India Wilds®

Newsletter

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Climate Change:Vice like grip on daily lives

It is now common knowledge that Climate Change is causing extreme weather events at a much more rapid frequency as well as increasing the intensity of those events. Since preindustrial era the temperature of Earth has increased by 1.1 °C. Unseasonal cyclones, floods, storm surge, rains, landslides are becoming common. India faced two back-to-back cyclones in May 2021 with Cyclone Tauktae hitting the Gujarat in the western coast and Cyclone Yaas hitting West Bengal and Odisha a few days later in the eastern coast. People are slowly realizing that these extreme weather evens are the due to the impact of climate change. However, people don't realise that there are also many common day to day events in our lives that are also impacted by Climate Change.

Japan: Tokyo Olympic Games

In Tokyo, Olympic games are to be held in July and August 2021. The Olympic Games organisers are shifting athletics events away from Tokyo city as the temperature along with high humidity there is not suitable for athletes. A report (Rings of Fire, How Heat could Impact 2021 Tokyo Olympics; British Association for Sustainable Sport https://basis.org.uk/rings-of-fire) says "*The mean annual temperature in Tokyo, the capital city and host of the 2021 Olympics, has increased by 2.86°C since 1900, more than three times as fast as the world's average. Since the 1990s Tokyo residents have frequently experienced more days when the maximum daily temperature exceeds 35°C.*"

It is a fact that increase in temperature by even one tenth of a degree centigrade can make some areas on earth uninhabitable. Different areas on earth are impacted in a dissimilar man-

Landslides have been the norm due to climate change

Inside this issue:

Cover Page Photograph:

Tiger by Sabyasachi Patra

ner, some bearing the brunt of climate change more. The report says "*Japan and more specifically Tokyo, is warming much faster than the rest of the planet. The mean and maximum daily temperature over Japan have increased, but the largest temperature rise is in the minimum temperature values, especially during the winter months. This translates in less snow depth every winter, especially over Western Japan where the snow layer is 12.3% thinner each decade.*"

The Olympics is the epitome of sporting prowess and a medal there is considered as the ultimate success of a human in pushing boundaries of pain, endurance, willpower to triumph over other athletes. Unfortunately, the common men and women don't realise that while athletes can train to outcompete with each other, they cannot beat the effects of Climate Change. Even though the impact on the health of athletes can even at times be fatal, common people ignorant of climate change will feel that athletes should have trained better. Hence, it is important that the Tokyo Olympics, which would be seen by millions of people, be used as an anchor to disseminate the information regarding impact of Climate Change on our lives.

Tokyo had hosted the Olympics in 1964. At that time the mean temperature (DBT or dry bulb temperature) was 11.1°C. In July 2021 during the Olympics the temperature in Tokyo is expected to be 25 °C. It would be even more than a degree higher in August at 26.4 °C. However, it may be noted that the 1964 Olympics in Tokyo was held in October. These days they don't want to hold the Olympics in October or later in the year as TV Networks feel it would clash with other programming. And that sums up human attitude towards Climate Change.

It is our greed which is pushing the Earth towards Climate Change. A lot of our actions are driven by greed rather than by need. Too often we think of scale, to make things bigger. We forget that beyond a point things become unsustainable.

