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Newsletter

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Cover Page Photograph:

Tiger by
Sabyasachi Patra

Loss of Life due to Climate Change

Climate Change has already started showing its deadly fangs to people throughout the world. In India, the impact of Climate Change is seen through frequent cyclonic storms from both sides of India's coastline. India these days is facing storms in summer season which was earlier never heard off. There are frequent landslides in the hills. Severe unseasonal rains are suddenly inundating cities causing huge loss of property as well as life. Heat waves have become more severe causing deaths of people throughout India. Glaciers in the Himalayas are melting and causing huge challenges to the traditional lifestyles of people. The sea level is increasing due to huge amounts of ice is breaking off from the Arctic and Antarctic glaciers. Many islands as well as the entire coastline of India is facing erosion and coastal communities are facing the brunt. It is now well known that we are facing a full blown Climate Crisis and the impact is going to be more severe in future.

Unfortunately, since Climate Change is impacting us in so many different ways as there is a complex ecological relationship binding different natural phenomena, our current science and scientists are hard pressed to clearly and easily understand it. This point was supported by an answer given in Rajya Sabha on 16th December, 2021 by the Minister of State, Ministry of Environment, Forest & Climate Change.

He said that there is no established study for India providing a quantified attribution of climate change to the triggering of natural disasters leading to loss of life and property. While many studies monitor impact of disasters such as floods, drought and heat, the science of at-



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tribution of these changes particularly to climate change is far more complex and currently an evolving subject. Most studies so far have relied on mathematical modelling of climate change impacts but these are yet to be empirically verified.

The extant legal and promotional measures cater to the concerns of disasters related to climate change, which are subject to refinement, improvement and further development by the relevant Ministries/Departments at the Centre and the States. The relief, recovery, and rehabilitation related to disasters in India are governed inter alia by the relevant provisions of the Disaster Management Act, 2005 and the guidelines, directives, and orders of the National Disaster Management Authority (NDMA) and the State Disaster Management Authorities. Furthermore, the India Meteorological Department (IMD) is responsible for monitoring, detection and forecasting of weather and climate including early warning for severe weather events such as cyclones, heavy rainfall, extreme temperature, thunderstorms, and other such extreme events.

The National Disaster Management Authority (NDMA) and State Disaster Management Authority (SDMA) spearhead and implement holistic and integrated approach to Disaster Management in India. NDMA has issued guidelines for the preparation of District Disaster Management Plans (DDMPs). In addition, the National Disaster Management Plan prepared by NDMA in 2019 and the respective State Disaster Management Plans provide the overall framework and guidance for the preparation of DDMP. Further, the relief, recovery, and rehabilitation related to disasters in India are governed inter alia by the relevant provisions of the Disaster Management Act, 2005 and the guidelines, directives, and orders of the NDMA and the SDMA.

As part of India's participation and leading international cooperation and collaboration in these matters, the Coalition for Disaster Resilient Infrastructure (CDRI) has been launched in 2019 and headquartered in India. It aims to promote the resilience of new and existing infrastructure systems to climate and disaster risks through updating and enhancing information on the exposure of infrastructure systems, and model climate related hazards such as droughts and heat waves, enabling near time response.

Common men and women of this country will immediately not place much emphasis on the answer of the Minister regarding no studies in India to pin point impact of climate change. Unfortunately, India with its nearly 1.4 billion people has started facing the brunt of climate change and in future that is going to be very severe. And only then people will realise the real meaning of this statement.

With rise in global sea levels, the coastal communities will be worst affected. Already many

fishing communities are forced to abandon their villages as the shoreline is changing for the worse. To protect the shoreline of the cities, rocks are poured on to the water to create walls. This diverts the currents to few kilometers away and that hits the fishing villages. With sealevel rise due to Climate Change many of the coastal communities who are among the most poor and marginal are going to have their houses drowned. As such fishermen are being squeezed out because the price of land has gone through the roof. In many places lavish residential colonies and industries have taken over most of the land.



So the poor fishermen have to leave their traditional fishing areas and migrate to other places. There have been many instances of hundreds of fishing folks migrating from Andhra Pradesh to Odisha.

Most of the coastal communities will be further pushed into poverty. Earlier the women folk used to collect firewood, roots, tuber, fruits etc. These days due to lack of village grazing lands and other community plantation areas, the coastal communities can't depend on their daily firewood and other fruits etc for their kitchen. The fishermen in the sea area also facing

dwindling catch due to death of corals because of higher temperatures and acidification of the ocean.

Sudden cyclones and seawater ingress causing loss of life and drowning settlements is another big challenge. It is easy to predict that India is going to see millions of Climate refugees moving from one part of the country to another.

What kind of quality of life are we giving our own citizens? Our big cities are already under massive stress as concentration of jobs is leading to overcrowding, resulting in crumbling infrastructure. Even huge dams are not able to meet the water needs of big cities. The air pollution has become so high that millions of people have started falling prey to asthma, bronchitis, cancer and other such diseases. When the Climate Refugees start heading towards the big cities enmasse, the situation would become disastrous.

Already there are reports from Sundarbans that after the recent cyclones, the poor women folk are falling prey to the flesh trade. Hunger often trumps over morals.

No amount of speeches glorifying the valour of Indian soldiers can rouse the morale of men and women sleeping for days together in hungry stomach. History has taught us that "A Hungry Man is an Angry Man". Psychologists often say that even the most hardened criminals cook up a story to justify their own acts so that their conscience doesn't hurt them. Some poor folks can easily get trapped by people who are engaged in actions that are inimical to India's interests. As such, these days even the middle class and the rich are devoid of ethics. The difference between the Hero and Villain has blurred. People who have become rich by any means are now touted as Heroes and Heroines. In these times when the social mores have changed, the poor and marginal communities becoming the greatest victims of Climate Crisis would cause huge stress to the social fabric apart from the economy. It can lead to social strife. So, we as a Nation should be very worried.

Article -

Save the Elephants of Odisha

We human beings have never known to choose our living place wisely. We never give a good thought before deciding on where to live. We start staying at a place and then after some time decide that it is not suitable for our needs and then we move to another place. This characteristic is perhaps exemplified by the Delhi to Daulatabad shifting of capital by Sultan Muhammad Bin Tughlaq. Many people died while shifting of the capital. Later he again decided to move back the capital to Delhi.

Elephants need huge amount of food and hence need to keep on moving from one area to other while feeding. Their stomach is designed in such a way that the digestion efficiency is less and hence lot of seeds come out through the gut being partially digested and easily germinates with the dung. In this manner, various plant species have evolved and have propagated.



In stark contrast to human beings, elephants understand which place is suitable for them. Depending on the season elephants know where to travel for their food needs. This age-old knowledge is passed down from generation to generation. Unfortunately, we humans are rapidly changing the landscape by constructing dams, roads, canals, mines, towns and cities etc. The existing fruit and flowering trees, plants and creepers are vanishing, as a result the elephants have to search for food in other areas and hence have to change their seasonal age-old migratory path. Hence, more and more the elephants are found in areas where they have not been found in the last 50-60 years. As a result, conflict is inevitable.

Elephant Killing Fields

In Odisha, between 2016-17 and 2020-21 a total of 406 elephants have died due to various causes. Since the financial year 2016-17, on an average 80 elephants died every year in Odisha. 162 elephants have died due to accidents. 54 were electrocuted. Fourteen elephants were run over and killed by trains. Poaching led to a further 11 elephant deaths. Normally poach-

ers kill tuskless elephants in their prime for their tusks. That single action leads to loss of valuable genetic pool as with fewer wild tuskless elephants, the female elephants have to mate with the other available males. In the wild the female elephants allow only the fittest male elephants to mate with them. So even though poaching numbers appear less, it creates a disproportionate impact on the genetic diversity.



Between 2018-19 and till May end 2021, roughly one elephant was killed in Odisha every five days.

In the FY 2018-19 a total of 93 elephants died. 82 elephants died in 2019-20 and this year till August 30 elephants have died. 95 elephants died due to diseases. Though this data was given by the Odisha forest minister in the Odisha assembly, not much effort is visible from the Government to stop this elephant killing in Odisha. To make matters worse, conservationists estimate that the elephant death numbers provided by the Odisha Government is much lower than the actual number of deaths. Often, the local forest officials prefer to not report the deaths as they fear being accused of incompetency.

The fast-moving trailers moving out from the mines in Odisha often mow down elephants. Culturally elephants are revered in eastern India in Odisha, Assam and West Bengal. When an elephant dies, people place flowers over it, light incense sticks and pay obeisance. However, these common men and women in most of the cases don't have any say in the elephant killings.

The roads constructed to ferry ore from the mines to the ports cut through elephant migratory corridors. The roads are poorly designed. There are no underpasses for elephants to use it. Constructing underpasses and elevated roads increases the cost of the road building and the NHAI (National Highway Authority of India) officers fight tooth and nail against it. In

the past the central minister has often bulldozed the forest and environment minister and got away without constructing adequate mitigation measures. These people are driven by money and don't care for Elephant, our National Heritage animal.

