmosphere and a minor constituent (356 ppm) but it is of serious concern for the environment for its ability to change the global climate. While the levels of water vapor in the troposphere have relatively remained constant, the levels of carbon dioxide have increased. Other gases whose levels have increased due to human activities are methane, nitrous oxide and cFCs due to human activities are methane, nitrous oxide and CFCs. Deforestation has further resulted in elevated levels of cO2 due to non-removal of CO2 by plants through photosynthesis.

On Earth, the major natural greenhouse gases are water vapor, which causes about 36-70% of greenhouse effect; carbon dioxide4 causes 9-26%; methane causes 4-9% and ozone causes 3-7%. Some other naturally occurring gases contribute very small fractions of the greenhouse effect; one of these is nitrous oxide in concentration due to human activity such as agriculture. The atmospheric concentrations of Carbon dioxide and Methane have increased by 31% and 159% respectively above preindustrial levels since 1750. These levels are considerably higher than at any time during the last 6,50,000 years, the period for which reliable data has been extracted from ice cores. About three quarters of the anthropogenic manmade emissions of Carbon dioxide to the atmosphere during the past 20 years are due tom fossil fuel burning. The rest of the anthropogenic emissions are predominantly due to change in using then land, especially deforestation.

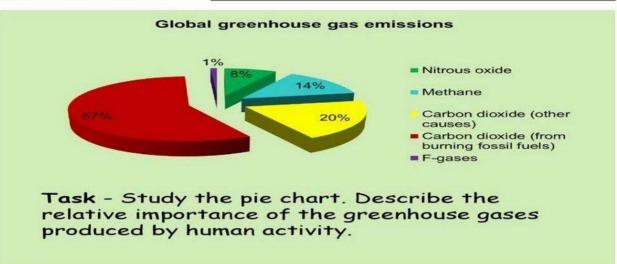
#### MAJOR GREENHOUSE GASEES

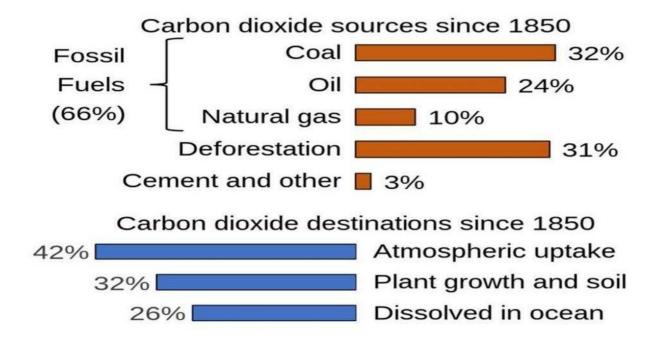
#### GAS

# Carbon Dioxide Methane Green Green

#### SOURCES

- 1. Fossil Fuel consumption,(Coal, oil, natural gas), Deforestation and land use changes
- 2. Enteric fermentation in Cattle and insects, Biomass burning and garbage land fills, Coalmines and natural gas leaks, Rice paddies, Swapms and Tundra
- 3. Aerosols( spray propellents), Refrigeration and air conditioning, Plastic Forms
- · Fertilizer use, Fossil Fuel





#### CONSEQUENCES OF GLOBAL CLIMATE CHANGE

Climate change may result in some benefits such as extended growing seasons or more moderate temperatures in some areas, the overall effects are likely to be harmful. The consequences of the global climate change include:

- Rising temperatures are likely to result in widespread ecological change. Many animal and
  plant species are likely to become extinct as ecosystems adjust to climate change. While
  adaptable species will survive, and other migrate, the end result will be lost biodiversity
- Precipitation will increase in high-latitude and equatorial areas and decrease in subtropics.
   Increasing concentration of Greenhouse gases in atmosphere is causing unprecedented change in natural climate system such as, global warming and sea level rise leading many climates catastrophe create perceptible influence on physical and biological systems of our environment.
- Change in the quality and availability of water resources.
- · Decrease in the healthy forests
- Increase in the spread of infectious disease, deaths due to extreme heat, and increase ijn air pollution.
- Droughts, floods and storms could become more severe.
- Life of millions of people will be affected by the sea level rise who have built homes in the deltas of the Ganges, the Nile, the Mekong, th3 Yangtze and the Mississippi rivers.
- The global warming will lead to changes in the rainfall pattern in many areas, thereby affecting the distribution of vector borne diseases like malaria, filariasis, elephantiasis etc. Higher temperature would favour the breeding of mosquitoes, snail and some insects.
- Even a rise in 2 deg centigrade may be quite harmful to comprising temperatures are likely to
  result in widespread ecological change. Many animals and plant species are likely to become
  extinct as ecosystems adjust to climate change. While adaptable spices will survive, and other
  migrate, the end result will be lost biodiversity cut down the current rate of use of CFC and
  fossil fuel.

