

Lectures on
Environment and Science
ANNUAL REPORT - 2024



ORISSA ENVIRONMENTAL SOCIETY
2024

**LECTURES ON
ENVIRONMENT AND SCIENCE
(ANNUAL REPORT - 2024)**



ORISSA ENVIRONMENTAL SOCIETY

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Lectures on Environment and Science (Annual Report - 2024)

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Cover photo by Dr. Sudhakar Kar. Mangroves (Luna jungle or Hentala Bana) in the coastal ecosystem of Bhitarkanika National Park.

The views and contents of the write-ups are entirely those of the concerned authors.

PRESIDENT'S MESSAGE



Orissa Environmental Society (OES) was founded in 1982, as a state level voluntary organization, with the objective of promoting mass public awareness for conservation of natural resources and environment. Study, research, documentation, publication, issue-based discussion and consultation, persuasion with appropriate authorities for environment conservation measures, education, awareness, tree plantation etc. are most of the activities of the Society. The Society honours its members, distinguished persons and scholars of the state with lifetime achievement awards, theme-based awards and felicitations. Dignified members and persons are accorded the honour as Patrons and Fellows. Thanks to our generous members for contributing Corpus Funds to institute various awards.

As on today, the Society has about 900 individual life members, institutional life members and esteemed patrons who are drawn from different disciplines, and persons interested in conservation of nature and environment. The fact that the Society stands on its own for the last more than 42 years without any external grants to meet its regular establishment cost, distinguishes itself from other contemporary organizations. The membership growth and patron members during the current year has been very much encouraging and progressive.

The study and research on environmental pollution in the Angul-Talcher industrial belt, and biodiversity as well as natural habitat conservation activities in Similipal, Mahendragiri, Chilika, Bhitarkanika, Satkoshia, Buguda (Ganjam) for blackbucks and other natural habitats, clean and green campaign along with mass tree plantation activities in the State, etc. are some of the successful programmes of the Society to name a

few. Based on a research study conducted by OES on the problems of fluoride pollution due to industrial activities, a project for fluoride-free water supply to 14 villages in Angul district was implemented in 2000-2001 under Orissa Environment Programme (Indo-Norwegian Cooperation). The Society launched an intensive campaign, to move the Government of India and Government of Odisha that has led to the creation of the eighth biosphere reserve of the country in the Similipal Forest of the Mayurbhanj District (Odisha) in June 1994. For the last several years a sustained campaign is going on towards protection and conservation of the epic fame Mahendragiri hill complex with community participation by raising its status to a Biosphere Reserve and also to include in the list of Natural Heritage Sites. Happily, Mahendragiri has been declared as a biodiversity heritage site by the Government of Odisha last year, and is also included in the Ramayana Circuit by the Government of India because of its ancient heritage value.

From the year 2023, OES have started to use the conference room on regular basis, equipped with hybrid mode facility. The building has been installed with solar panels to meet its energy consumption need and rain water harvesting structures for water conservation. The Society publishes annual reports every year containing vital information on all its activities. Matching with the modern technology the Annual Reports are uploaded in our website.

Government of India launched the 'Swachha Bharat Aviyān', a 5-year programme that ended on 2nd October 2019, the 150th birth anniversary of Mahatma Gandhi. Encouraged by this nationwide campaign the Society from 2018 have launched the 'Clean and Green Campaign' programme to undertake tree plantation, promote awareness towards phasing out use of plastic and polythene, conservation of water and energy,

environmental sanitation and cleanliness, and to preach and practice circular economy, etc. The campaign covers educational institutions (schools, colleges), public institutions and villages. In 2022 the Society had successfully completed mass plantation of about 18,000 saplings in different parts of Odisha state with the financial support of the State Bank of India, under CSR funds. In 2023, the programme of plantation has continued, with planting of 10,000 saplings, with greater vigour and sponsorships from the State Bank of India. Besides, the Indian Bank and the UCO Bank also sponsored tree plantation in two separate institutions in 2023. Under its own Clean & Green Campaign programme in 2024 also the Society has undertaken tree sapling plantation and conducted some activities in IISER and Klorofeel School in Berhampur and different educational institutions elsewhere in the State this year. Schools, other institutions and organisations where the plantations were carried out have shown great enthusiasm and commitment for watering and post care of the plants in their premises. The survival rate of plantation on the average, has been very much encouraging.

Holding of Monthly Meetings on various current issues related to environment and science is the regular flagship programme of the Society. Guest lectures are being organized by inviting eminent experts in their respective fields. The other most important regular programme of the Society is holding of an annual meet of scientists, environmentalists and nature lovers namely OBPC. The Odisha Bigyan Congress (OBC) had its genesis in the year 1997 to endow with an apt platform to the scientific community of the State for deliberating on the advances in science and technology in diverse frontiers. From 2016 a little amendment has been there in the title of the Congress to make it Odisha Bigyan & Paribesh Congress (OBPC) for focusing attention on the environmental challenges confronting mankind at the present juncture. A large number of students

and scholars use the platform provided by OBPC for sharing their research work and achievements. The Congress has been successfully organized in different academic institutions for the last twenty-five years, thanks to the dedicated teams. The 25th session of the OBPC, the Silver Jubilee Celebration, was organised at the CSIR-Institute of Minerals and Materials Technology, Bhubaneswar with their collaboration on 29-30 November 2024, successfully. For the last 15 years the OES has been partnering the annual conference of Odisha Environment Congress, which was held in Berhampur University this year through 20-22 December 2024.

Many members of the Society have continued to remain very active in print and electronic media for highlighting the issues concerning nature, environment and science. While I congratulate them all, I also feel proud about the strength they provide to the intellectual base of OES. The Working President Dr. Jaya Krushna Panigrahi, Secretary Er. Mr. Manaranjan Mishra and Vice President Dr. Lala Aswini Kumar Singh are spearheading the annual meet of scientists- the Odisha Bigyan 'O' Paribesha Congress, Mass Plantation and Clean & Green Campaign Programme and Annual Report preparation respectively. Besides, other routine activities are being conducted with the cooperation and assistance of various sub-committees of the Executive Committee, other office bearers and members of the Society. Thanks to their sincere efforts, dedication and commitment. The newly elected Executive Committee of the Society reconstituted by the General Body in November 2024 has been injected with young and energetic members for renewed vigour.

Sundara Narayana Patro

President, OES

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PRASANA DAS MEMORIAL LECTURE

Management of Three Nature Conservation Issues in Odisha

(Delivered on OES Foundation Day, 03.11.2024)



Sri Debidutta Biswal, IFS

Principal Chief Conservator of Forests and
Head of Forest Force, Odisha

Odisha is faced with the challenges of man-animal conflict, forest fire, climate change and accumulation of waste, more particularly the plastic and e-waste.

Man-animal conflicts are mostly due to elephants, crocodiles and bears. The man elephant conflict is higher in Odisha compared to other states. During the current year of 2024 so far 50 elephants have died and almost equal number of human casualty reported. The causes are habitat fragmentation, increase of human population, straying of wild animals into human habitation and farm land in search of forage and food, electrocution, train accident and age-related natural death. If people follow the Dos and Don'ts, while the elephants are around, this figure can be reduced on both sides. Government is taking steps to reduce the conflict by way of educating people and making them aware on how to behave, what to do and what not to do, when elephants are in the neighbourhood. 'Gajasathi', the trained local volunteers have been roped in, rapid response teams and special task force have been deployed, advanced

warning systems have been developed, drones including thermal drones are being used to track the movements of elephants, awareness camps are also organised to address this issue. Elephant fodder species are being planted in the elephant ranging areas. In case of crocodiles, in Bhitarkanika mangrove area, enclosed bathing ghats are being made.

Forest fire is a big challenge in Odisha, because of its deciduous forests. More than 56, 000 fire points were reported in 2021, affecting about 28,000 ha. This year i.e during 2024, about 22,860 fire points were reported, affecting about 4000 ha. Our forest fire responses have improved from 80% during 2021 to 99.86% in 2024. This has been possible, due to following the SOP diligently, preparing the District Action Plan every year, which facilitates the coordination with the stake holding line departments, application of technology, equipping and training the staff. Most of the forest fire is man-made. On a pilot basis, five AI/ML cameras have been installed in Similipal, for near real time fire detection and warning system. The cameras are installed on towers at strategic locations for covering the desired area. It integrates data from multiple sources, has PTZ (Pan, Tilt & Zoom) arrangement. The Camera has a scanning radius of 20 km. and can rotate 360 degrees. It has IR camera, and works 24x7. Camera also has AI built in for detection of fire and can differentiate between artificial light and forest fire. The system gets information from 15 different satellites, and the inputs are directly fed into the cameras for machine learning. It is connected via Radio Frequency. Camera communicates by radio link and can transmit any fire occurrence within 3 minutes to the control room. Similarly, in Boud Division, a pilot project of vermi-composting of the crop residue has been initiated. In this process about 3750 quintals of paddy residue has been converted to about 3400 quintals of vermicompost and 25000 liters of Verm wash. This has benefitted 57 SHGs, generating an income of about Rs 75,00,000/-, over a period of one year,

from 600 vermicompost chambers. This not only helps reducing the air pollution but also reduces the forest fire hazard.

This year we have also undertaken dibbling of 19 lakh palm stones around the Forest Blocks. Palm trees will help reduce deaths due to lightening and it is also a favourite food of elephant.

Odisha, being a coastal state, is highly prone to tropical cyclones. These cyclones cause heavy damage to life and property. Mangrove forest acts as a natural barrier. You will be happy to know that, as per the latest State of Forest Report, 2021, brought out by Forest Survey of India, Odisha has recorded an increase of 8 square km., over 2019 Report, which is the highest increase in the country.

The forest cover of the State has increased because of successful planation, protection provided by the staff and more than 16000 VSSs. As per the latest State of the Forest Report 2021, the State has recorded an increase of 537 square km. of forest cover, which is the 3rd highest increase in the country, and it has recorded an increase of 356 square km. of tree cover which is the 2nd highest in the country, in comparison to the 2019 Report. As per the Report the total Forest & Tree Cover of the State is 36.70% of its geographical area.

Odisha is now in transition from forest and agriculture- based economy to industry -based economy. The purchasing power of people has gone up as well. The lifestyle is also becoming consumeristic. We need to adopt simple and minimalistic lifestyle to be in harmony with nature.

Prasanna Kumar Dash, a domicile of Kendumundi village, Bangiriposi PS in Mayurbhanj district, was elected to the Odisha Legislative Assembly nine times. He was the Assembly Speaker from 1984 to 1990, and Minister for Science, Technology and Environment in 1995. He was the Founder President of OES

which was officially registered on October 25, 1982. He was committed to the cause of nature and environment conservation. Today, I take this opportunity to pay my respect and homage to the noble soul.

Binayak Rath receives OES lifetime achievement award

POST NEWS NETWORK

Bhubaneswar, Nov 3: Former vice-chancellor of Utkal University, Binayak Rath was conferred with the Orissa Environmental Society (OES) Lifetime Achievement Award for his contributions to the field of environment protection at the 43rd foundation day and award ceremony of OES here Sunday.

Former adviser to the Ministry of Environment, Forest and Climate Change (MoEFCC) Virendra Pratap Upadhyay was honoured with the 'Environment Excellence Award' and former head of Zoology Utkal University Anuj Kumar Patra received the 'Environment and Science Popularisation Award'.

The 'Nature Conservation Award' was presented to Bisesh Pandey of the Wildlife Institute of India, Dehradun.

Sharat Kumar Palita, VP Upadhyay, Navin Kumar Dhal



and Pushpanjali Parida were honoured with the title of 'OES Fellows'. Former professor of IIT Bombay Krishna Chandra Sahu, professor Pushpanjali Parida, Parshuram Panda and Tapas Ranjan Mallick were conferred the status of 'Patrons of OES'.

Presided over by the president of OES Sundara Narayana Patro, the programme was at

tended by former IAS officer and OPSC chairman. Visakanada Patraak as the chief guest and Principal Chief Conservator of Forests Devikanta Biswal as the keynote speaker. Patraak presented a landscape of the current global environment, explaining how its quality standards are degrading, stressing the importance of sustain-

able maintenance. At the event, Biswal delivered the 'Prasanna Kumar Dash Memorial Lecture', named after the OES founding president. He spoke broadly about the state's forest and wildlife resources. Speaking on the occasion, experts stated that as long as the nature and environment are protected and the flow of goods and

services derived from them is uninterrupted, it will be possible for the mankind and the entire living world to lead a prosperous life.

"We need to realise that environmental protection is a very sensitive issue. If natural ecosystems are disturbed by human activities and their functioning is affected, the flow of goods and services will be disrupted," they opined.

This impetus will expose the species to various predicaments, which will lead to their decline and ultimate extinction. In this context, the government, various institutions and the public must exhibit commitment to maintain the quality of the environment through their joint efforts, the experts added.

Senior life members of OES Ekladashi Nandy, Biswanath Puhana, Prakash Chandra Mishra, Swapna Behera and Ram Narayan Gupta were also felicitated on the occasion.