In Odisha in the past the state distribution utility companies were earlier owned by a Reliance entity. They were loath to do maintenance of power lines. Several times elephants died due to low hanging wires. In some cases, people while trying to



Elephant on fence

steal electricity leave live wires and elephants have been electrocuted. 54 elephants electrocuted in the last five years indicate how bad the situation is in Odisha. No person has been prosecuted for elephant electrocution. Hence, one can safely assume that elephants will continue to be electrocuted in Odisha.

In India, much of elephant habitat falls outside protected areas. The Government as well as the State Governments have never taken a holistic landscape level view of conserving wildlife. To save our elephants, we need to immediately stop the elephant deaths. Immediately take steps to save the elephant corridors. The government has to buy up land in the existing elephant corridors so as to ensure that elephants can travel uninterrupted without getting hit by vehicles, trains, live wires. By ensuring undisturbed migratory corridors, the man-elephant conflict will also be reduced. The payment that Government makes towards compensation for crop and house damage as well as towards loss of life can be averted.

To allow loss of human as well as elephant life to continue due to lack of planning is not only irresponsible but also immoral. We

the civil society can always step up to help the Government in raising resources for recreating and augmenting the elephant corridors. What is needed is the willpower to be shown by the Government. Unfortunately, in this era of non-stop politicking, the Government and Government officers perhaps have different priorities. If we don't act now, it would be too late to turn back the clock. Hope better sense prevails.

Article -

Rhinos in Manas

By Samrat Sarkar

*"I think I could turn and live with animals, they are so placid and self-contained
I stand and look at them long and long.
They do not sweat and whine about their condition,
They do not lie awake in the dark and weep for their sins,
They do not make me sick discussing their duty to God,
Not one is dissatisfied, not one is demented with the mania of owning things." – Song of Myself,
WALT WHITMAN.*

I read this poem in the foreword of the book named “Beast and man in India”. And it is a fact that they all are living peacefully in a self-sufficient manner. They never have any grudge over the uncertainty in their daily lives and the day to day competitions in their lives. They never start lying after they get up in the morning. Neither they shed any tears for the sin they commit in their lives. They don’t show any bits of fear or opulent ritualistic obeisance for any Gods. None of them are dissatisfied with their lives. They don’t run after the material wealth as we do. But this pursuit of material wealth is what keeps our true peace of mind and happiness at bay.

Every time I see the Rhinos this poem comes to my mind. They seem to be very similar to the “Sages” who are elaborately described and depicted in the scriptures; mostly, if not all. He has no Gods and does not pursue to find one either. The vast expansion of the existence and its complications are mostly outside the boundaries of his mind. His life which is guided and dictated by his mind is very much like what poet Walt Whitman has described in his poem titled “Song of Myself”. They seem to have attained the life of a sage who have renounced all the wealthy possessions even though they are living earthly lives. On the other hand, humans are immersed themselves in sensual pleasures, hoarding material wealth, in vice and virtue and in physical comforts. But the destiny of the lives of all the wild animals now lies in the hands of humans. Was it inevitable? Was it destined to happen? Things should not have been this way if laws of nature were followed.



The history of the one horned Rhinos in the Indian sub-continent is a glorious one. In the fourteenth century A.D. their approximate population was more than 0.45 million. Timur The Lame was known to have hunted Rhinos in Kashmir region. These Rhinos lived along the foothills of the Himalayas from the present day Pakistan in the west to the present day Myanmar in the east. There were vast riverine grasslands in the basins of all the rivers of this sub-continent except for those in the south India. They lived in those areas. Their number have been fast dwindling in the past five hundred years.

Except in the north eastern part of India and some north Indian states these One Horned Rhinos are not to be found anywhere in the world. Their present day population stands at approximately 3500. Since the last seventy to eighty years after a lot of efforts and implementation of different wildlife conservation laws this number has rebounded as in the beginning of 1900s the rhino population was on the brink of getting exterminated in Kaziranga. Should it have happened like this?

In my opinion, the manner in which we spearheaded the attack on them in the last five hundred years, it is a wonder that they have not yet become extinct by now. Starting from the Mughal Empire there have come an onset of the agricultural



revolutions from the Punjab in the west to the Gangetic river basins in the north. Even the river basins of the central India was not outside the purview of this agricultural revolutions. Most of the alluvial grasslands by the banks of the rivers which were meant for the grazing fields of these one horned Rhinos were systematically converted into agricultural lands. As a result, the whole population of them were wiped out from the western, central and northern part of India. Then came the British Raj. During the last one hundred years of the British Raj the remaining part of the north eastern India where still some Rhinos lived were ransacked.

Sometimes, on the pretext of constructing new roads, for constructing new residential areas due to the growing human population, for agricultural needs or sometimes just for the fun, the One Horned Rhinos were mercilessly attacked and killed. Along with this the climatic changes worked as a catalytic action against the struggle for survival of these Rhinos. That consisted sometimes of draught or of unprecedented inundations, changes of weather temperature and such other things. In spite of so many adversities it is a wonder that some of these rhinos are still alive in our country. A startling revelation came out from the “Indian Rhino Vision 2020” where it was admitted that the most eminent danger for the survival of the one horned Rhinos in India are the poachers.

Rhinos in Manas:

The history of the Rhinos in the Manas National Park of Assam is full of ups and downs. Manas has time and again been badly affected by fierce tussles among different political groups. In 1987 a mass agitation started demanding a separate “Bodoland” in the areas adjoining Manas National Park. That turned violent within a very short period of time. At that time there were still a considerable number of Rhinos living there and the number would be 80, if not more. The situation in Manas deteriorated very fast. The Bodo insurgents resorted to arson on various camps one after another from Kokrajhar in the west to Udalguri on the east. Rifles were snatched. Hundreds of Bodo insurgents infiltrated into the forest areas and illegally occupied lands there. They could not be evicted by the government afterwards. Thereby, the core areas of the Manas National Park turned into a safe hiding place for those Bodo insurgents. No one could estimate as to how many Rhinos were hunted by the insurgents during that period.

Some of us may remember the Range officer named Ibrahim Ali Khan. He was the one who played an instrumental role for

upholding the interest of the wildlife of Manas during that period. But ultimately, he was abducted and was murdered two months after his abduction in the Bangtol forest. The Bangtol forest does not exist anymore. Many people died during the bloody fight for a separate Bodoland which continued for about one and half decades. No Bodoland formed at the end, but the Rhino population were almost wiped out from the region. Though there should not have been any link between the Bodo insurgency and the wiping out of the Rhino population in the forest, but in this case the fierce political battle took a heavy toll on the Rhinos inhabiting there. The Rhino horns are and were very precious then and fetched a lot of money to the insurgents if they could manage to get one. The bounty were not only used for funding for the insurgent works but also were used for repayment of loans of the princesses.



In the month of September 1993, a princess of Bhutan Dekichoden Wangchuck, was arrested in Chiang Kai-shek International airport as she was travelling with 22 Rhino horns. The total weight of the horns was 14.9 Kg. As she was questioned she disclosed that she had purchased those horns from a businessman who collected those horns possibly from Assam. It took two years for her to collect all those 22 horns from him. The investigators came across some more astonishing facts during the questioning sessions. The princess was going to Taiwan to sell those horns so as to repay her loans.

The princess had many trade setups and some of which were in Phuentsholing of Bhutan which is not very far from Assam. Therefore, the source of these horns being the Kaziranga and Manas National Parks is a very plausible theory. And the relation between the illegal hunting and some Bhutanese influential persons being involved with it cannot be discounted. That princess was Cambridge educated. She had a diplomatic passport though she should not have one because the Bhutanese government did not even approve Taiwan as a sovereign state till then. We all know that one can evade security checks easily at the airports when one possesses a diplomatic passport. The princess tried to misuse this law for her illegal smuggling of rhino horns. It must have taken her great courage and strong connection with other traffickers to collect all these 22 horns and to travel with these horns to some foreign country. When an educated and influential person like her performs this type of illegal actions of smuggling endangered wildlife body parts it becomes very difficult for the species to survive.

The main reason for which the Rhinos have been killed so far is for the preparation of aphrodisiacs, the main ingredients of which are believed to be collected from the Rhino horns. The medicine manufactured with ingredients from Rhino horns, mainly Indian one horned Rhino horns are sold in hefty prices in China, Myanmar, Thailand, Taiwan and Vietnam. In the present-day traffickers' sell each kilograms of the Rhino horns anywhere between rupees forty to seventy Lakhs. That is why the traffickers risk their lives to go and grab Rhino horns by any means. People say that two male Rhinos survived near the Bansbari Range only due to their unusual behaviours. It is a habit of the Rhinos to repeatedly come to the same spot to

defecate. So, if these spots are correctly identified it becomes very easy to locate them. In eastern India most of the poaching of Rhinos are perpetrated in this way. Those two male Rhinos of the Banshbari Range survived from the clutches of the poachers as they did not follow this habit.