- Rise in sea levels which will lead to the loss of many coastal wetlands. By the end of this
  century, the sea level rise is expected to be 090 to 2.5 m. rise in sea level will inundate low lying
  areas of cities like Shanghai, Cairo, Bangkok, Sydney, Hamburg and Venice as well as
  agricultural lowlands and deltas in Egypt, Bangladesh, India, China and will affect rice
  productivity. Rise in sea level would probably increase the frequency of storm damage to
  lagoon, estuaries and coral reefs.
- Entire Island nations could disappear. In India, then Lakshadweep Island with a maximum height of 4 mtrs above the sea level may be vulnerable. Some of the most beautiful cities like Mumbai may be saved by heavy investment on embankment to prevent inundation.



### Observed Impact according to IPCC: SECOND PART OF THE SIXTH ASSESSMENT REPORT ON CLIMATE CHANGE 2022

Inter-Governmental Panel on Climate Change (IPCC) has formulated the second part of the sixth Assessment, Report on Climate Change 2022. The working Gr II contribution to the IPCC Sixth Assessment Report assess the impacts of Climate change, looking at the ecosystems, Biodiversity and human communities at global and regional level.

IPCC (Inter Governmental Panel on Climate Change, in its Sixth Assessment Report AR -6 assess the impacts of climate change, looking at the ecosystems, Biodiversity and Human communities at global and regional level. This paper aims to discuss the WG – II contribution to the IPCC report 2022.

#### **AR 6: 6TH ASSESMENT REPORT:**

The three special reports are the Special Report on Global Warming of 1.5 deg Centigrade (2018) an IPCC special report on the Impacts of Global warming of 1.5 deg centigrade above are industrial levels and related global greenhouse gas emission pathways in the context of strengthening then global response to the threat of climate change, Sustainable Development, efforts to eradicate poverty, global response to the threat of Climate Change Special Report. The special report on land, which is concerned with climate change, desertification and land degradation and sustainable management, food security and Greenhouse Gas fluxes in Terrestrial Ecosystems (2019) and the Special Report on Ocean and Cryosphere in a changing climate (2019)

#### **CONSEQUENCES OF GLOBAL CLIMATE CHANGE**

The contribution of WG – II to the 6th Assessment (AR6) and the IPCC summarizes the current understanding of observed Climate Change impacts on ecosystems, human societies and their cities, settlements, infrastructures and industrial systems, as well as vulnerabilities and future risks and tied to different socio-economic development pathways. The report is set against a current backdrop of rapid urbanisation, biodiversity loss, as growing demands for social justice, continuing poverty, land degradation and food insecurity and risks from shocks such pandemics and ongoing Climate change. According to SW III Gr adaptation and essential for climate resilient development urgent and immediate action to address climate risk. Risks are depicted below:

- Rise in sea levels which will lead to the loss of many coastal wetlands. By the end of this
  century, the sea level rise is expected to be 090 to 2.5 m. rise in sea level will inundate low lying
  areas of cities like Shanghai, Cairo, Bangkok, Sydney, Hamburg and Venice as well as
  agricultural lowlands and deltas in Egypt, Bangladesh, India, China and will affect rice
  productivity. Rise in sea level would probably increase the frequency of storm damage to
  lagoon, estuaries and coral reefs.
- The greatest challenge will be coastal areas since we have nearly 7500 Kms of shoreline as well as the Andaman and Nicobar and Lakshadweep Group of Islands. In these areas, mangroves forests should be conserved and their area be increased.
- Climate change has altered marine, terrestrial and fresh water ecosystems all around the world. Climate change has caused local species losses increase in disease and mass mortality.
- Rising temperatures are likely to result in widespread ecological change. Many animal and
  plant species are likely to become extinct as ecosystems adjust to climate change. While
  adaptable species will survive, and other migrate, the end result will be lost biodiversity
- Precipitation will increase in high-latitude and equatorial areas and decrease in subtropics.
   Increasing concentration of Greenhouse gases in atmosphere is causing unprecedented change in natural climate system
- Such as, global warming and sea level rise leading many climates catastrophe create perceptible influence on physical and biological systems of our environment.

- Life of millions of people will be affected by the sea level rise who have built homes in the deltas of the Ganges, the Nile, the Mekong, the Yangtze and the Mississippi rivers.
- The global warming will lead to changes in the rainfall pattern in many areas, thereby affecting the distribution of vector borne diseases like malaria, filariasis, elephantiasis etc. Higher temperature would favor the breeding of mosquitoes, snail and some insects.
- Even a rise in 2 deg centigrade may be quite harmful to comprising temperatures are likely to
  result in widespread ecological change. Many animals and plant species are likely to become
  extinct as ecosystems adjust to climate change. While adaptable spices will survive, and other
  migrate, the end result will be lost biodiversity cut down the current rate of use of CFC and
  fossil fuel.
- Flood, droughts, heat waves, extreme storms and wildfires are going from bad to worse, breaking records with alarming frequency (UN, General Secretary, Antonio Guterres).
- Climate change is affecting Ecosystem services connected to Human health, livelihoods and wellbeing.
- Widespread and severe loss and damage to humans and natural systems are being drain by human induced climate changes.
- Climate change has affected the productivity of agricultural, forestry and fishing sector.
- Climate change is already stressing food and forestry ecosystem.
- Climate change has intensified the global hydrological cycle
- · Glaciers are milting at an unprecedented rate.
- Impacts of droughts and floods have intensified.
- Vulnerability to Climate change is multidimensional
- Pests, weeds and disease occurrence and distribution are projected to increase with global warming.
- Climate change will increasingly add pressure on food production system
- Floods, droughts, heat waves, extreme storms and wildfires are going from bad to worse, breaking records with alarming frequency (UN Gen Secretary)
- Entire Island nations could disappear. In India, then Lakshadweep Island with a maximum height of 4 mtrs above the sea level may be vulnerable. Some of the most beautiful cities like Mumbai may be saved by heavy investment on embankment to prevent inundation.
- Change in the quality and availability of water resources.
- · Decrease in the healthy forests
- Increase in the spread of infectious disease, deaths due to extreme heat, and increase ijn air pollution.
- · Droughts, floods and storms could