ଓଇଏସ୍ ପ୍ରତିଷ୍ଠା ଦିବସରେ ପରିବେଶ ସୁରକ୍ଷାର ପ୍ରଦାନ 'ପରିବେଶ ସୁରକ୍ଷା ଏକ ସମ୍ବେଦନଶୀଳ ପ୍ରସଙ୍ଗ'

ଭୁବନେଶ୍ୱର, (ସମ୍ବାଦ): ପ୍ରକୃତି ଓ ମନୋହର ପର୍ଯ୍ୟଟନ ପୁରସ୍କୃତ ଏବଂ ମୃତ୍ୟୁ କାଳ୍ପ ଯୁଦ୍ଧ ଓ ସେବାରେ ପ୍ରବାହ ସାମଗ୍ରୀ ଉପରେ, ମାନବଜାତି ଚିନ୍ତା ପ୍ରଶ୍ନ କରୁଥିବା ପ୍ରକୃତି ସୁରକ୍ଷା ଉପରେ ଗୁରୁତ୍ୱ ଦେବା ଲାଗିଛି । ପରିବେଶ ସୁରକ୍ଷା ହେଉଛି ଏକ ସମ୍ବେଦନଶୀଳ ପ୍ରସଙ୍ଗ । ଏହା ମାନବ ଚାରିଆଡ଼ାରେ ପ୍ରାୟତଃ ପରିବେଶ ସୁରକ୍ଷା ଉପରେ ଗୁରୁତ୍ୱ ଦେବା ଲାଗିଛି । ପରିବେଶ ସୁରକ୍ଷା ହେଉଛି ଏକ ସମ୍ବେଦନଶୀଳ ପ୍ରସଙ୍ଗ । ଏହା ମାନବ ଚାରିଆଡ଼ାରେ ପ୍ରାୟତଃ ପରିବେଶ ସୁରକ୍ଷା ଉପରେ ଗୁରୁତ୍ୱ ଦେବା ଲାଗିଛି । ପରିବେଶ ସୁରକ୍ଷା ହେଉଛି ଏକ ସମ୍ବେଦନଶୀଳ ପ୍ରସଙ୍ଗ । ଏହା ମାନବ ଚାରିଆଡ଼ାରେ ପ୍ରାୟତଃ ପରିବେଶ ସୁରକ୍ଷା ଉପରେ ଗୁରୁତ୍ୱ ଦେବା ଲାଗିଛି ।

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Habitable Space for Human of Earth

(Talk delivered on 03 November 2024)



Vivekananda Pattanayak, IAS (Retd.)

Former Chairman

Orissa Public Service Commission

Today is the 43rd Foundation Day of the Society. My congratulations to all the members of the society which include me as a life member. One must remember Prasanna Dash, the former Speaker of the Odisha Legislative Assembly who was the founder President of the Society. Incidentally, Shri S. N. Patro was the founder Secretary.

I go back fifty years when I was the District Collector of Mayurbhanj. Sri Prasanna Das was then active in public causes and I knew him personally and had closely worked with him. Shri Patro was a lecturer in MPC College, Baripada. Shri J K Panigrahi was a student. All three of them highly committed people for the cause of protection of nature, forest and environment.

When I was growing up as a student staying in Fort Area of Cuttack, I had experienced how the noxious effluent used to be discharged into the river Mahanadi by Titagarh Paper mill. During that time Birla paper mill in Belpahar was also doing the same at Brjarajnagar.

Before I came to Baripada I had served as the Managing Director

of Aska Sugar factory and we had established a distillery whose effluent was also producing foul smell. Those days, consciousness regarding environmental pollution had not fully grown in Odisha, India and even in the world. Only after the Stockholm conference of 1972 the countries started making legislations for protection of ecology, environment, biodiversity etc., although laws relating to preservation of forest and animals did exist from the British days, and even under CPC and CrPC public nuisance was covered as a step towards protection of environment.

I was posted as Permanent Representative of India on the Council of ICAO when Rio Conference took place. The Director General of UNEP Mr Strong had addressed the Council of ICAO on the outcome of Rio Conference. To what extent air transport could cause environmental pollution was a subject matter of work programme of ICAO. In the early nineties, pollution of atmosphere by aviation was considered marginal. More emphasis was on noise pollution by aircraft mostly in Europe, Japan, Australia and US when night curfew was being imposed on airline operations. As the years passed and massive expansion of aviation took place its impact was widely felt as a result biofuel was introduced in place of fossil fuel in long haul flights.

Back in 1973 when we started producing ethyl alcohol in Aska, in Brazil they had substituted petrol with gasohol for motor vehicles. They demonstrated a wholly run alcohol motor vehicle in the Trade Fair in New Delhi. During my visit to Brazil in nineties I saw alcohol run vehicles. Cities had petrol, diesel and alcohol filling stations.

Although there is growing consciousness regarding pollution caused by fossil fuel and alternatives like solar power, green hydrogen, renewable energy like wind and water etc. are being discussed transition to alternatives have not made much headway world over as a result the target of reaching +2 degree centigrade

to preindustrial level seems unachievable as we are already at +3 degree above.

Global consensus is absent. In Europe there is serious effort to give up fossil fuel. One can see wind mills in the Central Europe to generate power. US is unwilling to abandon fossil fuel blaming China and India. Responsibility of the developed countries to create fund is not being discharged.

Political leaders across the world are not serious. This is so evident from their action and conduct. How can the world get into two devastating wars within two years of Covid having engulfed the whole human population. Use of missiles, drones, bombs and explosives certainly contribute to global warming. We all know that Paris Accord was abjured by the President Trump.

Too much of national sovereignty has destroyed the idea of internationalism. No wonder UN is under seize. Civil Society must fight for global spirit without which global environment cannot be protected.

A couple of years ago I had spoken at some platform about the prediction of James Lovelock who had famously advocated the Gaia theory. His book *Revenge of Gaia* is worth reading. So also, the book of David Wallace-Wells, *The Uninhabitable Earth, A Story of the Future*. Within two million years according to Prof. Lovelock the earth would be too hot to sustain life. Although two million years may appear to be too long a distance for present generation but it is not so long considering that earth's age is five billion years. We are fortunate the earth is at goldilocks area of the solar system. Whether Mars lost its habitable atmosphere due to catastrophic event or events or growing pollution is yet to be established. Whether mankind will find habitable space in Moon, or Mars as Elon Musk is considering is another matter. Life may be there in exo-planets which are unreachable or some satellites of Jupiter or Saturn may support life is another question.

Fact remains that we the human beings must try our best to preserve the environment. If you read *Homo sapiens* by Noal Harris you will realize how the human beings are responsible for destruction of wild life everywhere and we human species are singularly to be blamed to have caused destruction of biodiversity. Prof. James Lovelock has also stated in his book *Revenge of Gaia* how the beginning of agriculture clearing forest was the starting point of degeneration of environment. I had on this forum had highlighted anthropomorphic effect on the hills and forests in Odisha especially over Khandagiri.

In spite of my disappointment, I still feel an organization like OES can play a vital role in protecting environment creating awareness among people and also putting pressure on government and corporate world.

OES can take up specific studies in the areas where coal-based power plants have been established to identify the extent of damage done to environment. Corporate houses should be persuaded to fund such studies under CSR.

As long as there is life there should be hope. Thank you very much.

NOTES: Gaia has multiple meanings, including a Greek goddess and a hypothesis about Earth's systems:

- Greek goddess: In Greek mythology, Gaia is the goddess of Earth and the mother of all life. She is one of the primordial deities, or first gods and goddesses. Gaia is also known as Gaea.
- Hypothesis: The Gaia hypothesis is the idea that the living and non-living parts of Earth work together as a single system. In this system, the living parts regulate conditions, like the temperature of the ocean and the composition of the atmosphere, to make them suitable for life.

Role of Civil Society in Protection of Environment

Global efforts to curb fossil fuel use and protect the environment remain slow and inconsistent, demanding active civil society intervention, writes **Mr. Vivek Pattanayak**

If one goes back by half a century, consciousness for protecting nature, forests and the environment was insignificant. In the early fifties of the last century, it was common to get a noxious odour at the Fort Area of Cuttack from the effluent discharged to the river Mahanadi from the paper mill located at Chowdwar. In the upstream of the same river another mill located at Brajrajnagar, the same was the case. In the early seventies at Aska, a distillery was set up to use molasses, a by product of the sugar industry. the effluent of the distillery was emitting a foul smell spreading for miles. Downstream use of effluent was not known then in India although in Hawaii technology did exist to separate methane gas from sludge which could produce potash for agricultural use and methane gas could be used to generate power.

Those days consciousness regarding environmental pollution had not fully grown in Odisha, India and even the world. Only after the Stockholm conference of 1978, did the countries start making legislation for the protection of ecology, environment, biodiversity etc. with regulatory bodies to supervise the implementation of legislation although laws relating to the preservation of forests and animals did exist from the British days.

After the Rio Conference of the early nineties, the Director General of UNEP addressed the Council of International Civil

Aviation Organization (ICAO), a specialized agency of the United Nations to persuade the Organization to study to what extent air transport could cause environmental pollution. As a result it became a subject matter of work program of ICAO. During those days India was to experience bunching of International flights at night as the airlines used to avoid curfew over the airports of the developed countries.

As the years passed, and massive expansion of aviation took place engine emission became the cause of concern in the environment conscious developed world. apart from many steps taken to limit carbon emissions as its impact was widely felt. The use of biofuel was introduced in place of fossil fuel on long haul flights.

Back in 1973 when we started producing ethyl alcohol in Aska, in Brazil they had substituted petrol with gasohol for motor vehicles. They demonstrated a wholly run alcohol motor vehicle at the Trade Fair in New Delhi. During my visit to Brazil in the nineties I saw alcohol cars. Cities had petrol, diesel, and alcohol filling stations as it was not possible to have a complete transition to alcohol based vehicles.

Although there is now growing consciousness regarding pollution caused by fossil fuel and alternatives like solar power, green hydrogen, renewable energy like wind and water etc. are being discussed and action is being taken, the transition to alternatives has not made much headway worldwide. As a result the target of reaching +2 degree centigrade of the preindustrial level seems unachievable as we are already at +3 degree above.

A global consensus is absent. In Europe, there is a sincere effort to give up fossil fuels. One can see windmills in Central Europe to generate power. The US is unwilling to abandon fossil fuel blaming China and India although both the countries have taken

determined steps to set up solar power based electricity generation. In a small country like Costa Rica, highly conscious of protecting its environment, the use of fossil fuel for power generation is almost negligible.

Political leader across the world are not serious. This is so evident from their action and conduct. How can the world get into two devastating wars within two year of COVID-19 having engulfed the whole human population? The use of missiles, drones, bombs, and explosives certainly contributes to global warming. We all know that the Paris Accord was abjured by President Trump.

Too much of national sovereignty has destroyed the idea of internationalism. No wonder the UN is under siege. Civil Society, therefore, must fight for global spirit, international consensus, and globalism without which the global environment cannot be protected.

A couple of years ago Professor James Lovelock had famously postulated the Gaia theory. His book, *Revenge of Gaia*, is worth reading. So also, the books David Wallace-Wells, *The Uninhabitable Earth*, and *A Story of the Future*. Within two million years according to Prof. Lovelock, the earth would be too hot to sustain life. Although two million years may appear to be too long a distance for the present generation, it is not so long considering that the earth's age is five billion years. We are fortunate the Earth is in the Goldilocks area of the solar system. Whether Mars lost its habitable atmosphere due to catastrophic or cataclysmic events, or growing pollution, it is yet to be established. Whether humanity will find habitable space on the moon, or Mars which Elon Musk is exploring is another matter. Life may be there in exo-planets which are unreachable for the present. Some satellites of Jupiter or Saturn may support life is yet another unknown quantity.

The fact remains that we human beings must try our best to preserve the environment on our mother planet. If you read the book, "Sapiens" by Yuval Noah Harari you will realize how human beings are responsible for the destruction of wildlife everywhere, and we human species are singularly to be blamed for having destroyed biodiversity. Prof. James Lovelock has also stated in his book. *Revenge of Gaia* how the beginning of agriculture by clearing forests was the starting point of the degeneration of ecology.

