India Wilds®

Newsletter

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Cauvery Water Dispute and Environment :

The Cauvery water dispute between the states of Karnataka, Tamil Nadu, Kerala and Pondicherry has been finally adjudicated upon by the Hon'ble Supreme Court of India. As expected the mainstream print and electronic media highlighted that Tamil Nadu's share of water has been reduced. And then the news quickly went on the backburner. Of course, when massive financial scams come to light, the attention gets diverted. Nevertheless, it is time for us to look into this incident, as this is Independent India's biggest river water sharing dispute and it has ecological connotations.

There was an agreement between the erstwhile Mysore ruler and the Madras presidency during the British era. The agreement was supposed to be only for a period for 50 years but has continued till date with modifications done by a tribunal order till the Supreme Court gave its order this month.

The primary bone of contention between the warring states is that enough water is not available for agriculture, drinking water requirements of people and livestock.

The arguments that were put forth by the lawyers representing the four states shows how little the various State Governments think about environment and ecology. The river is simply seen as a giant pipeline where water flows. It is not seen as a living entity.

The Tamilnadu Govt. while arguing before the Tribunal about the water requirement of Pondi-

Inside this issue:

Cover Page Photograph:

Leopard
by Sabyasachi Patra

chery had argued that the water needed for environmental and ecology needs for Pondicherry is 0.000 TMC (Thousand Million Cubic Feet water). The Zero TMC figure is not a typographical error. This clearly shows that the Government, at least a State Government, only cares for people, livestock and industries and is not concerned about the well being of the river in particular.

The following table was provided by Tamil Nadu Government regarding water requirement of Pondicherry:

Serial No.	Sector	Area in Lakh acres	Water required in TMC
1	2	3	4
A	Domestic and Livestock need		0.356
B	Environmental/Ecological Needs		0.000
C	Irrigation requirement for the area under Priority – I to IV	0.430	6.840
D	Industrial & Power		0.070
	Total	0.430	7.266

Though they didn't care for environment and ecological needs of Pondicherry, the Tamil Nadu counsel Mr. Shekhar Naphade had asked for water for maintaining the ecology and ecosystem in and around the river when his turn came for claiming more water from Karnataka.

He submitted that "*Karnataka could not ask for 5 TMC water out of the 10 TMC which had been allotted to Tamil Nadu towards environmental needs. He submitted that a certain minimum flow of the river had to be maintained to keep the river free flowing as set out in the National Water Policy, 2002. Such natural flow could not be considered as wastage as it was essential for maintaining the ecology and ecosystem in and around the river. He also submitted that as regards the allegation that 88 TMC of water was going into the sea and being wasted, there were several factors to consider in that regard and that Tamil Nadu was taking utmost care to ensure that no wastage occurred. A certain minimum standard of outflow had to be maintained to prevent erosion, reduce salt water intrusion and to maintain marine life and bio diversity. Further, the topography of the Delta region was such that no viable storage area could be built to conserve this water. He submitted that the North-East monsoons, being erratic, would result in heavy showers, not all of which could be conserved.*" (page 379-380, Supreme Court Verdict on Cauvery Water Dispute)

Despite all these dubious arguments, the tribunal in its order allocated 10 TMC water for environmental protection for Pondicherry. Interestingly the cauvery tribunal had also allocated 4

TMC to Pondicherry under a category called "Inevitable escapages to the Sea". Looks like if they would have had their way, they would have sucked out every drop of water from the river.

It is pertinent to mention that when the water level of the river flowing to the sea is less, there is more ingress of seawater and salinity increases. A lot of lands can become uncultivable. Even Pondicherry had mentioned in their submission that they need a certain amount of water to flush out the salinity.

The Hon'ble Supreme Court in its judgment retained the 10 TNC water for Pondicherry as decided earlier by the tribunal. The logic of the Supreme Court is interesting read:

"*On the aspect of allocation qua environmental protection, the Tribunal, in order to* ***secure the purity of environmental and ecological regime*** *in view of the* ***injudicious use of available resources by human beings*** *compounded by* ***population explosion*** *and* ***distorted lifestyles*** *and having regard to the spectre of* ***river water pollution*** *on account of* ***industrial development and deforestation*** *leading to* ***siltation of reservoirs****, etc., assigned 10 TMC to be reserved from the common pool to meet the environmental aspects.*

We appreciate the endeavour and the initiative of the Tribunal having regard to the ***sustenance of purity of environment to which every individual is entitled and also simultaneously obliged to contribute to cultivate the feeling of environmental morality****. That is the constant need of the present. In view of such an obtaining situation, we are not inclined to interfere in any manner in the allocation of the quantum of 10 TMC towards environmental protection. It stands affirmed.*" (Page 446-447)

The Hon'ble Supreme Court rightly mentions the key points in a very succinct manner. Much of India's problems have arisen out of the unrestrained population explosion. India's population in 1951 was only 36 crores but it skyrocketed to 121 crores by the 2011 census and is now more than 130 crores. The population density consequently has increased from 78 people per sq km in 1901 to 382 persons/sq.km in 2011. And in major cities and flood plains the population density is even more. Bangalore in Karnataka which is grappling with drinking water problem and wanted more water has a population density of 4381/sq. km.

When the Hon'ble Supreme Court talks about "*sustenance of purity of environment to which every individual is entitled and also simultaneously obliged to contribute to cultivate the feeling of environmental morality*" it immediately shows that finally the apex court is taking a strong stand. Soon we may get purity of environment as a fundamental right. In Delhi, the air is so polluted for the last few years that there have been several petitions in the Supreme Court. So the Supreme Court judges are aware of how bad the environmental situation is.

India's constitution has two articles that emphasises the responsibilities of the State as well as its people in protecting nature and all living beings in this country. Article 48A of our constitution under Directive Principles of State Policy states "*The State shall endeavour to protect and improve the environment and safeguard the forests and wildlife of the country*". The Article 48A hopefully with some nudge or direction from the Supreme Court will get upgraded to a Fundamental right inform of Purity of Environment.

Article 51A (g) of the Constitution under Fundamental Duties states "*Fundamental duty of every citizen to protect and improve the natural environment, including forests, lakes, rivers and wildlife and to have compassion for living creatures*". The Hon'ble Supreme Court appears to be referring to this as environmental morality of the citizens who are obliged to contribute to saving the environment.

Interestingly, the judgment of the Supreme Court also strikes down the tribunal order which had decided that only 1/3rd of Bangalore which is in the Cauvery basin will get water and not the other 2/3rd. "*The Tribunal had drastically reduced the share of Karnataka towards Domestic and Industrial purpose for the reason being that only 1/3rd of the city of Bengaluru falls within the river basin and also on the presumption that 50% of the drinking water requirement would be met from ground water supply. The said view taken by the Tribunal ignores the basic principle pertaining to drinking water and is, thus unsustainable. Keeping in mind the global status that the city has attained, an addition of 4.75 TMC is awarded to Karnataka.*"

Supreme Court had earlier rightly said that there is injudicious use of available resources by human beings compounded by population explosion and distorted lifestyles and having regard to the spectre of river water pollution on account of industrial development and deforestation leading to siltation of reservoirs.

Earlier Bangalore had many lakes. However, those lakes are now silted and full of affluents from nearby housing societies and industries making them unfit for any human use. The waters of some of the lakes have become extremely toxic and the froth at times overflows and endangers people staying close by. So obviously the city has to depend on the Cauvery water. Bangalore has become a global hub because of which the Supreme Court allocated more water. However, while allocating more water to tide over the current problem, the Hon'ble Supreme Court could have done well to point out that all the lakes

Froth in Bellandur Lake - Bengaluru

in Bangalore are dead due to siltation, dumping of wastes and debris, illegal construction, illegal untreated sewage from housing societies and industrial wastes pollution. There is no disincentive for the Karnataka Government to force them to rectify their problems and revitalize their reservoirs.

Our big cities are growing bigger and bigger. Whereas the Hon'ble Supreme Court mentions population explosion, it should have also asked the Governments for ensuring that every part of the State or Country has equitable development. When industries and job creation is concentrated around our big cities, they grow even bigger and there is lot of migration of people from villages and smaller towns. Today the Governments don't even think of spreading development across the country or State. When there is unrestrained growth of cities, it is natural that there has to be more water taken from rivers through canals after constructing dams. So water wars are going to be a permanent feature. Supreme Court should have insisted on rain water harvesting in full blown scale while giving water to Bangalore because at the moment the rain water harvesting norms are for buildings that are on 60x40 feet plots and cover some 55000 houses. New constructions measuring 30 feet by 40 feet will also adhere to the norm. However, this only covers a small portion of the population as the houses constructed before 2008 are exempted. The Government has to do more.

It is our belief that no water should be diverted from the rivers. If a city cannot be self-sustainable in terms of water then it has to be forced to stop growing. Even the existing amount of water given to Bangalore won't be sufficient given the pace at which it is growing. So water wars are going to be a permanent feature in the future.

