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Cover Page Photograph:

Sunderbans
by Sabyasachi Patra

Venice Flooding: New wakeup Call

Venice, founded in the 5th century and situated on 118 islands, is an architectural masterpiece. There are many murals and paintings and sculptures by some renowned as well as lesser known artists adorning many of the buildings in the city. Every year millions of tourists visit Venice and UNESCO has declared it is a world heritage site in 1987.

According to UNESCO “Venice and its lagoon landscape is the result of a dynamic process which illustrates the interaction between people and the ecosystem of their natural environment over time. Human interventions show high technical and creative skills in the realization of the hydraulic and architectural works in the lagoon area. The unique cultural heritage accumulated in the lagoon over the centuries is attested by the discovery of important archaeological settlements in the Altino area and other sites on the mainland, which were important communication and trade hubs.

Venice and its lagoon form an inseparable whole of which the city of Venice is the pulsating historic heart and a unique artistic achievement. The influence of Venice on the development of architecture and monumental arts has been considerable..”

<https://whc.unesco.org/en/list/394/>

On 2nd October representatives of Venice City, Italian Government and ICOMOS had discussed in UNESCO headquarters to discuss the challenges faced by Venice. There is over tour-



Venice from above

Photo: Lodovico Folin-Calabi/UNESCO



ism. Large ships are plying which needs deeper channels. Hence the dredging is causing the sea bed to become unstable. An advisory mission was mooted to visit Venice between January 2020 and March 2020. However, barely a month after this meeting, Venice has been flooded. (<https://whc.unesco.org/en/news/2043>)



Piazza San marco in Venice fooding

Photo courtesy: Royal San marco hotel

Venice had witnessed flooding more than 50 years ago in 1966. This time over six feet high tides have inundated over 85% of Venice and experts say that it is too early to estimate the damage as they fear the flood will leave behind huge irreversible damage. Among the many iconic buildings bearing the brunt of the floods is the St. Mark's Basilica, which has only been flooded six times over nine centuries. The underground vaults, tapestries, marble and wooden floors and coatings etc are all likely to be severely damaged.

There are many such heritage buildings and museums along with their murals and artwork. which will need extensive restoration work. The salt water is likely to corrode many of the columns and pillars and cause extensive irreversible damage.

Why the world should notice this?

The world has now started facing the impact of climate change. Sudden extreme weather events have increased in frequency as well as in intensity. Scientists have been warning about this for some time. However, certain vested interests have been questioning the findings of scientists even though successive reports of IPCC (Inter-Governmental Panel on Climate Change) is pointing out the impact.

In December 2015, under the aegis of United Nations Framework Convention on Climate Change, the Paris Agreement was agreed upon and signed by 195 countries to undertake ambitious efforts to combat climate change and adapt to its effects, with enhanced economic support to help developing countries with climate change mitigation.

However, a year later in the 2016 Presidential elections in USA, the Republican party candidate Donald Trump won and he announced withdrawing USA from the Paris agreement. The Republican Party is well known for receiving backing from Koch brothers, who have massive investments in Oil and Coal – industries that significantly contribute to greenhouse gas emissions resulting in climate change.

In these highly partisan times when politics the world over is done without ethical values, logic becomes the casualty. So it is still difficult to explain it to the Republican party members that Climate Change is real.

The St. Mark's Basilica in Venice holds the relics of St. Mark, which is sacred to Christians. Out of the 7+ billion human population on earth, Christians are the largest religious community with 2.3 billion or over 31% population (Pew research 2017). Similarly there are other such cathedrals and buildings which are considered holy to millions of people and hence the drowning of precious arts and artefacts and structural damage to the heritage buildings are bound to resonate around the world. The message will spread that seas are rising.



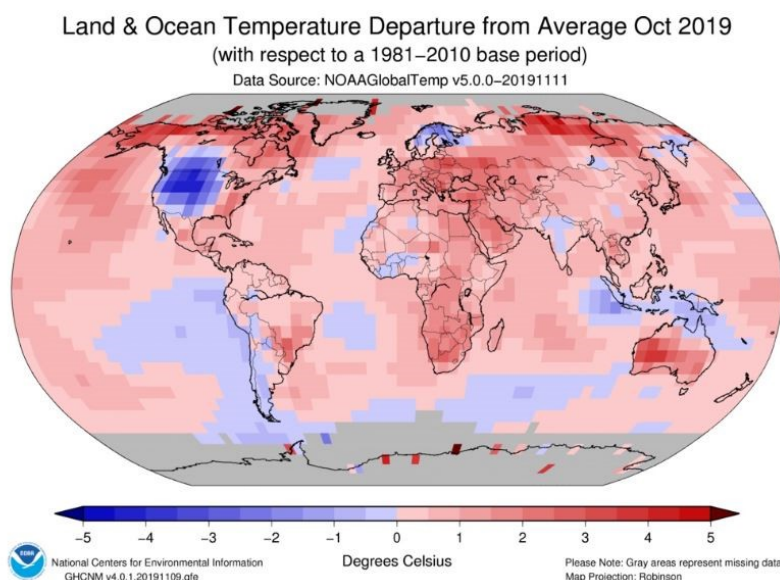
A tourist walks through the water in Piazza San Marco in Venice

Photo: Stefano Mazolla/
Awakening/Getty Images

According to the National Oceanic and Atmospheric Administration (NOAA) has released data which predicts that 2019 is likely to be the second or third most warmest year since modern temperature records started getting maintained in 1880. October 2019 is the second warmest October on record and only 0.0611 deg Celsius less than the October 2015 temperature. This is also not an aberration because the 10 warmest Octobers have all been recorded since 2003 and the five warmest Octobers are since 2015. October 2019 also marks the 43rd consecutive October and the 418th consecutive month with temper-

atures, at least nominally, above the 20th century average. (<https://www.ncei.noaa.gov/news/global-climate-201910>)

Even though the trends are abundantly clear, the enormity of the extreme weather events triggered by climate change is dif-



icult to explain to people because majority of people tend to stay away from discussions where graphs, charts and numbers are used. However, when such extreme weather events impact places that are of religious and cultural importance to billions of people, as is the case in Venice, we should seize the opportunity to make the common men and women aware that a climate crisis is engulfing the earth.