Realizing these concerns, forty three years ago on the 3rd of November, the Odisha Environmental Society was established under the initiative of Shri Prasanna Das, former Minister of Environment and also former Speaker of the Odisha Legislative Assembly as the founder President and Shri S. N. Patro, a pioneer in the study of environment hailing from the academia. Apart from other environment enthusiasts, another committed person was Shri Jai Krishna Panigrahi. Despite the disappointment expressed above, I still feel an organization like OES can play a vital role in protecting the environment, creating awareness among people, in particular the younger generation and also putting pressure on the government and corporate world to take proactive steps. A little drop of water can make a mighty ocean. As long as there is life there should be hope



FLY ASH: Environmental issues and the way Forward

(Lecture delivered on 07 January 2024)



Prof. Sanjat Kumar Sahu
Chair Professor,
Science & Technology,
Sambalpur University, Burla

‘ଉଡ଼ନ୍ତା ପାଇଁ ଶାନ୍ତି ପାଇଁ ଅଭିନବ ପରିଚାଳନା ଆବଶ୍ୟକ’

ଭୁବନେଶ୍ୱର, ୯।୧ (ନି.ପ୍ର): କୋଇଲା ବ୍ୟବହାର ହ୍ରାସ କରିବା ସହ ଉଡ଼ନ୍ତା ପାଇଁ ଅଭିନବ ପରିଚାଳନା ବର୍ତ୍ତମାନ ସମୟର ଆବଶ୍ୟକତା ବୋଲି ଓଡ଼ିଶା ପରିବେଶ ସମିତି (ଓଇଏସ୍) ଦ୍ୱାରା ଆୟୋଜିତ ‘ଉଡ଼ନ୍ତା ପାଇଁ ଶାନ୍ତି ପରିବେଶ ସମସ୍ୟା ଏବଂ ଆଗାମୀ ସମ୍ଭାବନା’ ଆଭାସି ଆଲୋଚନାଚକ୍ରରେ ବକ୍ତବ୍ୟ ପ୍ରଦାନ କରି ପରିବେଶ ବିଶେଷଜ୍ଞ ମତପ୍ରକାଶ କରିଥିଲେ। ମୁଖ୍ୟବକ୍ତା ସମ୍ବଲପୁର ବିଶ୍ୱବିଦ୍ୟାଳୟର ବିଜ୍ଞାନ ଏବଂ ପ୍ରଯୁକ୍ତି ବିଦ୍ୟା ପ୍ରଫେସର ଡ. ସଞ୍ଜିତ କୁମାର ସାହୁ ଓଡ଼ିଶାରେ କୋଇଲାଭିତ୍ତିକ ବିଦ୍ୟୁତ୍ ଉତ୍ପାଦନ କେନ୍ଦ୍ରରୁ ନିର୍ଗତ ଉଡ଼ନ୍ତା ପାଇଁ ବହୁତ ପରିମାଣର ବର୍ଜ୍ୟବସ୍ତୁ ସୃଷ୍ଟି କରୁଥିବା ପ୍ରକାଶ କରିଥିଲେ। ଓଇଏସ୍ ସଭାପତି ଡ. ସୁନ୍ଦର ନାରାୟଣ ପାତ୍ର କହିଲେ, ନିର୍ମଳ ଶକ୍ତି ଉତ୍ପାଦନ ଅଗ୍ରାଧିକାର ଦିଆଯିବ। ଆବଶ୍ୟକ ସ୍ୱାଗତ ଭାଷଣରେ ସମ୍ପାଦକ ଡ. ଜୟକୃଷ୍ଣ ପାଣିଗ୍ରାହୀ କୋଇଲାକୁ ଶକ୍ତି ଉତ୍ପାଦନରେ ତ୍ୟାଗ କରିବା ଉପରେ ଗୁରୁତ୍ୱାରୋପ କରିଥିଲେ। ବିଶେଷଜ୍ଞ ମତବ୍ୟ ପ୍ରଦାନ କରି ବମ୍ବେ ଆଇଆଇଟିର ପୂର୍ବତନ ପ୍ରଫେସର କୃଷ୍ଣଚନ୍ଦ୍ର ସାହୁ ସମସ୍ତ ଦିଗ ଉପରେ ଅଧିକ ବୈଜ୍ଞାନିକ ଅନୁସନ୍ଧାନ ହେବା ଦରକାର ବୋଲି ଗୁରୁତ୍ୱ ଦେଇଥିଲେ। ଉପ ସଭାପତି ଡ. ଲାଲା ଏ.କେ ସିଂହ ଅତିଥି ପରିଚୟ ପ୍ରଦାନ କରିଥିଲେ ଏବଂ ଡ. ମନୋରଞ୍ଜନ ମିଶ୍ର ଧନ୍ୟବାଦ ଅର୍ପଣ କରିଥିଲେ। ଡ. ଶଶିକୃଷ୍ଣ ରାଓ, ପ୍ରଫେସର ନିମାଇଁ ଚରଣ ମିଶ୍ର, ଡ.

OES talk

'Reduce coal use, dispose of fly ash safe'

PNS ■ BHUBANESWAR

Release of fly ash into the surrounding environment culminates the entry of the toxic substances into the living systems causing various detrimental impacts including respiratory and cardiovascular disorders.

The other environmental impacts are pollution of air, water and soil and degradation in their quality. Thus, the need of the hour is to reduce the consumption of coal that releases greenhouse gases like carbon dioxide and safe disposal of the fly ash without any detriment to the environment. Environment experts expressed such views while speaking in a webinar on the theme 'Fly ash: Environmental issues and the way forward,' organised by the Orissa Environmental Society (OES).

Chief speaker of the occasion was Chair Professor of Science and Technology, Sambalpur University, Dr Sanjat Kumar Sahu, who narrated how coal-based power plants in Odisha are producing huge amounts of wastes.

He suggested for making innovations in fly ash management by the industrial units so as to reduce the passage of particulate matters (PM 2.5 and PM 10), toxic gases and heavy metals into air, water and soil. He described how fly ash use is increasing in sectors like brick making, cement manufacturing, road construction and open-mine filling, etc.

He also discussed the breaches in ash ponds of different industries of Odisha in the past causing health hazards damage to agriculture.

OES president Dr Sundara Narayana Patro opined that in

the scenario of climate change causing devastations, use of renewable, clean sources of energy be given priority instead of fossil fuels so that fly ash problem can be solved.

In his welcome address, secretary Dr Jaya Krushna Panigrahi emphasised on abandoning coal as a source of energy.

Making expert comments, Prof Krishna Chandra Sahu, formerly in Bombay IIT, emphasised on further scientific research on all aspects, including its application in agricultural fields. OES vice-president Dr Lala AK Singh introduced the guests and Er Manoranjan Mishra presented the vote of thanks.

Among others, Sasi Bhusana Rao, Prof Nimai Charan Mishra, Dr Sudhakar Kar, Prof SP Adhikary, RN Gupta and Dillip Kumar Satpathy spoke.

Agricultural Use of Ash



Prof. K. C. Sahu, Fellow, Mumbai
(Post-seminar comments/remarks.)

Introductory remarks

Though poorly attended because of the specificity and technicality of the topic, Dr. Sanjat Kr. Sahu presented a comprehensive talk on the burning issues of coal combustion and the combustion products, which a learned member rightly termed as the “by product” of the process. The volume of information on Fly Ash presented by the speaker from his own work was commendable.

With the discovery of Mahanadi coal field and large scale expansion of Korba coal fields, discharges from the coal mines and pit head Thermal Power Plants have arouse significant threat to Hirakud dam and the reservoir, which the sooner one realises the better. In that connection, the intelligentsia of Odissa ought to be more aware of the regional impacts of Thermal Power Plants (TPP).

In course of his presentation through a large number of slides, not only the strategic physical and chemical properties of the Ash were presented, the impact of stack emissions and discharge of Ash by wet and dry methods were discussed. The PM 2.5 and various carcinogenic Polyaromatic Hydrocarbons in the emission effecting the health of people in the region was noted. The following 2 schematic figures show the dispersion and pollution of environment due to stack emission and tailing pond of the TPP at Talcher, Odissa.

A lot of discussion also took place on the utility of the combustion products for various purposes like construction materials like bricks, cement manufacture, land filling, soil additive for agricultural applications, metal extractions and preparation of high tech. Materials like nano particles for the modern industries. The subject on agricultural use of Ash arouses certain amount of controversy in view of Heavy Metal contamination of the food chain.

An additional note for Agricultural use of Ash:

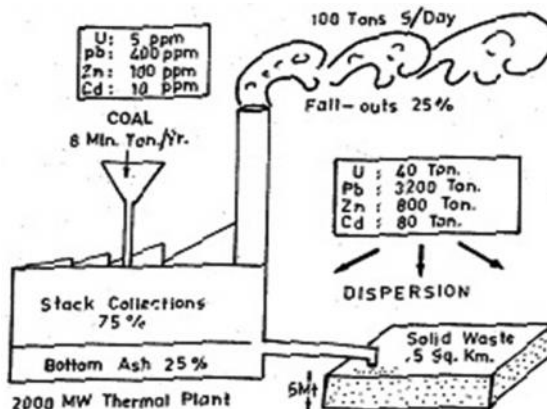
In a world of ever-increasing population, for sustaining a respectable life in underdeveloped and developing countries or for meeting the luxury and comfort of the developed nations, requirement of energy is a basic factor. Fossil fuels have been meeting the demand of all until the realization that energy extravaganza from Fossil fuels has led to the catastrophe of Global Warming and Climatic Change. All National and International efforts including that of COPs have only lip sympathy to “Transform” into non-fossil fuels but practically, fossil fuel will stay in use for at least a few generations and coal will be primary actor in this environmental dilemma. Coal is not just Carbon to burn and supply the “Clean “energy in spite of capturing the GHG and sequestering the same in “safe deposits” as the “future bomb” of our children, the coal carries with it a large accompaniment of deleterious materials which after burning assume the power of “Bhasmasura” to threaten the life supporting systems of mankind. This Bhasmasura, known as Ash or Fly Ash to our scientists need to be enslaved (utilised) before they knock at our doorstep to demand a pound of flesh of our human family. The problem however is, the amount of ash that we are and the world generate is so large that the technology of its utilization must consume a large bulk, lest cosmetic uses of Ash for small amounts cannot solve the problem. Many of the technologies utilising large bulk of Ash has many side effects and teething start-up problems. Agricultural use is one. A new concept of agricultural applications is given

below but could not be discussed in the seminar due to lack of time but recorded here for any comment of learned attending members.

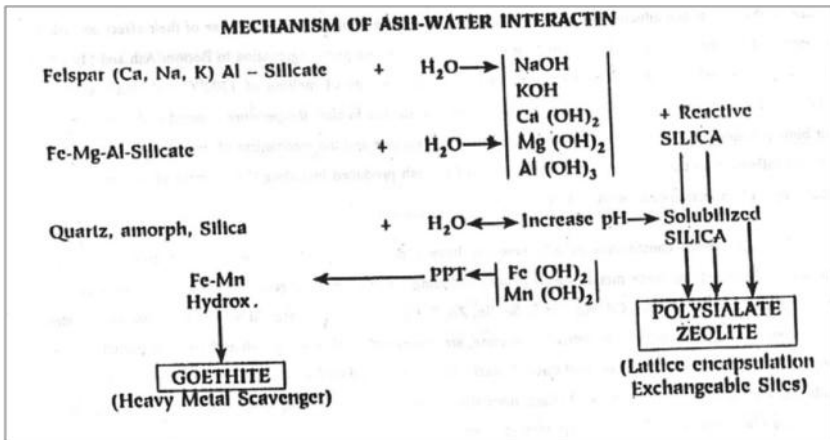
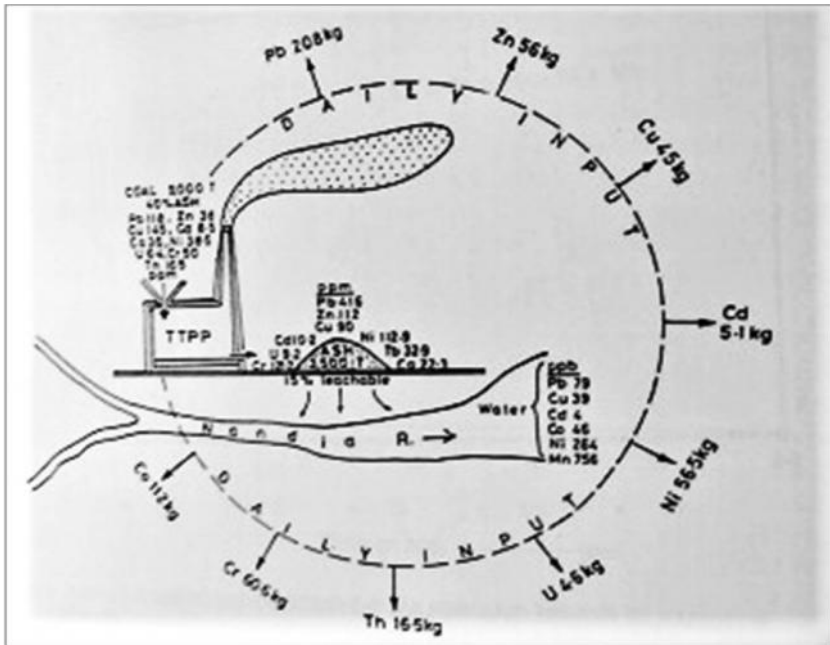
The commentator (K. C. Sahu) had privilege and opportunity of working on the combustion products (Fly Ash) of many coal-based TPP in India through National, International, Academic and Consultative projects with emphasis more on heavy metal pollution of environment. Although ash as a soil additive is riddled with doubts for possible heavy metal contamination of food chain, fly ash particles can be groomed to make up an ideal nutrient pump by designed ash-water interaction for nutrient transfer into the plants growing over the ash amended soil.

The mechanism of ash – water interaction to produce a mineral called Zeolite (A polysialate) over an ash particle is shown in the following figure. Zeolites are commercially known as molecular sieve and its strong adsorption/desorption property can be exploited as a mineral pump when embedded in the soil. However certain amount of pilot experiments ought to be done prior to its large scale field applications

Heavy Metals in feed coal, Dispersion from Pond Ash and S emission from stack.



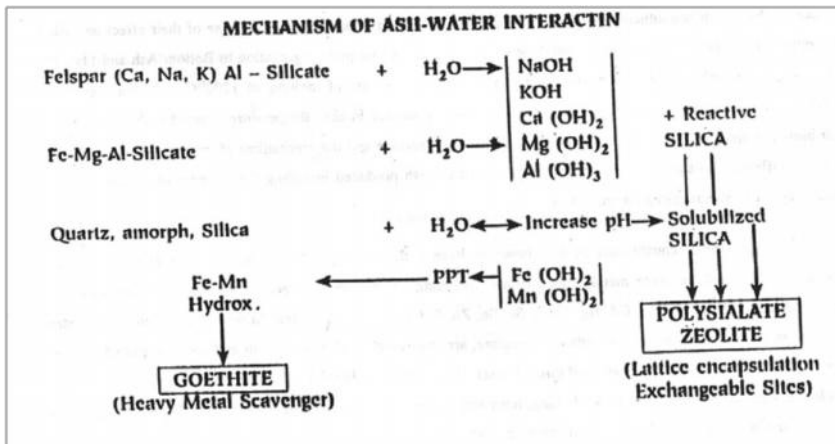
Heavy Metal Dispersion around Talcher Thermal Plant and pollution of Nandira river flowing past the Plant.