It is a habit of the Rhinos to repeatedly come to the same spot to defecate



Frog waiting to catch flies stuck on Rhino's skin

The temperament, the body language of the Rhinos and their relationship with other living animals around them have always aroused tremendous interest and curiosity. In Manas, I have noticed that as a Rhino walks in the grassland, the Mynas become very active close to the legs of the Rhino. As the heavy legs of the Rhino fall on the ground the small flies and small insects lurking inside the grass start moving and it gives the Mynas some easy chances to feed on them.

Small flies and other insects live on the skin or in the crease of thick skin or in earholes of the Rhinos; they lay eggs there. The Egrets and the Mynas feed on these. The Rhinos also become very happy to allow this symbiotic relationship. They can get rid of these parasitic flies and insects for free!

Very recently, in an investigation in South Africa it





Mynas peck and feed on the parasites from the spot of the wound



Rhino drinking water near a well in a desolate camp



Rhinos don't harm the Forest officials living in the camp area

was found that the Black Rhinos eavesdrop on the chirping of the oxpecker birds sitting on their heads or on their backs.

The vision of the Rhinos is very weak. They can hardly see when a poacher is approaching them. But the birds sitting on their backs can do that very easily and, in that case their



voice changes. The Rhinos can decipher the meanings of the slight changes of the voice of the birds and can take precautions beforehand. They move away to safer places.

In Manas I used to see a Rhino almost every day. He fiercely fought with another male to win the heart of his female mate.

During that fight the other male Rhino was badly wounded from the bottom of its belly to the mid portion of its hind legs. It was a life-threatening matter. The forest officials tried heart and soul to save the Rhino from dying. They tranquilized it and dressed the wound periodically. As the Rhino recovered to some extent it frequently came back to the camp areas near the fencing.

The process of translocation of Rhinos in Manas started on 2006. A total of eighteen Rhinos have been relocated so far from Kaziranga and Pobitora National Park to Manas National Park. Starting almost from zero the number of Rhinos in Manas at present is forty eight including those two male rhinos of the Bansbari Range. WWF has made a commendable effort in this translocating process. We must also mention the great contribution of our forest officials making in this matter. The translocation of the Rhinos is really a time taking and complicated process. It is especially very difficult to succeed in collecting orphan Rhino cubs or collecting calves from flooded areas and raising and looking after them properly until they become fully grown-ups and then translocating them. The present day Manas National Park can be home to at least 100 Rhinos. And, of course, if and only if we really want that to happen.

We are now worried about the geographic and climatic changes of the Manas National Park. The main reason of this is certainly the endless greed and recklessness of the mankind. A huge number of River Dams are proposed to be constructed with an intention to produce hydroelectric power. The list is frightening:

1. Kuri chhu of Mongar district. (Chhu means river in Djonkha Language). The Dam became operational in 2001. Height 55 mtrs. Production capacity 60 MW. Kuri chhu has merged with Manas river at its right-hand side
2. Mangde chhu Dam of Trongsa district has become operational recently. Production capacity 720 MW. Height 101.50 mtrs. Mangde chhu has merged with Manas river at its right-hand side
3. Kulong chhu Dam. Construction work has started in 2014. The project is expected to complete very soon height 95 mtrs. Production capacity 600 MW. Kulong chhu has merged with Manas river at its right hand side

The list does not end here. The proposed plan of the Bhutan government in the next five years are like this:-

1. Chamkhar chhu Dam. It is a plan for joint construction of two large Dams having production capacities of 1397 MW and of 857 MW respectively. Height 108 mtrs.
2. Kuri Gongri Dam. Production capacity 2640 MW. Height 250 mtrs.

In 2004 there was a terrible flood in Manas only due to the excessive water released from the Kuri Chhu Dam. Since then the topography of Manas has undergone many unwanted changes. The river has shifted towards the Bansbari Range by

about four kilometres. In the near future during a full rainy season, if water from all the river dams are released simultaneously it is easily predictable that it will just wreak havoc in the Manas region and what will happen to the lives of these Rhinos can be easily imagined. The different names of the rivers are actually names of the same river at different locations. All the rivers have originated in the Bhutan Hill and have flown through the Manas Biosphere Reserve. All these rivers together have given rise to a river system. Restricting the natural flow of water of any one of the river of this river system at upstream will certainly have an adverse effect on the river downstream basins in the plains. This river system is the lifeline of the Manas and is the key factor in the growth of the flora and fauna in the Manas. The grassland of Manas which nourishes and feed the Rhinos can be washed away at any moment. Due to the construction of dams the rivers may change the course very fast. The erosion of banks of the rivers are by itself a matter of great concern. The construction of river dams will greatly increase the chances of this erosion of riverbanks. Once this happens, what will remain in Manas for these poor creatures that will save them from being extinct! If every year the fringe villages of the forest start being inundated what will happen to the villagers? In that case it will not be surprising that some helpless, desperate villagers will then resort to their old habit of poaching the Rhinos to make a living. What will be the consequences then?

River bank erosion of Manas



Article -

Journey to Leopard Country

Mrs.Shakti & Mr.A.S.Bishnoi

Rajasthan is India's largest state and has more rural areas. In 1946, Maharajah Umaid Singh of Jodhpur broke ground on a dam on the Jawai river to help bring in irrigation in this mostly arid landscape. This is the biggest dam in the western Rajasthan and the large reservoir helped attract lot of migratory birds in winter. Even today, it provides incredible sightings of species like the Sarus Crane, Indian Courser, Osprey, Pelicans, Bar- Headed Geese, various species of waterfowls, pipits, larks, pratincoles, and other raptors to mention just a few. Marsh crocodiles can be seen basking at Jawai dam.



This landscape is also part of the ancient Aravalli range, a mountain range which is even older than the Himalayas. This mountain range runs roughly diagonally across the state of Rajasthan. The southern part of the range is formed by granite and raises to its highest at 1722 Meters at Mt Abu.

The dam in Jawai, rocky mountain range, many seasonal, scrub forest and the low density of human population in the area



has been ideal leopard country, especially since pre-independence when tigers were ruthlessly wiped out and only leopards remained. The place has been regularly used by Shepherds as grazing grounds. The shepherds and local people are used to leopards and take precautions to protect their livestock.

With increase in human population there has been impact on the forests and the population of wild animals like caracal, chinkara, desert cat, wolf, sloth bear, jackals, hyena etc have decreased.

Leopards of Bera:

Many years ago, a local feudal lord Thakur Devi Singh started a tourism venture and the world came to know about the leopards of Bera. Soon several tourism operators started bringing in tourists to this place. We too decided to explore Bera in the month of July to unwind after Covid induced lockdown. The 1500-kilometer journey from Hissar to Pune with stop over in Bera was really worthwhile.

In the early morning leopard safari, as we rushed to catch the sight of leopards returning from its nocturnal hunts, we see sleepy men, women and children walking along the path, each one carrying a container of water, a can or a steel lota, on their way to defecate among the scrub and the drifts of plastic waste. Open defecation is still widely prevalent.

In a country that has been changed almost beyond recognition by two decades of explosive economic growth, electrification here is patchy, the crops of mustard and wheat painstakingly harvested by hand. The land around the dam is known informally by the river's name. The rich river-bottom soil, which for millennia has supported clans of Rajput farmers, is broken by dramatic solitary hills, stark uninhabited granite peaks, almost all of which are marked by a shrine or temple. Through this country wander semi-nomadic herders of the Rabari tribe following ancient routes that take them south into Gujarat and east into Madhya Pradesh.

The Rabari are semi-settled nomads, with a different view of the world. Women conduct business affairs and hold a lot of the family wealth in the portable form of jewelry, while the men folk roam with the animals. And in the hills live dozens of leopards, predators who by day watch the humans go about their business, and by night come down to hunt, walking the streets stalking the livestock of the villagers.



Leopard Sighting in the hills:

Just before dawn, we were fortunate to spot one mother leopard on the hill and cubs hiding in the cave. The guide was ever enthusiastic to take us near the cave, but it started raining and I had to protect the camera. Fortunately, my wife was carrying umbrella and that helped us to have a closer look of mother leopard amidst rain. The glint in the eye of leopard was startling yellow-green. Languorously stretching, occasionally changing position, the leopard appeared to be unconcerned by the humans watching from a distance, on a jeep at the foot of the hill. A full-grown leopard with muscular forelegs and a

powerful jaw is a powerful predator. From its pose a fearful person can imagine that the leopard is ready to pounce. Yet we were comfortably watching this majestic animal and the leopard was also in no mood to move from its comfortable position.

The tour operator took us to watch a mother and her cubs prowl about outside a cave partway up a hill. The mother leopard had earlier that day killed a goat and dragged the carcass up the hill to eat. By the time we reached, the leopard family had a hefty meal and were relaxing in the cave. Only female leopard surfaced perhaps by instinct to look out for any possible danger when we spotted her. She was relaxed and poised. We kept on soaking in the magnificent view of the leopard.