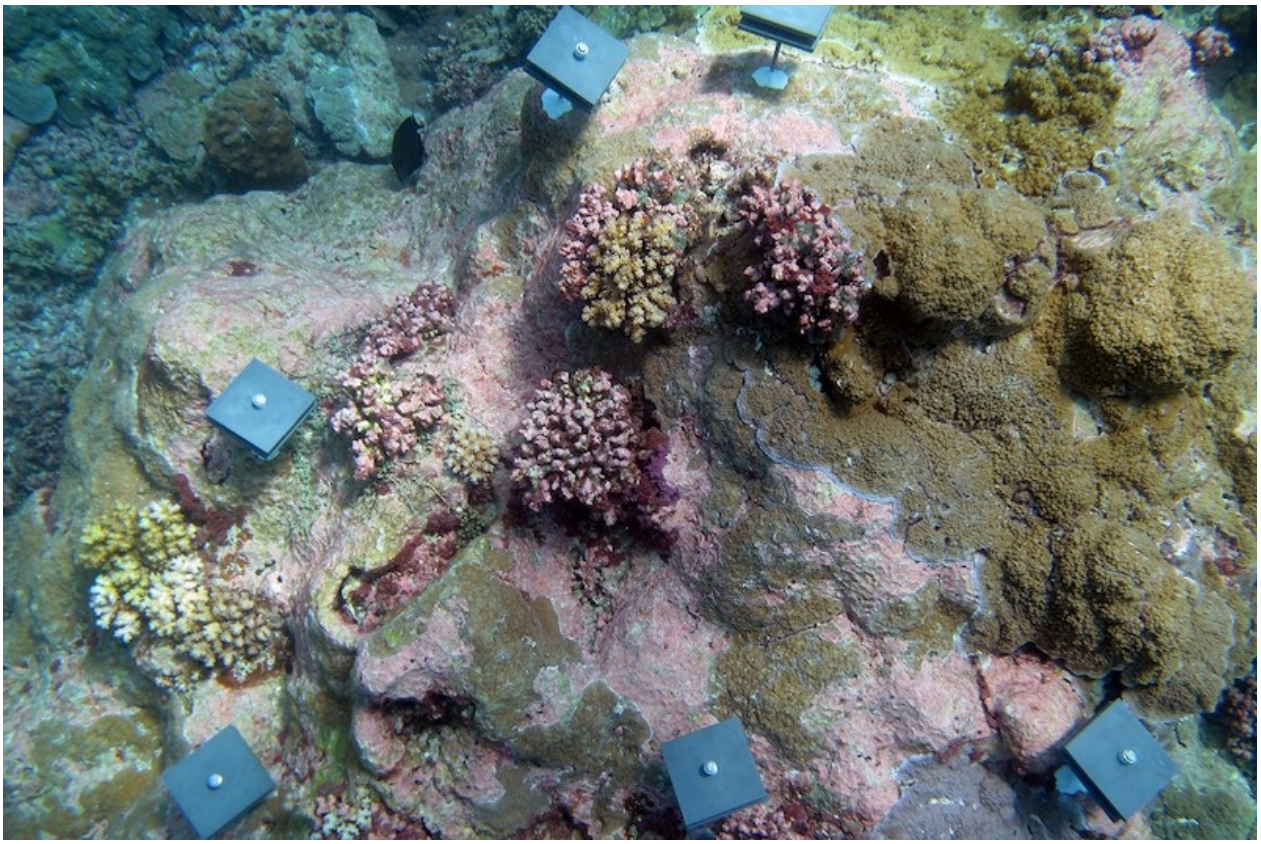
Australia: Great Barrier Reef

While the athletes in Tokyo Olympic games are facing dangerous heat conditions due to climate change, an iconic natural heritage in nearby Australia – the Great Barrier Reef - is also in danger. The Great Barrier Reef spans over 345,000 square kilometers, and has rich biodiversity with 411 species of corals and 1500 species of fish. UNESCO has recently proposed that the Great Barrier Reef be included in the list of List of World Heritage in Danger.

The Great Barrier Reef is a marine ecosystem which is vital to the Planet Earth's survival. The revenue from the tourism as well as income from fishing though huge is incidental. The main impact is in controlling the Earth's climate. The algae which live inside the corals play a huge role in this. Phytoplanktons, sea-weed and Zooxanthellae produce a gas called DMS (Dimethylsulfide). This DMS gas escapes from the ocean and moves into our atmosphere and

helps in cloudseeding. Hence, solar radiation is blocked from reaching the earth and is reflected back.

This amazing help in fighting climate change is not going to last long as the corals of Great Barrier Reef (GBR) have thrice suffered mass bleaching since 2015. It has lost half of its coral population in the last three decades. If this continues, the reef will die.



Coral photo by Nichole Price

There are many factors that impact the health of the Great Barrier Reef like changes to oceanic waters, ground water pollution, impact of marine transport infrastructure like ports, shipping lane impacts, grounding of ships; presence of liquefied natural gas facilities, surface water pollution, temperature change etc.

The 2019 GBR Outlook Report had concluded that the long-term outlook for the ecosystem of the reef has gone down from poor to very poor and that climate change remains the most serious threat. Other key threats are land-based run-off, coastal development and some direct human uses. The UNESCO report had also concluded that accelerated action to mitigate climate change and improving water quality was essential to turn around the condition of the Great Barrier Reef. So recently Unesco has urged the Australian Govt. to do more to fight climate change so that the Great Barrier Reef can be saved.

The report had noted a 30% loss of shallow-water coral cover following the 2016 bleaching event and the combined footprint of the 2016 and 2017 bleaching event extending over two thirds of the reef. So UNESCO has recently raised its concerns regarding this iconic heritage site and wants to include it in the list of World Heritage in Danger.

Unfortunately, Australia is now heavily focused on short term economic development through mining of coal and despite protestations by its own people, it is going ahead with a heavy fossil fuel strategy. Australia is also a country which has not agreed to be net zero carbon emitter by 2050. We humans in every country appear to prioritise our short-term interests and ready to ignore climate change. Unfortunately, climate change processes are oblivious to our politics. With increasing climate change, the ocean waters will further warm up and the corals will bleach more and more. This would make it very difficult to save the Great Barrier Reef (GBR).

Brazil: Amazon

Amazon rainforests are spread over 8 countries in South America covering more than 40 percent of it. It the world's largest rainforest and is a treasure trove of biodiversity. There are some estimated 16000 tree species in Amazon. (Ter Steege et al.; *Science* 342, 1243092 (2013).
DOI: 10.1126/science.1243092)

Unfortunately, Climate Change is singeing the rainforests of Amazon as deforestation continues at an accelerated pace, to open areas for agriculture, posing high risks of irreversible changes to biodiversity and ecosystems.

When you cut down the rainforests, the moisture released into the atmosphere by the trees through evapotranspiration is now lost. With less of moisture, the area warms fast. The region has warmed about 1 °C over the last 60 y, and total deforestation is reaching 20% of the forested area. (Land-use and climate change risks in the Amazon and the need of a novel sustainable development paradigm; Carlos A. Nobre et al., PNAS Sep. 27, 2016).

Reflecting a change in temperatures resulting in more dry seasons, the composition of tree species is also bound to change. Researchers based on 30 years observational records conclude that there is a shift to large saturated trees. "*Among newly recruited trees, dry-affiliated genera have become more abundant, while the mortality of wet-affiliated genera has increased in those plots where the dry season has intensified most. Thus, a slow shift to a more dry-affiliated Amazonia is underway, with changes in compositional dynamics (recruits and mortality) consistent with climate-change drivers, but yet to significantly impact whole-community composition. The Amazon observational record suggests that the increase in atmospheric CO2 is driving a shift within tree communities to large-statured species and that climate changes to date will impact forest composition, but long generation times of tropical trees mean that biodiversity change is lagging behind climate change.*" (Compositional response of Amazon forests to climate change, Adriane Esquivel-Muelbert et al.; *Global Change Biology*, Nov 2018)

There has been 80 percent reduction of Amazon forests in Brazil in the last decade. In 2019, Amazon in Brazil suffered its worst due to massive fires. Around 2.24 million acres of rainforest was destroyed in 2019. The fires were setup to turn the forests into ashes so that the areas can be cleared of the native tribes and the lands can be grabbed by the real estate lobby. Brazil's President Jair Bolsonaro did nothing to stop the fire. Recently he even asked US to compensate Brazil in lieu of saving the rainforests.