Pralaya: Noah's Ark

If the Venice flooding can remind people about the biblical story of Noah's Ark, where God spared Noah

and his family from the great flood which drowned the earth and Noah got into a vessel with examples of different species of plants and animals, then the message of Climate Crisis can be impactful. In Indian puranas, Prithivi Pralaya is an iconic story, which talks of a similar great flood where Manu got into a boat along with seven sages and were saved by Lord Vishnu who took the form of a fish (Matsya avatara) and the boat was hinged to the horn in the head of the great fish.

Only when people realise that due to Climate Crisis our lives are being irreversibly changed and these impacts can be partially mitigated if our leaders immediately take hard decisions, there can be some hope.

In 2015, Pope Francis in his famous Encyclical Letter titled "On Care for our Common Home" had mentioned that the impact of Climate Change can be felt all over the world. He had said that there is interdependence hence all the countries should fight Climate Change together. "Interdependence obliges us to think of one world with a common plan. Yet the same ingenuity which has brought about enormous technological progress has so far proved incapable of finding effective ways of dealing with grave environmental and social problems worldwide. A global consensus is essential for confronting the deeper problems, which cannot be resolved by unilateral actions on the part of individual countries. Such a consensus could lead, for example, to planning a sustainable and diversified agriculture, developing renewable and less polluting forms of energy, encouraging a more efficient use of energy, promoting a better management of marine and forest resources, and ensuring universal access to drinking water" (<https://www.indiawilds.com/diary/indiawilds-newsletter-vol-7-issue-vi/>)

Hopefully Venice flooding along with similar extreme weather events from all parts of the world can help the majority of people to wake up to the spectre of climate change and force their leaders to take action. Hopefully all the world leaders will urgently work towards the common cause of fighting the climate crisis.

Article -

Migratory Birds Add colour to Vizag

By Mrs Shakti Bishnoi & Mr A S Bishnoi

The nip in the air signalled the onset of winter in the city and the season along with its chills, has also brought in a few winged visitors from distant lands. Come winter, Visakhapatnam and surrounding districts become home to a number of migratory birds. Not only local birds but migratory birds from far off places are regularly visiting this place, which is adjacent to Visakhapatnam airport wall. With the presence of many species, the place is ideal site not only for casual visitors, but also for the avid bird watchers and professional ornithologists. The various winged beauties can be seen wading through the marshes behind the airport, snacking on small insects and crustaceans. Surrounding districts during winter are filled with chirps of a motley crew of migratory birds who have flown countries in the northern hemisphere to make vizag their home for the next few months. Following water bodies support these avian worlds:-

- Kaplapadu
- Kondakarla ava,
- Mudsarlova,
- Airport canal
- Megadripeta dam

Clearance, conversion and degradation of natural habitat, grasslands, and wetlands are by far the most important causes of avifauna disappearing in the Asian region, affecting all species classified as critical, endangered and vulnerable. Exploitation of the land is the most common threat. The main pressure on Asian water birds is due to wetland drainage and conversion into intertidal coastal wetland.

Defying all the parameters for survival, the bird community consisting of migratory birds namely Pied Avocet, Rudy shel-duck, Sand piper, large egret, median egret, cattle egret, Indian pond heron, Water cock, wader family including sand piper, common sandpiper, Black tailed Godwit and Stints,



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Birds in Vizag

Article -

Jacana, oriental white ibis etc. visit this small place. These species are regular visitor to this highly isolated and encroached place near the airport during Oct- Mar. While these winter visitors fly down to escape the harsh weather of their natural habitat, they are not completely safe here either. Apart from the predators like, civet cats, Dogs, humans too hunt them for different purpose.

Our encounter with these migratory birds at Visakhapatnam

When we came to Visakhapatnam in 2011, to my current abode NAD colony, in Visakhapatnam near to the Airport which is surrounded by green hills of Simhachalam we were aghast as there was no sign of avian wealth. All we used to witness was a countryside trembling with countless butterflies near to my house. Ofcourse, there were the garrulous mynas and rowdy crows of the garden variety. Then one fine day, I saw my first migratory bird (Brahminy duck) in Visakhapatnam near the airport, while on my way to market and my excitement increased to feverpitch to see them from up close. A small canal behind the Airport Point is supporting this avian world and is the meeting place for migratory birds in Vizag.



Brahminy Duck/ Ruddy Shelduck (*Tadorna ferruginea*)

Unfortunately the Avian world and Aviation both pose serious threat to each other. Aviation is facing great challenges from birds since the first time men got airborne. Bird hits are a serious hazard to aircraft.

Some people wonder why birds are there in the airport. Airports due to the vast expanse required for runways and safe landing of multiple flights provide a wide natural habitat

for birds.

- Birds require relatively large amount of food, and all airports due to their huge size have in abundance seeds, berries, grass, insects etc
- Birds are drawn to open water for drinking, bathing, feeding, roosting and protection.
- Rainy periods provide temporary water pools at many places and due to frequent cyclone, Visakhapatnam receives more rains.
- Permanent water body near the airport
- Birds needs cover for resting, loafing, roosting and nesting, Trees, brushy areas, weed patches, shrubs provide suitable habitat to meet these requirements

Article -



Waterfowl gather in large numbers in the waterbody in Vizag airport

The other side of the runway is industrial belt consisting of HPCL, BPL and Andhra Refineries. Therefore this heaven for birdwatchers exists in the midst of the sepulchral silence of canal and hustle bustle of aircrafts landing and taking off.

Like many other airports, Visakhapatnam airport too has plenty of space and ideal habitat for birds and hence there are chances of bird hits to the aircraft while landing and taking

off. However, till date not a single incident of bird strike has been reported. Our study revealed that the flight path for landing and taking off is opposite to the canal where these birds feed and as such abundant food, water, nesting place is available so there can be no reason that they come in flight path.

After a gap of one month in 2011, we started collating the data on the species with a notepad and binoculars to study their behaviour and count them. It became a regular feature in the early mornings for at least two hours. These species have made this small patch their habitat and they are surviving amidst industrial waste, polluted water, polluted air, honking and moving vehicles noises. If that is not enough fisherman too claim their share from this confined area. This place is good for the survival of birds as there is availability of sea water, weeds, ample food (sea food i.e toad, fish etc), reeds, and is relatively undisturbed by people etc. These birds are rare sightings in Vizag. People go all the way to Chilka lake for their sightings. The best time to spot them is October to March every year. End March they start their migration phase back to their homes like Siberia, northern European nations etc enroute



Purple heron

Article -

Chilika in Odisha and other water bodies in Andhra Pradesh.