On Ground water extraction the Supreme Court has said:

"*While exploring the possibility of ground water as an additional source to be conjunctively used along with the surface flow of river Cauvery, the factual matrix reveals, based on empirical data, that the contributions thereto are from surface water through infiltration into the ground by way of natural recharge, stream flow, lakes and reservoirs. The recharge of ground water is principally from rainfall as well as artificial modes, namely, application of water to irrigate crops, flooding of areas caused by overflowing of streams to their sites and seepage from unlined canals, tanks and other sources.. ……..It is in this context that the assertion made on behalf of Karnataka that ground water being a renewable resource, if not extracted regularly, would reduce the absorption capacity of the underlying aquifer resulting in rain water/surface water turning into wastage as run-off and that the admission of Tamil Nadu in its pleadings of availability of 30/47 TMC as ground water warranted reduction of at least 20 TMC, as estimated by the Tribunal, from the final allocated share of Tamil Nadu with proportionate reduction in the quantum of water to be provided by Karnataka at the inter-state border, assumes significance. In our view, having regard to the overwhelming empirical data following multiple research studies by different authorities authenticating beyond doubt availability of replenishable ground water in the Delta areas of Tamil Nadu, 20 TMC of ground water quantified by the Tribunal is an eminently safe quantity to be accounted for in finally allocating/apportioning the share of Cauvery water. While expressing this view, we are not unmindful of the stand of Tamil Nadu and the aspect that over-extraction of ground water in the absence of adequate replenishment and further in the areas proximate to the coastal zone is generally avoidable*". (page 436-437)

The problem with this is that the various State Governments have used the ground water as an alibi to demand higher allocation of Cauvery water for themselves or ask for reduction in water quota of another state. Ground water is just a tool and

nothing else. So they only claim that the ground water is being replenished by the cauvery water seeping in or flooding on the plains etc. The State Governments are never known to be serious about groundwater level. No one ever has heard of ground water level measurements in important places every year and tracking the replenishment levels. Rain water harvesting is virtually non-existent in most of our cities and towns. In some places new rainwater harvesting norms have come in but those are two little and too late. In view of the rampant concretization the ability of the rainwater to percolate has tremendously reduced. Else, we would not have seen the massive flooding in Chennai in 2017. The Hon'ble Supreme Court have not passed on any instructions on how the groundwater is going to be replenished. Wish it had done so.

So what will Tamil Nadu do now?

As such the the Cauvery Fact Finding Committee required restriction on double crop paddy area; introduction of short duration variety in place of —Samba‖ crop and preference to crops needing less water. Karnataka Government will bow to popular pressures and will not release water every month as per the Supreme Court. In the past it had happened and Supreme Court had chosen not to haul up the State Government. So this scenario is likely to happen in future. So the Tamil Nadu Government has to first undertake massive rainwater harvesting exercise. It has to make the farmers aware about the need to grow traditional crops which require less water instead of water guzzling cash crops. The Government has to also be serious in implementing the drip irrigation technologies which are more water efficient.

Tamil Nadu's former Chief Minister Jayalalithaa used to promote tree plantations. The various State Governments have to promote massive native tree plantation programmes in the various Government and other lands. This is more likely to help in rainfall, albeit in different areas. The tree plantation will also help in percolation of rainwater and any surface water flow which will recharge the water table.

The various State Governments have to focus on revitalising the lakes. In the earlier era Kings used to construct lakes based on the topography of the areas to capture and store water. With Climate Change induced droughts becoming a norm in many parts of the world, it is imperative that the various Governments look for simple yet sustainable solutions.

Obituary: Professor Ratan Lal Brahmachary (1932-2018) :

By Shubhobroto Ghosh

Professor Ratan Lal Brahmachary, distinguished biochemist and a pioneer of tiger pheromone studies in India, died in the early hours of the morning of 13 February 2018 in a nursing home in Kolkata, India. He was 86 years old.

Born in Dhaka in Bangladesh in 1932, Ratan Lal Brahmachary was enamoured with wild life and adventure in African jungle since his childhood. He was an astrophysicist by training and a student of eminent Indian theoretical physicist, Satyendra Nath Bose. His studies were undertaken at Calcutta, Dhaka and Hamburg. Brahmachary shifted streams from astrophysics to study pheromones at the Indian Statistical Institute under its founder Prasanta Chandra Mahalanobish when fields of studies were being broadened at Indian Statistical Institute. He studied many species of wildlife, notably big cats, and undertook research trips to his favourite continent Africa fourteen times. He joined Indian Statistical Institute in 1957 and conducted extensive research in Marine Biological Laboratories in Italy, France and other institutes in Europe. He retired as professor and head of the department of embryology at Indian Statistical Institute in Kolkata in 1992.

Ratan Lal Brahmachary

An ardent admirer of entomologist Gopal Chandra Bhattacharya, Brahmachary studied ethology in the Amazon basin in South America and Borneo, Indonesia. He was among the first scientists to observe the scent-marking behaviour of tigers, where the animals spray urine on tree branches to mark their territories and communicate via biochemical messengers. Synthesising the chemical nature of tiger urine (marking fluid), Brahmachary, alongwith Jyotirmoy Dutta of Bose Institute, Kolkata and Moushumi Poddar Sarkar of the Botany Department of Calcutta University made the first comprehensive approach towards understanding the nature of big cat pheromones.

Brahmachary's research found out that the molecule 2 acetyl-1-pyrroline (2AP) was present in tiger urine (marking fluid) and was the very same molecule that imparts the beautiful aroma to fragrant varieties of rice like basmati.

The biochemist was assisted in his studies on tiger pheromones by former Prime Minister of India, Indira Gandhi, who supported his scientific investigations. When Brahmachary was looking for a tiger cub to study pheromonal communication in 1981, Gandhi famously responded, "So you want a tiger cub?", and later facilitated his research on tigers, both in captivity and in the wild. An inveterate traveler, Brahmachary forged celebrated friendships with conservationists and ani-

Obituary: Professor Ratan Lal Brahmachary -

mal welfare professionals from across the world.

He wrote several books in Bangla to promote the cause of wildlife protection and scientific observation of animal behaviour, including '*Africar Jongoley Barobar*'('Twelve Visits to the African Jungle') and '*Bagh, Shingha, Haathi* ('Tiger, Lion and Elephant'), receiving the coveted state prize of Bengal, the Rabindra Puraskar, for his contributions to science popularisation. His academic book 'Animal Behaviour' is among the few books on the subject written by an Indian scholar. His other books include, 'Abar Africar Jongoley', 'Shingher Deshey' and 'Bagh O Tar Gyati Goshthi'. His life's work with big cats was summarized for a popular audience in the book, 'My Tryst With Big Cats.'

A founder patron of Zoo Check, now the Born Free Foundation, Professor Brahmachary always emphasised that wildlife belongs in the wild and strongly stood for compassionate treatment of animals in research. "Biology is as fascinating as probing the mysteries of the physical universe. The inner universe of an organism or of an ecosystem is as challenging as the outer Universe of the expanding cosmos," he once said in an interview.

A life-long bachelor, Brahmachary had pledged his body to medical research. After his students and colleagues paid their last respects to him at the Indian Statistical Institute in Kolkata, his body was handed over to the Radha Govinda Kar Hospital authorities.

Professor Ratan Lal Brahmachary was mourned by wildlife lovers across the world who paid fulsome tributes to his life and legacy.

Dr K R Parthasarathy, professor emeritus at Indian Statistical Institute and a former colleague of Professor Brahmachary reminisced : "*During the period when we were research scholars in the Research and Training School of Indian Statistical Institute, Ratan Lal Brahmachary was our most sparkling companion who shared many a scientific thought in physics, biology and linguistics with statistics as a unifying thread passing through them all. With just one big boiled potato with salt on his table for lunch, drinking gallons of water he could lecture to us for hours every week. We could give him in return only the abstract beauty hidden in the symbols of mathematics. Starting with physics in the beginning of his career he turned into an experimental biologist interested deeply in animal behaviour. At ISI he was a unique star symbolizing Professor Mahalanobis' dream, "Bhinneshu eikyasya darshanam"(vision of unity in diversity). I offer my heartfelt prayers to God with deep respects to the great departed soul*."

In April, 2017, Professor Ratan Lal Brahmachary was part of a delegation at the Indian Statistical Institute in Kolkata that hosted Mrs Lee Durrell, Honorary Director of the Durrell Wildlife Conservation Trust. Recalled Mrs Durrell : "I do recall meeting him at the ISI – a splendid fellow. I offer my condolences to his family."