#### International Strategies and aim to curb GHGs:

Preventing global warming would require massive cuts in GHG emissions according to the vast major scientists.

Industrialized nations agreed at their G8 summit and pledged to cut the G8s GHG emissions by 80% by 2050, from the levels of 1990 or a few later years.

To deal with the global warming in the coming decades, the international community agreed to sign the COP21 agreement in 2015. In 2010 the scientists of the UNFCC concluded their research by recommending maximum rise of global average temperature below 2 degrees Celsius relative to preindustrial levels i.e. the 19th century. The International community has accepted this 2-degree red line targeted by scientists.

As of 2015, the average temperature had already risen 0.85deg Celsius compared to the 19th century. In the same 2015 the COP21 Paris Agreement even reassessed the target to' well below 2 degree Celsius and to aim for 1.5 degree Celsius. The chorus of nations promised to act consequently.

To stop driving temperatures upwards scientists overwhelmingly Are: refraining from emitting greenhouse gases must happen and it must happen fast!

To meet this target, the world, must wind down its GHG emissions, and especially refrain from burning fossil fuels that emit giga tons of carbon dioxide into the air. In fact, scientists warn that the quarters of the known fossil fuel reserves should stay in the ground in order to contain global warming. Burning all the known reserves would virulently destablisize the climate.

In other words, nations must reduce their carbon footprint. A carbon footprint is the total of greenhouse gases (with gases of all types converted in carbon dioxide equivalent and summed up) emitted by corporations and households who are consuming products and services. Shrinking the carbon footprint is equivalent to going green, for producing and consuming without generating emission of carbon dioxide of other GHGs.

Obviously industrial nations burning the most fossil fuels must cut their carbon dioxide emissions been much more than developing nations.

#### **WARNING FROM IPCC:**

The IPCC report 2022 warned that the world is set to reach the 1.5-degree centigrade level within the next two decades and said that jointly the most drastic cuts in Carbon emissions from now would help to prevent disaster. The report also shows that human action still has the potential to determine the furfures course of climatic. the evidence is clear that Carbon dioxide is the main driver of climate change, even as other GHGs and air pollutants also affect the climate.

#### **Breaking Commitment**

Rethinking International Climate Policy. Climate change uncertainty. Earth is getting warmed day by day.

- G-& broken promises: ecological, collapses.
- Paris agreement has failed.
- 1985 Vienna convention:
- The 1992 framework convention on climate change (Rio summit)
- 1997Kyoto protocol: Objective of the Kyoto Protocol: The Protocol was developed to meet the
  ultimate objective of the UNFCCC which is to "stabilize GHG concentrations in the atmosphere
  at a level that would prevent anthropogenic interference with the climate system "through
  quantified emission targets within a specified time frame.
- Collapse Kyoto: Mechanism facilitates co-operation in GHG emission reduction projects between countries that have a specified emissions reduction commitment in Kyoto protocol. Failure of the commitment noticed. To assess the progress on dealing with climate change, and beginning in the mid-1990s, to negotiate the Kyoto protocol to establish legally binding

- Obligations for developed countries to reduce their GHG emissions. From 2005 5th3
  conference have also served the COP. Conference of the parties serving as the meeting of
  parties to the Kyoto protocol (CDM) from 2011 the meeting has also been used to negotiate the
  Paris agreement as a part of platform activities until its conclusion in 2015, which created as
  general path towards climate
- 2016 Paris convention: Paris agreement which seeks to achieve Carbon neutrality by the end of 2050 has been ratified by the Indian Government initiative to curb GHG.
- COP 26 KEY OUTCOME: The 2021 UN Climate Change Conference, more commonly referred to as COP 26, was the 26th UN Climate Change conference, held at the SEC Centre in Glasgow. The two headline out comes from COP 26 were the signing of the Glasgow Climate Pact and greening the Paris Rulebook. Recognizing the urgency of the challenge ministers from all over the world agreed that countries should come back to submit stronger 2030 emissions reduction targets with the aim of closing gap to limiting global warming to 1.5 deg C. Ministers also agreed that developed countries should urgently deliver more resources to help climate vulnerable countries adapt to the dangerous and costly consequences of climate change that they are feeling already from dwindling crop yields top devastating storms. UN Secretary Gene3rqal Antonio Gutterres summed it up in a statement at the close of COP 26: the text would include "important steps, but unfortunately the collective political will was not sufficient to overcome some deep contradictions". He went on to say that the conference failed to achieve the goals.
- COP 27 closed with a breakthrough agreement to provide loss and damage funding for vulnerable countries hit hard by floods, drought and other climate disasters. The COP 27 meeting yielded mixed results, with a hard-fought agreement on a fund for countries most harmed by climate change being welcomed by vulnerable nations, but a cover text that some officials said lacked ambition due to the influence of fossil fuel producers.
- COP 28 is an opportunity to identify global solutions for limiting global temperature rise to 1.5 deg C, inform countries preparations for revised and more ambitious Nationally Determined Contributions (national climate plans) due by 2025, accelerate the green transition that is already happening.