The sky dusked and the shadows got long and hard, the sounds of the village neared to silence except evening bhajans, temple bells and it was startlingly close to leopard habitation. Dusk encroaches and the rocks turn into silhouette forms giving ample opportunity to hide in darkness. Barking dogs, a



transistor radio, the coughing of a generator and honking of our jeep to get some space through the village were the noise breaking the melancholy of the sounds of the place. The elevation creates a natural boundary between the two worlds — the cats above and the humans below — there was no illusion that we were worlds apart though staying close by. This is the real India, where man and animal are at peace with each other.

Around the world, from the savannas of Kenya to Brazil's Pantanal wetlands, when big cats pose a threat to poor communities, the same sad story prevails: Cats kill valuable animals. Occasionally they kill people, often children, who are small enough to be carried away. And then people kill the cats. It is weekly news in India, where leopard has entered the civilized barricaded society took away pet dogs, killed livestock or wounded people. Yet in Jawai no one has been taken by a leopard for over 150 years. Serial safari goers, equipped with expensive long lenses and wardrobes of khaki clothing — to a bouncy and sometimes hair-raising jeep ride through the countryside, past antelope, porcupine, crocodiles and all manner of bird-life, to look for leopards.

In parts of Africa where leopards' prey is more scarce, their territories can be huge, on the order of several hundred square miles for an adult male. Females will have territories within that of a dominant male, staying close to places where they can raise their young. If a cub is female, a mother will cede territory to her. If it's male, it will usually be pushed out, forced to roam more widely. In Jawai, where territories consist of a network of hills connected by corridors of farmland, leopards needn't travel far for food and do not feel threatened by the humans around them. It is generally in places where humans have made attempts to kill or expel leopards, such as in Uttarakhand, that attacks are more common. Over a hearty break-

fast of local food being cooked, one of the old man explains his own theory, that the big cats that become “man eaters” are old or weak, too slow to catch other game or too toothless to fight. In Jawai, strong young males are always coming into conflict with their elders, who may well be taken care of before they become a problem.

Our operator was also keeping the database of every leopard sighting, creating entries not unlike Facebook profiles for individual cats. In a month when leopards kills at least good number of goats, three dogs, buffalo calves and a young cows, all from a single village. For a poor community, this is a significant economic loss. Yet across Jawai, the leopards seem to be viewed as a blessing. People stand on their roofs to watch them. They take pleasure in their presence. These days the Government gives them compensation for the loss of livestock, so there exists a kind of symbiotic relationship.

Fragile Coexistence?

How long can Jawai’s fragile entente between humans and leopards persist? For the moment, the tourist footprint is very light. Jawai camp is small, exclusive and maintains good relations with the community. But more cars and jeeps are arriving, bringing people to look at the wondrous cats. Our guide believes that, unless some kind of regulation is put in place, it would become too crowded and the leopards would be forced to avoid the disturbance and perhaps migrate east into the high Aravalli Mountains. Creating a national park and displacing the farmers and herders would destroy the lifeworld of Jawai’s people and remove the leopards’ main source of food. Such a park would have to be stocked with wild game to make up for the vanished livestock. Unfortunately, that would take ages to create as wild life will depend on forest which has good biodiversity. Different trees flower and bear fruit in different months and hence wild animals move around and can find food. With limited number of tree species in a forest the herbivores will not be able survive and that would cause problems for the leopards.



Mines are a scourge of our biodiversity. They pockmark and ravage the landscape stripping the trees, wildlife and the topsoil, leaving behind a land good for nothing. There were 12 mines allotted in the area and another 144 in the pipeline. There was in-fact mining to be undertaken but heavy opposition from local people forced the Government authorities to cancel all permissions. There is a lot of private land ownership and the owners can be susceptible to inducements. So, bringing all of those under the ambit of Community reserve may be a good idea.

However, other issues have emerged over the last few years with the area gaining popularity. Hotels and guesthouses have rampantly come up to cater to the tourist influx, besides unregulated safaris that have little regard for rules or wildlife. Uncontrolled commercialization is the bane of wildlife conservation. Everything is butchered under the sword of greed. It is important for all stakeholders to understand the culture, landscape, livelihoods and maintain the delicate balance. Else everything will be lost forever.

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Solar Capacity increased 18 times between March 2014 to October 2021

As a Party to the United Nations Framework Convention on Climate Change (UNFCCC), India periodically submits its National Communications (NCs) and Biennial Update Reports (BURs) to the UNFCCC which includes national Greenhouse Gas (GHG) inventory.

As per India's third BUR submitted to the UNFCCC in February 2021, total GHG emissions, excluding Land Use Land-Use Change and Forestry (LULUCF) in 2016 were 2,838.89 million tonne CO₂e and 2,531.07 million tonne CO₂e with the inclusion of LULUCF. India's total GHG emission also includes CO₂ emissions from oil & gas sector and industrial processes and product use (IPPU) sector. The emissions based on India's first, second and third BURs are as following:

Sr. No.	Year	Total GHG emission (without LULUCF) (million tonne CO ₂ e)	Net GHG emission (With LULUCF) (million tonne CO ₂ e)	CO ₂ emission (million tonne)	CO ₂ emission from oil & gas sector (million tonne)	CO ₂ emission from Industrial Processes and Product Use Sector (million tonne)
1.	2010	2137	1884	1574	42	132
2.	2014	2607	2306	1998	50	153
3.	2016	2839	2531	2231	72	166

Further, according to a research study carried out by the Indian Space Research Organization using observations of Orbiting Carbon Observatory satellites of NASA, total column atmospheric CO₂ concentration over representative sites of India during January 2020 to June 2021 was found to vary on daily basis from approximately 406.3 on 31 August 2020 ppm to 416.1 ppm on 28 April 2021.

Carbon Capture, Utilization, and Storage (CCUS) is an emerging area of research. Its efficacy is yet to be fully established in terms of techno-economic feasibility. The Department of Science and Technology (DST) works in the area of CCUS through emphasis on research and development and capacity building of both human resource and infrastructure to evolve appropriate technologies and methodologies. The Department of Science and Technology and Department of Biotechnology in 2018, had launched a Joint Funding Opportunity Announcement (FOA) for inviting proposals on Innovation Challenge on CCUS under the multilateral Mission Innovation (MI) initiative to undertake joint Research & Development with MI member countries to identify and prioritize breakthrough technologies in the field of CCUS.

DST has supported 19 CCUS R&D projects during last three years. DST also participated in the Accelerating CCUS Technologies collaboration Programme for adopting the global practices and accessing transnational research for the transfer of CCUS technologies.

As a developing country Party under the UNFCCC and its Paris Agreement, India is not required to undertake decarbonization of any sector, in keeping with the principle of equity and in accordance with the principle of common but differentiated

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responsibilities and respective capabilities. However, India is committed to development along a low-carbon pathway while maintaining its commitment to sustainable development. To meet this objective, India has undertaken a number of programmes, initiatives, schemes and other steps.

Through the National Action Plan on Climate Change (NAPCC) and its various National Missions, India is addressing climate change mitigation and adaptation across a range of sectors. Installed capacity of solar energy in India has increased by more than 18 times from 2.63 GW in March 2014 to 47.66 GW in October 2021. As a result, India's current share of non-fossil sources based installed capacity of electricity generation is more than 40%.



Under Unnat Jyoti by Affordable LEDs for All (UJALA) scheme, a total of 36.78 crores LED bulbs have been distributed to enhance energy efficiency. Perform Achieve and Trade (PAT) scheme for energy efficiency in industries and other energy-intensive sectors resulted in total savings of approximately 13.28 million tons of oil equivalent, translating into 61.34 MtCO₂ of avoided emissions in the PAT Cycle II.

Forest and tree cover has increased by 13031 km² between the 2015 and 2019 assessments of the Forest Survey of India. Forest and tree cover sequestered 331 MtCO₂ in 2016 which is around 15% of total carbon dioxide emissions occurring in the country. India's LULUCF sink (CO₂ removal) is on the rise by 3.4% between 2014 and 2016 and by approximately 40% between 2000 and 2016.

India is making every effort to decouple its growth from emissions, by steadily lowering the emissions intensity of its GDP over the years. This keeps India's GHG emissions below what would otherwise have been emitted. It is important to emphasize that there is no sector of India's economy and no aspect of its economic life that is untouched by concern to keep to a low-carbon development pathway.

Based on field surveys and satellite data, the National Centre for Sustainable Coastal Management has estimated the total extent of seagrass ecosystem in India to be 516.59 km². The CO₂sequestration rate of seagrass ecosystem is estimated to be up to 434.9 tonnes/km²/year with an annual net CO₂ sink of 0.75 million tonnes for an area of 517 km².

Further, the Government has also initiated a project across the States of Andhra Pradesh, Maharashtra, and Odisha on Enhancing climate resilience of India's coastal communities at a total cost of US \$130.269 million which includes a grant of

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US\$ 43.419 million by Global Climate Fund (GCF) covering 24 ecosystems in these selected States which aims to strengthen the climate resilience of coastal communities by protecting and restoring India's natural ecosystems such as mangroves and seagrass.