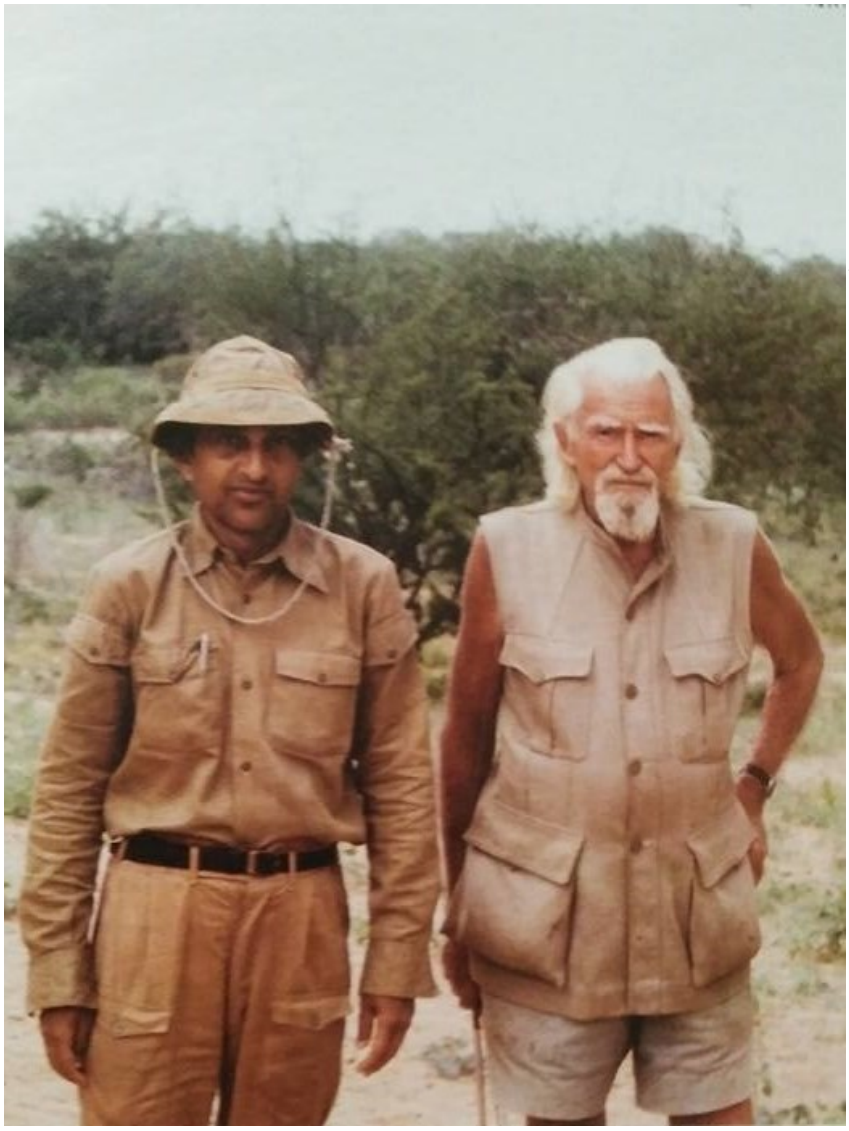
Lion researcher Gareth Patterson, who is considered to be George Adamson's protégé, an author and maker of films had spent time with Ratan Lal Brahmachary at Kampi Ya Simba at Kora National Park in Kenya. Learning of his death, Gareth wrote : "He was a really great man. I was very privileged to have spent time with him, and learnt much from him, at

Obituary: Professor Ratan Lal Brahmachary -

George Adamson's camp in the Kora National Park, Kenya. "

Professor Brahmachary was a founder patron of Zoo Check(now the Born Free Foundation) since 1984, an organization that questions the traditional zoo concept and campaigns to keep wildlife in the wild. The founders of Born Free Foundation, Will Travers and Virginia McKenna sent out a message of condolence that reads as follows : "*Professor Brahmachary corresponded with Bill Travers and Virginia McKenna, our founders, for over 30 years and met with them on several occasions.*

Virginia McKenna recalls: *"It was a very sad moment when I learned of Professor Brahmachary's death. His life was linked to ours in several unusual ways – as one of Zoo Check's first Patrons in the 1980s, and also because of his work with our close friend, George Adamson, in Kenya's Kora Game Reserve (now Kora National Park). Two very different, extraordinary men bound by their compassion and concern for wild creatures and their belief that they should never be in captivity."*



Ratan Lal Brahmachary with George Adamson

Professor Brahmachary was widely-regarded as a man of wisdom and understanding. He was deeply concerned about the suffering of wild animals in captivity and was always keen to promote a compassionate conservation agenda which aimed to reconcile the needs of free-living wild tigers and the human communities that lived nearby.

Virginia concluded: *"One thing I recall, as if it was yesterday. The Professor and I had lunch together at the Chelsea Arts Club, in the heart of London, but our souls were in Africa – sharing our thoughts, feelings and memories. We, and the animals, have lost a loyal and true friend."*

Will Travers (President, Born Free Foundation)"

I personally feel a deep sense of loss at Professor Ratan Lal Brahmachary no longer being around. Professor Ratan Lal

Obituary: Professor Ratan Lal Brahmachary -

Brahmachary introduced my work to the Indian Statistical Institute where I could show the film, 'Zoochosis' on zoo animal behaviour in 2015. I read all his books and had immense respect for his intellect and his compassion for captive zoo animals as the founder patron of Zoo Check. His exactitude is measured by the fact that he would tell me, "Tumi koyek seconder jonyo opekkha koro"(Please wait for a few seconds) during an interruption whilst speaking on the phone. An ethologist par excellence, in the tradition of Gopal Chandra Bhattacharya and Jagadish Chandra Bose, Professor Brahmachary was a towering figure in the field of science, conservation and animal welfare. The summary of his life's work on tiger pheromones was published in a book named 'The Neurobiology of Chemical Communication' edited by Carl Mucignat Caretta in 2014. His work has also been covered by Adrian House in his dual biography of Joy and George Adamson, named 'The Last Safari' and former Indian environment minister, Jairam Ramesh's biography of Indira Gandhi, 'Indira Gandhi : A Life In Nature' published in 2017. I personally got to know him only during the last years of his life but I will miss him forever. Go well, Sir, With love.

An interview with Professor Ratan Lal Brahmachary was published earlier in an issue of IndiaWilds newsletter, Volume VII, Issue I, 27 January, 2015.

- Shubhobroto Ghosh, author of Indian Zoo Inquiry and Project Manager of Wildlife, World Animal Protection, India.

Conservation News -

All-India Tiger Estimation 2018 to be Hi-Tech, More Accurate and Precise

06 FEB 2018

The All-India Tiger Estimation, 2018 exercise promises not just to be hi-tech, but will also be far more accurate and precise than ever before. In an interactive session with media persons here today, officers from National Tiger Conservation Authority (NTCA) and scientists from Wildlife Institute of India explained how the current assessment uses Android phone-based application and desktop version of M-STRIPES (Monitoring System for Tigers-Intensive Protection and Ecological Status) for collecting, archiving and analyzing data. The phone application automatically records the track log of surveys and line transects, as well as authenticates the recorded data on signs and animal sightings with geo-tagged photographs. With increased camera trap density and the use of android technology, estimates arrived at are likely to be more

robust – both in terms of accuracy and precision. This becomes evident from the fact that compared to the exercise conducted in the year 2006, when 9, 700 cameras were put up, the 2018 Estimation will use nearly 15, 000 cameras. It was

Conservation News -

also pointed out that it is not possible to count the photograph of every tiger in the camera trap.

The Tiger Estimation exercise is the world's largest wildlife survey effort in terms of coverage, intensity of sampling and quantum of camera trapping. An amount of Rs. 10.22 crore will be invested by the Government in the fourth cycle of All India Tiger Estimation. Financial assistance to the tune of Rs. 7 crore will be provided to the States through the ongoing Centrally Sponsored Scheme of Project Tiger.

A robust Phase IV monitoring protocol is in place to assess tigers annually, which has been archived in a National Repository of Camera Trap photographs of tigers. It helps Field Directors to have prior knowledge about resident tigers. This process is complemented by the quadrennial All India Tiger Estimation. The Government and NTCA have also carried out an economic valuation of tigers in mitigating the adverse impact of climate change. Such interventions and processes have been operationalised through a legally mandated Tiger Conservation Plan to ensure that it is institutionalized.

India conducts the All India Tiger Estimation every four years. Three cycles of the estimation have already been completed in 2006, 2010 and 2014. These estimates showed estimates of 1, 411, 1, 706 and 2, 226 tigers respectively. The methodology has remained the same in the three cycles in terms of concept, but latest scientific developments in the field of animal abundance estimation have been incorporated and the best available science to evaluate tiger status has been used.

For the national status assessment 2014, Spatially Explicit Capture Recapture (SECR) in a joint distribution approach, with ecologically relevant covariates was used. This approach makes use of two samples – the first sample is collected by the forest staff of 18 tiger states and is constituted by structured protocols that are easy and economical to generate information on the presence of tigers and relative abundance, along with information on prey, co-predators, habitat and human impact. The second sample is carried out by trained wildlife biologists who collect information using camera traps on tiger, leopard and prey abundance. Individual tigers and leopards are identified using a customized software that uses the stripe and spot patterns (similar to human fingerprints) to identify individuals.