Classified very fine ash can be used as a pesticide/insecticide in agriculture to protect plants and vegetables from insect damage. Dusting of kitchen ash in Indian homes to prevent insects damaging domestic plants is known before, when the alkali oxides dehydrate and kill the insects. Fine fly ash rich in oxides of alkalis and alkaline Earths do the same. Besides, the sharp silica particles on eating, damages the mandible and the gut of the insect, killing it by starvation.

I enjoyed attending the Seminar.

Submitted for benefit of Members



Climate Change with its Impact on Land Degradation, Desertification and Drought Resilience

(Lecture delivered on 05 June 2024)



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Introduction

In the atmospheric system, parameters such as temperature, precipitation, atmospheric pressure, wind direction/speed, etc., may vary over a great range of time and distance scales. Still, when we aggregate and average over many years, preferably 30 years of observations (for example, 1931-60, 1941-70, etc.), we can get climatic norms (i.e. climate) containing means, extremes and frequencies of various weather elements. This may be based on the strength of only three decades of observations but cannot be extended into the past or effectively into the future with any degree of certainty. The climate on the earth is now known to be in a more or less continual state of flux. Climate change is a change in the statistical distribution of weather over periods that range from decades to millions of years. It can be a change in the average weather or the distribution of weather events around an average (for example, greater or fewer extreme weather events). Climate change may be limited to a specific region or may occur across the whole Earth. The study of the geological

evidence left behind by advancing and retreating glaciers suggests that the global climate has undergone slow but continuous changes. Other biological evidence of climatic change comes from studying the annual growth rings of trees called dendrochronology. Ocean floor sediments and ice from Greenland indicate global climatic change. In addition, the oxygen-isotope ratio of calcium carbonate shells of marine organisms provides evidence about the sequence of glacier advances by determining the ratio of oxygen 18 to oxygen 16, resulting in information about how the climate may have altered in the past.

Causes of Climatic Change

The climatic variations are not random but the changes are made over various time scales. Factors that can shape climate are often called climate forcing. These include such processes as solar radiation variations, Earth's orbit deviations, mountain-building and continental drift, and changes in greenhouse gas concentrations. There are a variety of climate change feedbacks that can either amplify or diminish the initial forcing. Some parts of the climate system, such as the oceans and ice caps, respond slowly in reaction to climate forcing because of their large mass. Therefore, the climate system can take centuries or longer to fully respond to new external forcing.

1. Orbital variations

Slight variations in Earth's orbit leads to changes in the amount of sunlight reaching the Earth's surface and how it is distributed across the globe. The former is similar to solar variations in that there is a change to the power input from the sun to the Earth system. The latter is due to how the orbital variations affect when and where sunlight is received by the Earth. The three types of orbital variations are variations in Earth's eccentricity, changes in the tilt angle of Earth's axis of rotation, and precession of Earth's axis. Combined together, these produce Milankovitch cycles

which have a large impact on climate and are notable for their correlation to glacial and interglacial periods, their correlation with the advance and retreat of the Sahara and for their appearance in the stratigraphic record.

2. Volcanism

Volcanism is a process of conveying material from the crust and mantle of the Earth to its surface. Volcanic eruptions, geysers, and hot springs, are examples of volcanic processes which release gases and/or particulates into the atmosphere. Eruptions large enough to affect climate occur on average several times per century, and cause cooling (by partially blocking the transmission of solar radiation to the Earth's surface) for a period of a few years. The eruption of Mount Pinatubo in 1991, the second largest terrestrial eruption of the 20th century affected the climate substantially. Global temperatures decreased by about 0.5 °C (0.9 °F). The eruption of Mount Tambora in 1815 caused the Year without a summer. Much larger eruptions, known as large igneous provinces, occur only a few times every hundred million years, but may cause global warming and mass extinctions.

3. Ocean variability

The ocean is a fundamental part of the climate system. Short-term fluctuations (years to a few decades) such as the El Niño–Southern Oscillation, the Pacific decadal oscillation, the North Atlantic oscillation, and the Arctic oscillation, represent climate variability rather than climate change. On longer time scales, alterations to ocean processes such as thermohaline circulation play a key role in redistributing heat by carrying out a very slow and extremely deep movement of water, and the long-term redistribution of heat in the world's oceans.

4. Plate tectonics

Over the course of millions of years, the motion of tectonic plates

reconfigures global land and ocean areas and generates topography. This can affect both global and local patterns of climate and atmosphere-ocean circulation. The position of the continents determines the geometry of the oceans and therefore influences patterns of ocean circulation. The locations of the seas are important in controlling the transfer of heat and moisture across the globe, and therefore, in determining global climate. More locally, topography can influence climate. The existence of mountains (as a product of plate tectonics through mountain-building) can cause orographic precipitation. Humidity generally decreases and diurnal temperature swings generally increase with increasing elevation. Mean temperature and the length of the growing season also decrease with increasing elevation. This, along with orographic precipitation, is important for the existence of low-latitude alpine glaciers and the varied flora and fauna along at different elevations in montane ecosystems.

The size of continents is also important. Because of the stabilizing effect of the oceans on temperature, yearly temperature variations are generally lower in coastal areas than they are inland. A larger supercontinent will therefore have more area in which climate is strongly seasonal than will several smaller continents and/or island arcs.

5. Solar output

The sun is the predominant source for energy input to the Earth. Both long- and short-term variations in solar intensity are known to affect global climate. Solar output also varies on shorter time scales, including the 11-year solar cycle and longer-term modulations. The 11-year sunspot cycle produces low-latitude warming and high-latitude cooling over limited areas of statistical significance in the stratosphere with an amplitude of approximately 1.5°C. The stratospheric variations are consistent with the idea that excess equatorial heating can drive thermal winds. In the near-surface troposphere, there is only a small

change in temperature (on the order of a tenth of a degree, and only statistically significant in limited areas underneath the peaks in stratospheric zonal wind speed) due to the 11-year solar cycle. Solar intensity variations are considered to have been influential in triggering the Little Ice Age and for some of the warming observed from 1900 to 1950. The cyclical nature of the sun's energy output is not yet fully understood; it differs from the very slow change that is happening within the sun as it ages and evolves, with some studies pointing toward solar radiation increases from cyclical sunspot activity affecting global warming.

6. Human influences

Anthropogenic factors are human activities that change the environment. Presently the scientific consensus on climate change is that human activity is very likely the cause for the rapid increase in global average temperatures over the past several decades. Consequently, the debate has largely shifted onto ways to reduce further human impact and to find ways to adapt to change that has already occurred. Of most concern in these anthropogenic factors is the increase in CO₂ levels due to emissions from fossil fuel combustion, followed by aerosols (particulate matter in the atmosphere) and cement manufacture. Other factors, including land use, ozone depletion, animal agriculture and deforestation, are also of concern in the roles they play - both separately and in conjunction with other factors - in affecting climate.

Restore land, halt desertification and combat drought

Land sustains life on earth. Natural spaces such as forests, farmlands, savannahs, peatlands and mountains provide humanity with the food, water and raw materials it needs to survive. Yet, more than 2 billion hectares of the world's land is degraded, affecting more than 3 billion people. Vital ecosystems and countless species are under threat. In the face of more severe and prolonged droughts, sandstorms and rising temperatures,

it is crucial to find ways to stop dry land from becoming desert, fresh water sources from evaporating and fertile soil from turning to dust.

Here are seven ways to get involved in ecosystem restoration on World Environment Day as outlined in the practical guide

1. Make agriculture sustainable

Globally, at least 2 billion people depend on agriculture for their livelihoods, particularly from rural and poorer areas. However, our food systems are unsustainable and a prime driver of land degradation. There is a lot we can do to do this. Governments and the finance sector can promote regenerative agriculture to increase food production while preserving ecosystems. Governments could redirect agricultural subsidies towards sustainable practices and small-scale farmers.

Agricultural businesses can develop climate-resilient crops, harness indigenous knowledge to develop sustainable farming methods and better manage the use of pesticides and fertilizers to avoid harming soil health. Consumers can embrace regional, seasonal and plant-rich diets and include more soil-friendly food in meals, such as beans, lentils, chickpeas and peas.

2. Save the soil

Soil is more than just the dirt under our feet. It is the planet's most biodiverse habitat. Almost sixty per cent of all species live in soil, and 95 per cent of the food we eat is produced from it. Healthy soil acts as a carbon sink, locking in greenhouse gases that would otherwise enter the atmosphere, playing a vital role in climate mitigation. Governments and the finance sector can support organic and soil-friendly farming to keep soil healthy and productive. Agricultural businesses can practice zero-tillage, which involves cultivating crops without disturbing the soil through tillage to maintain organic soil cover. Composting

organic materials could be added to soil to improve its fertility. Irrigation techniques, such as drip irrigation or mulching, could help maintain soil moisture levels and prevent drought stress. Individuals could make compost from leftover scraps of fruit and vegetable for use in their gardens and balcony plant pots.

3. Protect the pollinators

Three out of four crops producing fruits and seeds depend on pollinators. Bees are the most prolific pollinators, but they get a lot of help from bats, insects, butterflies, birds and beetles. In fact, without bats, we can say goodbye to bananas, avocados and mangoes. Despite their importance, all pollinators are in severe decline, especially bees.

To protect them, people must reduce air pollution, minimize the adverse impact of pesticides and fertilizers, and conserve the meadows, forests, and wetlands where pollinators thrive. Authorities and individuals could now have fewer green spaces in cities and introduce more pollinator-friendly ponds to allow nature to return. Planting diverse native flowers in city and home gardens will attract birds, butterflies and bees.

4. Restore freshwater ecosystems

Freshwater ecosystems sustain the water cycles that keep land fertile. They supply food and water to billions of people, protect us from droughts and goods, and provide a habitat for countless plants and animals. Yet they are disappearing at an alarming rate due to pollution, climate change, overfishing and over-extraction.

People can stop this by improving water quality, identifying pollution sources and monitoring freshwater ecosystems' health. Countries can join the Freshwater Challenge to accelerate the restoration of degraded rivers and wetlands by 2030. Invasive species could be removed from degraded freshwater habitats,

and native vegetation could be replanted. Cities could champion wastewater innovation that addresses sewage management, storm water runoff and urban flooding.

5. Renew coastal and marine areas

Oceans and seas provide humanity with oxygen, food and water while mitigating climate change and helping communities adapt to extreme weather. More than 3 billion people, primarily in developing nations, rely on marine and coastal biodiversity for their livelihoods. Countries can restore blue ecosystems – including mangroves, salt marshes, kelp forests and coral reefs – while enforcing strict regulations on pollution, excess nutrients, agricultural runoff, industrial discharge and plastic waste to prevent them from leaching into coastal areas.

Countries could adopt a life-cycle approach to redesign plastic products to ensure they can be reused, repurposed, repaired, recycled – and ultimately kept out of the ocean. Businesses can invest in recovering nutrients from wastewater and livestock waste as fertilizers.

6. Bring nature back to cities

More than half of the world's population lives in cities. By 2050, it is projected that two in three people will live in an urban center. Cities consume 75 per cent of the planet's resources, produce more than half its global waste and generate at least 60 per cent of greenhouse gas emissions. As cities grow, they transform the natural world, potentially leading to droughts and land degradation.

But cities do not need to be concrete jungles. Urban forests can improve air quality, provide more shade and reduce the need for mechanical cooling. Preserving cities' canals, ponds, and other water bodies can alleviate heat waves and increase biodiversity. Installing more roofs and vertical gardens in our buildings can provide habitats for birds, insects, and plants.

7. Generate financing for restoration

Investments in nature-based solutions need to more than double to US\$ 542 billion by 2030 to meet the world's climate, biodiversity and ecosystem restoration goals. To close the existing finance gap, governments could invest in early warning systems to prevent the worst impacts of drought and fund land restoration activities and nature-based solutions. The private sector could integrate ecosystem restoration into their business models, implement efficient waste management practices and invest in social enterprises focused on sustainable agriculture, eco-tourism and green technology.

Individuals can move their bank accounts to finance institutes that invest in sustainable enterprises, donate to restoration or crowd-fund for innovations that can help save the planet.

Conclusion

In view of the global environmental changes, it is likely that the frequency and impact of disasters will increase the world over. The population pressure is causing degradation of environment by interrupting the water flow, hydrological cycles, causing either landslides, floods, soil erosion etc. As a welfare state, the Government will have to take the lead in disaster prevention and reduction and mitigating their impact, enhancing the awareness of the coping mechanisms among the people and to prevent loss of lives and property.

The public awareness will have to be also created through the NGOs apart from the local administration. It should be the combined effort of the Government at Centre, the State, the District and the Panchayats. NGOs and people are to pool their resources, capability and put in their best efforts to face the situation and to mitigate the losses.



The Panchatantra of Environment

Prof. K.C.Sahu, Mumbai
Sahukc_kc@yahoo.com.