This information was provided by Shri Ashwini Kumar Choubey, Minister of State in the Ministry of Environment, Forest and Climate Change in Lok Sabha on 6th December.

Closure of Industries not running on Gas in NCR region

Air Quality Commission orders immediate closure of NCR industries not running on gas/ Cleaner fuels in industrial areas despite availability of gas infrastructure and supply

Despite the measures taken in different sectors towards improvement of air quality of Delhi-NCR, the air quality still remains in 'Very Poor' to 'Severe' category. Keeping in view the need to enforce strict actions against the deteriorating air quality of the region, the Commission for Air Quality Management in NCR and Adjoining Areas (CAQM) believes that there is an urgent need to take further preventive measures, as a matter of extreme emergency and abundant caution.

Taking a tough stand against the industries in industrial areas flouting the comprehensive policy directions for shifting of industries operating in NCR (National Capital Region) districts to PNG/ cleaner fuels the commission has issued directions for immediate closure of all such industries located in industrial areas where PNG infrastructure and supply are available but have still not switched over to PNG. As per the directions of the Commission, these violating industries/ industrial units will not be permitted to schedule their operations till 12.12.2021, and the position will be reviewed for further decisions.

In the Commission's comprehensive policy Directions dated 12.08.2021 for shifting of industries operating in NCR Districts to PNG/ cleaner fuels, the State Governments of Haryana, Rajasthan and Uttar Pradesh (U.P.) were directed to:

- audit and inspect the industries which are already connected to PNG supply and ensure that those industries are not using any other polluting fuels like coal etc.
- maintain strict vigil to prevent the use of unapproved fuels in the NCR, through the enforcement agencies concerned and take stringent action, in case of the defaulting units.
- prepare an implementable Action plan by clearly specifying definite time lines for switching over of all identified industries units to PNG, where infrastructure and supply of gas are already available.
- develop a time bound comprehensive action plan, in consultation with the authorized entities to supply gas in the industrial areas falling within the specified Geographical areas of NCR districts, for ensuring PNG and infrastructure supply in the remaining industrial areas.

As per the Commission's Directions dated 16.11.2021 on steps for effective control of air pollution in the wake of prevailing air quality scenario in Delhi-NCR, all industries in the National Capital Region having gas connectivity shall be run only on

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gas, failing which industries concerned shall be closed.

It was also directed that all industries in NCR where gas connectivity is available shall immediately be shifted to gas and State Governments to furnish industry-wise date of shifting. Additionally, NCR State Governments and GNCTD were required to further set up effective enforcement mechanism including intensive and continuous drives by deputing adequate number of teams consisting of senior officers.

CAQM has also deputed Flying Squads for field visits and rigorous inspections of different sites contributing to deteriorating air quality of Delhi-NCR and reporting their compliance of the directions to the CAQM. The Commission has said that it is reviewing the progress on daily basis by holding the review meetings with the Flying Squads to take stock of the situation and take necessary punitive actions against the violators.

Every year the Delhi and the National Capital Region faces the brunt of air pollution. In 2020, due to lockdown, the air was cleaner. In 2021, all industries are running and traffic movement as well as constructions are going on at full pace. In view of this, the Commission on Air Quality Management should have had the foresight to understand that the air pollution will be at its peak in November and December. Hence the CAQM should have taken strict action at industries not using PNG despite the infrastructure to use gas being available. The level of particulate matter in the air is way above safe limits and it is impacting the health of people.

India Surface Temperature Increased 0.7°C during 1901-2018

The Government has been assessing climate change over the years through various Ministries and Agencies. The India Meteorological Department (IMD) brings out the publication 'Annual Climate Summary' at the end of every year that features highlights of climate patterns and long-term changes since the year 1901 in all-India temperature and rainfall at annual and seasonal scales. Climate change is a global collective action problem. As per the Intergovernmental Panel on Climate Change (IPCC) The Working Group I contribution to the Sixth Assessment Report titled, "Climate Change 2021: The Physical Science Basis", global warming of approximately 1.07°C has already occurred in the decade 2010-2019 since 1850-1900. According to the Ministry of Earth Sciences, the surface air temperature over India has risen by about 0.7°C during 1901–2018.

Reports from various sources including IPCC highlight that the challenges faced due to global warming are mainly due to cumulative historical and current greenhouse gas emissions of the developed countries. India with more than 17 % of global population has contributed only about 4 % of the global cumulative greenhouse gas emissions between 1850 and 2017.

It may also be noted that the work of scientists on global warming and its impact provides us projections **and** not forecasts. If the developed countries duly fulfil their responsibilities and commitments for mitigation, adaptation and support in finance, technology and capacity building then both the extent of global warming and its impacts can be reduced.

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Since climate change is a global collective action problem, India firmly believes in global cooperation to deal with the challenge through multilateral processes. India is a Party to the United Nations Framework Convention on Climate Change (UNFCCC), and its Kyoto Protocol (KP), and the Paris Agreement (PA). Even though, India is not part of the problem, it is part of the solution, and has done far more than its fair share in addressing the climate change.

The Government of India stands committed to combating climate change through its several programmes and schemes including the National Action Plan on Climate Change (NAPCC) which comprises missions in specific areas of solar energy, energy efficiency, water, sustainable agriculture, Himalayan ecosystem, sustainable habitat, green India, and strategic knowledge for climate change. The NAPCC provides an overarching framework for all climate actions. Thirty-three States / Union Territories (UTs) have prepared their State Action Plan on Climate Change (SAPCC) in line with NAPCC taking into account the State-specific issues relating to climate change. These SAPCCs outline sector-specific and cross-sectoral priority actions, including adaptation.

The Government is also implementing National Adaptation Fund for Climate Change to support adaptation measures of States/UTs in areas that are particularly vulnerable to the adverse impacts of climate change.

This information was given by Shri Ashwini Kumar Choubey, Minister of State, Ministry of Environment, Forest & Climate Change in Rajya Sabha on 16th December, 2021.

Career in Environment and Wildlife Conservation

20th December, 2021

The Ministry of Environment, Forest & Climate Change (MoEF&CC) is implementing the Environment Education, Awareness and Training (EEAT) Scheme with the objective to promote environmental awareness especially among school and college students and to mobilize their participation for conservation of environment. Under the National Green Corps (NGC) programme of this Scheme, more than one lakh Eco-clubs have been formed in schools and colleges to educate students and to spread awareness on environmental issues. MoEF&CC also supports organization of field visits/ nature camps for school students in Protected Areas, Wildlife Sanctuaries, National Parks, etc. under the National Nature Camping Programme of EEAT Scheme with an objective to provide 'nature experience' to students and thereby to trigger their sensitivity towards nature and its conservation. As per information provided by Department of Youth Affairs, awareness on environment conservation and enrichment is a component in the regular activities of National Service Scheme (NSS). Volunteers of NSS organize activities on environment conservation, climate change, use of renewable energy and other related issues in addition to plantation drives.

On a pilot basis MoEF&CC had launched the Green Skill Development Programme (GSDP) in June 2017 under the ongoing Environmental Information System (ENVIS) Scheme, at 10 locations, spread over 9 biogeographic regions of the country. The objective of GSDP was to skill youth in environment, forest and wildlife sectors and enable them to be gainfully employed or self-employed. Based on the success of the pilot phase, the programme was extended to pan-India level in 2018-

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19 covering diverse fields like pollution monitoring (air/water/soil), emission inventory, operation of Sewage Treatment Plant (STP)/ Effluent Treatment Plant (ETP)/ Common Effluent Treatment Plant (CETP), waste management, environmental impact assessment, forest management, water budgeting and auditing, wildlife management, para taxonomy including Peoples Bio-Diversity Register (PBR), bamboo management and livelihood generation, etc. The training imparted under GSDP endeavours to enhance technical knowledge of the skilled workforce with a focus on hands-on training. The ENVIS Hubs/ Resource Partners and other institutions imparting training under the GSDP invite applications from all over the country and the placements take place based on employment opportunities available within or outside the State / Union Territory.

Implementation of Green India Mission

16th December, 2021

The Ministry of Environment, Forest and Climate Change supports the States/Union Territories for carrying out afforestation activities through Centrally Sponsored Scheme namely National Mission for a Green India (GIM). It's stated aim is to protect, restore and enhance India's forest cover and to respond to climate change. Also, afforestation is being carried out

Sr. No.	State	Fund Released	Fund Utilized
1	Andhra Pradesh	4.17	4.17
2	Chhattisgarh	66.63	66.27
3	Himachal Pradesh	17.09	-
4	Jammu & Kashmir	25.73	-
5	Karnataka	8.97	8.97
6	Kerala	25.47	9.88
7	Manipur	38.37	38.37
8	Mizoram	72.95	72.95
9	Odisha	49.57	42.06
10	Punjab	15.52	14.85
11	Uttarakhand	48.10	48.10
12	Madhya Pradesh	54.81	54.81
13	Maharashtra	10.30	7.65
14	Sikkim	8.64	8.64
15	West Bengal	9.43	-
	Total	455.75	376.72

Conservation News -

by the States/Union Territories under various schemes of Central Government and State Government. As per report compiled in the Ministry under twenty point programme, afforestation is being taken up annually over 2.0 million ha since 2019-20. Details of fund released and fund utilisation under Green India Mission are as below.