In 2014, over 70% of the estimated tiger population was through camera trapping, where 1686 photographs of individual tigers had been obtained. The remaining 30% of tigers were from areas that had tigers, but had not been camera trapped and were estimated by using robust statistical models, where ecological covariates of prey, habitat and human impact were used.

The Wildlife (Protection) Act, 1972 was amended in the year 2006. Since then, the Government has taken several initiatives in the field of tiger conservation. Tiger conservation was given statutory backing. The newly-created NTCA was mandated to carry out estimation of population of tiger and its natural prey species and assess status of their habitat.

The Tiger Task Force realized that a major lacuna in tiger conservation was the absence of a credible, scientific national monitoring protocol that will inform policy-makers and wildlife managers on –

- Spatial extent and the size of tiger population in India;

Conservation News -

- Welfare factors in these and neighbouring habitat (prey status, human pressure, other wildlife species, status and habitat conditions);

- Trends in the population and area occupied over time.

Following discussions and consultations with international experts, it was decided that the Wildlife Institute of India will be mandated with the task of developing and implementing the status assessment every four years under the direction of NTCA and in collaboration with State Forest Departments, civil society and NGOs. The decision was based on a pilot study conducted by WII on a large landscape (Satpura-Maikal > 20, 000 sq km in Madhya Pradesh) wherein, the Project Tiger and WII had developed protocols that combine simple, yet scientifically robust protocols for data collection by field forest staff, in combination with rigorous statistically sound methods like camera trap based capture-mark-recapture models, implemented simultaneously by trained wildlife biologists. This approach was found to be best-suited for field conditions in India, where the field staff provides large manpower for survey across the 400, 000 sq km of tiger-bearing forests across 18 Indian states.

The national status assessment exercise provides details such as the size of tiger population, extent, covariates of prey, co-predators, habitat and human impact. It has been observed that tiger population in India has increased at an average rate of about 5.8 per cent since the year 2006.

Environment Ministry launches Green Good Deeds Movement

The Ministry of Environment, Forest & Climate Change has launched a people-oriented campaign named “Green Good Deeds” to help restore and return the environment to a clean and green state for the next generation. The Union Minister for Environment, Forests and Climeate Change (MoEF&CC) Dr. Harsh Vardhan said that it is not impossible to restore our environment and make it clean and green again and also “it is not merely a technical issue, but a moral responsibility to restore the environment to its former state.

The Government plans to broad-base this Green Good Deeds into a movement with the involvement of teachers, students and other voluntary organisations. So the Union Minister for MoeF&CC, Dr Harsh Vardhan has appealed to the teaching community to join the “Green Good Deeds” campaign, launched by the Ministry to sensitise the people and students, in particular, about climate change and global warming.

“The whole world is concerned about the dangers of global warming and climate change. People in Delhi are already facing air pollution. Environment and its effects on the life of human beings are now on the agenda at every global forum. Everyone is looking up to India with expectation because they think that Indians have the DNA to protect the environment. Our ancestors had made protection of environment an integral part of their lifestyle. It was a ‘part-n-parcel’ of our culture – our ancestors worshipped the rivers, air, trees or forests and earth and existed in harmony with the land,” Dr Harsh Vardhan said.

Conservation News -

The Minister reminded the teachers of their "Green Social Responsibility" (GSR), similar to Corporate Social Responsibility (CSR). Referring to the crucial role played by "Polio Sainiks" from municipal corporation schools in the Pulse Polio campaign, he underlined the need for "Green Sainiks" to broad-base the Green Good Deeds movement and to take it down to the grassroots level successfully.

Celebration of World Wetlands Day at Deepor Beel in Assam

The World Wetlands day was officially celebrated at Deepor Beel, a Ramsar Site in Guwahati in Assam. The 2018 theme 'Wetlands for a sustainable urban future' marks the role of healthy wetlands play in making cities and towns liveable, through their role in groundwater recharge, buffering floods, filtering wastewater, enhancing landscape aesthetics, providing income generation opportunities and ultimately supporting well-being.

Speaking on the occassion Dr. Harsh Vardha, the Union Minister for MoeF&CC reminded people that Wetlands play a vital role for the cities and for the humanity. "They serve as a source of drinking water; reduce flooding and the vegetation of wetlands filters domestic and industrial waste and improves water quality. Save them, save humanity", the Minister said on the occasion of World Wetlands Day.

Every year, February 2 is celebrated as World Wetlands Day, to mark the date of adoption of Ramsar Convention on Wetlands. The Convention on Wetlands, called the Ramsar Convention, is an intergovernmental treaty that provides the framework for national action and international cooperation for the conservation and wise use of wetlands and their resources. The Convention was adopted in 1971 at the Iranian City of Ramsar. India is a party to the Convention since 1982, and committed to the Ramsar approach of wise use of wetlands.

In a message on the World Wetlands Day 2018, Dr. Harsh Vardhan said, "*On this World Wetlands Day, I appeal to all of you to put your heart and soul into developing a strong movement for "Green Good Deeds" in this country. I think this is our Green Social Responsibility towards the society and the nation and of course for this whole planet. It is our solemn duty to protect the rights of the children, who are yet to take birth. It is our duty also to ensure that we give back to our children an environment which is clean and green*."

According to National Disaster Management Authority, 12% of land in India is prone to floods and river erosion. Wetlands in India account for 4.7% of the total geographical area.

Equipment Discussions -

Fujifilm launches X-H1 Mirrorless camera:

Fujifilm today unveiled its latest professional mirrorless camera X-H1 in India in a glittering ceremony ceremony. Following is a brief firstlook impressions. Hopefully we can do a full review of the camera as it shows a lot of promise.

The Fujifilm X-H1 camera has got a 24.3 MP APS-C sized sensor (23.6mm×15.6mm). Fujifilm calls it "X-Trans CMOS III with primary color filter". This camera comes in the Fujifilm X mount. Being mirrorless, it is quite small as well as compared to DSLR cameras. The sensor doesn't have an OLPF (Optical Low Pass Filter). So Fujifilm is confident about handling moire.

The body appears to have a nice rugged built using magnesium alloy. Fujifilm claims this is 25% more stronger and is weather sealed with 94 points in body and in grip. Without the grip it appears like a small rangefinder which can easily pass off as a non-serious tourist type camera and would be helpful in situations where you want to be discrete or even in some documentary situations where the respondents may get conscious or nervous at the sight of large cinema cameras.

It can shoot still images at 14 fps using electronic shutter and 8 fps while using mechnical shutter. If you use the optional grip VPB-XH1, the burst shooting rate increases to 11 fps in mechanical shutter mode. With such fast shutter speeds, photographers won't ever feel limited while facing fast moving subjects.

Equipment Discussions -

Movie Shooting:

I was primarily interested in checking the Fujifilm X-H1 camera for movie shooting. It can shoot DCI 4K (4096x2160) at 24p/23.98 p at 24fps at 200Mbps. I am not sure why 25p mode is not there, as India is a PAL country and we shoot at 25p. I hope this omission of 25p in DCI 4K mode is not intentional and can be included in a future firmware update.

The X-H1 also shoots in UHD 4K (3840x2160) upto 30p and Full HD at upto 120p.

Incidentally the movie recording time in 4K and UHD 4K is only 15mins and it can go up to 30 mins if the additional vertical power booster grip is used. Unfortunately, in certain situations where we want to shoot in a discrete manner, using the vertical grip is a strict no as that would make the camera look professional. So users need to keep that in mind.

However one should also note that while shooting video if you need to monitor the sound, then you have to get the VPB-XH1 grip and it is equipped with a headphone socket.

The microphone records sound at 24bits at 48kHz. I am happy because of the 24bits sound. We nevertheless need to see how good the preamps are.

For recording movies UHD Speed Class 3 card or higher needs to be inserted in one of the two media slots.

5 Axis in body Image Stabilisation:

The good thing about this camera is the 5 axis image stabilisation in the body. It promises to be of great help during lowlight stills shooting as well as any handheld video shooting. According to Fujifilm the image stabilisation gives 5.5 stops benefit based on CIPA standard in pitch and yaw when attached with a 35mm F1.4 R lens.Up to a maximum of 5.5 stops image sta

Equipment Discussions -

bilization, is possible when the camera is used with all XF lenses that do not include optical image stabilization technology.We would have to shoot with video to understand real world impact.

The X-H1 uses three axial accelerometers, three axial Gyro sensors, and a specially developed dual-processor and is supposed to perform approximately **10,000 calculations per second**. The 5-axis image stabilization is possible with all XF and XC lenses.

According to Fujifilm the following technical breakthroughs have been developed to support this high precision performance:

- A laser measurement device is used during the process of manufacturing the image stabilization unit, controlling component flatness and position with twice the precision of standard components.
- The assembly process also includes inspection and adjustment of each individual camera to ensure that even when image stabilization is used, the parallel position of the sensor is achieved with micro-order accuracy equivalent to previous models.
- In addition, a new spring mechanism has been included to reduce micro-vibrations caused by operation of the mechanical shutter.