The opening through which sea water enters the paradise for this community of birds is more or less blocked. As if this is not enough problem for birds, construction of two Giant size roads on both sides of water body makes it all the more worse for the survival of these near threatened avian species. The cause of concern is, very conveniently the road authorities have dragged sand from both sides for road making resulting in lesser space for the birds. Still they are coming every year but their numbers are lesser than expected.

Migratory birds are sensitive to pollution. Dwindling number of the birds is attributed to a dumping of effluents and human activities near the airport which has increased over the last 3 years. Poaching is rare but it does happen at the feeding ground. The reasons for increase and decrease in population is due to Visakhapatnam becoming the epicentre of cyclonic activities and uncertain weather conditions.

- 2011 good rainfall 800mm
- 2012 moderate 600 mm
- 2013 very heavy rainfall 1000mm (due to three cyclones)

Cyclone in other way support their survival by making available more water and food for them for longer period.

Megadhipeta Dam is the source of water. Discharge of water being undertaken at the regular interval helps them to survive and extend their stay. Compared to 2012, in year 2013, some species arrived earlier and in more numbers. May be some species would have preferred break during transit from Chilika, Teelineelapuram/Teliguchi on the way to Kolleru lake (Kolleru lake is meeting place of more than 10,000 migratory birds). On their return journey from Kolleru, Point Calimere,

Pulicat Lake, they may be taking a halt enroute before their journey to Chilika lake during March to April.

Population of Moorhen is found to be dwindling due to construction of road near the airport and other channel created to prevent flood like situation during rains as this airport got flooded in 2005 and 2010. With road activities and food shortage, and poaching, the population has come down.



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Purple Moorhen

Article -



Road near airport

The area is so highly polluted that no one would bother to even slide down their window glass of car, because in a second, gush of pollutants enters your nostrils as large trailers and trucks carrying cargo load enter the HPCL /BPL refinery etc. Looking at this a thought is bound to cross our mind - How much more destruction do we want to unleash to have comfort? Do we own the universe, earth, moon, and the entire land-mass? We keep cutting forest and create dream homes without thinking where the birds, animals, herpetofauna and other tiny residents of the place go.



Birds need trees and bushes to perch and nest after coming out of water bodies

Migratory birds coming to our country and to such far off places like Vizag, imparts a very sensitive message that god is still hopeful and full of grace to show such wonderful creations.

Article -**DATA ACCUMULATED OVER A SPAN OF THREE YEARS****NEAR THE AIRPORT (VIZAG)**

<u>SL. No</u>	<u>Species</u>	<u>2011 (Sep 11-Mar 12)</u> <u>Average figure</u>	<u>2012 (Sep12-Mar13)</u> <u>Average figure</u>	<u>2013 (Sep13 -Dec 14)</u> <u>Average figure</u>
1	Brahminy duck	200	150	250
2	Black winged stint	200	170	300
3	Asian open bill	10	25	80
4	Painted stork	50	30	100
6	Pied Avocet	50	10	5
7	Oriental white ibis	20	5	10
8	Jacanas	40	20	10
9	Pintail	50	40	70
10	Moorhen	200	130	150
11	Little cormorant	5	2	10
12	Little egret	50	30	60
13	Purple heron	4	7	10
14	Grey heron	2	4	2
15	Large egret	10	30	80
16	Cattle egret	40	30	100
17	Pond heron	30	50	40
18	Asain openbill	25	10	50
19	Cotton teal	3	4	----
20	Gadwal	3	5	-----
21	Northern shoveller	10	5	----
22	Bronze winged Jacana	20	15	20
23	Purple moorhen	100	80	30
24	Brahminy duck	200	150	250
25	Black winged stint	200	170	300

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40	<u>Asain openbill</u>	25	10	50
41	Cotton teal	3	4	----
42	<u>Gadwal</u>	3	5	-----
43	<u>Northern shoveller</u>	10	5	----
44	Bronze winged Jacana	20	15	20
45	Purple moorhen	100	80	30

Conservation News -

Studies on Impact of Climate Change:

India is a Party to the United Nations Framework Convention on Climate Change (UNFCCC). India has submitted Initial National Communication (INC) in 2004 and Second National Communication (SNC) in 2012 to the UNFCCC. As part of the National Communications, the Ministry conducted studies on impact of climate change in India which are summarized in the 'Vulnerability Assessment and Adaptation' chapters. For the SNC, climate change scenarios were analysed using high-resolution regional climate model. Simulations for 2020s, 2050s and 2080s indicate an all-round warming for Indian subcontinent. Impact of climate change and climate variability on the water resources are likely to affect irrigated agriculture, installed power capacity, environmental flows in the dry season and wet season.

There is paucity of data to establish direct correlation of climate change with diseases and deaths. However, reports of Intergovernmental Panel on Climate Change (IPCC), World Health Organization (WHO) and other widely available literature indicate health impacts of various climate variables including extreme weather events, air pollution, change in precipitation etc. Various climate model simulation studies also project possible linkages of climate change with frequency and intensity of weather events.

Weather extremes in India in the recent years (2014-2017), as reported under second Biennial Update Report (2018), is given below:

Weather Extreme in India in the recent years (2014-2017)

Temperatures			
Year	Month	Event	Details
2014	Jan-Dec	Severe cold wave/cold wave	Cold wave/fog related incidents in northern parts of the country.
	May-Jun	Heat wave	Intense heat wave events which prevailed over northeastern, central and peninsular parts of the country.
2015	May-Jun	Severe heat wave	Severe heat wave incidences over the south peninsula and eastern parts of the country including the States of Andhra Pradesh, Telangana and Odisha.
2016	Mar-May	Severe heat wave	Intense heat wave conditions which prevailed over northeaster, Central and peninsular parts of the country.
2017	Mar-Jun	Severe heat wave	Severe heat wave conditions which prevailed mainly over peninsular parts of the country including Andhra Pradesh and Telangana.