1. Environment is now in the center stage of every subjects – Science, Technology, Arts, Society, Industry, Education, even Politics. It is a Band Wagon of Environmentalists and Environmental Activists.
2. By definition, “Environment is sum total of Physics and Chemistry of Air, Water and Soil, where Living things live” (Biology). For Humans it includes economical, social and cultural issues (Anthropocentric).
3. For all of us, the scales of Time and Space for Environment depend on our awareness (Environmental Awakening).
 - For students and the Head Master, it is the School and School hours.
 - For an MLA or MP, it is his or her Constituency and the period he/she holds the position.
 - For the CM of Odissa or PM of India, it is Odissa or India, till they hold the position.
 - For an Environmentalist, it is the environment of the entire planet and all living species, Plants and Animals. Some extreme Environmentalists rightly include inorganic objects in the environment. Rightly because, the inorganic objects like, Mountains, Rivers, Rocks, Water and Oxygen in air, indirectly control the Environment.
4. Natural changes in Environment are slow and holistic and Env. stress balanced by recuperation (Homeostasis). Man made changes are fast and sectoral, therefore end up with catastrophe, popularly known as Checks & Balances of Nature.

5. Pollution is the central actor of Environment, therefore must be understood properly:

a). Pollution is caused by an agent called Pollutant, say Hg or Cu in water.

(b). Pollutant is a Resource out of place – Cu in water is a pollutant but is a resource in Electrical wire. Similarly, a student in class room is a resource for the nation but is a Pollutant when on strike/Gherao on the road. Also, a Farmer in farm is a resource, but is a Pollutant when living in a city slum. Also remember that ‘Resource’ becomes a curse when in excess. “ *Jala Gahala Hela Ta Pakshe Yama, Ati Sampada Babu Maha Bishama*” –Gangadhar Meher.

(c). Like, one person’s meat is another’s poison, –CO₂ is good for Plants but it has produced Global Warming for Humans.

Epilogue: None of us are born to protect, preserve or save the Environment by our acquired technological capability – by doing so we only further damage the Environment; we are born only to live with the dynamic environment of the Nature.



Fifty years of Crocodile Conservation in Bhitarkarnika National Park/ Sanctuary, Odisha, India (1975-2025)

(Invited article)



Sudhakar Kar

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and Member- Odisha Environmental
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The Conservation and Research Programme for estuarine crocodile (*Crocodylus porosus*) (Odia: Baula Kumbhira, ବଉଳା କୁମ୍ଭିରା) was implemented by the Odisha Forest Department in Bhitarkanika Wildlife Sanctuary/National Park as a part of the national crocodile conservation project, initiated in collaborations of the Government of India, FAO/UNDP in mid - 1975. During the winter 1976, for the first time, winter census was conducted in the Bhitarkanika river systems to assess the population status of estuarine crocodiles. At that time, the number of estuarine crocodiles in Bhitarkanika area was counted to be 96, including 29 adults and 6 sub-adults.

Bhitarkanika Sanctuary has set the trend of sanctuary creation in Odisha state in 1975. The sanctuary was created for conservation of the estuarine crocodile. The sanctuary extends over 672 sq.km area. In the year 1998 an area of 145 sq.km was constituted as the national park. Bhitarkanika crocodile

conservation project was instrumental in creating consciousness and starting of the programs for the conservation of mangroves in the estuaries of rivers Brahmani-Baitarani system and conservation of marine turtles (*Lepidochelys olivacea*) along the coast from Gahirmatha up to the mouth of river Rushikulya in the south.

Bhitarkanika stands out very prominently in the Indian history of crocodile conservation. Every winter, from 1976, census of the crocodile has been carried out. The last census was conducted on 18-21 January 2025, and it also included river systems of Gahirmatha Wildlife Sanctuary and the Mahanadi deltaic areas. Twenty-two census teams were engaged to count the crocodile population in 54 segments of rivers/creeks. Surveys were carried out during the day to estimate crocodiles whose length is above 1.8 m. They include the sub-adults and adults. Night-time spotlight survey was carried out to obtain estimates for crocodiles which are smaller in length than 1.8 m. They include the hatchlings (<0.6 m), yearlings (0.6<0.9 m) and the juveniles (0.9<1.8 m)].

Editorial Note:

*The saltwater crocodile (*Crocodylus porosus*) of Bhitarkanika also occurs in Australia, South-western Pacific and other parts of Asia. Within Indian territory it occurs in Odisha, West Bengal and the Andaman Islands. The survival and sustenance of the species is linked to estuarine habitat and mangrove ecosystem. As India completes 50-years of crocodile conservation in India, Bhitarkanika holds the most successful results. The Orissa Environmental Society takes the pride and pleasure in chronicling the trend of growth of the species through this invited article from our member, Dr. Sudhakar Kar, who worked his life time in Bhitarkanika for monitoring the species every year.*

During this survey, 1826 crocodiles were counted, comprising 585 hatchlings (32.0%), 403 yearlings (22.1%), 328 juveniles (18.0%), 164 sub-adults (9.0%) and 346 adults (18.9%) (Table 1). Most (1423; 77.9%) crocodiles were counted in Kanika Wildlife Range, which included forest blocks and rivers starting from Khola to Bhitarkanika-Pathasala confluence and beyond in Bramhani-Baitarani River systems. The remainder were observed in Rajnagar Wildlife Range (274; 15.0%) and the Mahanadi delta (Mahakalapada Wildlife Range 92; 5.0%; Gahirmatha Wildlife Range 37; 2.0%). Sixteen leucistic crocodiles (“Sankhua”, Odia: 6'MAA.M-@0) were also sighted during surveys. These are crocodiles in white colour, and rarely seen in nature and very occasionally in captivity.

The *C. porosus* population has clearly increased significantly over time, as a result of natural recruitment and the reintroduction of head-started crocodiles (N= 3008 between 1977 and March 2024). Over the 20-year period 2005-2024, the mean annual rate of increase has been around 2.45% p.a. In more recent years, 2016-2022, the mean rate has slowed slightly, to 2.15% p.a. Long-term population monitoring will determine whether this trend towards stability continues.

Acknowledgments

I am thankful to the Chief Wildlife Wardens, Odisha and Wildlife Wardens of Athagarh Forest Division and the Bhitarkanika Mangrove (Wildlife) Division, Chandabali/Rajnagar for extending support to conduct study on ecology and biology, and also captive populations, of Estuarine crocodiles in Bhitarkanika Mangrove ecosystem since July 1975. CSG members have provided technical support and assistance during my 50 years of research on crocodiles in Bhitarkanika - I am grateful to all of them. People residing in the villages surrounding the National Park, especially in Dangamal, supported me

wholeheartedly throughout my study and stay in Bhitarkanika. I am really thankful to one and all.

Table 1. Estuarine crocodile counts in Bhitarkanika National Park/Wildlife Sanctuary, 1976-2025 (N= 38 surveys). H= hatchlings, Y= yearlings, J= juveniles, SA= sub-adults, A= adults, NH= total non-hatchling count, Total= total count (ie including hatchlings). *= yearlings counted as juveniles. See Kar (2024).

Year	H	Y	J	SA	A	NH	Total
1976	0	*	61	6	29	96	96
1985	0	*	118	13	34	165	165
1986	0	*	152	20	39	211	211
1989	0	*	213	32	58	303	303
1991	48	*	169	37	62	275	323
1993	115	*	179	53	67	299	414
1994	172	*	286	57	68	411	583
1995	208	*	323	60	69	452	660
1996	240	141	134	61	70	406	646
1997	191	184	151	63	71	469	660
1998	209	171	144	71	73	459	668
1999	198	166	152	82	74	474	672
2000	328	214	188	98	96	586	914
2001	391	258	246	105	98	707	1098
2002	467	327	282	117	137	863	1330
2003	404	360	181	121	162	824	1308
2004	531	306	210	127	184	827	1358
2005	681	290	169	107	207	773	1454

2006	657	283	197	122	203	805	1462
2007	503	368	259	135	232	994	1497
2008	538	343	231	143	261	978	1516
2009	538	375	264	148	271	1058	1596
2010	519	373	298	156	281	1108	1627
2011	531	377	304	166	292	1139	1670
2012	489	320	427	154	269	1170	1659
2013	486	356	396	128	295	1175	1661
2014	504	387	307	142	304	1340	1644
2015	511	380	317	149	308	1154	1665
2016	597	342	269	164	299	1074	1682
2017	608	334	266	172	302	1074	1682
2018	610	338	267	172	311	1088	1698
2019	619	349	273	178	325	1123	1742
2020	620	325	288	185	339	1137	1757
2021	593	367	320	152	336	1175	1768
2022	564	378	338	158	346	1220	1784
2023	569	388	325	166	345	1224	1793
2024	582	387	327	167	348	1229	1811
2025	585	403	328	164	346	1241	1826

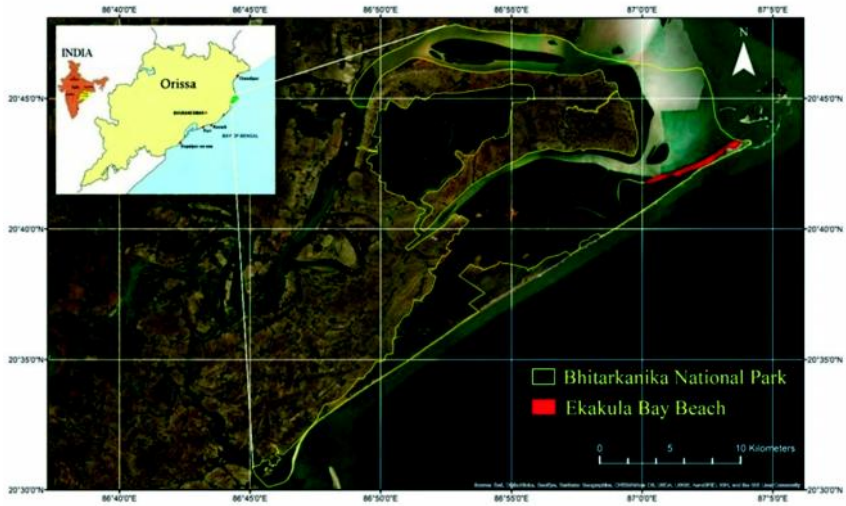


Fig.1 The Google Earth map showing location of Bhitarkanika National Park/Sanctuary.



Fig.2 View of the luxuriant mangrove covers on both sides of Bhitarkanika river in high tide conditions



Fig. 3. A young large male crocodile (4.5m) was seen basking on the river bank.



Fig. 4. Basking of a partial female white (Sankhua) crocodile (3.2 mlong) on the mudbank.

World Health Day

Theme: Health for All

The programme was held on 07 April 2024 in collaboration with the Regional Science Centre. Dr. Srikant Panda, HOD of General Surgery, SCB Medical College and Hospital, Cuttack honoured the event as the Chief Guest.

ଓଇଏସ୍ ଓ ଆରଏସ୍ଏସ୍ସିର ବିଶ୍ୱ ସ୍ୱାସ୍ଥ୍ୟ ଦିବସ ପାଳିତ

■ ଭୁବନେଶ୍ୱର, ଗଣ୍ଡାଧିକାରୀ (ଦିବସ-ସମ୍ବନ୍ଧ) ପରିବେଶର ଗୁଣାତ୍ମକ ମାନ ଦିନକୁ ଦିନ ଅବକ୍ଷୟିତ ହୋଇ ଚାଲିଥିବାରୁ ସ୍ୱାସ୍ଥ୍ୟ ନିରୋଧର ଫଳାଫଳାଫଳ ବଦଳିବା ଜ୍ୱଳଣୀ ଅସମ୍ଭବ ବୋଧ ହେଉଛି । ମାନବୀୟ ନିକାଶମୂଳକ କାର୍ଯ୍ୟକ୍ରମ ଗ୍ରହଣ କରିବା ଉପରେ ପରିବେଶ ପ୍ରଦୂଷିତ ହୋଇଚାଲିଛି । ଯାହାର ସିଧା ସଳଖ ପ୍ରଭାବ ସ୍ୱାସ୍ଥ୍ୟ ଉପରେ ପଡୁଛି । ହୃଦ୍‌ଘାତ, ରୋଗ, ଉଚ୍ଚ ରକ୍ତଚାପ, ଶ୍ୱାସକ୍ରିୟାକମିତ ସମସ୍ୟା, ହମୋନି ସମ୍ପର୍କିତ ରୋଗ, ପ୍ରଜନନ ସମସ୍ୟା ଏବଂ କର୍ବର ରୋଗ କ୍ରମେ ଅଧିକରୁ ଅଧିକ ଲୋକଙ୍କୁ ପ୍ରଭାବିତ କରୁଛି । ପ୍ରତ୍ୟକ୍ଷ ପ୍ରଭାବରେ ବିଭିନ୍ନ ସ୍ୱାସ୍ଥ୍ୟ ସମସ୍ୟା ସୃଷ୍ଟି କାରଣରୁ ୨୦୧୯ ଯୁଗରେ ବିଶ୍ୱରେ ୯୦ ଲକ୍ଷ ଲୋକଙ୍କର ଅକାଳ ମୃତ୍ୟୁ ଘଟିଥିଲା । ଯେଉଁଥିରେ ଭାରତର ୨୩ ଲକ୍ଷ ଲୋକ ଅନ୍ତର୍ଭୁକ୍ତ ଥିଲେ । ୨୦୨୩ ମସିହାର ଅନ୍ୟ ଏକ ରିପୋର୍ଟ ପ୍ରକାଶ କରିଛି ଯେ ବଙ୍ଗଳାଦେଶ ଏବଂ ପାକିସ୍ତାନ ପରି ଭାରତ ହେଉଛି ବୃତ୍ତାନ୍ତ ସର୍ବାଧିକ ପ୍ରଦୂଷିତ ରାଷ୍ଟ୍ର । ତେଣୁ ଭାରତ ପରିବେଶରେ ଉଚ୍ଚ ସ୍ୱାସ୍ଥ୍ୟ ଧାରଣ କରି ବଞ୍ଚିବା ଆମ ସମସ୍ତଙ୍କର ମୌଳିକ ଅଧିକାର ବୋଲି ଓଡ଼ିଶା ପରିବେଶ ସମିତି (ଓଇଏସ୍) ଏବଂ ଭୁବନେଶ୍ୱରରୁ ଅଞ୍ଚଳିକ ବିଜ୍ଞାନ କେନ୍ଦ୍ରର ନିର୍ଦ୍ଦେଶକ