#### Mitigation of greenhouse gas emissions is no doubt an important goal:

There is no escaping the truth that the world has to move a low emission and energy efficient development path. Is the Planet in Wrong direction? Humanity is going in the wrong direction on climate due to its addiction to fossil fuel (UN). What science is needed to prevent the worst impacts of c global heating?

The UNFCC Paris agreement and the 2030 Agenda for Sustainable Development Goal jointly provide overreaching goals for climate action. In global climate change regime, India has been regarded as a prominent player due to its huge population, development needs and great economic potential. Since the Rio Summit 1992, India has been playing a very important and pivotal role in shaping global environmental policies.

### GHG MITIGATION AND PROACTIVE APPROACH: NEED NBS AS GLOBAL LEADERS' DECISION:

1. Increasing Natural sink: Plants, the oceans and soil are natural carbon sinks – they have some CO2 from the atmosphere and store it underground, underwater, or in roots and tree trunks. Without human activity the vast amounts of carbon in coal, oil, and natural gas deposits would have remained stored. Underground and mostly separate from the rest of the carbon cycle. But burning these fossil fuels, humans are adding a lot more carbon into the atmosphere and ocean, and the carbon sink don't work fast enough to clean up our mess. A forest is considered to be a carbon sink if it absorbs more carbon form the atmosphere that it releases. Carbon is absorbed from the atmosphere through photosynthesis.

Amazonia hosts the Earth's largest tropical forests has been shown to be an important carbon sink One of the best tree species for absorbing carbon is oaks, Other top carbon absorbing trees include the common horse-chestnut, black Walnut London plane and American sweet gum.

- 1. Mitigation of Carbon footprints: A carbon footprint has historically been defined as `the total set of greenhouse gas (GHG) emissions caused by an organization event, product or person. However, calculating xa carbon footprint which conforms to this definition is often impracticable due to the large amount of data requi9red, which is often costly and time consuming to obtain. A more practicable definition has been suggested, which is gaining acceptance within the field: "A measure of the total amount of carbon dioxide (CO2) and methane emissions of defined population, system or activity, considering all relevant sources, sinks and storage within then spatial and te4mporal boundary of the population, system or activity of interest. Calculated as Carbon dioxide using the relevant 100-year global warming potential (GWP100). The mitigation of carbon footprints through the development of alternative projects, such as solar or wind energy or reforestation, represents one way of reducing a carbon footprint and it often known as Carbon offsetting.
- 2. Carbon Credit: Carbon credits and carbon markets are a component of national and international attempts to mitigate the growth in concentrations of GHGs. One Carbon credit is equal to one MT of CO2, or in some markets, CO2 equivalents gases. The purpose is to allow market mechanisms to drive industrial and commercial processe4s in the direction flow emissions or less carbon inte4nsive approaches than those used there is not cost to emitting CO2 and other GHGs into the atmosphere.
- 3. Carbon tax: In India there is not explicit Carbon tax, Reduction of Carbon dioxide emission is one of the primary goals of most of the countries in the ongoing debate on Climate change. On Carbon tax is a policy on which India stand is mainly negative. Carbon tax is the need of the hour in India but not for the purpose of revenue but to curb GHGs. India needs to have a clear policy framework on how to make effective use of such tax collected. As on April,2022 Uruguay had the highest Carbon tax rate worldwide at 1367 US Dollars per MT of Carbon dioxide Carbon Capture and Utilization is one of the best ways of combating climate change, by turning Carbon dioxide gas from waste gas into an integral part of Industrial processes. India needs to take this initiative.

#### SYNTHETIC DIESEL FROM CARBON DIOXDE:

The United States is spending 1 billion dollars on CCU research, including a Project at Sandia Laboratories to make synthetic diesel from Carbon dioxide. In Australia work is under way to manufacture Cement using the Carbon dioxide from Power Plants and in several places around the world Algae is being cultivated that would absorb the gas and could itself then be used to make Biofuels.