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Precipitation			
2014	Mar	Hailstorm	Unprecedented widespread hailstorm in Maharashtra and parts of central India in the first week of March severely affected crops, livestock, animals and birds.
	Sep	Heavy rainfall resulting in floods	Heavy floods in the State of Jammu and Kashmir; Several thousand villages across the state were hit.
2015	Apr-Aug	Nor' wester, Lightening and Heavy rainfall resulting in floods	A severe Nor' wester ravaged 12 districts of Bihar during April. Gujarat State suffered with flood and heavy rains in June. Flood-related incidence also occurred in West Bengal from June to August.
	Nov-Dec	Heavy rainfall	Very heavy rainfall during northeast monsoon season in Tamil Nadu and Andhra Pradesh.
2016	Jul-Sep	Heavy rainfall resulting in floods	Heavy rains and floods in State of Maharashtra caused the 'Mahad bridge collapse' incident in August. Flood-related incidences also occurred in 'State of Bihar from 25th July to 3 rd September. Cloudburst and landslides also occurred in Uttarakhand in July.
2017	May-Oct	Lightning and Heavy rainfall resulting in floods	Lightning and rainfall events caused loss of life in various parts of Odisha from May to October; in Bihar from May to July, and; in Maharashtra in June and October.
	Jul-Sep		Flood and heavy rains caused loss of life in Gujarat. Flood-related incidence, a massive landslide caused deaths at Kotrupi, Himachal Pradesh on 13 th August. Floods in Ghaghara, Gomati and Rapti rivers also claimed lives during 4 th to 10 th September.
Cyclones			
2014	Jun	Cyclonic Storm Nanauk over the Arabian Sea	The storm caused heavy rainfall over Lakshadweep, Kerala and coastal Karnataka.
	Oct	Very Severe Cyclonic Storm, Hudhud, over the Bay of Bengal	Caused human and animal death in north Andhra Pradesh. It caused very heavy rainfall over north Andhra Pradesh and south Odisha and strong gale winds leading to large-scale structural damage over north Andhra Pradesh and adjoining districts of south Odisha.
	Oct	Very severe Cyclonic Storm, Nilofar, over the Arabian sea	Under the influence of system. Konkan and Goa region experienced widespread rain with heavy rainfall at isolated places.
2015	Jun	Cyclonic Storm, Ashobaa, over the Arabian Sea	No adverse weather was reported due to this system.
	Jul	Cyclonic Storm, Komen, over the Bay of Bengal	Loss of life due to cyclonic storm, Komen' in West Bengal and Odisha. Landslides also claimed lives in Manipur.
	Oct	Extremely severe cyclonic storm, Chapala over the Arabian Sea	No adverse weather over west coast of India was reported due to this system.
	Nov	Extremely severe, cyclonic storm, Megh, over the Arabian Sea	No adverse weather over west coast of India was reported due to this system.

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2016	May	Cyclonic Storm, Roanu over the Bay of Bengal	It caused adverse weather like heavy rain and strong wind all along east coast of Sri Lanka and India (including Tamil Nadu, Andhra Pradesh, Karnataka, Rayalseema, Odisha, Gangetic West Bengal, Assam, Meghalaya, Nagaland, Manipur, Tripura)
	Oct	Cyclonic storm Kyant over the Bay of Bengal	The system caused rainfall at isolated places over Tamil Nadu, Puducherry and coastal Andhra Pradesh.
	Nov	Cyclonic storm Nada over the Bay of Bengal	The system caused heavy rainfall at isolated places over Tamil Nadu and Puducherry.
	Dec	Very Severe Cyclonic storm, Vardah over the Bay of Bengal	'Vardah' caused heavy to very heavy rainfall over Andaman & Nicobar Islands. It also caused extremely heavy rainfall over Chennai, Thiruvallur, Kanchipuram districts of Tamil Nadu. It caused human and animal death in Tamil Nadu.
	Apr	Cyclonic storm Maarutha over the Bay of Bengal	The system caused heavy rainfall over Andaman & Nicobar Islands.
2017	May	Severe cyclonic storm 'Mora' over the Bay of Bengal	'Mora' developed in the onset phase of southwest monsoon. The system caused heavy rainfall at isolated places over Arunachal Pradesh, Manipur, Nagaland, Mizoram and Tripura and a few Places over Assam and Meghalaya.
	Nov	Very Severe Cyclonic Storm "Ockhi" over the Bay of Bengal	It was a rare cyclone with rapid intensification after the genesis stage. It caused isolated heavy rainfall over south Tamil Nadu and over south Kerala. It caused heavy to very heavy rainfall over Lakshadweep and heavy rainfall over north coastal Maharashtra and adjoining south coastal Gujarat.

Apart from National Disaster Management Authority (NDMA) each State has its own State Disaster Management Authority to deal with such events. NDMA has issued several disaster specific guidelines for managing extreme weather-related disasters such as cyclones, floods and heat wave. National Disaster Management Plan (NDMP) has been formulated to assist all stakeholders including State Governments in disaster risk management of various hazards including hazards related to climate change.

Climate change is a global challenge and requires efforts by all nations based on the principle of Common but Differentiated Responsibility and Respective Capabilities. Government of India is committed towards combating climate change at the highest level through its several programs and schemes.

The National Cyclone Risk Mitigation Project (NRCMP) is under implementation in eight coastal states to mitigate the sufferings of the coastal community. Cyclone shelters and early warning system created under this project proved to be of great help during cyclones 'Phailin' in 2013, 'Hud-Hud' in 2014, 'Titli' in 2018 and cyclone 'Fani' in 2019.

Under National Monsoon Mission, the Ministry of Earth Sciences has set up state of the art dynamical prediction systems for short, medium & extended range forecasts and seasonal forecasts. This has helped to upgrade early warning system so that advance warning is available with concerned agencies to prepare themselves for mitigating adverse impacts of extreme weather events.

The Government is implementing National Action Plan on Climate Change (NAPCC) which comprises eight missions in specific areas of solar energy, energy efficiency, water, agriculture, Himalayan ecosystem, sustainable habitat, green India

Conservation News -

and strategic knowledge on climate change. NAPCC provides an overarching framework for all climate actions. Thirty three States/Union Territories (UTs) have prepared their State Action Plan on Climate Change in line with NAPCC taking into account State's/UT's specific issues relating to climate change. Under the Paris Agreement, India has submitted Nationally Determined Contributions (NDC) with target to reduce the emissions intensity of its Gross Domestic Product (GDP) by 33 to 35 % by 2030 from 2005 level, to achieve about 40% cumulative electric power installed capacity from non-fossil fuel based energy resources by 2030, and to create an additional carbon sink of 2.5 to 3 billion tones of CO₂eq through additional forest and tree cover by 2030.