Recently in the month of May 2021, deforestation has increased by 67% year-on-year (***http://terrabrasilis.dpi.inpe.br/app/dashboard/deforestation/biomes/legal_amazon/rates***) With such massive deforestation, the amount of carbon sequestra-

tion capacity lost is massive. The impact of increase in greenhouse gases on earth is going to be substantial. Climate Change knows no boundaries. The actions anywhere on earth is going to impact all of us. The single-handed action of burning the amazon rainforests is nothing but an ecological crime against planet earth and humanity. Unfortunately, the world understands genocide but doesn't recognize crime against ecology.

USA: Drought

Several states of USA are facing severed drought. California Governor has declared a statewide heat emergency. (https://www.gov.ca.gov/wp-content/uploads/2021/06/6.17.21-Extreme-Heat-proclamation.pdf). Lake Oroville, which is the second largest reservoir in California, is expected to see its waterlevel deplete from the current 700 feet level to 640 feet. This will result in the Edward Hyatt Power Plant to shut down operators. Several other power plants are also expected to operate at a much lower capacity due to water shortage. Hence, people will face electricity shortage.

The USA was the champion of a lifestyle which relied on excessive consumption and consumerism. Suddenly due to climate change, major parts of America is now facing a grim power situation like low income countries. We have been aping the model of west and have been adopting a high carbon lifestyle like the western countries. Leaders of various countries are loathe to cutdown on the high carbon lifestyles and demand that they too have a moral right to follow a profligate lifestyle even though that fuels climate change. The fact that parts of America is going to go dark, a situation currently experienced by many parts of Bihar and other backward states of India, should make us reevaluate our priorities. This should be a wakeup call for all countries which used to see America's high carbon lifestyle as a success story. Climate Change will spare none.

It is time we raise awareness about climate change among the common masses and convince our leaders to take steps to mitigate climate change. Else, we will soon reach a tipping point and there will be no tomorrow for us, the human species.

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NALSAROVAR: LOSING ITS GLORY

By Mrs. Shakti & Mr. A S Bishnoi

The Nalsarovar Lake, spread over 120.82-sq-km, is in a low-lying area between Central Gujarat and East Saurashtra. It is a serene marshland, with shallow waters of 4 to 5 feet, containing 36 small islands, and serves as a Bird Sanctuary. Nalsarovar located near Sanand Village is about 60kms from Gujarat's capital city of Ahmedabad. The Nalasarovar is used by migratory birds as their wintering ground. Nalsarovar was declared as a Bird Sanctuary in April 1969 and as a designated Ramsar site since 24 September 2012.

More than 200 types of birds mainly waterfowl inhabit this lake and come from as far as Siberia making it a bird watcher's paradise. One can find rosy pelicans, lesser and greater flamingos, crakes, brahminy ducks, purple moorhen, herons, white storks, various species of bitterns, grebes etc in the lake. The best time to visit Nalsarovar is in winter between November to February. However, migratory birds start arriving in October and stay until April, and their numbers its peak in mid winter.

We were en-route to Ahmedabad from Gir Sanctuary and Nalsarovar was one of the destinations in our itinerary so that our daughter is able to see flamingoes and other migrants. So we took diversion from National Highway and headed towards Nalsarovar. Our last visit to this birds paradise was in 2004 and now after a decade I was visiting again along with my extended family members. All three of us were equally excited. We were short of 10 km from Nalsarovar, when we spotted a Sarus Crane family, a bird which is an all time favourite. It is a delight to watch a sarus crane pair and this time more with a young one as a family. We clicked a few photos and as day was coming to an end, we headed straight to Nalsarovar.

One of the surprising things that I noticed in Nalsarovar, was that locals have maintained strict cleanliness policy as per

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swatch bharat abhiyan and one can find the water so clean that u can clearly see the sheval plants growing inside the lake. Sheval plant is food to the birds as well as the fish inside the lake. Generally guide charges are Rs. 400 to Rs. 500 but as we both are ornithologists (We attended course from BNHS, RISHI valley, ELA foundation) and visited several bird sanctuaries, we headed directly to interiors of village and took responsibility on us to teach our daughter. I am well versed with Gujarati so I could converse and found our way to reach the point where, paradise is just to be felt.

The best time to reach there is just before sunrise as the lake is calm and quiet and flocks of birds having their food or sunset if you have specific thing in mind to click the particular photo.

We sat near the sand dune to hide us from the flock of birds enjoying their food. We slowly marched ahead like Army person crawling to have the first glimpse of Flamingos. They are shy and will fly away if there is even a slight disturbance, and then it becomes difficult to sight them. Soon we saw our first flock of flamingos through our binocular. I took out my camera to click this amazing sight. That day was cloudy and we were clicking against the blue sky background. Even though it was boon for eyes, but our photos were not. Still managed to click few photos and headed towards the other end to take a closer look. To my surprise, there was a drastic reduction in bird count. Lot of land in the nearby lake was converted into irrigation land due to encroachment. Water is being continuously pumped out for the cash crops in and around the lake. There is also extensive exploitation of water for personal usage. No wonder our guests i.e. birds suffer.