The State Forest Departments are supposed to take up afforestation activities considering weather and soil condition. It is important to plant trees that are native to each region as exotic species cause huge loss of biodiversity, has impact on wildlife as well as economic impact on people. The National Mission for a Green India also encourages the plantation of mixed indigenous species along with grasses, herbs, shrubs and tree species. MoEF&CC has also sent advisories to State and Union Territories asking them to stick to locally suitable tree species for afforestation programs. Unfortunately, such blanket statements doesn't help as people on the ground need list of species that can be planted. Without such lists people tend to plant only 4-5 species of trees they are aware of.

Equipment Discussions -

Cosina Announces Voigtlander Nokton 50mm f/1 Aspherical lens for VM-mount

Cosina has announced f1 version of its Voigtlander Nokton 50mm lens. It is the fastest lens that Cosina has ever produced for a 35mm full-frame camera and the VM mount is compatible with Leica M. This can also be attached with mirrorless cameras with an adapter.

The Cosina 50mm f/1 lens is has nine elements bunched together in seven groups. Cosina says that this Nokton 50mm f1 aspherical lens features a “grinding aspherical surface” (GA) element on the first element of the lens. This has been produced inhouse. According to Cosina it is difficult to control the manufacturing of this style of aspherical lens as compared to the general molded approach of manufacturing aspherical lenses. Cosina has managed to do it by using high melting point and high refraction glass. They had started designing this lens with the goal of creating a compact lens but with a large diameter and a wide-open aperture of f/1. They wanted very sharp lens with a very large bokeh.

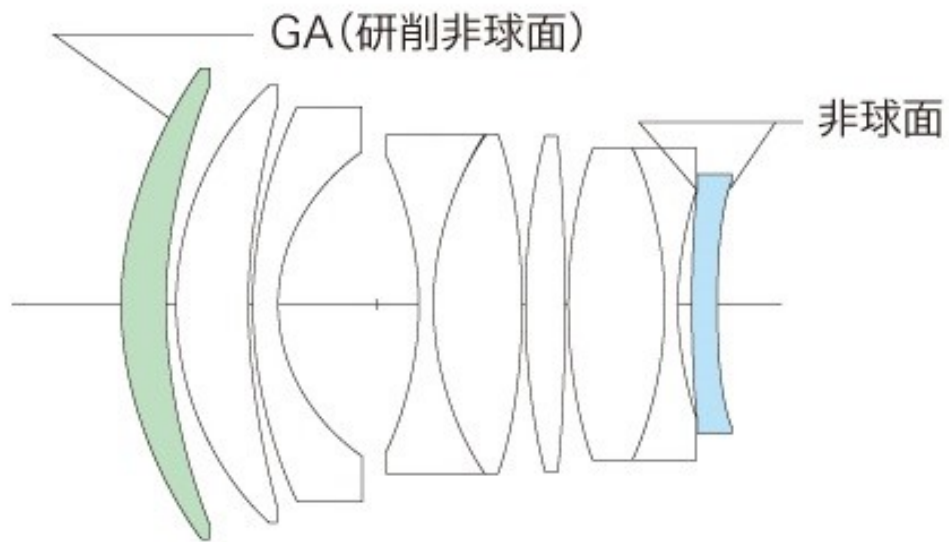
According to Cosina the GA element helped simplify the lens configuration and also gave very high-quality performance. This ensured a high class and compact lens. The Voigtlander Nokton F1 lens weighs 484 grams and is 73.6mm in diameter by 55mm long (about 2.9 by 2.2 inches). This design helps in suppressing vignetting in the corners by shortening the length of the lens and also helps in ensuring a good balance between the body and the lens enhancing the esthetics. Some of the most iconic lenses are also aesthetically pleasing.



The Nokton f1 lens has an aperture till f16. It has a diaphragm with 12-blades which ensures a very nice rounded and pleasing bokeh. The front filter element is 62mm and the lens has a 47.8-degree angle of view. The Cosina Nokton 50mm f1 lens is a fully manual focus lens. Cosina has used an all-metal helicoid unit that has very high precision as well as uses high-quality grease. It is designed to produce the appropriate amount of torque for smooth focus as well as for helping in fine focusing adjustments. This is especially important because at f1 aperture the depth of field would be very shallow and slight miss in critical focus would result in an unacceptably soft image. The Nokton f1 lens is also equipped with a rangefinder interlocking system. This ensures close focusing near the maximum aperture and depending on the camera the rangefinder interlocking range is from infinity to about 0.9 meters. The Cosina Voigtlander Nokton 50mm f/1 lens will be available in

Equipment Discussions -

January 2022 with an expected price of \$2000 US Dollars.



Equipment Discussions -

Nikon announces development of NIKKOR Z 800mm f6.3 telephoto lens

For wildlife and action photography aficionados using Nikon cameras, here is a pleasing announcement. Nikon has said that it is developing a f6.3 aperture 800mm VR lens. This 800mm lens is designed for full-frame Nikon FX- format Nikon Z mirrorless cameras.

The NIKKOR Z 800mm f/6.3 VR S is an S-Line lens, delivering powerful rendering with outstanding resolution while thoroughly reducing color bleeding. By adopting a PF (Phase Fresnel) lens that enables a compact and lightweight body, it is highly portable despite being a super-telephoto lens. With its high rendering performance and superb mobility, this lens will be an excellent choice for many types of photographers ranging from advanced amateurs to professionals.

Additional information about the NIKKOR Z 800mm f/6.3 VR S will be available at a later date. For the record the AF-S NIKKOR 800mm f5.6 E FL ED VR lens is priced at **\$16,299.95 US Dollars** and is backordered.



Equipment Discussions -

Venus Optics launches Laowa Argus 45mm f0.95 lens

Venus Optics has added to its Argus line of f0.95 lenses by launching the Laowa Argus 45mm f0.95 lens for full frame mirrorless cameras. This lens is priced at an affordable \$799 US Dollars. The f0.95 aperture produces a phenomenal shallow depth of field.



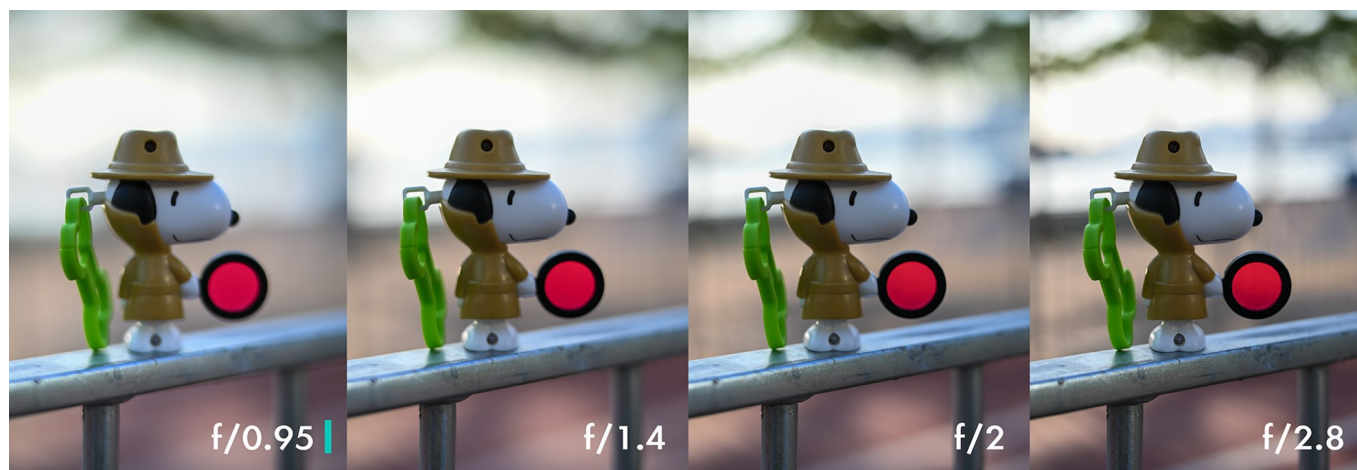
The Laowa Argus 45mm f/0.95 FF offers 51.3° angle of view offers a field of view that is more appealing to human eyes and elevates the image from the mundane to the extraordinary. It is and extremely versatile to different applications. In this era of very less attention span, images need to quickly stand out from the crowd. This lens is aimed to produce a different bokeh and perspective so that the images are not tossed aside.

It is the perfect focal length for both amateur and professional photographers.