ଗୁଣାତ୍ମକ ପରିବେଶରେ ଉତ୍ତମ ସ୍ୱାସ୍ଥ୍ୟ ଆମ ଅଧିକାର

ଅନୁବୃତ୍ତ୍ୟରେ ଆୟୋଜିତ ବିଶ୍ୱ ସ୍ୱାସ୍ଥ୍ୟ ଦିବସ ପାଳନ ଅବସରରେ ଓଡ଼ିଶା ମାନବ ସମ୍ବଳ ବିଭାଗର ନିର୍ଦ୍ଦେଶକ କାର୍ଯ୍ୟକ୍ରମରେ ମୁଖ୍ୟ ଅତିଥିଭାବେ ପ୍ରତ୍ୟେକର ଶ୍ରଦ୍ଧାପତ୍ର ଯୋଗଦେଇ ମୋ ସ୍ୱାସ୍ଥ୍ୟ ମୋ ଅଧିକାର ଉପରେ ବହୁତ ପ୍ରଭାବ କରୁଥିବାରୁ ଉଚ୍ଚ ଲକ୍ଷଣ ଲୋକଙ୍କର ସ୍ୱାସ୍ଥ୍ୟ ଅଧିକାର ଦିନକୁ ଦିନ ବିପଦରେ ପଡୁଛି । ବିଭିନ୍ନ ରୋଗ ଏବଂ ବିପର୍ଯ୍ୟୟମାନଙ୍କ ମୃତ୍ୟୁ ଏବଂ ଅକ୍ଷମତାର ବଡ଼ କାରଣ ଭାବରେ ଉଭା ହେଉଛି । ବିଜ୍ଞାନର ନୂତନ ଜ୍ଞାନର ପ୍ରୟୋଗରେ ଏବେ ଆମକୁ ସ୍ୱାସ୍ଥ୍ୟ ସମସ୍ୟା ସମ୍ବନ୍ଧରେ ସମାଧାନ ପଥ ନିରୁପଣ କରିବାକୁ ପଡିବ । କାର୍ଯ୍ୟକ୍ରମରେ ଅଧ୍ୟକ୍ଷତା କରି

ଓଇଏସ୍ ସଭାପତି ଡଃ ପୁର ନାରାୟଣ ପାତ୍ର ପରିବେଶ ପ୍ରଦୂଷଣ ବିପତ୍ତି ସ୍ୱାସ୍ଥ୍ୟ ସମସ୍ୟାର କାରଣ ହେଉଛି, ତାହା ବର୍ଦ୍ଧିତା କରିଥିଲେ । ପ୍ରାଚୀନରେ ଓଇଏସ୍ ସମାଜକ ତ. କରକୃଷ୍ଣ ପାଣିଗ୍ରାହୀ ସ୍ୱାଗତ କାର୍ଯ୍ୟକ୍ରମ ପ୍ରଦାନ କରିଥିଲେ । ପୂର୍ବରୁ ପିସିସିଏଏ ଡଃ ବିଜୟ କେତକ ପଦ୍ମନାଭଙ୍କ ସ୍ୱାଗତକ୍ରମକୁ ପରିବେଶର ପ୍ରଭାବ ଦିନରେ ଯତ୍ନବାନ ହେବାକୁ ପରାମର୍ଶ ଦେଇଥିଲେ । ଏହି

ଅବସରରେ ଆୟୋଜିତ ବିଭାଗର ଓ ଭୁବନ ପ୍ରତିଯୋଗିତାର ବିଭିନ୍ନ ସ୍ତରୀୟ ଅତିଥିମାନେ ପ୍ରବଚନ କରିଥିଲେ । ଓଇଏସ୍ ଉପ-ସଭାପତି ଡଃ ଲାଲା ଏ.କେ. ଦିଅ ଅତିଥିଭାବେ ପରିବେଶ ପ୍ରଦୂଷଣ ବିପତ୍ତି ସ୍ୱାସ୍ଥ୍ୟ ସମସ୍ୟାର କାରଣ ହେଉଛି । ଏବଂ ଡଃ ବିଶ୍ୱା ପଟ୍ଟନାୟକ ବିଭାଗରୁ ପ୍ରତିଯୋଗିତା ଆୟୋଜନ କରିଥିଲେ । ଷ୍ଟେଟ୍ ବ୍ୟାଙ୍କର ପୂର୍ବରୁ ପିସିଏସ୍ ଉପାଧ୍ୟକ୍ଷ ଡଃ କରକୃଷ୍ଣ ପାଣିଗ୍ରାହୀ ପ୍ରତ୍ୟେକଙ୍କର ଏବଂ ଡଃ ବିଶ୍ୱା ପଟ୍ଟନାୟକ ବିଭାଗରୁ ପ୍ରତିଯୋଗିତା କରିଥିଲେ । ବିଜ୍ଞାନ କେନ୍ଦ୍ରର ଶିକ୍ଷା ଅଧିକାରୀ ଡଃ ସୁଧାଂଶୁ ଶତପଥୀ ପରିବେଶରେ ଧ୍ୟାନବାଦ ଅର୍ପଣ କରିଥିଲେ ।

World Health Day 'Good health in quality environment is our right'

PNS ■ BHUBANESWAR
It is the basic right of all of us to grow up with good health in a quality environment, opined the speakers on the occasion of World Health Day organised jointly by the Orissa Environmental Society (OES) and the Regional Science Centre, Bhubaneswar.
Prof (Dr) Srikant Panda, former HoD of General Surgery, SCB Medical College and Hospital, Cuttack was the chief guest of the programme.
Addressing this year's theme 'My Health, My Right', as decided by the World Health Organization, Prof Panda said that millions of people's right to health is under increasing threat day by day. He opined that various diseases and disas-



ters are emerging as major causes of human death and disability. "Now we have to find out lasting solutions to health problems by applying the new knowledge acquired by societies," he said.
Presiding over the programme, OES president Dr Sundar Narayan Patro explained how environmental pollution causes health problems and he emphasized the importance of adopting a healthy lifestyle to be disease-free.

In the beginning, secretary Dr Jayakrushna Panigrahi delivered the welcome address highlighting the relationship between good quality environment and building healthy societies.
Former PCCF Dr Bijay Ketan Patnaik advised the students to play a leading role in protecting the environment.
The guests presented prizes and certificates to the winners of the drawing and quiz competitions organised on this year's theme.

OES vice-president Dr Lala AK Singh introduced the guests and Education Officer of the Science Centre Himanshu Shekhar Sathpathy presented the vote of thanks. Er Manoranjan Mishra and Rabindra Kumar Marandi organized the competitions.
Former CGM of State Bank Ramesh Panda, poet Swarna Behera and Er Dillip Sathpathy joined as judges for the competitions. The event was attended by many students, teachers and intellectuals.

1. Lectures on Environment and Science

List of P. K. Dash Memorial Lectures

Delivered on OES Foundation Day (2012-2024)

2024: Sri Debidutta Biswal, Principal Chief Conservator of Forests and Head of Forest Force, Odisha: “Management of three nature conservation issues in Odisha”.

2023: Dr. Sandeep Kumar Pattnaik, Associate Professor, School of Earth Sciences, IIT Bhubaneswar: ‘New insights on extreme weather event predictions in a climate change scenario in India’.

2022: Sri Sidhanta Das, Former Director General of Forests, Government of India; ‘Conservation and Climate Change’

2021: Dr. Veerendra Pratap Upadhyaya, Former Adviser, MoEFCC, Govt. of India: ‘Environment Odisha: The way forward’.

2020: Dr. Anup Kumar Nayak, Former Additional Director General (Wildlife) and Member Secretary, National Tiger Conservation Authority, Government of India: ‘Tiger Conservation’.

2019: Prof. Pramod Chandra Mishra, President, Odisha Bigyan Academy: ‘Fluorosis: Source, Excursion, Control and Management’.

2018: Dr. Debabrata Swain, IFS, Principal Chief Conservator

of Forests, Odisha: 'Conservation of Biodiversity Habitats in Odisha'.

2017: Sri Saroj Kumar Pattnaik, Former Addl. PCCF (Wildlife) and Chief Wildlife Warden, Odisha: 'Wildlife Scenario in Odisha'.

2016: Er. Nanda Kumar Mohapatra, Former Chief Engineer-Irrigation, Government of Odisha: 'Water Resources: Engine for Improvement of Quality of Life and Economic Development'.

2015: Sri Priyanath Padhi, Former Principal Chief Conservator of Forests, Odisha: 'Conservation of environment and the poor- a social dimension'.

2014: Prof. (Dr) Omkar Nath Mohanty, Director, Technology and Academic Initiative, RSB Metaltech, RSB Group: 'Utilisation of effluents from integrated steel plants- some examples'.

2013: Dr. Trilochan Mohapatra, Director, Central Rice Research Institute, Cuttack: 'Environmentally sustainable food security'.

2012: Shri Bijay Kumar Patnaik, Former Principal Chief Conservator of Forests and Chief Wildlife Warden, UP: 'Wildlife Conservation in India'.



2. World Environment Day

The World Environment Day was observed on the 5th June 2024. President Dr. Sundara Narayana Patro, President, OES presided the meeting and conducted the programme. The Chief Guest for the occasion was Dr. Debasis Dash, Director, Institute of Life Sciences, Bhubaneswar. Chief Guest was Sri Dinesh Pruthi, CGM, State Bank of India, LHO, Bhubaneswar. The theme-talk for WED-2024 was given by the Chief Speaker Dr. Sarat Chandra Sahu, Director, Centre for Environment & Climate, SOA University, Bhubaneswar.



The following awards were presented to various individuals in recognition of their contributions and achievements in specific fields.

1. Water Man of Odisha Award

(Instituted by Ishwar Parbati Charitable Trust.)

Er. Ramesh Chandra Tripathy

Eminent Water Resources Management Expert

2. Lifetime Contribution to Health Services Award

(Instituted in memory of Dr. Pramod Kumar Acharya, Cardiologist)

Prof. (Dr.) Pravat Kumar Dash

Distinguished Cardiologist

3. Environmentalist of the Year Award

(Instituted in memory of Mrs. Parbati Mishra, Philanthropist)

Prof. (Dr.) Baman Chandra Acharya

Former Prof. of Botany, Odisha Education Service

4. Green Crusader Award

(Instituted by Dr. Chitta Ranjan Mishra, Popular Science Writer)

Mr. Sukant Patnaik

CSR Expert



ଓଜସ୍ବ ପରିବେଶ ପୁରସ୍କାର ପ୍ରଦାନ

‘ଭୂମିର ସୁରକ୍ଷା ଆମର ବ୍ରତହେବା ଆବଶ୍ୟକ’

ଭୁବନେଶ୍ୱର, ୫.୧୬/୩୧-୧୧-୨୦୧୭: ପୂର୍ବରତ୍ନ ହରିଶଚନ୍ଦ୍ରପାଠେ ୧୯୯୨ ମସିହାରେ ଆଲୋଚିତ କୃଷିପଦ୍ଧତି ମନବ ପରିବେଶ ସମ୍ବନ୍ଧରେ ବିଶ୍ୱ ପରିବେଶ ଦିବସ ସ୍ୱରୂପରେ ପ୍ରକାଶ କରିବାକୁ ପିକ୍ସି ପୁସ୍ତକ ଏକ ପ୍ରକାଶ ଏବଂ ଦିବସ ୧୯୯୩ରେ ‘ବେଗ ଯେମିତି ପୁରୁଣା’ ବିଜ୍ଞାନସ୍ୱରୂପରେ ପ୍ରକାଶ କରାଯାଇଥିଲା। ଏହାର ପରିଚିତ ଉଦ୍ଦେଶ୍ୟ ଯେଉଁଠି ପ୍ରତିବନ୍ଧ ମନବ କାର୍ଯ୍ୟକ୍ରମରେ ପରିଣତ ହୁଏତ ତାହାକୁ କମ୍ କରାଯାଇ ବିକଳ ହୁଏତ ପରିବେଶ ଅତ୍ୟନ୍ତ ଉପରେ ଧ୍ୟାନ ଦେବାକୁ ହେବ। ପୂର୍ବରତ୍ନ ପରିବେଶ ବିଭାଗର ଅଧ୍ୟକ୍ଷ ପ୍ରଫୁଲ୍ଲ କୁମାର ସିଂହପାଲ ନିର୍ଦ୍ଦେଶ ଦେଇ ଏହି ପୁସ୍ତକର, ମନୁସ୍କ୍ରିପ୍ଟର ଏବଂ ମନୁସ୍କ୍ରିପ୍ଟର ପ୍ରତିରୋଧ। ଶ୍ରୀମତୀ ପରିବେଶ ସମ୍ବନ୍ଧରେ ଅନୁସନ୍ଧାନରେ ସାହାଯ୍ୟ କରିବେ, ପୁସ୍ତକ ମନୋରମ ପ୍ରକାଶ ଆକାଶରେ ଆଲୋଚନା ଏବଂ କାର୍ଯ୍ୟକ୍ରମର ପୁଣି ଅନୁସନ୍ଧାନ ହେବାରୁ ପ୍ରକାଶ କରିବାର