It is sad that our brains can't fathom the fact that our wellbeing is linked to the natural world and hence we ought to protect the birds and their habitat. The guano of the birds bring back essential nutrients to the lake and help nourish fish species which helps the livelihood of a lot of families. There was a time, when a tiny noise near the lake used to send a signal of danger to the birds and the sky used to be dark with blanket of birds around you. Unfortunately, now after a decade, we see a completely different picture. The migrants are not happy or comfortable with the existing mind set of humans and with the governance also. We even visited Thol, and the bird count in Thol was more than the Nalsarovar. This stark reality

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should make people think.

Nalsarovar wetland is facing a tough competition by another nearby wetland named Thol. Birds count in Thol is almost double the Nalsarovar. Estimated number of birds per sq km in Thol is around 9000. While in Nalsarovar is only approx 2500 birds per sq km and the most birds are local and not migratory.
The reasons are many but prominent are as appended below:-

(a) Fishing: Extensive fishing by locals as their livelihood.

(b) **Poaching**: Poaching in today's era by the locals has major role in scaring birds away from Nalsarovar sanctuary. Everyone is aware of this fact however, the governance is lacking. Poachers lay nets to trap exotic birds of Nalsarovar, Gujarat. It is a bitter truth that locals of at least 15 surrounding villages are (said to be) involved in illegal fishing and poaching activities. Only seven to eight foresters and guards combined safeguard Nalsarovar. Locals take advantage of this staff scarcity to poach birds and sell them into the black market.

(c) **Lack of Guards at Lake**: Ideally, for every 10 sq km there should be one person to guard the lake. Nalsarovar's guard count should be of eight guards, six foresters and two rangers but these posts remain unfilled since long. Moreover, there are some watchtowers but the guards lacks the basic equipment such as binoculars. Nalsarovar Forest department also lack adequate boats and are not the expert enough rowers to chase the poachers.

(d) **Narmada Water**: Diversion of excess Narmada waters to Nalsarovar Lake. This is happening since the past few years is probably another reason for it. The excess Narmada water in Nalsarovar Lake has altered water quality of the marshland and has led to consistently high levels of water in Nalsarovar. It is a turnoff for migratory birds. Especially the birds like greater and lesser flamingos that thrive in shallow waters of about 2ft, which Nalsarovar once used to be. The water is for

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irrigation, to earn at the expense of life of migratory birds.

(e) **Thol the Competitor**: It is an artificial lake near Thol village in Kalol area of Mehsana District in Gujarat, India. It is a reservoir made for irrigation in 1912. It is a fresh water lake same as Nalsarovar and is a marshland. Thol is a Bird Sanctuary since the year of 1988.

Urgent Actions Required to Regain Glory

The grass inside the Nalsarovar Lake is more than 10 feet high. And it is easy for a person to hide behind it and go undetected. One of the solutions is to trim the grass. Trimming the grass is so effective that this alone can make life difficult for the poachers.

Nalsarovar forest department can only take care of the few things. It is time the government does something for the people who live in and around Nalsarovar sanctuary. The Padhar community that lives in villages around the sanctuary and Nalsarovar city for Poaching in Nalsarovar, Ahmedabad are mostly engaged in poaching. It is also a fact that from centuries they have killed the birds for food and business. It is difficult for them to leave their way-of-life and stop without the government providing them with parallel lifestyle. Unfortunately, one needs to understand that in the past the population of people was less and birds were more. So trapping and killing a few birds earlier didn't threaten the entire population, the way it is doing now. Today, with the number of birds and animals so less, any poaching activity can easily push the birds into extinction.

Nalsarovar Forest department had plans to grade the boatmen based on their education and the quality of service they provide. For example, one grade of boatmen, would only offer exclusive services to big groups like schools. But the authorities did nothing after a single guide-training program. Most of the guides are poor but educated and unemployed, providing them with a job opportunity would have ensured that they do not indulge in poaching activities.

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The classic example of Chilika should be followed where erstwhile poachers became the saviour and guides with money earned in just four months enough to last for a year. Chilika model should be adopted for overall success.

Creating in-depth awareness by Government/forest officials or campaign involving NGOs to explain the importance of Nalsarovar and impact on environment will bring everlasting change. The change has to start from lower level and it will be a boon for migratory birds. Once the birds gain confidence they will start revisiting Nalsarovar in large numbers. For generations it gets registered in their brain. Once it is fixed in their brains that this place is not to be trusted, then it will be too late to try and regain their confidence. Chilika took one decade to regain its glory. We need to start now before the fusing of data in their brain (migratory birds) takes place.

It is a do or die situation, Now or Never. Else, our next generation will only read in books about Nalsarovar like Harappa and Mohenjo-Daro. So time for action is Now.

Conservation News -

Desertification and Land Degradation Atlas of India released

On 17th June, The Desertification and Drought day was commemorated by the Ministry, with an aim to generate large scale awareness towards understanding the key role of land in all environmental and economic concerns, that world, as well as India is facing now-a days.

Minister of State for Environment, Forest and Climate Change, Shri Babul Supriyo today called for generating awareness towards preventing and restoring land degradation for healthier and sustainable ecosystems. Speaking at a virtual event celebration of the Desertification and Drought Day, Shri Supriyo said, this will help better economy and overall human wellbeing.

Cracked mud of the dried up fields due to famine in India

On the occasion, the Minister of State released the latest version of "Desertification and Land Degradation Atlas of India. It has been published by Space Application Centre, ISRO, Ahmedabad. The Atlas provides state wise area of degraded lands for the time frame 2018-19. It also provides the change analysis for the duration of 15 years, from 2003-05 to 2018-19.