#### CARBON DIOXIDE CAPTURE AND STORAGE:

We recognize and share the concerns of governments and the public about climate change, the use of fossil fuels to mere the world's energy needs in a contributor to an increase in greenhouse gases (GHGs) – mainly carbon dioxide and methane – in the earth's atmosphere. Our challenge is to create solutions that protects the environment without undermining the growth of the global economy. We need to develop a successful climate polity in which the reduction of GHGs is accomplished equitably by the top emitting countries of the world through long term and coordinated national frameworks.

#### THE REAL SOLUTION: CDM PROJECTS:

The Clean Development Mechanism is a key component of the Kyoto Protocol – legally binding global agreement by 192 countries to combat climate change through a reduction of GHG emission. The CDM is a market-based mechanism. It entices Private and Public sector units to fund GHG reducing projects in developing countries by awarding these projects CER – also called Certified Emission Reductions. In the waste sector, a genuine and proven solution to the problem of GHG emissions is the Zero Waste Approach, comprising waste avoidance, reuse, recycling and composting. Zero wastte4 aims to close the loop on all material used in the economy. Furthermore, stated purpose of the CDM is to help development countries to achieve sustainable development, and assist industrialized countries in complying with their emission reduction commits. Climate changes one the several dimensions of sustainable development. While averting climate change and achieving sustainable development are desired by all. It needs Global Partnerships. Alternative CO2 emission reduction strategies on economic development, and in particular, the implications for the poor by empirically implementing an economy model across India is intrinsic.

#### India's initiative and strategies:

What is India currently doing as a? India is playing a positive role and has taken a firm stance in favour of comprehensive sustainable development adaptive strategies. It has presented an ambitious Green India Mission programme under its National Action Plan on Climate Change. Obligations for developed countries to reduce their GHG emissions. From 2005 5th3 conference have also served the COP. Conference of the parties serving as the meeting of parties to the Kyoto protocol (CDM) from 2011 the meeting has also been used to negotiate the Paris agreement as a part of platform activities until its conclusion in 2015, which created as general path towards climate

- India has made a submission to UNFCC on "REDD, Sustainable Management of Forest (SMF) and Afforestation and Reforestation (A&R)
- A National Forest Carbon Accounting Programme is being institutionalized.
- India has established National Clean Development Mechanism Authority (NCDMA) for according host country approval to CDM Projects as mandated under the Kyoto Protocol to the UNFCC.
- The Government has set up an `Expert Committee on the Impacts of Climate Change.
- The finance minister in her Budget 2022-23 speech, stressed that Climate Change was being one of the highest external negativities facing the country and the Government was committed to a strategy of low carbon footprint. For Climate Action Plan, an outlay of Rs.30 crore has been made, which is the same as in the current fiscal whereas Rs.460 crore was allotted to Control of Pollution as against Rs.470 crore in the budget FM announced that the Government would introduce a policy for battery swapping. This would give a boost to the domestic EV industry especially on the public transport front as it would provide an affordable solution to the issue of charging anxiety. Having more EVs on the roads is important part of the Government's plan to reduce carbon emissions from transport. Experts, by and large, have welcomed the FM's announcements on the transition to a low carbon economy. India pledged in Paris to generate 40% of India's power capacity from non-fossil fuel sources and create an additional `carbon sink` of 2.5 – 3 billion tons of carbon dioxide equivalent by 2030. According to Central Electricity Authority (CEA), as of 31 December, 2021, the share of non - fossil sources in the installed d capacity of electricity generation was 40.20%. The report of IFSR 2021, point s out that forest cover has been increasing in India. However, the country has lost more than 1600 sq km of natural forests in this period.

#### **BIOFUELS POLICY IN INDIA:**

Key to Sustainable Energy needs as well as an approach to curbing GHG
The National Policy on Biofuels aims at mainstreaming of biofuels and, therefore, envisions a
central role for it in the energy and environment need of the country in the coming decades. for
the purpose of this policy government defines the following as:

- Biofuels are liquid or gaseous fuels produced form biomass resources and used in place of, or fin addition to, diesel, petrol or other fossil fuels for transport, stationary, portable and other applications.
- Biomass resources are the biodegradable fraction of products, wastes and residues from agriculture, forestry and related industries as well as the biodegradable fraction of industrial and municipal wastes.
- The scope of the policy encompasses bioethanol, biodiesel and other biofuels, e.g. Bioethanol,, Biodiesel, It is proposed to set up a National Biofuel Coordination Committee

#### POTENTIOAL OF WIND ENERGY:

Wind energy has been utilized by mankind for sailing, grinding and other mechanical applications for centuries. In the recent past, wind energy has emerge4d as a viable renewable energy optician with increased application in water pumping, battery charging and large power generation. It is environmentally benign and does not emit greenhouse gases (GHG).