The X-H1 has three auto ISO modes and has standard range of ISO 200 to ISO 12800. The extended ISO range is from ISO 100 to ISO 51200. It has to be seen as to how high we can push the ISO without noise. It was difficult to ascertain it during the launch. However experts of Fujifilm emphatically stated the lowlight ISO to be very good.

The X-H1 has a 0.5 inch approx. 3.69 millions dots OLED Color Viewfinder and it covers approximately 100% of the capture area.

Equipment Discussions -

Eyepoint: approx. 23mm (from the rear end of the camera's eyepiece) Diopter adjustment: -4~+2m-1

Magnification: 0.75× with 50mm lens (35mm equivalent) at infinity and diopter set to -1.0m-1

Diagonal angle of view: approx. 38° (Horizontal angle of view: approx. 30°)

The LCD monitor is 3.0 inch, with an aspect ratio of 3:2. It has approx. 1.04 millions dots and is touch screen enabled color LCD monitor. The coverage here is also approx. 100%.

ETERNA film simulation for movie shooting:

The X-H1 is the first camera in the X Series to include ETERNA, a new film simulation ideal for shooting movies. This mode simulates cinematic film, creating understated colors and rich shadow tones, greatly enhancing creative freedom during post-processing. The camera's video image quality has been improved through the new ability to record a high bit rate of 200 Mbps. Having grown up with Fuji Velvia and Provia slide films, I always appreciate the Fuji colours. Many users are going to find very less colour correction due to this. Fujifilm has included recording in log mode termed as "F-log" when you need more push and pull in post-processing or when you are trying to match with other cameras.

Future Lens releases:

The Fujifilm X-H1 camera is also compatible with a range of other interchangeable lenses which are scheduled for release later this year. These include the **MKX18-55mmT2.9** and **MKX50-135mmT2.9** professional cinema lenses incorporating the X mount which are scheduled for release in May 2018. The new camera and lens combinations will provide outstanding image production and will be ideal for shooting a moving subject.

The X-H1 body weighs 673 gms with battery and card.

Equipment Discussions -

Price: The Fujifilm: X-H1 is priced at **Rs.149,999/- (Body Only) and Rs.172,999/- (Body and Battery Grip).**

Fujifilm has got extensive highend cinema lenses. So it was interesting to see Fujinon lens mated to a X-H1 showing the potential to serve as additional camera in bigger productions. Since this camera launch was done within a week of its global launch, it indicates seriousness of the Fujifilms management. And that is what is expected by customers.

PRESS RELEASE:

Fujifilm India Raises the Curtain on the elite X-H1, the most awaited high performance camera in the X Series Range

New Delhi, 22 February 2018: Fujifilm India Private Limited, a pioneer in imaging technologies, is delighted to announce the launch of the opulent **FUJIFILM X-H1,** the highest performance mirrorless digital camera in the X Series known for its superior image quality created by Fujifilm's proprietary color reproduction technology.

The **X-H1**, with a newly-designed robust and durable body, incorporates a range of extremely useful features that support shooting in various scenarios demanded by professional photographers and videographers. The **X-H1** is the first X Series model to include the latest **5-axis in-body image stabilization (IBIS)**, which has a maximum of 5.5 stops*. The superior image quality with the memory color will be achieved in the various scenes in addition to easy operation. It is also mounted with the flicker reduction mode which enhances the quality of indoor sports photography. In addition, The **X-H1** is the first camera in the X Series to include **ETERNA mode**, a new film simulation mode ideal for shooting movies. The X-H1 is priced at Rs.149,999/- (Body Only) and Rs.172,999/- (Body and Battery Grip).

*1 With XF 35mmF1.4 lens attached

The camera is also compatible with a range of other interchangeable lenses which are scheduled for release later this year. These include the **MKX18-55mmT2.9** and **MKX50-135mmT2.9** professional cinema lenses incorporating the X mount which are scheduled for release in May 2018. The new camera and lens combinations will provide outstanding image production and will be ideal for shooting a moving subject in sports photography.

Commenting on the occasion, **Mr. Haruto Iwata, Managing Director, Fujifilm India Pvt**. Ltd. said, "Professional photography in India is gaining momentum and we see immense potential in this market. The Wedding, Advertising, Broadcast and Digital mediums are evolving at a fast pace in India due to which there is a huge demand for superior image quality. With **X-H1** we are offering a level of imaging performance that is simply unmatched by any camera ever created. The **X-H1** will certainly mark a milestone for us in India, as we believe this is a camera that certainly exceeds professional expectations."

Adding further "Fujifilm means value for innovation; our aim is to offer a perfect package of efficient workflow and professional reliability. With the vision to capture No. 1 market share in the premium mirrorless camera market by 2019 we will continue to evolve by offering outstanding image quality and advance features that will always exceed expectations."

Equipment Discussions -

Standout features

5.5 stops (*1) in-body image stabilization (IBIS), a new feature expanding the high-quality photographic range of the X Series.

The first internal in-body image stabilization (IBIS) system to feature in an X Series camera, harnesses three axial accelerometers, three axial Gyro sensors, and a specially developed dual-processor. Combined, this achieves the high speed of approximately 10,000 calculations per second. When unified with compensating mechanisms, results in uncompromising image quality and precision with performance as described below.

(1) 5-axis image stabilization is possible with all XF and XC lenses.

(2) Up to a maximum of 5.5 stops image stabilization, is possible when the camera is used with all XF lenses that do not include optical image stabilization technology.

The following technical breakthroughs have been developed to support this high precision performance:

- A laser measurement device is used during the process of manufacturing the image stabilization unit, controlling component flatness and position with twice the precision of standard components.
- The assembly process also includes inspection and adjustment of each individual camera to ensure that even when image stabilization is used, the parallel position of the sensor is achieved with micro-order accuracy equivalent to previous models.
- In addition, a new spring mechanism has been included to reduce micro-vibrations caused by operation of the mechanical shutter.
- The photographer may also choose to use the electronic front curtain shutter or the electronic shutter, virtually eliminating the effect of vibrations to maximize the benefits of image stabilization.

The X-H1 uses the APS-C size X-Trans™ CMOS III (*3) sensor (24.30 million pixels, without low-pass filter) and the high-speed image processing engine X-Processor Pro. This proprietary FUJIFILM technology was first seen in the X-Pro2 and then X-T2 cameras, receiving many awards globally. When used in combination with the extremely high-quality FUJINON lens, as well as the unique color reproduction technology developed by FUJIFILM more than 8 decades ago, the X-H1 produces outstanding, unrivaled quality images recording the finest details of the subject including its texture, three-dimensional structure and even the atmosphere and vibe of a particular scene.

*3 X-Trans is a trademark or registered trademark of FUJIFILM. The X-Trans CMOS III sensor uses a unique non-periodic filter array to reduce the appearance of moire patterns and false colors even without an optical low-pass filter.

2. **Highly robust, durable body and easy operability results in comfortable shooting across a wide range of environments**

(1) In addition to the camera's dust-resistant, water-resistant properties, and the ability to operate in temperatures down to -10°C, the camera also uses a 25% thicker magnesium alloy compared to the X-T2. FUJIFILM has also modified the structure for attaching the mount, resulting in a more compact size and lighter weight body that maintains high preci-

sion and

(2) strong resistance to impact shock torsion and other sources of deformation.

Increased particle size on the camera's external surface provides a high-quality scratch-resistant coating with a surface hardness equivalent to 8H.

(2) The viewfinder is a high-magnification, high-precision electronic viewfinder. The magnification ratio of 0.75 times and the 3.69 million resolution leads the class for mirrorless cameras. The viewfinder display is extraordinarily smooth, with a display time lag of just 0.005 seconds and a frame rate of 100 frames per second, allowing the photographer to instantly confirm the movement of the subject and position of the focus with great precision.

The rear LCD monitor is a 3-direction tilt, 3-inch, 1.04 million dot electrostatic touch-panel LCD which can be intuitively set to the desired angle. In addition, the 1.28 inch sub-LCD on the top of the camera, a current feature of the medium format

FUJIFILM GFX 50S, allows for instant confirmation of shooting information.

(3) Improved operability with a total of 19 modifications based on feedback from professional photographers

- The camera uses a large-grip design with the new shape and a leaf-spring switch for the shutter-release button to achieve a stable feel when holding the camera and easy operation of the shutter-release button to ensure no opportunities are missed.
- The camera has the quietest shutter sound of all cameras in the X Series, making it an ideal tool for environments where quietness is required such as when shooting animals in the wild, quiet performances or at weddings.
- A new AF-ON button has been added to the back of the camera. This makes it easier to operate the autofocus with the thumb, allowing the photographer to focus on using their index finger to operate the shutter-release button. In addition, other modifications have been made to improve operability, including the enlargement of the buttons on the rear of the camera and improvements to the grip of the front and rear command dials.
- The X-H1 also features focus lever that facilitates rapid, accurate movement to the desired focus point.