Secretary in the Ministry Shri RP Gupta said, the salient findings of this Atlas are not only useful as a ready reference, but, will also be helpful in strengthening the envisaged National Action Plan for achieving land restoration targets by providing important baseline and temporal data and technical inputs.

The event also observed release of Coffee Table Book "India Hosting UNCCD-COP 14" and a short film on UNCCD-COP 14. The commemoration of this event encourages individuals and groups to take initiatives that can keep the land healthy and productive.

Conservation News -

India had hosted the 14th session of Conference of Parties (COP 14) of United Nations Convention to Combat Desertification (UNCCD) in September 2019. India has announced that it will strive towards achieving the national commitments of Land Degradation Neutrality (LDN) and restoration of 26 Million ha of degraded land by 2030 which focus on sustainable and optimum utilisation of land resources.

India and Bhutan sign MoU for Environment Cooperation

India and Bhutan inked an MoU for developing cooperation between two countries in the area of environment on 18thJune, 2021. The MoU was signed virtually by Minister of Environment, Forest and Climate Change Prakash Javadekar from the Indian side and Minister of Foreign Affairs and Chairperson of the National Environment Commission Lyonpo Dr. Tandi Dorji from the Bhutanese side.

The MoU is a platform to further enhance Indian and Bhutanese partnership and support, exchange best practices in areas like prevention of Air Pollution, Waste Management, Chemical Management, Climate Change, etc. It also provides the possibility to have joint projects in areas of mutual interest. The MoU will also strengthen technological, scientific and management capabilities and expand the areas of cooperation in the field of environment to promote a mutually beneficial partnership between the two countries.

Speaking on the occasion, Shri Javadekar said, the MoU will open new vistas of bilateral co-operation in the area of climate change, waste management etc. Describing the relationship between the two countries as symbolic, he said, India wants to engage with Bhutan on environmental related issues including climate change.

LiDAR survey report for forest areas of 10 states released

LiDAR based surveys of forest areas have been carried out in ten states namely Assam, Bihar, Chhattisgarh, Goa, Jharkhand, Madhya Pradesh, Maharashtra, Manipur, Nagaland, and Tripura. Detailed project reports of these LiDAR surveys of forest areas were released On 25 June in a virtual event by the Minister for Environment, Forest and Climate Change, Shri Prakash Javadekar.

The Minister informed that the project which was awarded to WAPCOS, a PSU under the aegis of Ministry of Jal Shakti, Government of India. It is a first of its kind and a unique experiment using LiDAR technology which will help augment water and fodder in jungles areas thereby reducing human-animal conflict, help in groundwater recharge, help local communities and also asked state forest departments to use CAMPA funds towards implementation of these projects in right earnest and in accordance with the 'Ridge to Valley' approach of watershed management.

WAPCOS has prepared these DPR's using LiDAR technology in which the 3-D(three dimensional) DEM (Digital Elevation Model), imagery and layers of the project areas are used for recommending different types of Soil & Water conservation structures such as Anicut, Gabion, Gully Plug, Mini percolation tank, Percolation Tank, Field bund, Sunken pond, Farm pond etc. These structures will help in catching the rain water and prevent stream run off, which will help in recharging of Ground water.

Conservation News -

WAPCOS with the participation of State Forest Departments identified one major ridge inside a forest block in these states with average area of 10,000 ha selected in each State for preparation of Detailed Project Reports for planning and identifying locations and structures for construction of appropriate and feasible micro soil and water conservation structures consistent with site specific geography, topography and soil characteristics.

States/UTs identified one major ridge inside a forest block with the criteria that area selected should have average rainfall of the state, and the area requires assisted natural generation which means the density of forests should be less than 0.4 or below, but should have reasonable potential to regenerate with the ANR interventions.

The project was awarded to WAPCOS in July 2020 at a cost of Rs.18.38 Crore/- for implementation in 26 states over 261897 hectare. The DPR's for the remaining 16 states will also be released shortly.

Creating Seagrass meadows to Fight Climate Change

Researchers are throwing sand bags into the Ocean near Australia's coast. The researchers hope that seedlings of seagrass while floating through the ocean will latch on to these sandbags. When the seedlings find an anchor like the sandbag, they will stay put and create a seagrass bed. Scientists are planning to drop 50,000 sandbags which will ensure that there is a large enough seagrass bed created in dozens of acres of seafloor.

Seagrass trap carbon and help contain climate change. Scientists believe Seagrass has more potential than terrestrial forests in mitigating the effects of climate change. Hence this effort to develop seagrass meadows in the forest. This is also termed as Blue Carbon and more research effort is being directed towards the marine ecosystems.

Ensuring that our coastal habitats are pristine will help a lot in fighting climate change. There was a time when mangroves were abundant along the coastlines throughout the world. The mangroves are known to have roughly 3-5 times more carbon sequestration potential than normal trees. Along with their impact on stopping coastal erosion and stopping storm surge, mangroves play a vital role to save us.

Unlike planting mangroves, creating seagrass meadows is a slow process. Planting seagrass in the seabed through divers is also a difficult and slow process. Given the massive changes that we humans are doing to this planet, these efforts can be termed as very small. Nevertheless, we should explore and try our best to understand the complex way natural processes work. When we understand we start developing respect for various species and that often leads to effort to save the species.