#### Conclusion:

Climate change can be a mega catastrophe if we do not take action now, both in the area of adaptation and mitigation. Anticipatory preparation to potential changes in temperature, precipitation and sea level can help to introduce new technologies industrial and business units. An uncommon opportunity now exists for converting a potential calamity like climate change into a tool for achieving the goal of sustainable adaptive strategies. We must work together to control global climate changes. As a responsible organisations and citizens of a global community, it is our responsibility to secure our energy future to prevent the sort of disruption to many natural and human systems that everyone on our planet depends on, we all must work together to control global climate changes. Global Justice and International Equity on the climate question might play a distinctive role. THE WORLD ISMAKING IMPORTANT PROGRESS IN THE FIGHT AGAISNT CLIAMTE CHANGE...For example, the transition to electric vehicles is rapidly accelerating, renewable energy use is growing exponentially, some nations have put forward ambitious 2030 emission reduction t5argets, and many countries and companies are now rallying behind ambitious net zero targets. At the same time, current national climate commitments (or NDCs, Nationally Determined Contributions) are 3 not yet enough to put the world on tract to avoid breaching 1.5 degree C of warming. And most climate vulnerable countries are not getting the support they need to protect forests, adopt more clean energy, or better protect themselves from climate impacts. Need Institutional Changes, follow up action New Flagship to be developed..., Need Mass Awareness at Grassroots Level. The Institutions, Ministry of Environment Forest and Climate Change, UNFCC, UNEP, WB, to involve the nations to increase their C Sequestration Level, CDM approach, TT, SDG, MDG "including Agenda 21 to mitigate GHGs emission .Countries also need to take aggressive action to curb emissions beyond 2030 and reach net zero emissions s soon as possible.

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### "Learning & Capturing the Beauty of Nature during Wildlife Week"

On the auspicious day of Gandhi Jayanti, 2nd October 2023, nature enthusiasts and photography aficionados gathered at City Park for an enthralling Nature Trail and Photo-walk organized by Exploring Nature in collaboration with Vora Collections. The event, held in conjunction with Wildlife Week celebrations, aimed to promote the art of photography for conservation while fostering a deeper understanding of wildlife. The event saw the generous support of brand partners Nikon and ZIESS, alongside contributions from Srishti Digi Life, Manfrotto, Gitzo, and Lowepro.

#### **Nature Trails And Photowalk**

Photographing nature is a popular and rewarding activity for many individuals.
Nature photography allows participants to connect with the natural world and share its beauty with others



The Nature Trail and Photo-walk were curated to celebrate the beauty of nature and educate participants on the importance of wildlife conservation.

The day began with participants, armed with their cameras and enthusiasm, gathering at City Park. The serene surroundings and the promise of discovering the wonders of the natural world created an air of excitement. Wildlife Consultant Mukul Mukherjee, a distinguished expert in the field, graced the occasion with his knowledge and insights. Mukherjee shared valuable information about the diverse flora and fauna present in City Park, emphasizing the need for conservation efforts to protect these invaluable natural resources. Participants were enlightened about the delicate balance of ecosystems and the role each species plays in maintaining biodiversity.

he event saw the active involvement of Mr. Hitesh Vora, the owner of Vora Collections, who played a crucial role in coordinating and ensuring the smooth execution of the Nature Trail and Photo-walk. His commitment to environmental awareness and support for initiatives promoting nature exploration made the event a grand success.

During the photo-walk, Mr. Jay Kumar, Nikon Route Trainer, provided technical guidance and expertise to participants, addressing any queries related to Nikon gear. This hands-on experience with professional equipment allowed aspiring photographers to enhance their skills and capture the intricate details of the natural world.

The collaboration with Nikon and ZIESS, as well as the support from Srishti Digi Life, Manfrotto, Gitzo, and Lowepro, added a significant dimension to the event. Participants had the opportunity to explore and experiment with cutting-edge photographic equipment, enriching their experience and encouraging a deeper connection with nature through the lens.

#### **Nature Trails And Photowalk**





The yellow-spotted millipede photographed by Gerard Pushparaj A.

Yellow Dragonfly photographed by Gerard Pushparaj A.

As participants traversed the trails of City Park, cameras in hand, the event not only celebrated the artistic side of photography but also fostered a sense of responsibility towards environmental conservation.

The stunning landscapes and wildlife encountered during the Nature Trail served as a poignant reminder of the need to preserve and protect our natural heritage.