The Government is also implementing the scheme, '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 provided by Minister of State, Ministry of Environment, Forest & Climate Change Shri Babul Supriyo in written reply to a question in Lok Sabha today.

Swachh Nirmal Tat Abhiyan:

To strive to make our beaches clean and create awareness amongst citizens about the importance of coastal ecosystems, the Ministry of Environment, Forest and Climate Change (MoEF&CC) are undertaking a mass cleanliness-cum-awareness drive in 50 identified beaches under the "Swachh – Nirmal Tat Abhiyaan", from 11th -17th November, 2019. The identified beaches are in 10 coastal States/Union Territories (UTs) namely Gujarat, Daman & Diu, Maharashtra, Goa, Karnataka, Kerala, Tamil Nadu, Puducherry, Andhra Pradesh, and Odisha. The beaches have been identified after the consultation with the States/UTs.

The cleaning drives in all beaches are being undertaken, involving school/college students of Eco-clubs, district administration, institutions, volunteers, local communities and other stakeholders. State Nodal Agencies for the Eco-clubs will be facilitating the week long intensive cleanliness drive in all 10 States/UTs. Nodal teachers from the Eco-clubs will be present at the sites during the entire cleanliness drive. MoEF&CC officials have also been deputed to monitor the implementation of the drive.

For beach cleaning activities which will be a duration of two hours on daily basis, a minimum of one Kilometre stretch of the beach shall be identified. Beach sand cleaning machines shall also be deployed at about identified 15 beaches. Thereafter collected waste will be processed as per extant Waste Management Rules, 2016. Environment Education Division of the Ministry and Society of Integrated Coastal Management (SICOM) under the aegis of this Ministry will be responsible for the overall coordination for the drive in 50 beaches. Respective State Governments and Central Ministries will also be actively participating in the beach cleaning drives.

Conservation News -

The Ministry has also decided that on completion of the drive, best three beaches will be suitably awarded along with a Certificate of Appreciation for all the participating Eco-clubs.

Toxic Sambhar Lake: The Great Bird Death

Eighteen thousand birds have died in two weeks in the toxic Sambhar lake in Rajasthan and the numbers keep increasing.

Sambhar lake is a rainfed inland lake in arid Rajasthan. As a wetland of international importance, it got the status of Ramsar site in 1990. Sambhar lake is also recognised as an Important Bird Area (IBA) due to the presence of resident as well as migratory avifauna, especially the iconic flamingos as well as water fowl. Every winter millions of birds migrate to the Sambhar lake to escape the harsh winters.



18000 birds have died in Sambhar Lake in Rajasthan PTI Photo/Ravi Choudhary

Suddenly locals and birdwatchers noticed dead birds as well as decomposed carcasses of birds. On inspection it was found that birds were dying due to paralysis of limbs and wings. After examining the samples, the Indian Veterinary Research Institute (IVRI) Bareilly concluded that birds are dying due to Avian botulism. This avian botulism is the result of *Clostridium botulinum* bacteria producing toxins. There are seven antigenic types of *Clostridium botulinum* out of which Type E is found in soils and in sediments in oceans and lakes. These happen when there is microbial contamination and acidification. So it is expected that the Sambhar Lake waters have become highly contaminated due to the discharge of industrial effluents. The Director of IVRI, Dr Raj Kumar Singh said “These bacteria are harmless initially until the environmental factors and anaerobic conditions prompt them to germinate and begin the vegetative growth of the toxin-producing bacterial cells.”

Conservation News -

Anerobic conditions can happen when suddenly some plant and animal matter have been dumped into the water. Dumping of debris can also cause death of plants and lead to decomposition and increase anaerobic conditions. So it could have been a combination of many factors which the Government has to examine. Given the high anthropogenic pressures around the Sambhar lake, it needs to be seen if the Government can rise over local pressures and find the root cause of the problem. Else, the wintering migratory birds that are supposed to come later in December will die in large numbers.

If designated Ramsar sites are facing such tough challenges then one can easily guess how bad is the state of wetlands in our country. We need a strong wetland authority in place to look after the wellbeing of wetlands. Unfortunately, the real estate lobby is always waiting for a chance to grab wetlands so that they can dump construction debris and fill and start constructing buildings. So State Governments either don't want to put in place Wetland Authorities or don't want to give them teeth. The public need to understand that wetlands are also repositories of carbon and play a big role in carbon sequestration and help contain climate change.

India's Efforts to Combat Global Climate Change

Reports from various sources including Intergovernmental Panel Climate Change namely Special Report on Global Warming of 1.5°C, Special Report on Climate Change and Land, and Special Report on the Ocean and Cryosphere in a Changing Climate, highlight the challenges faced due to climate change arising mainly from historical emissions of greenhouse gases by developed countries. A recent report entitled "World Scientists' Warning of a Climate Emergency" published in journal *Bioscience* (<https://doi.org/10.1093/biosci/bizo88>) with many authors from a broad range of disciplines informs that the planet clearly and unequivocally faces a climate emergency, and provides six broad policy goals in the area of energy, short-lived climate pollutants, nature conservation and ecosystem restoration, food, sustainable economic growth and population stabilisation that must be met to address it.

Climate change is a global phenomenon and requires the cooperation of all nations based on the principles of 'Equity' and 'Common but Differentiated Responsibilities and Respective Capabilities'. India is a Party to the United Nations Framework Convention on Climate Change (UNFCCC), its Kyoto Protocol (KP) and the Paris Agreement (PA). The ambitious Paris Agreement has mechanisms like global stocktake and ratcheting up action every 5 years to address climate change and avoid adverse consequences.

For addressing the challenge of climate change, India adheres to the paramountcy of the UNFCCC processes. It has proactively contributed to multilateral efforts to combat climate change and continues to do so while undertaking its own independent, enhanced initiatives in climate mitigation and adaptation besides meeting all its commitments under the UNFCCC, its KP and PA. Independent studies rate India's efforts highly and compliant with the requirements under PA.