Equipment Discussions -

Sony Launches Professional-Use Drone Airpeak S1

Expanding the possibilities of aerial video production with flight and shooting performance to create an unprecedented free perspective

Sony Group Corporation ("Sony") plans to release the "Airpeak S1" as the first model in Airpeak line, which has been developed with the intention of contributing to the further development of drones and the utmost in value creation. The commercial drone, Airpeak S1 will be the world's smallest drone able to be equipped with a full-frame mirrorless interchangeable-lens α camera, enabling dynamic and precise flight with high agility by using a proprietary motor, propeller, control system and sensing technology, and supporting the creative expression of its users to the fullest. It also supports the production of high-quality aerial images with a remote controller that can control the aircraft at will, obstacle detection and automatic flight control via sensing, and increased flight safety via cloud management of the aircraft and flight information. The camera and gimbal are sold separately. The Sony Airpeak S1 drone will be available in September 2021.

Main features

Optimized Design for Exceptional Performance

Fly dynamically with basic high performance

- Reaches a maximum speed of 90km/h*1, a maximum angular velocity of 180°/s*2, and a maximum tilt angle of 55°*3.

Stable flight even in strong winds

- Propulsion technology using a combination of independently developed key devices provides wind resistance of up to 20m/s*4, enabling stable flight even in strong winds.
- *1No payload, obstacle brake disabled
- *2Vision Positioning disabled
- *3Obstacle brake disabled

Equipment Discussions -

*4No payload

Independently developed propulsion device and flight control system

- In addition to the lightweight, highly-efficient, sturdy and responsive proprietary 17" propeller and brushless motor, it is equipped with an ESC (Electric Speed Controller) for optimal control of these components.
- Unique, high-performance flight control system that integrates the propulsion device and all sensor information to ensure stable flight and high maneuverability.

Sensing Technology for Flight Stability

Accurately grasps position and orientation using multiple high-performance sensors

- Stereo cameras equipped with Sony's image sensors are installed in 5 locations (front, back, left, right, bottom) of the aircraft. Sony's Vision Sensing Processor, which processes camera data at high speed, and proprietary algorithms are used to accurately estimate the aircraft's spatial position and orientation in real time, enabling stable flight even in environments where GNSS reception may be affected or hindered, such as indoors or under bridges. Airpeak S1 integrates visual information with sensor information such as IMU (Inertial Measurement Unit), direction, barometric pressure, infrared ranging, etc., estimates self-position and attitude with high accuracy, and recognizes the surrounding space in real time. This enables stable flight even under conditions where it is difficult to receive GNSS, such as indoors and under bridges.

Versatile Camera and Lens Compatibility

A wide range of cameras and lens options

- Choose the right α system for your application and expand your filmmaking horizons: the α7S series and FX3 for high

Equipment Discussions -

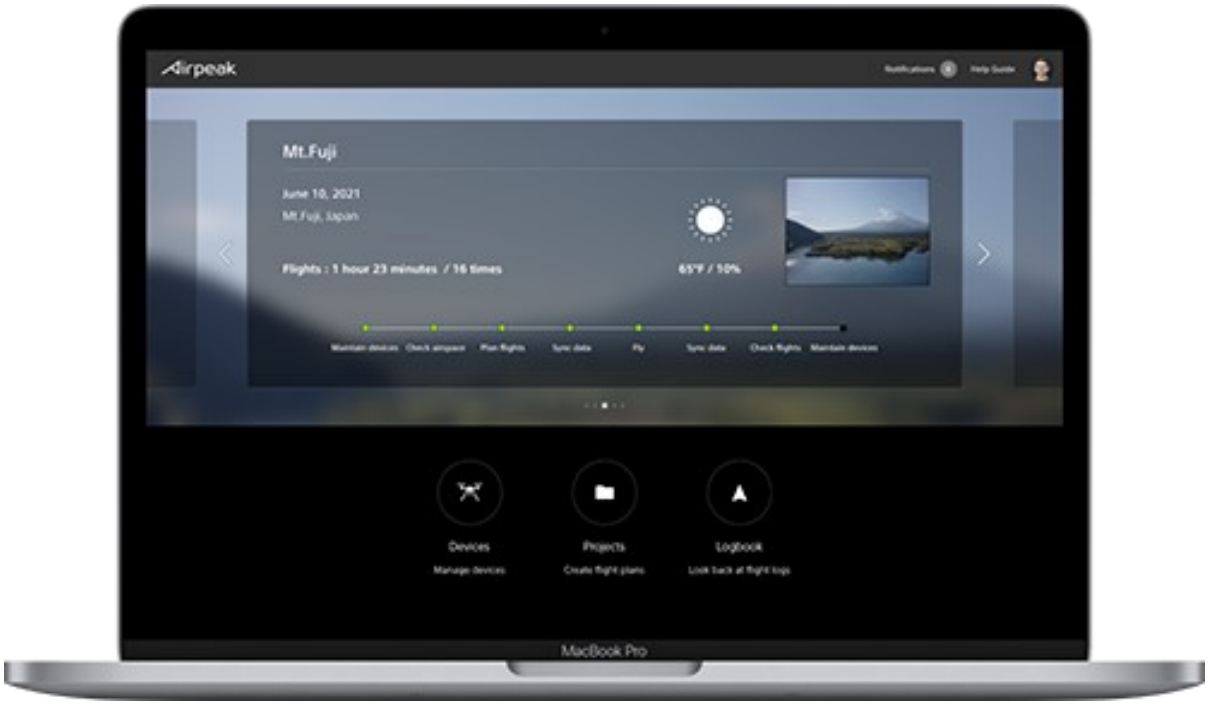
descriptive capability with suppressed noise, the α7R series for ultra-high definition, and the α9 series and others for distortion-free images.

- The α1, which can shoot footage in 8K, is also compatible.

Intuitive Control

"Airpeak Flight", a remote controller with high operability and a mobile app that allows centralized control of the aircraft and equipment.