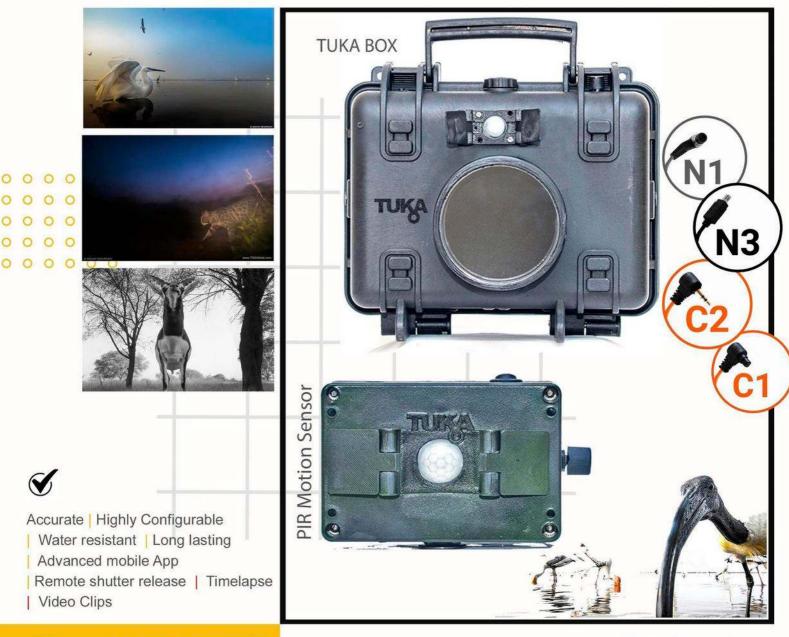
In conclusion, the Nature Trail and Photo-walk organized by Exploring Nature and Vora Collections on Gandhi Jayanti provided a unique platform for nature enthusiasts to connect with the environment through the lens of their cameras. With the support of esteemed partners like Nikon, ZIESS, and others, the event successfully combined art, education, and conservation, leaving participants with a lasting appreciation for the beauty and importance of the natural world.



Ashy Prinia photographed by our participants

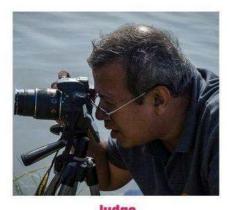
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### **Exploring Nature Awards**



**Judge** Mr. Santanu Majumder



Judge Mrs. Grace Marian



Admin Mr. Bappa Debnath

#### **New Year Greetings and Cheers to Nature Enthusiasts!**

As we step into the New Year, we want to extend our warmest greetings and heartfelt appreciation to all of you who have been part of the incredible journey with "Exploring Nature Awards." Since its inception in September 2021, the awards have been a beacon for raising awareness about the rich diversity in the floral and faunal world. We've strived to showcase creatures of all sizes, emphasizing their vital roles in our ecosystem. The objective has always been to reach a broader audience, educating them about the vast and intricate animal kingdom.

Throughout the year, our month-long campaigns have been a delightful showcase of the best photographs capturing the beauty of nature. The ongoing initiative has allowed us to celebrate outstanding photography and, at the end of each month, announce our monthly winners. Special applause goes to our Top Artists of the Month, whose exceptional talents continue to inspire us. We also want to express our gratitude to the dedicated individuals who actively contribute to our forum as Top Contributors. Your valuable input shapes our community and adds to the richness of our shared knowledge.

As we move forward, we are excited about the prospects of another year filled with awe-inspiring moments and continued exploration of the natural world. Together, let's celebrate and recognize the remarkable contributions made in the field of exploring and preserving nature.

A special mention goes to the creative minds whose work graces the pages of our magazine, "Whispering Wilds." With a readership of over 50,000 people worldwide, your art not only receives the honor it deserves but also reaches a global audience, spreading the beauty and wonder of the natural world.

Here's to another year of discovery, appreciation, and celebration of the diverse and magnificent wonders of nature. May 2024 bring new adventures and accomplishments in our collective journey!

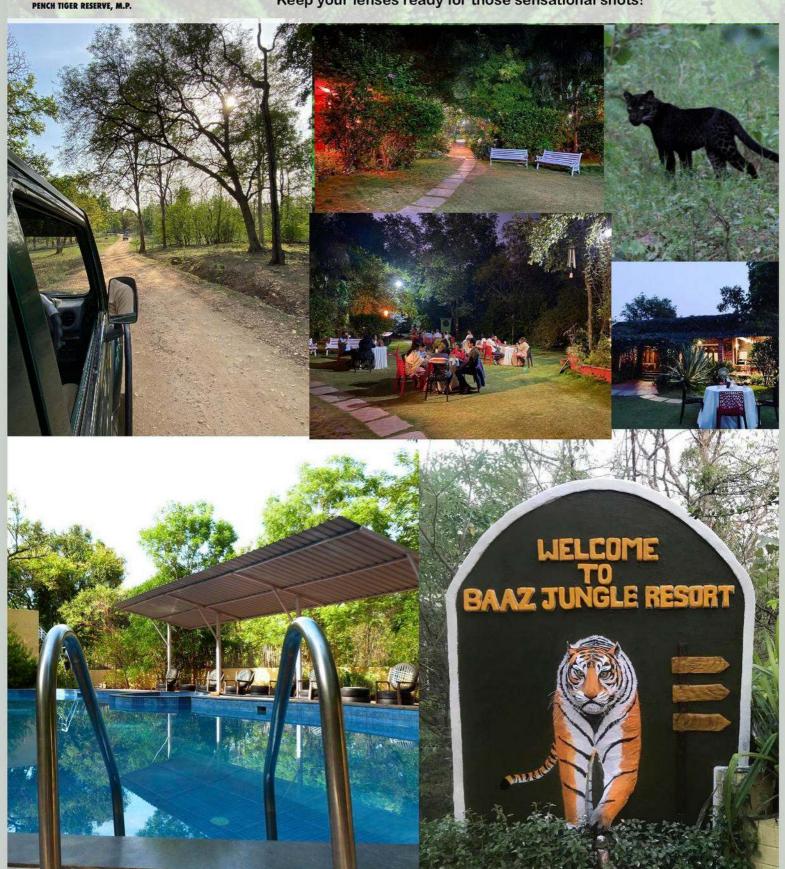


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Keep your lenses ready for those sensational shots!