This information was provided by Minister of State, Ministry of Environment, Forest & Climate Change, Shri Babul Supriyo in written reply to a question in Rajya Sabha today.

Equipment Discussions -

Leica announces SL2 mirrorless camera:

Leica has announced a successor to its SL mirrorless camera by launching the Leica SL2.

Salient Features:

- Sensor: Full frame CMOS sensor.
- Sensor Resolution: 43.7 MP. 8368 x 5584 pixels.



- Dimensions (WxHxD) 146 x 107 x 42 mm
- Weight approx. 835 g (without battery)
- Image Stabilisation: 5 axis in body image stabilisation.
- Colour depth Stills: DNG 14 bit RGB and JPEG 8 bit.
- Shutter speeds: Mech. shutter: 30 min to 1/8000 s /
- Electronic shutter function: 1 s to 1/40000 s
- Flash Synch: up to 1/250 s
- ISO Sensitivity: Auto ISO: ISO 100 to ISO 50000, Manual: ISO 50 to ISO 50000 upto 50,000
- Video: max file size 96 GB
- The Leica SL2 can shoot at 5K in .mov at 29.97 fps, 25 fps, 23.98 fps.

Equipment Discussions -

- It can shoot in Cinema 4K in .mov at 59.94 fps, 50 fps, 29.97 fps, 25 fps, 24 fps
- In Full HD it can shoot at 180fps.
- Media: SD card, Video can also be recorded in 10 bit via HDMI output

PRESS RELEASE

A New Icon: Leica Camera Announces the New Leica SL2, Successor to the Trailblazing Leica SL

New camera resets the tone for the mirrorless market.

November 6, 2019 – Building on the foundation established in 2015 with the visionary Leica SL-System, Leica Camera proudly introduces the Leica SL2, the storied brand's new icon and next evolutionary step towards building the perfect all-purpose camera. By listening closely to the valued feedback of photographers and existing SL owners, Leica made many efforts to push the envelope of technological innovation and performance while respecting its heritage of design and legacy. In addition to a technical marvel of pure performance and unmatched build quality, the Leica SL2 is also a joyous experience to use with improved ergonomics and more comfortable grip married to the well-established, simplified threebutton control layout, further unifying the Leica design language across multiple product lines. While cutting-edge new features such as in-body image stabilization unlocks newfound potential from legendary Leica M-Lenses, it simultaneously augments the growing selection of SL-Lenses which are some of the finest optics Leica has ever produced. The Leica SL2 is the natural evolution of the innovative Leica SL, serving as a groundbreaking embrace of the future of digital photography and videography while paying homage to its respected history and lineage.

Crafted with conscience

The SL2 is the only mirrorless camera designed and crafted in Germany, with an unmatched all metal solid construction and elegant leather wrap to withstand the time and deliver years of photographic pleasure, thanks to the sustainability guaranteed by consistent firmware updates.

Streamlined design with new status menus

The Leica SL2 offers an innovative user interface whose efficient design allows photographers to focus their attention on the creative process. The design alignment with the existing M and Q systems makes the adjustment even easier for existing Leica photographers.

The main recording parameters can be viewed on the rear display and adjusted quickly and easily with a simple finger tap.

A click wheel, a joystick and three strategically placed, individually configurable buttons also contribute to a straightforward operation. Thanks to two dedicated status menus for stills and video recording, the parameters for either shooting mode can be adjusted entirely separately from each other.

Improved ergonomics for stress-free shooting in any situation

Despite significant technical improvements, and the presence of in-body stabilization, the Leica SL2 has kept the same size

Equipment Discussions -

than its predecessor and feels particularly compact to handle. Improved body design paired with increased durability make the SL2 the perfect companion for all forms of shooting. The SL2's IP54 certification ensures an elevated weather sealing for more rugged situations, while a new option to turn off noise reduction during long exposures allows for more hands-free shooting. Less worry about the weather and environmental situations means photographers can focus more on getting the shot. Overall the design of the SL2 recalls more of the iconic Leica identity and traditional design DNA elements that the brand has become known and loved for.

CMOS sensor with 47 megapixels for superior image quality

The unprecedented resolution of the SL2's CMOS image sensor in full-frame format results in an unparalleled level of detail rendition and image quality. Enormous dynamic range, a color depth of 14 bits per RGB channel and a sensitivity of up to ISO 50,000 enable outstanding image quality in all lighting conditions. Even when combined with Leica TL lenses, which are designed for the smaller sensor format of the Leica TL2 and CL, the SL2's sensor still delivers an excellent image resolution of over 20 megapixels.

New Leica Object Detection Autofocus

The new Leica Object Detection AF ensures a fast and reliable AF. In addition to an array of modes and features, including face recognition, the SL2's high-performance AF system also automatically detects whether a subject is stationary or in motion, and subsequently switches between motion and focus priority.

Optical image stabilization through sensor-shift technology

In a major evolution of the SL, the Leica SL2 features a suspended sensor which adjusts its position in order to quickly and efficiently compensate for camera shake. This in-camera method even makes image stabilization available to lenses that are not equipped with their own.

Additionally, in multishot mode, the tripod-mounted camera can record up to eight consecutive frames, whereby the sensor is shifted in half-pixel increments in between every exposure. This key feature results in images with an incredible quadrupled resolution of around 187 megapixels, leading to an extreme increase in detail resolution.

Leica EyeRes® viewfinder with even higher resolution

The camera's electronic viewfinder now boasts a resolution of 5.76 megapixels, allowing for a large, entirely natural-looking viewfinder image. Simultaneously, the experience is further enhanced when using the touchscreen, which has increased in size to a 3.2-inch diagonal, and now offers a significantly higher resolution of 2.1 megapixels.

Maestro III processor for ultra-fast operation

The new Maestro III processor facilitates a superior operating speed that shines in many aspects of the SL2's performance. The autofocus is significantly faster and allows for a virtually lag-free shutter release in any shooting situation, which is further complemented by the new Smart AF mode, which autonomously switches between focus priority and shutter release priority. Full-resolution recordings of consecutive images are possible at 10 frames per second with the focal plane shutter,

Equipment Discussions -

and 20 frames per second with the electronic shutter. Thanks to two UHS-II-compatible SD card slots, raw files can be saved simultaneously in DNG and JPEG format.