- Capable of operating the aircraft, camera, and gimbal while checking images captured by α camera in real time.
- The iOS / iPadOS compatible mobile app Airpeak Flight integrates the aircraft, remote controller, camera, and gimbal, allowing the operator to monitor status information such as flight distance and remaining battery power, and change various operations and settings on the screen.



Automated Flight Missions for Workflow Efficiency

Integrated management in the cloud with "Airpeak Base"

- Airpeak Base is a web application that allows the operator to manage equipment, create flight plans, and manage flight logs.
- In the equipment management, information on the equipment used is automatically listed and managed based on the flight log. This allows the operator to check the condition of the aircraft before going to the field, contributing to problem reduction.

Creation of missions for video production and mission flight / repeat flight

Equipment Discussions -

- With Airpeak Base, operator can create advanced flight plans and automatically fly the aircraft along the same course many times as if on rails installed in the air.
- It is able to set the position (latitude, longitude and altitude) and speed of the aircraft along the timeline, and specify the orientation of the gimbal and the timing of video or still image shooting. It can also draw smooth curves on the map.
- Repeat flight is an automatic flight function that automatically reproduces the flight route, gimbal, and camera movements based on the flight logs that have flown in the past.

Related services

- "Airpeak Plus" a cloud service that allows users to use the rich features of Airpeak Base, and "Airpeak Protect Plan" a service plan to cover accidental damage to the product, will be made available. Further details will be available on the Airpeak website before the products go on sale.

Availability and Price

- The Sony Airpeak S1 drone will be available for sale in September 2021. It will ship with two (2) pairs of propellers, a remote controller, two (2) batteries and a battery charger. A third-party gimbal made specifically for the Airpeak S1 will be sold separately.

Price: **$9000 US Dollars**.

B&H link: *https://www.bhphotovideo.com/c/product/1617585-REG/sony_airpeak_drone.html/BI/19990/KBID/13252*

Equipment Discussions -

Godox announces SL100D video light

Godox has launched SL100D daylight video light which has a high output of 32,100 lux at 1 meters (3.3 feet) distance. This is useful in small and compact places, especially in pandemic times when people are trying to shoot a few shots in their own homes.

The Godox SL100D has 5600K colour temperature, which matches other daylight colour lights.

Salient Features:

Colour temperature: 5600K

CRI/TLCI rating: High CRI rating of 96. TLCI is 97. This means good accuracy of colour temp.

Dimmable: This light is dimmable from 0 to 100.

Wireless: It has 32 channels and 16 groups which can be used to change the intensity wirelessly using remote or smartphone app.

Special effects: Lightning 1/2/3, Flash, Conference, Paparazzi, Television, and Broken Bulb

Mount: Bowens mount.

Voltage: 100 to 240 VAC

Power consumption: 100 watts

Compact: Can be used in small studios and homes

Weight: 1.6 kg

At the moment this is a preorder item and would be available soon

Price: **199 US Dollars**

B&H link: *https://www.bhphotovideo.com/c/buy/godox/ci/45687/BI/19990/KBID/13252*

Equipment Discussions -

US Government lifts restrictions on Chinese made DJI drones

In 2019, US Government had banned flying of Chinese made DJI drones. As a result many US Government agencies which had procured these DJI drones for emergency situations like fire, flood, agriculture and other monitoring works were forced to ground their drone fleet.

According to a report by AP, Pentagon has found "no malicious code or intent" in the drone software in the drones manufactured by DJI and used by the US Interior department. The pentagon report examined the software of the DJI drones which it terms "Government Edition" and also examined the software fixes that were earlier made to plug vulnerabilities of data leakage as suggested in previous audits. This report by Pentagon is dated 6th of May 2021.

The author of this Pentagon report, Adam Prater who is a tech expert and Second chief warrant officer with the US Army is reported to have concluded "The DJI Government Edition versions that were tested, show no malicious code or intent and are recommended for use by Government entities and forces working with US services."

https://twitter.com/dronelaws/status/1400087185500651520?

In 2019, due to political climate, lot of China blaming was going on. So it served the purpose to ban flying of DJI drones. Many other countries like India too are apprehensive about flying DJI copters in border areas even in disaster rescue operations. Given the rapid technological developments that DJI has brought into their drones, it has become easier to afford examining various landscapes for disaster survey, forest survey, looking out for poachers etc. The pentagon report is likely to help assuage some of the apprehensions even though not completely overcome it.

There are some other emerging drone manufacturers who hope to compete well with DJI. In the US, there is a company called Skydio. Autel robotics is another company which has launched a drone called EVO. Hopefully these companies can become better so that there is a good option for people to use a drone other than DJI's. Apart from security issues, there is a nationalistic issue about the Chinese which majority of Indians strongly feel about. Apart from that the Chinese companies have a culture of human rights violations in their companies. Hence, having alternatives in future will be good. Nevertheless, it has become a bit difficult for filmmakers to navigate the various restrictions towards using copters. Hopefully, the situation will improve so that we can showcase India in all its glory to the entire world. Unfortunately, for security applications the drones are much bigger and longer and can carry big weight. For filmmaking the quadcopter or hexacopter used is also popularly called as drone. So use of filmmaking copters is also often frowned upon and several clearances are officially required. However with the recent attack on an Airforce base in Jammu, apparently using drones to drop bombs, may not lower the aversion for drones.

Natural History -

COUNTRY NOTEBOOK: The Sea-king's Eyrie: M.Krishnan:- 18-5-1952

The Sunday Statesman (shared by Shri. Saktipada Panigrahi)

" HIGH up in a towering casuarina, a hundred feet above the ground, the Sea Eagles had built their ponderous nest. It was wedged firmly into the trifid, ultimate fork of the trunk, a firmly-knit stack of thick twigs and dry branches, looking more like a pile of faggots than anything else. It was hollow on top, though I could see the depression from the third-storey terrace of the building from which I watched, for the eyrie was well above the level of housetop but the way big nestling disappeared from view every time it waddled to the centre from the rim of the next showed as a hollow.