ପ୍ରତିଷ୍ଠାପକ ନିର୍ଦ୍ଦେଶ ଦେଇ ଏହି ପୁସ୍ତକର ଏବଂ ମନୁସ୍କ୍ରିପ୍ଟର ପ୍ରତିରୋଧ। ଶ୍ରୀମତୀ ପରିବେଶ ସମ୍ବନ୍ଧରେ ଅନୁସନ୍ଧାନରେ ସାହାଯ୍ୟ କରିବେ, ପୁସ୍ତକ ମନୋରମ ପ୍ରକାଶ ଆକାଶରେ ଆଲୋଚନା ଏବଂ କାର୍ଯ୍ୟକ୍ରମର ପୁଣି ଅନୁସନ୍ଧାନ ହେବାରୁ ପ୍ରକାଶ କରିବାର

କମଳାକାନ୍ତ ପୁରସ୍କାର କଳାକାର ବିଭାଗ ପୂର୍ବରତ୍ନ ହରିଶଚନ୍ଦ୍ର ପାଠେ ପ୍ରକାଶକ କର ବିଶେଷଜ୍ଞ ଡଃ. ରମେଶ ଚନ୍ଦ୍ର ତ୍ରିପାଠୀଙ୍କୁ ଏବଂ ‘ସୁସ୍ଥାବେଗ ଶ୍ରେଷ୍ଠ ଅବଦାନ ଅବଦାନ’ ପୁରସ୍କାର ବିଶ୍ୱ ଦୂରଦୂରାନ୍ତ ବିଶେଷଜ୍ଞ ପ୍ରଫୁଲ୍ଲ କୁମାର ସିଂହପାଲଙ୍କୁ ପ୍ରଦାନ କରିବେ। ପ୍ରକାଶକ କୁମାର ସିଂହପାଲଙ୍କୁ ପ୍ରଦାନ କରିବେ। ସେମାନେ ପୂର୍ବରତ୍ନ ଉପରେ ବିଜ୍ଞାନ ପ୍ରଦେୟ ଡଃ. ବାଳକ ଚନ୍ଦ୍ର ଆଚାର୍ଯ୍ୟଙ୍କୁ ‘ବୃକ୍ଷରକ୍ଷଣ ପରିବେଶବିତ୍’ ପୁରସ୍କାର ଏବଂ ବିଏସ୍‌ଆର୍ ପ୍ରଫୁଲ୍ଲ କୁମାରଙ୍କୁ ଶ୍ରେଷ୍ଠ ଉପାଦାନ ପୁସ୍ତକ ପ୍ରକାଶକଙ୍କୁ ‘ଉତ୍କଳ ଯୋଗୀ’ ପୁରସ୍କାରରେ ସମ୍ମାନିତ କରାଯାଇଥିଲା। ଉପ-ସଭାପତି ଡଃ. ଇଲ ଏ.କେ. ସିଂହ ଅଧିଷ୍ଠାନପତି ପରିବେଶ ପ୍ରଦାନ କରିବେ ଓ ମନୁସ୍କ୍ରିପ୍ଟ ପଠ କରିବେ। ସ୍ଥଳ କାର୍ଯ୍ୟକ୍ରମ ଓ ମନୋରମ ମିଶ୍ର ଧନ୍ୟବାଦ ଅର୍ପଣ କରିବେ।

‘ଭୂମିର ଅବକ୍ଷୟ ରୋକିବା ଏକାନ୍ତ ଆବଶ୍ୟକ’

ଈ. ରମେଶ ଚନ୍ଦ୍ର ତ୍ରିପାଠୀଙ୍କୁ ‘ଓଡ଼ିଶାର ଜଳ ମାନବ’ ପୁରସ୍କାର
ଭୁବନେଶ୍ୱର, ୫.୧୬ (ବନ୍ଦନା ସେଠୀ)



ଅତିଥିକ ଭାବରେ ପୁରସ୍କୃତ ଡଃ. ରମେଶ ଚନ୍ଦ୍ର ତ୍ରିପାଠୀଙ୍କ ସହ ଅନ୍ୟମାନେ।

ଓଡ଼ିଶା ପରିବେଶ ସମ୍ବନ୍ଧରେ ପ୍ରକାଶ କରାଯାଇଛି। ସମ୍ବନ୍ଧରେ ସଭାପତି ଡଃ. ପ୍ରଫୁଲ୍ଲ କୁମାର ସିଂହପାଲଙ୍କ ପ୍ରକାଶ ଆକାଶରେ ଅନୁସନ୍ଧାନ ସମ୍ମାନ କରାଯାଇଛି ଏବଂ କାର୍ଯ୍ୟକ୍ରମରେ ଭୁବନେଶ୍ୱରସ୍ଥିତ ଜ୍ଞାନ ବିଜ୍ଞାନ ପ୍ରତିଷ୍ଠାନ ନିର୍ଦ୍ଦେଶକ ଡଃ. ଦେବଶରଣ ଦାଶ ପୁଣି ଅତିଥି ଭାବରେ ଯୋଗଦେଇଥିଲେ। ପ୍ରାକୃତିକ ପରିବ୍ୟାପ୍ତୀର ପୁରସ୍କାର ଓ ମାନବ ପରିବେଶର ପ୍ରକାଶକ ବିଶ୍ୱାସ ଉପରେ ଡଃ. ଦାଶ ପୁରସ୍କାର ପ୍ରଦାନ କରିବେ, ଭୂମି ହେଉଛି ଖାଦ୍ୟ ଉତ୍ପାଦନ ଯାହା ମଣିଷ ତଥା ଅନ୍ୟ ଜୀବଜଗତ ଆବଶ୍ୟକ ସମ୍ବଳ ଉପରେ ପ୍ରଭାବ ପୁଣି ପୁରସ୍କାର କାର୍ଯ୍ୟକ୍ରମରେ ସହାୟକ କରିବା ସହ ଏହାର ଅବକ୍ଷୟ ରୋକିବା ଏହାର ଆବଶ୍ୟକ ବୋଲି ସେ ମତାମତ ଦେଇଥିଲେ। ପୁଣ୍ୟବତ୍ସା ଭାବେ ସେ

ବିଶ୍ୱବିଦ୍ୟାଳୟ ପରିବେଶ ଏବଂ ଜନସାଧୁ କେନ୍ଦ୍ରର ନିର୍ଦ୍ଦେଶକ ଡଃ. ଶରତ ଚନ୍ଦ୍ର ସାହୁ ଯୋଗଦେଇ ଜନସାଧୁ ପରିବର୍ତ୍ତନକୁ ନେଇ ବାରମ୍ବାର ମନୁସ୍କ୍ରିପ୍ଟ ପ୍ରତିରୋଧ ପୁଣି ଯୋଗୁ କରିବ ଅବକ୍ଷୟ ଏବଂ ମନୁସ୍କ୍ରିପ୍ଟର ବିକଳ ଚାହୁଁ ହେଉଛି ତାହା ବର୍ତ୍ତାନ କରିଥିଲେ। ସମ୍ବନ୍ଧରେ ସଭାପତି ଡଃ. କରକୃଷ୍ଣ ପାଣିଗ୍ରାହୀ କାର୍ଯ୍ୟକ୍ରମ ପରିବ୍ୟାପ୍ତୀ ପୁରସ୍କାର ଦଣ୍ଡି (୨୦୨୧ - ୨୦୩୦) ଭାବରେ ଆଲୋଚନା କରି ପରିବେଶ ଦିବସ ଉପରେ ପ୍ରକାଶକ ମହତ୍ତ୍ୱ ଉପରେ ସାଂକ୍ଷିପ୍ତ ବିବରଣୀ ଉପସ୍ଥାପନ କରିଥିଲେ।

ଏହି ଅବଦାନରେ ଜଳ ସମ୍ପଦ ବିଭାଗର ପୂର୍ବରତ୍ନ ହରିଶଚନ୍ଦ୍ର ପାଠେ ପ୍ରକାଶକ କର ବିଶେଷଜ୍ଞ ଡଃ. ରମେଶ ଚନ୍ଦ୍ର ତ୍ରିପାଠୀଙ୍କୁ ‘ଓଡ଼ିଶାର ଜଳ ମାନବ’ ପୁରସ୍କାର ପ୍ରଦାନ କରାଯାଇଥିଲା। ସେମାନେ ପୁରସ୍କାର ବିଶେଷଜ୍ଞ ଡଃ. ପ୍ରକାଶ କୁମାର ସିଂହପାଲଙ୍କୁ ‘ସୁସ୍ଥାବେଗ ଶ୍ରେଷ୍ଠ ଅବଦାନ ଅବଦାନ’ ପୁରସ୍କାର, ପୂର୍ବରତ୍ନ ଉପରେ ବିଜ୍ଞାନ ପ୍ରଦେୟ ଡଃ. ବାଳକ ଚନ୍ଦ୍ର ଆଚାର୍ଯ୍ୟଙ୍କୁ ‘ବୃକ୍ଷରକ୍ଷଣ ପରିବେଶବିତ୍’ ପୁରସ୍କାର ଏବଂ ବିଏସ୍‌ଆର୍ ତଥା ପ୍ରଫୁଲ୍ଲ କୁମାରଙ୍କୁ ଶ୍ରେଷ୍ଠ ଉପାଦାନ ପୁସ୍ତକ ପ୍ରକାଶକଙ୍କୁ ‘ଉତ୍କଳ ଯୋଗୀ’ ପୁରସ୍କାରରେ ସମ୍ମାନିତ କରାଯାଇଥିଲା। ଉପ-ସଭାପତି ଡଃ. ଇଲ ଏ.କେ. ସିଂହ ଅତିଥି ପରିବେଶ ପ୍ରଦାନ କରିବେ ଓ ମନୁସ୍କ୍ରିପ୍ଟ ପଠ କରିବେ। ସ୍ଥଳ କାର୍ଯ୍ୟକ୍ରମ ଓ ମନୋରମ ମିଶ୍ର ଧନ୍ୟବାଦ ଅର୍ପଣ କରିବେ।

ଏହି ଅବଦାନରେ ଜଳ ସମ୍ପଦ ବିଭାଗର ପୂର୍ବରତ୍ନ ହରିଶଚନ୍ଦ୍ର ପାଠେ ପ୍ରକାଶକ କର ବିଶେଷଜ୍ଞ ଡଃ. ରମେଶ ଚନ୍ଦ୍ର ତ୍ରିପାଠୀଙ୍କୁ ‘ଓଡ଼ିଶାର ଜଳ ମାନବ’ ପୁରସ୍କାର ପ୍ରଦାନ କରାଯାଇଥିଲା। ସେମାନେ ପୁରସ୍କାର ବିଶେଷଜ୍ଞ ଡଃ. ପ୍ରକାଶ କୁମାର ସିଂହପାଲଙ୍କୁ ‘ସୁସ୍ଥାବେଗ ଶ୍ରେଷ୍ଠ ଅବଦାନ ଅବଦାନ’ ପୁରସ୍କାର, ପୂର୍ବରତ୍ନ ଉପରେ ବିଜ୍ଞାନ ପ୍ରଦେୟ ଡଃ. ବାଳକ ଚନ୍ଦ୍ର ଆଚାର୍ଯ୍ୟଙ୍କୁ ‘ବୃକ୍ଷରକ୍ଷଣ ପରିବେଶବିତ୍’ ପୁରସ୍କାର ଏବଂ ବିଏସ୍‌ଆର୍ ତଥା ପ୍ରଫୁଲ୍ଲ କୁମାରଙ୍କୁ ଶ୍ରେଷ୍ଠ ଉପାଦାନ ପୁସ୍ତକ ପ୍ରକାଶକଙ୍କୁ ‘ଉତ୍କଳ ଯୋଗୀ’ ପୁରସ୍କାରରେ ସମ୍ମାନିତ କରାଯାଇଥିଲା। ଉପ-ସଭାପତି ଡଃ. ଇଲ ଏ.କେ. ସିଂହ ଅତିଥି ପରିବେଶ ପ୍ରଦାନ କରିବେ ଓ ମନୁସ୍କ୍ରିପ୍ଟ ପଠ କରିବେ। ସ୍ଥଳ କାର୍ଯ୍ୟକ୍ରମ ଓ ମନୋରମ ମିଶ୍ର ଧନ୍ୟବାଦ ଅର୍ପଣ କରିବେ।

3. OES Foundation Day and Annual General Body Meeting

03 November 2024

The Annual General Body Meeting of the Orissa Environmental Society (OES) was held on 3rd November, 2024 at 3.30 pm. It was presided over by Dr. Sundara Narayana Patro, President of the Society. The following are the proceedings of the meeting.