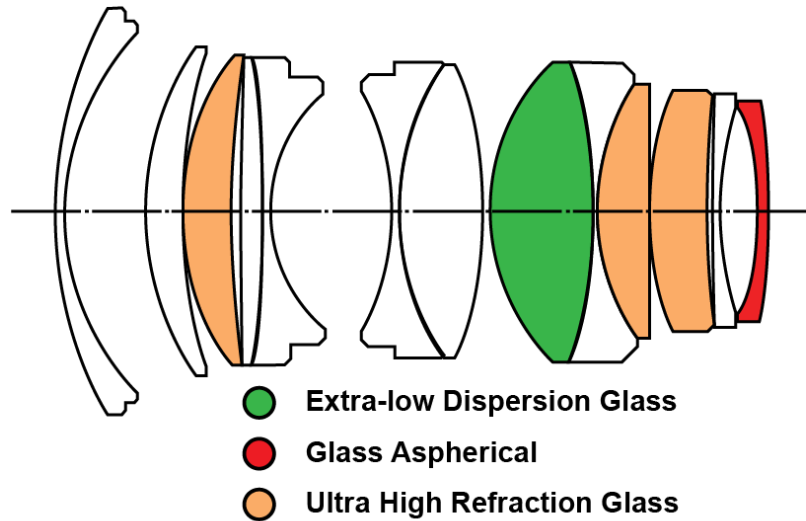
The Laowa Argus lens is full metal construction and is designed to deliver outstanding optical performance. This lens will come in handy in difficult lighting and in low lighting conditions where the f0.95 aperture will allow for shooting in low ISOs.

Laowa Argus 45mm f/0.95 FF employed 1 Aspherical Lens, 1 ED glass and 3 UHR glass to achieve high optical performance. The lens delivers incredible sharpness and high-contrast images even when

wide open while obtaining accurate colour and minimal distortion.



Equipment Discussions -



This lens accepts 72mm threaded filters. The aperture ring and focus ring have deep grooves for better handling. Together with 300° focus throw for precise set focus. It is a professional lens for every photographer to create their own masterpieces.

Switch for videographers to de-click the aperture ring. This could prevent the click sound to be recorded and a noticeable change in brightness when changing the aperture setting.



Low Focus Breathing: A low focus breathing eliminates the distraction of the changes in the angle of view when moving the focus from one object to another. Together with the accurate 300° focus thread makes it become the ideal lens for videography.

Internal Focusing: Internal focusing is designed to maximize the optical performance from minimum focusing distance to infinity focus. Also, the design prevents dust from getting into the lens easily. It also works better with accessories such as polarizers.

Equipment Discussions -

Specifications:

Lens	Laowa Argus 45m f/0.95 FF
Focal Length	45mm
Aperture	f/0.95 – 16
Angle of View	51.3°
Format Compatibility	Full-Frame
Lens Structure	13 elements in 9 groups (Aspherical Lens*1, ED glass*1, UHR glass*3)
Aperture Blades	15
Min. Focusing Distance	50cm (19.7")
Dimensions	About 76.8mm*110mm (3.02 x 4.3 ")
Filter Thread	72mm
Max. Magnification	0.12X
Weight	About 835g/ 1.84lb (Without lens hood & both front cap and back cap)
Mounts	Sony E / Nikon Z / Canon R

Price: \$799 US Dollars

Equipment Discussions -

Nikon Announces new NIKKOR Z 28-75 mm f2.8 lens

Nikon Inc. has announced the NIKKOR Z 28-75mm f/2.8 lens to provide higher quality of lens option to the enthusiasts. The NIKKOR Z 28-75mm f/2.8 is an affordable and appealing choice for those ready to step up to a full-frame medium zoom lens with the benefits of a constant f/2.8 aperture including gorgeous, softly blurred backgrounds and excellent low light capability.

“Since the beginning of this year, we have announced numerous NIKKOR Z lenses for all levels of creators, which have been commended for their unrivaled quality and edge-to-edge sharpness,” said Jay Vannatter, Executive Vice President, Nikon Inc. “Now we are continuing this winning streak by adding an extremely enticing option for enthusiasts in the rapidly growing full-frame market.”



The new NIKKOR Z 28-75mm f/2.8 is an attractive value for all types of photographers and creators, providing a lightweight lens with a versatile focal range and an f/2.8 constant aperture, all for an affordable price. Capable of everything from impressive portraits with a soft background blur to extremely detailed landscape photos, striking low-light ambience or a small-footprint video production, the 28-75mm f/2.8 covers it all. The fixed aperture of f/2.8 enables a pleasing depth of field with natural bokeh to emphasize the focus on the subject. The lightweight lens weighs only 1.2lbs (565g), making it incredibly easy to pack, carry casually or wield for an all-day event. When paired with a Nikon Z 5, the new 28-75mm f/2.8 creates a compelling combination as a carry-anywhere, cost-effective full-frame kit, or paired with the Z 6II to step up content creation to the next level.

Equipment Discussions -

The NIKKOR Z 28-75mm f/2.8 offers many of the benefits of its highly acclaimed sibling, the NIKKOR Z 24-70mm f/2.8 S. While both lenses are extremely versatile options and serve as staples in every photographer's bag, the 28-75mm f/2.8 is approximately 30% lighter with a slimmer profile. The lens features a control ring for maximum customization, and excels in video creation due to minimal focus breathing and near-silent operation. The new 28-75mm f/2.8 also features a minimum focusing distance of only 0.19m (at 28mm), making it a great option for cuisine, table-scapes and intricate fashion.

Primary features of the NIKKOR Z 28-75mm f/2.8:

The NIKKOR Z 28-75mm f/2.8 delivers incredible sharpness and a bright f/2.8 aperture, affording the ability to shoot in low light or produce images with a natural and pleasing bokeh.

- The lens weighs only 1.2 lbs oz (565g), which is 8.4 oz lighter than the NIKKOR Z 24-70mm f/2.8 S. In addition to its portability, the lens is well-suited for gimbal use for content creation and video productions.
- The minimum focus distance of 0.62ft (0.19m) allows users to capture intricate details.
- By employing a stepping motor (STM) with superior response, the lens quickly focuses on moving subjects during still-shooting or video recording. The extremely quiet STM greatly reduces the level of lens drive and operational sounds during focusing and video recording.
- With the control ring, users can focus manually or change ISO sensitivity, aperture and exposure compensation in stills and video. The smooth rotation enables precise focus control. The knurling employed improves operation.
- The lens is sealed to prevent dust and water droplets from entry, enabling use in everyday circumstances without worry. It also features effective antifouling coating for easy cleaning.

Pricing and Availability

The NIKKOR Z 28-75mm f/2.8 lens will be available in early 2022 for a suggested retail price (SRP) of **\$1199.95 US Dollars.**

Natural History -

COUNTRY NOTEBOOK: The Leopard and his spots : M.Krishnan:- 22-11-1953

The Sunday Statesman (shared by Shri. Saktipada Panigrahi)

"Lord, suffer me to catch a fish
So big that even I,
In telling of it afterwards,
Shall have no need to lie.



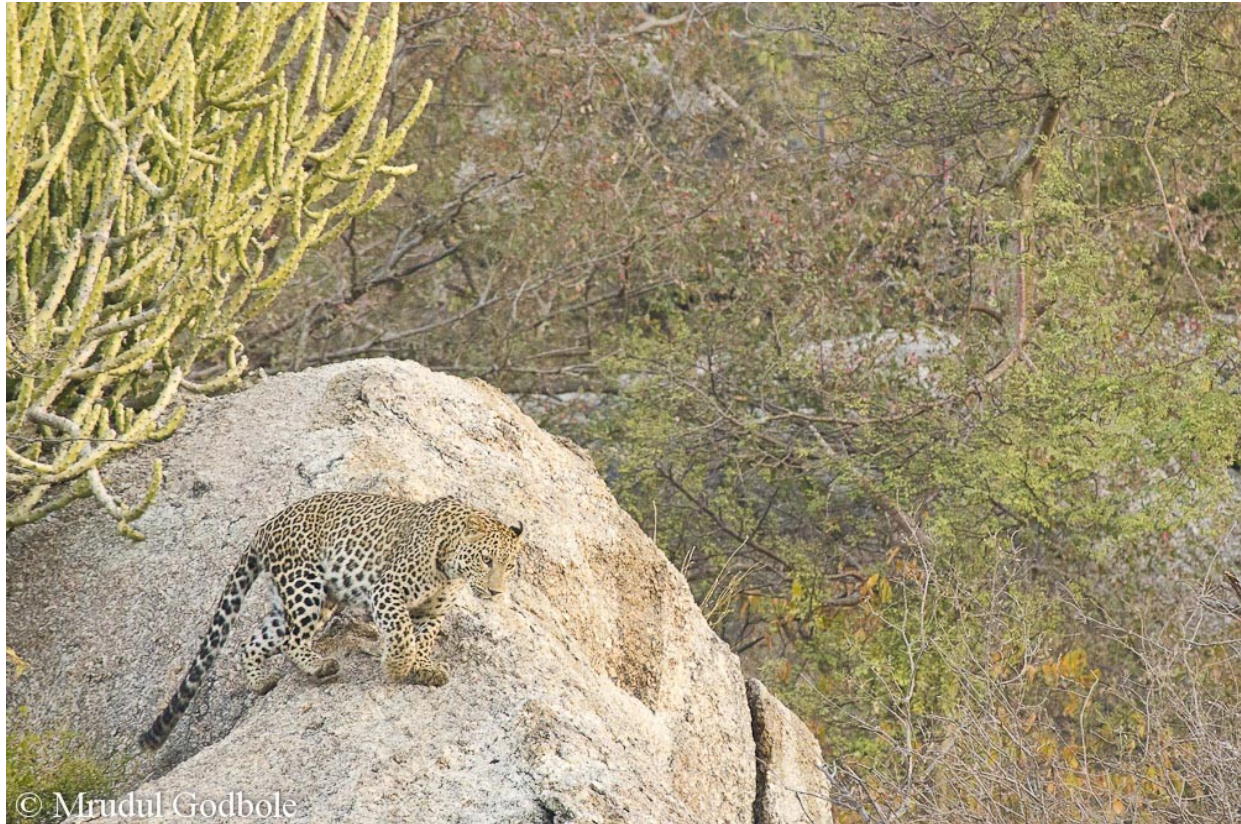
So runs the Fisherman's Prayer. With two words substituted for "catch" and "fish" this could also be the prayer of all big game hunters. Many of them, of course, may be unaware of the wish in their hearts- till they have bagged something near record size.