3. The first flicker reduction mode on an X Series camera and improved AF algorithms enhance shooting toughness

Flicker reduction modes are essential for indoor sport photography, and the X-H1 achieves this using a mirrorless camera, allowing for stable exposure during burst shots even under fluorescent and mercury lighting.

In addition, improvements to the AF algorithm have achieved the following performance enhancements:

- The low-light limit for phase detection autofocus has been improved by approximately 1.5 stops from 0.5EV to -1.0EV, raising the precision and speed of autofocus in low-light environments.
- The range at minimum aperture has been expanded from F8 to F11.

For example, even when using the XF100-400mmF4.5-5.6 R LM OIS WR with the teleconverter XF2X TC WR, phase detection autofocus can now be used.

Equipment Discussions -

- Major improvements have been made to the AF-C performance while operating the zoom, which provides major benefits when shooting sports and other scenarios in which the subjects moves unpredictably.

- Subjects where results with phase detection autofocus were previously poor, such as finely-detailed surface textures; wild birds and wild animals, can now be captured at high speed and with high precision.

4. Comprehensive range of video features to support movie production requirements

The X-H1 is the first camera in the X Series to include ETERNA, a new film simulation ideal for shooting movies. This mode simulates cinematic film, creating understated colors and rich shadow tones, greatly enhancing creative freedom during post-processing. The camera's video image quality has been improved through the new ability to record a high bit rate of 200 Mbps. The camera includes a total of 20 functional and performance improvements including the 1080/120P high-speed video mode (1/2, 1/4 and 1/5 speed slow motion) for recording spectacular slow-motion footage, F-log*4 SD card recording which aids smooth workflow, a DCI 4K shooting mode (4096×2160), a 400% dynamic range setting (approximately 12 stops), 200 Mbps high bit rate recording, a high-sound quality internal microphone (24 bit/48 kHz) and verbal time codes.

*4 The color space is defined according to ITU-R BT.2020.

5. Separate accessories

(1)Vertical power boost grip VPB-XH1 *Exclusive for the X-H1

1. Dust-resistant and water-resistant operates at temperatures of down to -10°C. Two batteries may be attached, with a third battery in the body of the camera increasing the maximum number of available shots in normal mode to approximately 900. In boost mode, multiple batteries can be used simultaneously, improving performance for burst shots and reducing the interval between shots, shutter time lag, and the blackout period.

In addition, the accessory also increases the maximum period for shooting movies in 4K to about 30 minutes, making the VPB-XH1 an essential accessory for maximizing the performance of the X-H1.

2. Controls include the shutter-release button, focus lever, AE-L button, AF-ON button, command dial, Q button, and Fn button, providing the same easy operation when using the camera in both the vertical and horizontal positions.
3. The VPB-XH1 is equipped with a headphone socket, allowing the operator to monitor sound while recording video.
4. The grip also includes recharging capability. The included AC adapter (AC-9VS) can be used to recharge two batteries simultaneously over approximately 2 hours.

(2) Wide-eye cup EC-XH-W *Common for X Series and GFX cameras

The wide cup covers a broad area around the eye, greatly reducing light interference and enhancing concentration during long shoots.

The eye cup can also be rotated in 90° increments, making it adaptable for either the left eye or the right eye and for shooting in either vertical or horizontal position. The cup also includes antistatic coating, reducing the adherence of dust.

Equipment Discussions -

6) FUJIFILM X-H1 specification -

Model name		FUJIFILM X-H1
Number of effective pixels		24.3 millions pixels
Image sensor		23.6mm×15.6mm (APS-C) X-Trans CMOS III with primary color filter.
Sensor cleaning system		Ultra Sonic Vibration
Storage media		SD Card (~2GB) / SDHC Card (~32GB) / SDXC Card (~256GB) UHS-
Lens mount		FUJIFILM X mount
Image Stabilizer	Mechanism	Image sensor shift mechanism with 5-axis compensation
	Compensation Effect	5.5 stops (based on CIPA standard. Pitch/yaw shake only. With
Sensitivity	Standard output	AUTO1 / AUTO2 / AUTO3 (up to ISO12800) / ISO200~12800 (1/3
	Extended output	ISO100/125/160/25600/51200
Viewfinder		0.5 inch approx. 3.69 millions dots OLED Color Viewfinder Coverage of viewing area vs. capturing area: approx. 100% Eyepoint: approx. 23mm (from the rear end of the camera's eyepiece) Diopter adjustment: -4~+2m-1 Magnification: 0.75× with 50mm lens (35mm equivalent) at infinity and diopter set to -1.0m-1 Diagonal angle of view: approx. 38° (Horizontal angle of view: approx. 30°) Built-in eye sensor
LCD monitor		3.0 inch, aspect ratio 3:2, approx. 1.04 millions dots touch screen color LCD monitor(approx. 100% coverage)
Continuous shooting		14.0 fps (with the Electronic Shutter), 8.0 fps (with the Mechanical Shutter) 11.0 fps (with the Mechanical Shutter and when fitted with VPB-XH1)
Movie recording		[4K (4096×2160)] 24P / 23.98P up to approx. 15min. [4K (3840×2160)] 29.97P / 25P / 24P / 23.98P up to approx. 15min. [Full HD (1920×1080)] 59.94P / 50P / 29.97P / 25P / 24P / 23.98P up to approx. 20min. [HD (1280×720)] 59.94P / 50P / 29.97P / 25P / 24P / 23.98P up to approx. 30min. *For recording movies, use a card with UHS Speed Class 3 or higher. *With Vertical Power Booster Grip attached, individual movie recording time is extended up to approx. 30min. on both 4K and Full HD mode.
Wireless transmitter		Standards: IEEE 802.11b / g / n [standard wireless protocol] Access mode: Infrastructure
Bluetooth®		Standard： Bluetooth Ver. 4.0(Bluetooth® low energy)
Power supply		NP-W126S Li-ion battery (included)
Dimensions / Weight		((W) 139.8mm × (H) 97.3mm × (D) 85.5mm (minimum depth 39.5mm) Approx. 673g (including battery and memory card) Approx. 623g (excluding battery and memory card)
Battery life for still images		Approx. 310frams (Normal Mode) When XF35mmF1.4 R is set.
Accessories included		Li-ion battery NP-W126S, Battery charger BC-W126, Shoe-mount flash unit EF-X8, Shoulder strap, Body cap, Strap clip, Protective cover, Clip attaching tool, Hot shoe cover, Vertical Power Booster Grip connector cover, Sync terminal cover, Cable protector Owner's manual

Equipment Discussions -

LG announces 32UK950 monitor with 4K and nano IPS technology:

LG has just announced New monitor with Nano IPS technology and Thunderbolt 3 connectivity. The new 32UK950 monitor is a 32 inch, UHD (4k) monitor and has support for HDR 600. It can easily be connected to the Macbook Pros with thunderbolt 3. So pretty excited to see when (and if) it reaches India market. Sharing the detailed Press Release below.

NEW LG MONITORS BOAST PREMIUM PICTURE QUALITY AND PERFORMANCE, IMPROVED VERSATILITY

SEOUL, Dec. 21, 2018 – At CES 2018 in Las Vegas, LG will introduce upgraded models of its popular monitor lineup with Nano IPS technology that take color reproduction capabilities to a new level. In response to customer feedback, LG added support for HDR600 with even higher dynamic range of peak brightness and new connectivity options with full Thunderbolt™ 3 compatibility.

LG's new 32-inch UHD 4K monitor (model 32UK950) is the first to offer LG's advanced Nano IPS technology. Nano IPS technology involves the application of nanometer-sized particles to the screen's LED to absorb excess light wavelengths. This greatly enhances the intensity and purity of on-screen colors for a more accurate and life-like viewing experience. This

LG monitor can display 98 percent of the DCI-P3 color spectrum, comparable to monitors used to master Hollywood block-busters. Ideal for media prosumers seeking superb color reproduction with its support for HDR 600 LG 32UK950 users will experience high dynamic range of peak brightness of 600 candela (cd/㎡).

LG model 32UK950 features the first Thunderbolt™ 3 docking display to support 4K daisy chaining, allowing a set-up of dual 4K monitors. This LG monitor can connect to Thunderbolt™ 3 notebooks like Macbook Pro via a single active Thunderbolt™ 3 cable – no charging adapter or unsightly USB cables required. This monitor's single Thunderbolt™ 3 cable transmits 4K content and sound while providing enough charge to power a 60W notebook, simplifying any work space. With its beautiful signature Edge-ArcLine Stand and stunning 4-Side Edge Borderless Design where the picture literally drops off the edge, there is no mistaking this LG monitor for anything else.

Expected to be another hot item at this year's CES, LG's 34-inch UltraWide monitor (model 34WK95U) delivers a broad range of accurate colors and viewing angles at a surreal 5K resolution (5120 x 2160 pixels). LG's very first 21:9 5K UltraWide monitor is loaded to the maximum with a hefty amount of screen real estate and eye-popping colors. This ultimate 5K viewing experience is geared towards users who multitask extensively, such as video editors, photographers and software and app developers.