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The sea was not a mile away, perhaps not even two furlongs by air. One of the parent birds mounted guard on the treetop, a few yards from the nest, while the other sailed away on a foraging expedition. These were White-bellied Sea Eagles, almost as big as a vulture and much more shaped in build, with slaty-brown backs, the head, neck and underparts white, sail-like wings broadly edged with black, and a short, fan tail. The adults looked strangely like overgrown gulls, the grey and white in the plumage and length of the wing suggesting a gull, but they sat in the manner of eagles, upright on the treetop, talons gripping bough firmly. The wings projected beyond the brief tail in repose, their tips crossing.

Through my binoculars, the bird was startlingly near and clear; I could see the grey, hooked beak, the powerful talons, even the dark apprehensive eyes. It was watching me intently, with obvious distrust. Thereafter I cared to do my watching from the shelter of a pillar or the parapet, not too obviously.

Off and on, for a fortnight, I watched these sea eagles, and learnt not very much about them. One of the adults is slightly the larger; I thought this was the she-eagle. This one it was that stayed near the nest, watching most of the time. Much of the

scouting for food, for the entire family, fell to the lot of the other eagle. Sizeable fish seemed to form staple diet, though once a forager returned with a long, dangling prey that looked like a sea snake-but probably it was only an eel. The grown birds fed by turns, after parting with a large piece to the offspring. There was a patrician lack of haste about the feeding and flight of these eagles that was impressive: who would believe that it is these same birds that flog the air above the sea with untiring wings and chase each other in giddy flight, clamouring raucously all the time, earlier in the year!

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The youngster was about three-quarters the size of its parents, and much more cognizably eagle. The feathers on the head and neck were not white and sleek as in the grown birds, but streaky, pale brown, and the stood out in hackles. The body was a dark, mottled brown- the colour one associates with raptorial birds This fledgeling progressed rapidly during the fortnight, and when I saw it last (on 1 May), it was standing on the nest-platform and flapping its wings gawkily, though it has not yet essayed flight.

***

The food-laden return of the parent bird was the signal for crows to gather around the nest, or fly over it. Not once I see them profit by this watchfulness: they never dared to get on to the nest, to try to snatch a morsel, though they would sit all around, close by the tree. At times one or the other sea eagles would leave the nesting tree and sit in a neighbouring one (also a casuarina), and when this happened the crows mobbed it immediately.Apparently, away from the location of the nest, they were not afraid of it. Frequently they forced to big bird to take wing and fly away from their attentions, with a harsh, mettalic, reiterated call, but once I saw the eagle dive at two crows that were annoying it and send them scattering for dear life.

***

I was told by the gardener of the house, that these sea eagles had nested here for years, that every year they reared their progeny on this same nest, that he did not know what happened to the youngsters when they grew up but the old birds remained there right through the year. The nest looked as if the accretion of many years had been added on a structure that was originally no small thing. We estimated that it was a rounded cube, about four feet each way. Even allowing for interspaces and hollowness of its top, it must have contained over hundred sizeable pieces of wood, and have weighed about 200 lbs. How did these seafaring birds acquire the large, dry branches that formed the cross-beams of the eyerie? Did they pick them off backwaters, or did they wrench from greenwood, as Jungle-Crows do? I cannot answer these questions, or find someone who can, but it seems reasonable to suppose that much of the nestling material was, originally,flotsam."

- M. Krishnan

Wildlife Photography -

Tiger by Shyamala Kumar

Sambar Deer by V S Sankar

Wildlife Photography -

Spoonbill by Sabyasachi Patra

Brown-winged Kingfisher by Mrudul Godbole

Wildlife Photography -

Peacock by Jerin Dinesh

Pond Heron by Samrat Sarkar

Wildlife Photography -

Misty Hills by Sabyasachi Patra

Nomad bees by Prajwal Ullal

This is the 150th issue of IndiaWilds. An image of a tiger cub adorns the coverpage of this issue. The young tiger cub was waiting throughout the day while the tigress had gone out to hunt prey. This curious tiger cub had come close to inspect the humans on the vehicle, wondering what they are upto. The tiger cub is oblivious to the fact that while it is growing up under the protection of its mother, the outside world is changing. Thousands of square kilometers of forests are being sacrificed for industries, roads, dams and other projects. As a result protected areas like this are less and more tigers are being hemmed in a small area. The result is disastrous for tigers. The existing prey base and the small size of the area doesn't allow all the tigers to live harmoniously. There is conflict. Young tigers such as this, after branching out from the tigress has to look for a territory to establish. At the periphery, there are easy cattle prey and with that comes poisoning, capture and a life behind bars. Some tigers get runover by speeding vehicles in the highway.

Tigers can't tolerate heat and need to find waterholes to cool themselves. Unfortunately, Climate Change is raising the global ambient temperatures and water is becoming scarce in the waterholes. The amount of energy they expend while trying to hunt becomes higher and it becomes difficult for tigers. The word tiger evokes much awe. However, these days the life of a tiger is far from awesome. If we want our apex predator to thrive, then we have to preserve our wilderness areas and ensure that wildlife corridors between various forests are recreated so that tigers and other wild species can move between them and repopulate different forests and revitalise the genetic pool.

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 you user id and/or password you can mail administrator@indiawilds.com

Regards,
Sabyasachi Patra

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