Perfect tool for cinematographers

In addition to its great appeal for photographers, the Leica SL2 speaks the language of cinematographers, as the camera is able to record up to 60 frames per second in Cine 4K mode, and up to 180 frames per second in Full-HD mode. Activating Cine mode transforms the SL2 into a manually controlled cine camera as ISO becomes ASA, the shutter speed is marked in degrees on the rotary disk shutter, and the f-stops indicating the aperture ratio are replaced by T-stops, which measure the actual amount of light transmitted through the lens. Connecting audio equipment to the Leica SL2 no longer requires the use of adapters, as the camera now features a built-in headphones and mic jack, complemented by a fully-fledged HDMI connector for external monitors.

Limitless connections

Featuring an L bayonet lens mount, the Leica SL2 is not only compatible with the evergrowing portfolio of SL-System lenses, but also with lenses of the TL-System and with the legendary lenses of Leica's M, S and R-Systems via adapter, providing more than 170 Leica lens options, guaranteed to offer the right fit for any photographic scenario. The L-Mount Alliance expands this scope of possibilities even further, by giving SL2 photographers access to L-mount-compatible lenses from Sigma and Panasonic.

Leica FOTOS App

Of course the new Leica SL2 is supported by Leica FOTOS, the versatile app available for Android and iOS Smartphones. Leica FOTOS connects directly to the camera via Wi-Fi (Bluetooth® is supported where available) and saves the registration details to make future connections between the camera and the app as fast and convenient as possible. Leica FOTOS enables photographers to access the Live View function of the camera and remotely change exposure-relevant settings such as aperture, ISO value, shutter speed and exposure compensation from a smartphone. It naturally also allows wireless control of the shutter release, which opens up entirely new creative opportunities.

Thanks to the high-resolution displays of modern smartphones, pictures can be viewed immediately at full size to assess their sharpness. The exposure parameters are also displayed, which can be extremely helpful for adjusting the settings for subsequent exposures.

As soon as a personal selection has been made, the pictures can either be shared in social networks, or saved for mobile post processing in the smartphone. Leica FOTOS can be used for this in combination with many popular post processing apps. To exploit the full potentials of digital image processing, the pictures can also be transferred to the respective app in DNG RAW data format. If users wish to save the finished pictures after processing on their smartphone, they can take advantage of the option for saving them to a separate Leica Gallery – this keeps painstakingly composed and processed pictures from the Leica FOTOS app separate from simple snapshots. Expect many new features and a whole new mobile workflow experience on the iPad when Leica FOTOS will be available in version 2.0 from November 21, 2019.

The Leica SL2 is available beginning November 21, 2019.

Equipment Discussions -

Canon launches EOS Ra Camera for astrophotography

Canon has launched a modified version of its popular 30.3 MP mirrorless EOS R camera for astro photography use and has named it EOS Ra. This camera has a modified filter in front of the sensor which allows transmission of four times more 656.3 nm Hydrogen-alpha wavelength. Every EOS camera has an infrared filter. In the EOS Ra this infrared filter has been modified. One should remember that when the infrared filter is removed or modified, then the camera can't be used for normal photography as the photos will look different. This camera is meant for a specific purpose and unless, you are wanting to purely use it for astrophotography then better to stick to the regular EOS R.



This camera will solve a big problem of astrophotography enthusiasts. The price of the EOS Ra is \$2499 US Dollars. The press release is given below.

PRESS RELEASE

Capture The Beauty Of The Night Sky With Canon's First Full-Frame Mirrorless Camera For Astrophotography

Introducing the EOS Ra Camera with Specialized Filtration that Delivers Four Times Greater Hydrogen-alpha Wavelength

Equipment Discussions -

(656.3 nm) Transmittance Compared to the EOS R

MELVILLE, NY, November 5, 2019 – In the words of poet Quintus Ennius, “No one regards what is before his or her feet; we all gaze at the stars.” Helping to gaze and capture the beauty of the stars and beyond, Canon U.S.A., Inc., a leader in digital imaging solutions, today announced the company’s first full-frame mirrorless camera for astrophotography, the EOS Ra. This new camera was built off the EOS R system combining new features, such as four times greater transmittance of hydrogen-alpha (H α) light of 656.3 nm compared to the original EOS R. For astrophotographers and hobbyists who enjoy capturing the detailed splendor of the night sky, the new EOS Ra will be an ideal camera to shoot with.

“Since the introduction of the EOS R full-frame mirrorless camera system last fall, Canon has remained committed to launching a line of impressive and innovative EOS R models and a strong variety of RF lenses and accessories to meet the needs of every skill level of photographer,” said Kazuto Ogawa, president and chief operating officer, Canon U.S.A., Inc. “As a group of photographers who are passionate about capturing what we can’t see with our naked eyes, the new EOS Ra is designed for astrophotographers looking to capture vivid imagery of the night sky.”

Targeting the needs of astrophotographers, the new EOS Ra full-frame mirrorless camera incorporates many advanced features of the EOS R, such as RF mount design, a 30.3MP CMOS sensor, high-precision electronic viewfinder, high-sensitivity, low-noise performance and 4K time-lapse shooting. Optional accessories include an AC adapter kit, which allows the camera to be powered through an AC wall outlet or a battery-powered inverter, a BG-E22 battery grip and three EF-EOS R mount adapters to accommodate the entire range of over seventy EF & EF-S lenses.

Other features include:

- Enhanced transmission of H α rays (656.3 nm wavelength) through an infrared cutoff filter, helping to capture high-precision images of the deep-red wavelengths emitted by nebulae in vivid color, without any special camera alterations.
- A 30x maximum magnification, allowing users to make extremely precise manual focus adjustments*.
- Support for all Canon RF, EF and EF-S lenses (with the use of an optional EF-EOS R mount adapter), including more than 70 lenses from the EF series as well as RF series lenses, which deliver superb image quality. The variety of lenses, such as the large-diameter f/1.2 lenses, ultra-wide-angle lenses, and super-telephoto EF lenses, among others, are all well suited to help photographers to choose the best match for their specific astrophotography purposes.

Availability and Pricing:

The Canon EOS Ra full-frame mirrorless camera is scheduled to be available in mid-December 2019 for an estimated retail price of **\$2,499.00 for the body only****.