Model 34WK95U supports Nano IPS technology, fantastic color reproduction capabilities and HDR600. In addition, model 34WK95U features a Thunderbolt™ 3 port, which enables the transmission of 5K resolution images at 60Hz with a single cable. The Thunderbolt™ 3 interface is ideal for power laptop users who desire fast video, audio and data transfers without the need for a separate AC adapter. With its elegant, stunning profile, this LG monitor turns heads even when powered off, with its 4-Side Edge Borderless Design and gorgeous slim Edge-ArcLine Stand addition to its refined image.

"Most of us spend hundreds of hours in front of monitors every month and yet it's one of the least likely products to get upgraded when higher productivity is desired," said Chang Ik-hwan, head of LG's IT business division. "With these latest premium monitors from LG, we wanted to communicate that LG is absolutely committed to delivering the best possible screen resolution and the best user experience on a desk or workspace."

Another attention grabber from LG will be LG's latest QHD gaming monitor (model 34GK950G), which offers premium picture quality with Nano IPS technology and high-speed G-Sync technology.All this and more can be experienced personally at LG's booth (#11100) in Central Hall of the Las Vegas Convention Center during CES 2018.

Equipment Discussions -

Panasonic announces GH5s camera with high sensitivity:

Panasonic has announced a new version of GH5 camera batched as Lumix GH5s with a newly developed 10.2 MP sensor for low light filming. This new sensor allows shooting in low light upto 51,200 ISO as normal ISO range. It also has dual native ISO of ISO 400 and ISO 2500 so that in low light scenes one can switch to the ISO 2500 as base ISO.
The Lumix GH5s records DCI 4K (4096x2160) at 60p at 150 Mbps with 4:2:0 8 bit Long GOP, 30 fps and 150 Mbps with 4:2:2 10-bit Long GOP; and 24 fps and 400 Mbps with 4:2:2 10-bit ALL-I.

The GH5s can also record UHD 4K (3840x2160) at upto 60fps and Full HD at up to 240 fps for slow-motion playback. Panasonic has included a full-size HDMI port for high-quality output at 4:2:2 10-bit in all settings for use with external monitors and recorders. This is good for filmmakers.

The Lumix GH5s also has time code in/out which will help in syncing in multi-camera shoots. It can also be used for generating timecode for other GH5s cameras.
The newly developed Venus engine helps in noise reduction as well as faster sensor readouts. So Panasonic claims 1.3x less rolling shutter as compared to precious GH cameras.
Panasonic also has V-log and Hybrid Log Gamma HDR modes in the GH5s camera.
The GH5s can shoot 12 bit raw stills at 12fps when working with AF-S. When working in AF-C mode one can shoot 8 fps. One can also shoot stills in 14 bit raw mode and the frames per second drops down to 11fps in AF-S mode and 7 fps in AF-C mode. Unfortunately this doesn't have the 5axis in built image stabilisation of the GH5. So handholding will be a challenge.

Equipment Discussions -

If you need a purely video specific camera with occasional still shooting then this camera can be considered.

Price:

The Panasonic Lumix GH5s is priced at **$2497.99** US Dollars.

PRESS RELEASE

Panasonic Announces the Ultimate Hybrid DSLM with a newly developed 10.2MP High Sensitivity MOS sensor

Introducing the LUMIX GH5S: Exceptional Mirrorless Videography and Photography, designed and developed for professional filmmakers

• Introducing a newly developed 10.2MP High Sensitivity MOS sensor for enhanced image quality in low light: Allowing up to 51,200 ISO recording without extended ISO.

• • Time Code IN/OUT for easy synchronization of multiple cameras and Dual Native ISO, providing low range (400) and high range (2,500) ISO environments.

• • True “Multi-Aspect Ratio” Function in Both Photo and Video

Equipment Discussions -

Panasonic is proud to introduce the new hybrid Digital Single Lens Mirrorless Camera LUMIX GH5S with expanded video recording capability and enhanced image quality. Designed and developed for professional filmmakers, the LUMIX GH5S achieves highest-ever image sensitivity and video image quality in the history of LUMIX cameras, especially in low-light situations.

Packed with big features to satisfy demanding photographers and videographers alike:

The new 10.2-megapixel Digital MOS Sensor with Dual Native ISO Technology and Venus Engine 10 faithfully reproduce even dark parts of the image, allowing high ISO capture when the use of supplemental lighting may not be possible. This sensor is a multi-aspect type with a sufficient margin for realizing the same angle of view in 4:3,17:9,16:9 and 3:2 aspect ratios. The sensor also enables photo shooting in 14-bit RAW format, providing higher flexibility for professional RAW stills development workflows. When shooting in dark environments, videographers can now focus on filming that perfect shot as they no longer need to worry about noise which often results from having to use higher ISOs. The Dual Native ISO Technology suppresses noise to produce cleaner footage when taken in all light. Both videographers and photographers can now enjoy the same diagonal field of view across all aspect ratios with the True “Multi-Aspect Ratio” Function. This feature means you can easily swap between difference aspect ratios giving you the accuracy you want from your lenses, and making the process easier while producing and editing in post-production. The LUMIX GH5S is compatible with Time Code IN and OUT, like the professional camcorders, which is easy to set using the flash sync terminal and bundled conversion cable for a standard BNC terminal. This is especially important for “lip synchronization” when using multiple cameras.

The LUMIX GH5S can be used as Time Code generator for other GH5S cameras and professional camcorders. The Time Code IN/OUT functionality makes a production teams job pain-free as it provides synchronization for both video and audio devices used on multi-cam productions.

The LUMIX GH5 achieved 4KUHD 60p video recording for the first time as a digital mirrorless camera in 2017.2 The new LUMIX GH5S establishes a new milestone by realizing the world’s first 4K 60p video recording in Cinema 4K (4096x2160), 3 capable of internal 4:2:2
10-bit video recording up to Cinema 4K30p and internal 4:2:0 8-bit Cinema 4K60p. This is a color subsampling commonly used for film production, for even more faithful color reproduction.4

The LUMIX GH5S also records 4:2:2 10-bit 400-Mbps All-Intra in 4K 30p/25p/24p and 200- Mbps All-Intra in Full-HD. Continuing the LUMIX GH tradition, there is no time limit for both Full-HD and 4K video recording. The LUMIX GH5S complies with 4K HDR video with Hybrid Log Gamma (HLG) mode in Photo Style. A low-bit-rate recording mode, 4K HEVC for HLG, is available. This enables playback on AV equipment compatible with the HLG Display format, such as Panasonic 4K HDR TVs.

The VFR (Variable Frame Rate) function lets users record overcranked (time-lapse) and
undercranked (slo-mo) video in C4K/4K (60 fps, maximum 2.5x slower) and FHD (240 fps, maximum 10x slower). A V-LogL and Rec.709 LUT (Look Up Table) are pre-installed in the camera, so users can play videos recorded in V-LogL without having to separately purchase a Software Upgrade Key. Four additional LUTs can be installed using the Panasonic Vari-

cam (.VLT) file format.

DFD (Depth From Defocus) technology and ultra-high-speed digital signal processing achieve fast auto focusing of approximately 0.07 sec 6 with 12 fps (AFS) / 8 fps (AFC) in 12- bit RAW and 10 (AFS) / 7 (AFC) fps in 14-bit RAW high-speed burst shooting. In addition to a total of 225 focus areas, The options for Face/Eye Recognition, Tracking AF, 1-area AF and Pinpoint AF are available for precise focusing. The 4K PHOTO enables 60 fps high-speed capture in approximately 8-megapixel equivalent resolution.
Achieve outstanding footage in any environment, especially in low light

As a camera that excels in shooting in low light, the LUMIX GH5S boasts -5EV luminance detection performance with Low Light AF thanks to the higher sensitivity and optimized tuning of the sensor. Live Boost is another practical feature that makes it possible to check the composition even in total darkness, by boosting the sensitivity just for Live View. The magnification ratio in MF assist is increased from conventional 10x to 20x, which is convenient especially for astronomical photography. An AF Point Scope function, first introduced in the Lumix G9 and Night mode are also integrated.

In order to make the GH5S tough enough to withstand even heavy field use, it is composed of a magnesium alloy full die-cast front, rear and top frame that is not only splashproof7 and dustproof but also freezeproof down to -10 degrees Celsius. The GH5S is equipped with a double SD Memory Card slot, compatible with the high-speed, high-capacity UHS-II and Video Speed Class 90. Users can flexibly choose the recording method from Relay Recording, Backup Recording or Allocation Recording. The HDMI Type A terminal is provided, along with the USB-C Gen1 interface.