I am no big game hunter; only a naturalist. The difference does not lie merely in my comprehensive lack of skill with gun and rifle. I am apt to find a smallish tiger quite as exciting as one that would be (when dead) a clear 10 feet between pegs and, worse still, a jackal equally interesting on occasion. The compensation for my lowly estate is that I am unlikely to magnify the proportions of an animal that I watch or of one, shot by someone else, that I measure or weigh. This personal and defensive preface is necessary because I am writing of the most versatile and varied of big game beasts, the leopard or panther (the terms are synonymous now, and the Indian and African leopard, identical specifically).

Which is the record specimen of the panther? This is a question that is simultaneously easy and almost impossible to an-

swer, with certainty. If newspaper reports can be trusted, the Hyderabad monster puts all others of its kind, and almost all tigers to shame. According to a news agency report widely circulated in South India, Mr. MK Vellodi, then Chief Minister of Hyderabad, bagged a man-eating panther at Narsapur on 13 May 1951, that was 10.5 feet long.

However, if we are to limit ourselves to prosy facts, the question is hard to answer. In assessing the size certain difficulties arise with panthers that are less difficult with other creatures, including the tiger. For even where length between pegs and weight are both available (which is unusual), the length of the tail varies so much in panthers that unless it is also specified one can get no idea of the bulk of the specimen. Dunbar Brander, a most trustworthy authority, says the tail may vary in length from 28 to 38 inches, and since it is independent of body size, one can never say that even a 7.5 foot panther is a large specimen without knowing the length of the tail.



Again, weight is affected by the condition and whether or not the panther has killed and fed recently. A big panther weighs about 150 pounds, and some 25 pounds of this weight may depend on whether it is gorged or unfed- in a tiger there would not be the same proportionate difference on this account.

After stressing the variations in size and coat that can obtain in panthers, Brander says, "*Purely jungle leopards, those living entirely inside the forest and never resorting to open country and villages, are often of larger size and adopts the habits and ways, and to some extent the colourisation, of tigers. They have yellow tawny coats, relatively fewer spots and rosettes, and are distinguished by jungle tribes as 'gol baghs' or 'spot tigers'. An average specimen of this type measured 7 ft 5 in and weighed 152 lb*".

This distinction between the larger and heavier forest-loving game killer and the panther haunting the purlieus of villages has been reiterated by most subsequent writers. A recent note in a scientific journal refers to this difference and mentions a panther " 8 ft 5.5 inch in length" (between pegs?). Rowland Ward, I think, records longer animals and one that weighed 160 lbs. I remember reading somewhere of a nine-foot panther- but probably this measurement was very much round the

curves.

I have measured the length, between pegs, of certain large panthers shot in the Deccan during the past 10 years, and where there were facilities for accurate weighment I have weighed them. Here are the details from my notes.

Two males shot within 15 minutes of each other on the evening of 14 September 1947, from the main bus road near Chilkanahatti measured 7 ft 1.5 in (tail 32 inch) and 7 ft 5 inch (tail 36 inch) and weighed 132 lbs and 121 lbs after 24 hours- neither was gorged. The first of these was a very powerfully built old beast, with a big domed head, a close dark coat and no white and all on the face or throat, even the chin and jaws and inside of the ears being yellow ochre. He crossed the road in the light of the setting sun right in front of two experienced shikaris, a few minutes before he was shot, and both identified him as a tiger!

I should mention two remarkable animals from Sandur hill jungles. Both were chance-met males, shot from the road very near human settlements. The first, shot about sunset on 13 June 1948, was 7 ft 7 in between pegs and was a low, longish panther, obviously old and with the right lower canine broken. It had the most remarkable coat I have ever seen on a panther, with the hair soft and somewhat fuzzy- the ground colour was no shade of yellow or brown, and in most panthers, but a light warm grey, and there was no line of solid spots down the spine, the markings consisting mainly of large rosettes, some of them double rosettes with an inner cluster of fine spots within the outer circle. The illustration* is from a rough sketch of the beast.

The second panther is probably a record, for South India at any rate. It was shot on the night of 25 July 1951, by the Yuvaraja of Sandur, and had a tucked in empty stomach. Length- 7 ft 8 inch between pegs (lowest of the three measurements), tail (root to tip) 35 inches; shoulder to toes of forelegs, 33 inches; girth behind forelegs, 36 inches; weight 158 lbs. The colouration was normal.

The interesting thing about these four panthers (and other large animals from the same areas) is that none of them was a pure game killer, a forest-loving "gol bagh". All four were shot very near villages, from the main road, and three were definitely known to prey, occasionally, on village cattle and dogs. In Karwar, where there is real forest (there is only bush jungle in Chilkanahatti) the few panthers I have seen were small and long-tailed- two males I measured were 6.5 feet, and very light, with beautiful, dark coats.

Whatever may be the general rule in Central Provinces, the "gol bagh" distinction does not appear to hold in the Deccan, and it is unsafe to specify any colouring as being typical of panthers of any region. Heredity seems to play a much larger part than environment in determining the size and colour of the panthers of any area. Sufficient food during the period of growth (and even afterwards) is a vital factor of course."

- M. Krishnan

Wildlife Photography -

Tiger Cub by Sabyasachi Patra



Tigress in Kabini by Mrudul Godbole



Wildlife Photography -

Tiger Crossing by Shyamala Kumar



Gaur by V S Sankar



Wildlife Photography -

Beauty on Thorns by Sabyasachi Patra



Monkey Orb weaver by Prajwal Ullal



Spare a Thought



An image of a tiger adorns the cover page of this issue. The tiger is alert and looking at its side to find out if there is any threat to it. Local villagers are colluding with professional wildlife crime syndicates to hunt tigers. The skin and other body parts ultimately find their way to China for use in Chinese medicine. With increase in diseases due to our sedentary urban lifestyle and increasing awareness about the toxic side effects of modern allopathy medicine, people are readily lining up to try anything that is proclaimed as traditional cure. In this scenario, the forest department has to be increasingly vigilant. More forest guards have to be on foot patrol to keep an eye on any suspicious movement of people inside the forests. Unfortunately, foot patrol is often ignored by the forest department.

With India's population increasing from 310 million in 1921 to 1.4 billion now, forests and green areas have become the casualty. Our tigers don't have space as well as prey to feed on and survive. The few well protected National Parks and wildlife sanctuaries don't have further carrying capacity to hold tigers. So adolescent tigers have to find a new territory to settle in. Without wildlife corridors connecting the various forests, these tigers have to take a lot of challenge in moving through human dominated landscapes. As a result not every tiger can find a safe journey and a place with sufficient prey to survive. We need to urgently recreate wildlife corridors so that our tigers and other wildlife can move between different forests and as a result the animals will have a healthy gene pool.

This is also the 156th issue of IndiaWilds newsletter. We started with a tiny team and a big dream and we have successfully managed to complete 13 years of uninterrupted publication. Today we have decided to take a pause in publishing this monthly magazine. Articles and news and reviews etc. will continue to appear in the <https://indiawilds.com> website in its various sections. We will focus to bring more videos, films and podcasts to continue raising awareness about rapidly unfolding climate crisis and the terrible state of our Planet Earth. We only have one Earth. We need to Heal the Planet Earth.

Touche.

I look forward to your inputs and support in preserving the last tracts of wilderness and wildlife of our beautiful country. For other interesting articles and images check - <http://www.indiawilds.com/forums/> To post in the IndiaWilds forums, you can register free of cost using your Full Name as user id at -

<http://www.indiawilds.com/forums/register.php>

If you are already a member of IndiaWilds and have forgotten your user id and/or password you can mail administrator@indiawilds.com

Regards,

Sabyasachi Patra

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