#### Contact +91-9422102560/+91-9422441921

Baaz Jungle Resort; Village Kohka, Tahsil Kurai, Madhya Pradesh India -480881



# Exploring Nature Awards Top Contributors

#### December



Raj Pise



Hitesh Patel

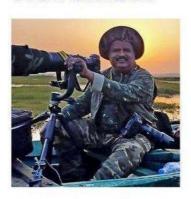


R. Pradeep Kumar

#### **November**



SAMAR JANA



R. Pradeep Kumar



Subho Das

#### October



Syamala Rupakula



R Pradeep Kumar



Arun Tyagi

# Exploring Nature Awards December



**Winner** Chidambar B J



# Exploring Nature Awards December



**1st Runner Up** Jenisha Aggarwal





**2nd Runner Up** Navonil Dutta



# Exploring Nature Awards November



Winner Alexander Perov, Moscow, Russia



### Exploring Nature Awards November



**1st Runner Up** Navonil Dutta





**2nd Runner Up** Shiddalingesh Mattur



# Exploring Nature Awards October



**Winner** Shiddalingesh Mattur



# Exploring Nature Awards October



**1st Runner Up**Samar Jana





**2nd Runner Up** Rahul Dey





#### हिन्दी मासिक समाचार पत



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### **About Whispering Wilds**

Whispering Wilds (e-magazine) is an initiative to make us aware of our planet where we coexist with millions of other species. This wildlife magazine helps to create awareness about nature and educate people to interact with the natural world in a responsible and sustainable way. The Magazine showcases stories of individuals and organizations who have made a positive impact on the environment and inspire the readers to act responsibly. Whispering Wilds, features stunning photography and artwork that showcases the beauty and diversity of nature. The magazine features interviews with experts and scientists who offer valuable insights on wildlife research and conservation.

#### **Get Your Wilderness Stories Published**

- **Content Arrangement:** Organize your photographs and write-up sequentially in a Word document. Ensure that the content flows smoothly from start to finish.
- **Subject Line:** In the subject line of your email, use the exact heading of the article you're submitting. This helps us quickly identify and process your submission.
- **Grammar Check:** Prior to submission, review your article for any grammatical errors. While we appreciate your efforts, please be aware that our editorial team will also conduct a thorough language and grammar check.
- **Photo Attachments:** Send your photographs as separate attachments in .jpg format. Make sure the dimensions of the images are 1024 pixels at the longest edge and that they have a resolution of 300dpi. Include all the images in the same email.
- **Personal Information:** In the body of the email, include your full name, designation, company (if applicable), and your location. Provide your contact number for easy communication.
- Send to Email: Email your article to us at whisperingwilds1981@gmail.com.

By following these instructions, you'll ensure that your article submission is wellorganized and can be efficiently reviewed by our team. We look forward to receiving your contribution.





We believe in being the support system for the entire community of visual storytellers!

Bringing you the world's finest brands

# Introducing Video Based Advertisements!

# Step into the Future with Whispering Wilds Video-Based Advertisements!

#### Experience the enchantment of "Whispering Wilds" E-Magazine like never before!

Experience captivating stories, stunning visuals, and VIDEO-based ads! Engage with short, visually enticing videos that blend seamlessly with our eco-friendly content. From sustainable fashion to wildlife conservation, let the whispers of the wild inspire you!

 Introducing video-based advertisements is a powerful way to promote your products, services, or brand using engaging and visually compelling content.
 Video ads have become increasingly popular in the digital marketing landscape due to their ability to captivate audiences, convey messages effectively, and drive higher engagement rates compared to other advertising formats.

Video advertisements are promotional videos created to showcase products, services, or brands through visual storytelling. Video ads have the advantage of being highly engaging, memorable, and effective in conveying messages to a wide audience.

# Introducing "Advertorials: The Power of Conversation"

Dive into an Immersive World of Knowledge and Inspiration with our Video-based E-Magazine!

"Advertorials" present engaging interviews with industry experts, thought leaders, and change-makers.

They help to uncover valuable insights and insider secrets as we bring you thought-provoking conversations that educate and elevate.

From technological innovations to lifestyle trends, our video interviews offer a unique perspective on the latest pressing topics.

Embrace the power of advertorials - where storytelling meets expertise!



#### Use Hashtag #WhisperingWilds

Tag us when you post animal images on social media



#### **OUR BRAND PARTNERS**















Whispering Wilds (e-magazine) is your portal to our planet's incredible biodiversity. Share your love for animals and nature. Tag us when you post animal images on social media. Who knows, your image could win a place in our magazine! Let's raise awareness and celebrate our coexistence with millions of species!



#### TO GET IN TOUCH WITH US





@exploringnature2021