Exceptional image capture without concern

The GH5S has a large LVF (Live View Finder) with a stunningly high magnification ratio of approximately 1.52x/0.76x (35mm camera equivalent) providing smooth display at 120 fps. A high-precision, high-speed OLED (Organic Light-Emitting Diode) display features 3,680K-dot resolution and 100% field of view. In addition to dual dials, an omni-directional joystick enables more intuitive and flexible operation.

The GH5S includes Bluetooth and Wi-Fi® connectivity to offer a more flexible shooting experience and instant image sharing with easy operation. Compatibility with Bluetooth 4.2 (called BLE: Bluetooth Low Energy) enables constant connection with a smartphone/tablet with minimum power consumption. For Wi-Fi, 5 GHz (IEEE802.11ac)8 can be selected in addition to the conventional 2.4 GHz (IEEE 802.11b/g/n) for an even more secure and stable connection.

For extended battery life and a more stable hold, the new Battery Grip DMW-BGGH5 (sold separately) is available. The XLR Microphone Adaptor DMW-XLR1 (sold separately) allows high-res sound recording with an external XLR microphone.9
The Panasonic LUMIX GH5s will be available from end of February 2 and will retail for $2499 (body only).

*1 RAW files are in 14-bit even when 12-bit is selected.

*2 4K 60p/50p(for a Digital Single Lens Mirrorless Camera), 4:2:2 10-bit (for a digital interchangeable lens camera) as of 4 January, 2017

*3 As of January 8, 2018 as a Digital Single Lens Mirrorless camera that complies with 4K (4096x2160) resolution defined by Digital Cinema Initiatives(DCI). According to a Panasonic study.

*4 4:2:0 8-bit in C4K 60p and 4K 60p recording on an SD Memory Card.

*5 Contrast AF with DFD Technology works only with Panasonic Micro Four Thirds lenses.

*6 In AFS, at wide-end with H-ES12060 (CIPA) when LVF display speed is set to 120fps.

*7 Splash Proof is a term used to describe an extra level of protection this camera offers against exposure to a minimal amount of moisture, water or dust. Splash Proof does not guarantee that damage will not occur if this camera is subjected to direct contact with water.

*8 5GHz Wi-Fi is not available in some countries.

*9 In MOV only

Equipment Discussions -

Arri Launches Large Format Cinema Camera Arri Alexa LF:

Arri the most reputed amongst the cinema camera manufaturers have launched the Arri Alexa LF with 4.5K resolution. This is the first time Arri has launched a camera with native sensor resolution of 4k or above for sale. It had previously launched the Arri Alexa 65 which was only for rental for highend Hollywood films.

Larger than Full Frame Sensor:

According to Arri, the new ALEXA LF has the largest sensor of any full-frame cinema camera on the market. Arri has decided to maintain the Alexa family's "optimal pixel size for highest overall image quality" and launched this camera with a bigger sensor and not in the industry standard S-35 size. The Alexa LF shoots at 4448 x 3096 resolution which can be recorded in full using the LF Open Gate mode. An LF 16:9 mode maximizes lens options while meeting 4K deliverable standards, and an LF 2.39:1 mode combines a cinematic widescreen image with high frame rates up to 150 fps for sensuous slow motion. All sensor modes offer true 800 ASA sensitivity as well as reduced noise, providing the perfect canvas for modern, subtle lighting techniques.

New LPL Lens Mount:

Arri has also launched a new lens mount. It is not often that a manufacturer launches a new sensor mount. Any sensor mount has to be future proof and should be able to use or be compatible with future technologies. So a lot of planning goes into new lens mounts. According to Arri, the new LPL lens mount has been optimized for large-format sensors.

Equipment Discussions -

LPL Full Format Lens Mount

A wider diameter and shorter flange focal depth allows the ARRI Signature Prime lenses and all future large-format optics to be small and lightweight, with a fast T-stop and pleasing bokeh—a combination of features that would not be possible within the confines of the PL lens mount. The LPL mount will also be available for other ARRI cameras such as the ALEXA Mini, and is being licensed to third-party lens and camera manufacturers.

New Signature Prime Lenses:

Arri has also launched a range of Signature prime lenses to work with the new Alexa LF camera. The 16 large-format ARRI Signature Prime lenses, range from 12 mm to 280 mm and are fitted with the ARRI LPL mount. While the Signature Primes exemplify state-of-the-art optical precision, they have been designed to render organic, emotionally engaging images, gently softening and texturizing the large format with natural skin tones and creamy bokeh. A fast T-stop of T1.8 facilitates shallow depth of field and the smooth focus fall-off gives subjects heightened presence in the frame.

The ARRI Signature Prime range is the first cine lens series to feature machined magnesium lens barrels, making the optics incredibly lightweight and robust. They are also the first to incorporate ARRI's next-generation LDS-2 Lens Data System, with high data rates and absolute encoders for fast initializing. LDS-2 extends the possibilities of lens data and is being licensed to other lens and camera manufacturers.

There are some shows like Netflix who have mandated that the cameras used should be 4K. So earlier Arri cameras were not being used and RED, Panasonic Varicam, Canon C300 etc were being used. With the launch of this Alexa LF camera,

Equipment Discussions -

more and more producers are going to opt for these and there is likely to be a downward pressure on the other cameras. The second hand market is going to be impacted with the price of many cameras coming down.

Hopefully that will provide a new generation of lower budget shooters to increase their production values.

Availability:

The Arri Alexa LF will start shipping at the end of March 2018. The first four Signature Prime Lenses (35mm, 47mm, 75mm, 125mm) will be shipped in June 2018.

Natural History -

COUNTRY NOTEBOOK: M.Krishnan: Twisting & turning at top speed - 12 June 1967

The Sunday Statesman (shared by Shri. Saktipada Panigrahi)

BLACK DRONGO

" The BLACK DRONGO is one of the few birds that practically everyone knows, though we are, as a nation, singularly unaware of the creatures that share this India that is Bharat with us, and the charm that they lend to life here. It is not a big bird, but it is bold and black and energetic, and endowed with a distinctive, deeply cleft tail, the kind of bird that no one can help noticing, so it is noticed and known.

Black Drongo **Image Courtesy - Jitendra Katre**

Its names proclaim its character. It is the KING CROW in english, "Bhim raj" in Hindi, and "Valiyan" in Tamil, the last meaning "the powerful one" - no doubt it has other names in other Indian languages indicative of its might in such small compass.

Its mastery in the air, and the ability to twist and turn at top speed, and its fearlessness makes it the terror of all nest-raiders that many imprudently come too close to its nest. It believes in the dictum: "Thrice is he alarmed who has his quarrel just, but four times he who gets his blow in fust" and since justice is on his side when crows and similar thieving birds come near its nest, it is actually seven times armed! It shoots up into the air on quick-beating, broadly triangular wings, and

plummets down on the unfortunate crow or kite as if it would transfix the enemy with its beak; invariably the trespasser beats a hasty retreat, and the pair of king crows follow it for some distance, speeding the parting guest.

Many observers have pointed protection from the nest robbers. Such associations, which are not really symbiotic because only one party to it is benefited, are not uncommon among birds and beasts.

King Crows like to perch high, on telegraph wires, posts and the exposed branches of a tree, keeping a sharp look-out for insects and other prey from their vantage point; where there is pasture, they also go riding on the backs of grazing cattle and goats, snapping up the insects that their mobile perches disturb. Unlike bee-eaters king crows often come down to ground to deal with prey that they can see there.

It is in the air that one really sees the bird at its best. The broad but short and sharply pointed wings are a dark, translucent brown when expanded and so is the forked tail, by their sudden changes from translucency when open to black opacity when shut, provide a visual complement to the dizzying twists of the bird's flight, and there is even an audible echo of these movements in the whir that the sharp expansions and contractions of the pinions and rectrices produce.

Early in the morning, before sunrise, king crows indulge in a chorus. Other drongos also do so, and some of them, like the white-bellied and grey drongos, have musical voices by comparison. But though the pre-dawn calls of king crows have a harsh sharpness, at that hour, when it is cold and the blackness is turning to a clear grey, they have an exhilarating quality.

Through the day they are usually silent, but as nightfall approaches they grow vocal again, and often come out with a quick grating double call, almost identical with the call of the shikara. Whether this is mimetic or just due to coincidence is a thing I do not know, though it is true that drongos as a family, are sometimes given to mimicry. But then, why should this shikara-call be sounded only at roosting time and not early in the morning as well? "

- M. Krishnan

* This was published on 12 June 1967.

Wildlife Photography -

Female Tiger in Tadoba by Jitendra Katre

Chinkara by V S Sankar

Wildlife Photography -

Desert-Fox by Vipin Sharma

Roufous-Tree-Pie by Shyamala Kumar

Wildlife Photography -

Green Vine Snake with kill by Jerin Dinesh

Coromandel Marsh Dart by Arun Acharjee

Wildlife Photography -

Funnel Web Spider by Anil Kumar Verma

Porcelain Crab by Prajwal Ullal

With this issue we start our **10th year** of uninterrupted publication. 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/***

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Regards,
Sabyasachi Patra

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