Natural History -

COUNTRY NOTEBOOK: Tiger, tiger, not burning bright: M.Krishnan:- 16 May 1971

The Sunday Statesman (shared by Shri. Saktipada Panigrahi)

Wallow in the mire

(Elephant)

" THE TIGER, according to the experts, does not burn bright in the forests of night, and even by day its orange-ochre and white pelage boldly striped with black is obliterative serving to break up contour and merge with the streaky grass and bushes. In assessing the cryptic patterning of the tiger's coat two things should be remembered. First, most of the animals it preys on (deer, pig, cattle and the like) are colour blind so far as we know and can see things only in terms of black grey and white, somewhat like panchromatic film. Second at night when light levels are low and the tiger usually hunts even our colour sensitive eyes cannot readily distinguish between colours.



I have had considerable difficulty in spotting a leopard in the under-shrub and even been totally unable to make it out from near, but not a tiger. No doubt that is because of the tigers much larger size. But even when in heavy cover when it is only glimpsed through intervening foliage and twigs the tigers face has certain conspicuous features the circles of white around the eyes (the "sunspots") marked with black bars and spots the white whiskers framing the face and the white chin (closely

spotted with black only near the mouth) its mask gives away the tiger when it looks up at one from cover. However when hunting or hiding it seldom looks up. It keeps its head lowered as if it knows in some dim instinctive way that by lowering its head its chin would no longer be visible, and that even its whiskers and "sunspots" would be less noticeable in the fore-shortened view. The white underside of the body and the white insides of the limbs heavily striped with black, are naturally not seen when the animal is in cover or crouching.

The other greater cats have no harlequin masks. The lion and the puma, the leopard and the jaguar, have less conspicuously white chins and whiskers and hardly any "sunspots". But if you wish to know how truly oblitative a tiger's seemingly vivid colouring is you have only to go to one of these modern zoos where they have a large open air enclosure, planted with tall grass and bushes and insulated by a deep moat into which they let out lions and tigers (sometime by turns). You will then see that in cover the seemingly dull, whole coloured tawny coat of the lion is much more readily seen than the striped coat of the tiger.

Another conspicuous feature of the tiger's pelage is the light coloured spots, almost white, at the back of each ear heavily rimmed with black. Many other animals of the cat family also have such ear-spots, but in none of them are they as flagrant as in the tiger. Even in the tiger, it is only when the animal is seen from behind or partly from behind, that the ear spots are so conspicuous. Why should there be any need for a tiger to be visible from behind?

The theory has been advanced that in the cats, the ear spots serve a function in aggressive displays, that the ears are turned around so far that their backs become visible from the front when the animal is threatening a possible adversary. With specific reference to the tiger, this theory may be discounted. At no time have I seen a wild or captive tiger (and some of the fresh-caught ones I have seen have been singularly savage and prone to aggressive displays) turn its ear round in this manner.

It is not necessary any longer in modern scientific natural history, to prove a function or to attribute a specific function for every morphological peculiarity noticed.

It could be that the remarkably flagrant ear spots of the tiger serve no purpose, but probably they do serve an important purpose, in enabling other tigers to follow a leading tiger when no communication by voice or displayed attitude is possible."

- M. Krishnan

This was published on 16 May 1971.

Wildlife Photography -

White footed Fox pups by Vipin Sharma



Tiger by Shyamala Kumar



Wildlife Photography -

Black-chinned Babbler by Samrat Sarkar

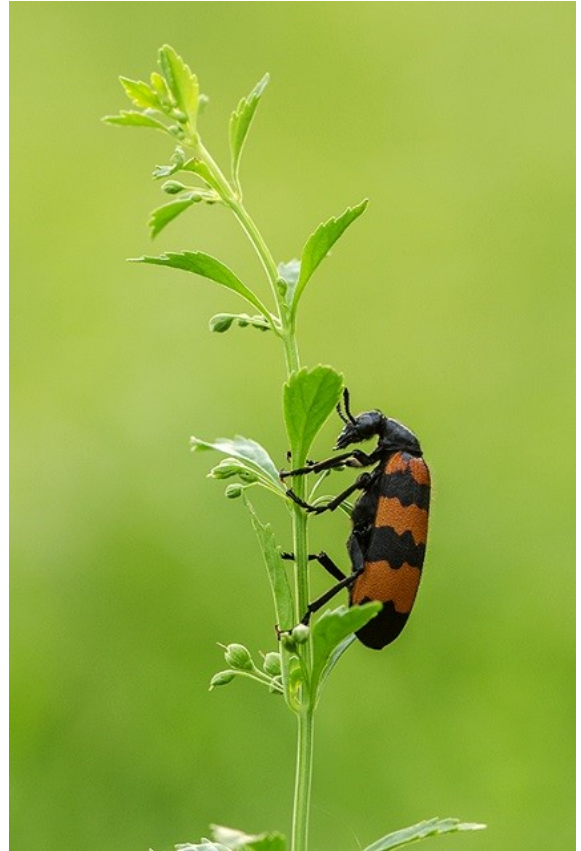


Sunset by Abhishek Jamalabad



Wildlife Photography -

Blister-Beetle by Arun Acharjee



Jumping spider with katydid catch by Prajwal Ullal



Wildlife Photography -

Pelican by Sabyasachi Patra





This is the 131st issue of IndiaWilds Newsletter. The cover page is an infrared photo of Sundarbans showing the mangroves landscape at bottom and clouds spread over the majority of the image. Clouds are givers and are harbinger of good hope as they bring in rains. Many a civilisation has perished due to lack of rains. Harappa being one of those civilisations which died due to continuous failure of monsoons for two hundred years. Clouds can also bring in heavy downpouring drowning the earth. It would be better if one interprets the looming clouds in the coverpage image as trying to bring us a message of the imminent impact of climate change, unless we mend our ways.

The arctic is warming up and icebergs are breaking and suddenly supplying huge volumes of water to the ocean. Scientific studies have shown that the previous studies had underestimated the impact of climate change and sealevels will rise by more than 2 meters by 2100. Even today various Governments are behaving as if everything is all right. We need to wake up and understand that there is a full blown Climate Crisis on Planet Earth. We have to immediately act to stop the impact of Climate Change, else the survival of human race is at stake.

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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