1. Dr. S.N. Patro, President extended a warm welcome to all the members present.
 2. Dr. Jayakrushna Panigrahi, Secretary presented the report of the last Annual General Body held on 5th November, 2023. It was unanimously accepted and confirmed. He also presented an account of the activities undertaken during November 2023 - October 2024.
 3. Prof. B. Seetarama Patro, Treasurer presented the Annual Audit Report for the year 2023-24 and it was accepted unanimously.
 4. Dr. J. K. Panigrahi gave a brief account of the 43rd Foundation Day Function of the Society held on the same day forenoon. Though it was scheduled to be held on 25th October, 2024, it had to be postponed to 3rd Nov. because of the cyclone 'Dana'. **Mr. Vivekananda Pattanaik**, IAS (Retd.), former Chairman, OPSC & Director, ICAO was the Chief Guest. **Mr. Debidutta Biswal**, IFS, PCCF an Head of Forest Force, Odisha was the Chief Speaker who presented the '13th Prasanna Kumar Dash Memorial Lecture'.
- **Prof. Binayak Rath** was honoured with the 'Lifetime Achievement Award'

- **Prof. Ajay Kumar Patra** was presented with the 'Environment & Science Communication Award' (Instituted by Dr. BC Panda)
 - **Dr.V.P. Upadhyay** received the 'Excellence in Environment Award' (Instituted by Prof. BS Patro)
 - **Prof. Bivas Pandav** was conferred with the 'Nature Conservation Award' (Instituted by Dr. SN Patro, in memory of his parents)
 - **Mr. Harekrishna Choudhury** received the 'Excellence in Environment Reporting Award'.
 - **Dr. V.P. Upadhyay, Prof. Sarat Kumar Palita, Dr. Nabin Kumar Dhal and Prof. Puspanjali Parida** were conferred with the 'OES Fellow'.
 - **Prof. K.C. Sahu, Prof. Puspanjali Parida, Mr. Parsuram Panda and Mr. Tapas Ranjan Mallick** were honoured as Patrons.
 - Senior Life Members of OES, **Mr. Ekadasi Nandi, Mr. Ramnarayan Gupta, Mr. Prakash Chandra Mishra, Mrs. Swapna Behera and Mr. Biswanath Puhan** were felicitated for their contribution to the activities of the Society.
 - At the end, Prof. B.S. Patro proposed the vote of thanks. Mr. Parasuram Panda, Mr. Biswanath Puhan, Er. Ram Chandra Tripathy, Dr. Surabhi Jain Mr. Sarat Kumar Swain and other members assisted in smooth conduct of the function.
5. Dr. J.K. Panigrahi, Secretary informed about the progress made with regard to the ensuing 25th Odisha Bigyan 'O' Paribesh Congress, scheduled to be held on November 29-30 at IMMT, Bhubaneswar with its collaboration.

6. The OES Annual Report 2023, distributed in the meeting among the members, was accepted and appreciated by one and all.
7. The Executive Committee of OES was reconstituted, as under, for a period of three years (2024-2027) as per the bylaws.
 - a) President : Dr. Sundara Narayana Patro
 - b) Working President : Dr. Jayakrushna Panigrahi
 - c) Vice President-I : Dr. Bijay Ketan Patnaik
 - d) Vice President-II : Dr. Lala Aswini Kumar Singh
 - e) Secretary : Er. Manoranjan Mishra
 - f) Joint Secretary : Dr. Surabhi Jain
 - g) Treasurer : Prof. B. Seetarama Patro
 - h) Members : Mr. Ekadasi Nandi, Er. Bimal Dash, Mr. Ramesh Chandra Panda, Er. K. Gandhi Choudhury, Er. Ashok Behera, Mr. Biswanath Puhan, Mrs. Swapna Behera, Mr. Parasuram Panda.
8. The Executive Committee was empowered to constitute the Advisory Board, Editorial Board, Clean & Green Campaign Committee, Research Committee, Odisha Bigyan 'O' Paribesh Congress Committee, and any other committee as the EC deems as and when necessary.
9. Monthly seminars and other programmes may be organized in different schools and colleges. This suggestion was made by Mr. Raghunath Prusty. He was requested to work out in details and also coordinate it.
10. Prof. Baman Chandra Acharya suggested to create a data base on wild flora and fauna of the state. He offered to work out the details and take the responsibility to develop the same.

11. Mr. Bikash Mohanty offered to spare his time to organize the OES library in a systematic manner and offered his services voluntarily to do the job.
12. Mr. Nirad Baran Khuntia suggested to open regional branches of OES. It was discussed. Based on the past experience President Dr. S.N. Patro stated that there will be logistic problems, as has happened in the past. However, the President was requested to examine the feasibility of the suggestion.
13. Prof. Rama Chandra Mohanty suggested to observe all the important international and national days on nature and environment, such as World Wetlands Day, World Water Day and World Biodiversity Day. Dr. S.N. Patro, explained that World Environment Day, National Wildlife Week, World Health Day and such days are being observed by the OES. However, efforts will be made to observe the suggested days, if possible.
14. It was suggested to call for a joint meeting of the newly reconstituted and the outgoing Executive Committees at the earliest and implement all the decisions taken at the AGM.

Dr. J. K. Panigrahi, Secretary proposed the vote of thanks and Dr. S.N. Patro, President announced the closing of the meeting with thanks.

4. 25th Odisha Bigyan 'O' Paribesh Congress (OBPC) - 2024

The Odisha Bigyan Congress (OBC) had its genesis in the year 1997 to endow with an apt platform to the scientific community of the State and deliberate on the advances in science and technology in diverse frontiers. From 2016 a little amendment has been there in the title of the Congress to make it the 'Odisha Bigyan 'O' Paribesh Congress' (OBPC) for focusing attention on the environmental challenges confronting the mankind at the present juncture. Every year the Congress brings out voluminous proceedings in the shape of a book. A large number of students and scholars use the platform provided by OBPC and the proceedings to communicate their research work and achievements. The Congress has been successfully organized in different academic institutions for the last twenty-four years. Thanks to the dedicated teams at OES and the year-wise respective hosts.

4.1. A Brief Report: The Proceedings of the 25th Odisha Bigyan 'O' Paribesh Congress (OBPC)

The Silver Jubilee session of the Odisha Bigyan 'O' Bigyan Congress was organized on November 29-30, 2024 under the joint auspices of the Orissa Environmental Society and the CSIR-Institute of Minerals & Materials Technology (IMMT), Bhubaneswar in the auditorium of IMMT. A national seminar on the focal theme 'Fostering Science for Holistic Development' was held in this 2-days program. The hectic schedule of program included inaugural function, a series of invited lecture programs, four parallel technical sessions (life sciences, physical sciences, technological sciences and environmental sciences), poster session and valedictory function. Distinguished academicians/

scientists were bestowed felicitations and young researchers were awarded for best presentations (both oral and poster) during the event.

Programme

Day 1 (November 29,2024 - Friday)

08:30 am-10:00 am	Registration
10:00 am-11:30 am	<p>Inaugural Function</p> <p>Chief Guest: Prof. Damodar Acharya, Former VC, BPUT & Chairman, AICTE</p> <p>Guest of Honour: Prof. Pravat Kumar Roul, VC, OUAT, Bhubaneswar</p> <p>Chief Speaker: Prof. Ramesh Goel, Dept. of Civil & Env. Engg., Univ. of Utah, USA</p> <p>President: Dr. Laxmidhar Besra, Chief Scientist & Head, M&ME, CSIR-IMMT</p> <p>Prof. Sundara Narayana Patro, President, Orissa Environmental Society</p> <p>Dr. Jaya Krushna Panigrahi, Working President, OES - Convener</p> <p>Dr. Nabin Kumar Dhal, Chief Scientist & Head, E&S, IMMT - Convener (In-house)</p> <p>Er. Manoranjan Mishra, Secretary, Orissa Environmental Society</p> <p>[Felicitations to distinguished academics/ scientists – Prof. Omkar Nath Mohanty, Former VC, BPUT; Prof. Kulamani Parida, Dir, N&N Centre, SOA Univ; Prof. Lala Behari Sukla, B&B Res. Centre; Prof. CBK</p>

	Mohanty, Former DMET, Odisha and Prof. Rama Chandra Mohanty, Former HoD of Botany, Utkal University)
11:30 am-11:40 pm	<i>Tea Break</i>
11:40 pm-12:30 pm	Keynote Address on 'Fostering Science for Holistic Development' by Prof. Ramesh Goel , The University of Utah, Salt Lake City, USA
12:30 pm-01:15 pm	Invited Lecture – I: 'Advancements in health sciences for combating emerging diseases' by Prof. E Venkata Rao , Dept. of Community Medicine, IMS & SUM Hospital, SOA University, Bhubaneswar
01:15 pm-02:00 pm	<i>Lunch Break</i>
02:15 pm-04:00 pm	Parallel Technical Sessions I (Life Sciences), II (Physical Sciences), III (Technological Sciences), IV (Environmental Sciences)
04:00 pm-04:15 pm	<i>Tea Break</i>
04:15 pm-05:30 pm	Technical Sessions – I, II, III, IV (to continue)

Day 2 (November 30, 2024 - Saturday)

10:00 am-11:30 am	Panel Discussion on 'Fostering Science for Holistic Development' Chair: Prof B Seetarama Patro , Former Dean,CET, Bhubaneswar Panelists: Er. Bibhu Prasad Mishra , VP, JSPL, Bhubaneswar Prof. Ashis Kumar Mohanty , Secretary, OBA, Bhubaneswar
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	<p>Dr. Amit Krishna De, Advisor & Former ES, ISCA, Kolkata</p> <p>Er. Sanjeeb Tripathy, Head of Environment, PPL, Paradeep</p>
11:30 am-11:45 am	Tea Break
11:45 am-12:30 pm	Invited Lecture – II: ‘India’s space mission – Indigenous capability’ by Shri Kartik Chandra Swain , Former Scientist, ISRO, Bengaluru
12:30 pm-01:10 pm	Invited Lecture – III: ‘Climate change and disaster challenges’ by Dr. Sanddep Pattnaik , Assoc. Professor, School of Earth, Ocean and Climate Sciences IIT Bhubaneswar
01:10 pm-02:00 pm	Lunch
02:00 pm-03:00 pm	Poster Session
03:00 pm-03:45 pm	Invited Lecture – IV: ‘Is over-dependence on technology making life critical?’ by Prof. Sunil Kumar Sarangi , former Director, NIT, Rourkela
03:45 pm-05:00 pm	<p>Valedictory Function</p> <p>Chief Guest: Prof. Omkar Nath Mohanty, Former VC, BPUT, Rourkela</p> <p>Guest of Honour: Dr. Sanghamitra Pati, Director, ICMR-RMRC, Bhubaneswar</p> <p>President: Prof. Sundara Narayana Patro, President, OES</p> <p>Dr. Jaya Krushna Panigrahi, Working President, OES - Convener</p> <p>Dr. Nabin Kumar Dhal, Chief Scientist & Head, E&S, IMMT - Convener (In-house)</p> <p>Prof. Sandeep Kundu, Co-Convenor, 25th OBPC</p>

4.2. Recommendations of the 25th Odisha Bigyan 'O' Paribesh Congress (OBPC)

The following are the recommendations of the 25th OBPC presented in the valedictory session.

The integration of science into the fabric of societal development is a cornerstone for progress in the 21st century. Fostering science for holistic development requires more than just advancements in technology and innovation. It entails leveraging scientific knowledge to nurture the physical, intellectual, emotional, social, and economic well-being of individuals and communities. Below are the key recommendations based on the seminar discussions on this crucial topic.

1. Promoting Interdisciplinary Collaboration

Holistic development is a multidimensional process, and science cannot be isolated from other areas of human endeavor. Fostering interdisciplinary collaboration among scientists, educators, policymakers, healthcare professionals, social workers, and other sectors is essential. Science must be understood as a tool that interacts with and supports cultural, psychological, and economic growth. Therefore, creating collaborative spaces where different disciplines can come together to solve real-world problems should be encouraged. Initiatives like joint research projects, conferences, and community-based action plans can help break down the silos between different sectors.

2. Focusing on Science Education at All Levels

The foundation of fostering science for holistic development lies in robust science education. Encouraging curiosity, critical thinking, and a problem-solving mindset from an early age is paramount. Science curricula should not only impart theoretical knowledge but also emphasize practical, hands-on learning experiences. Educators should promote inquiry-based learning

and provide students with opportunities to engage in scientific research. Moreover, incorporating lessons on the societal implications of science and technology will help students understand how their knowledge can contribute to the broader good of society.

In higher education, there should be a focus on equipping students with multidisciplinary skills that transcend traditional academic boundaries. Science and technology education should be linked with subjects like ethics, philosophy, economics, and social sciences to equip graduates with a more holistic understanding of the impact of their work.

3. Enhancing Public Engagement and Science Communication

Public engagement with science is essential for creating a well-informed and scientifically literate society. It is crucial to bridge the gap between scientific communities and the general public. Governments, institutions, and scientists should prioritize science communication to make complex scientific issues accessible and relatable. Initiatives like science festivals, community outreach programs, public lectures, and media campaigns can play a significant role in increasing public awareness about the importance of science in solving global challenges.

Furthermore, efforts should be made to ensure that science communication is inclusive, reaching people from diverse backgrounds, including marginalized and underserved communities. Public trust in science can be enhanced when people understand how scientific advancements directly impact their lives and can contribute to sustainable development.

4. Encouraging Ethical and Responsible Science

Holistic development involves not just scientific progress, but

also ensuring that science is applied responsibly and ethically. Scientists and institutions must adhere to ethical guidelines, particularly in research that involves human subjects, the environment, and sensitive data. It is important that ethical considerations are integrated into scientific curricula to train future scientists to think critically about the societal implications of their work.

Furthermore, transparent governance and regulation of scientific research are essential. Policy frameworks must be developed to ensure that scientific endeavors do not harm society or the environment, while also promoting responsible innovation. This includes establishing ethical boards and creating mechanisms for accountability in scientific research and technology development.

5. Investing in Sustainable Development and Green Technologies

The future of holistic development is intrinsically linked to sustainability. Governments, scientists, and industries must work together to develop and promote technologies that are both economically viable and environmentally friendly. Investing in renewable energy, waste reduction technologies, sustainable agriculture, and water conservation technologies is essential for ensuring that development does not come at the cost of the planet's health.

Moreover, there should be an emphasis on supporting green technologies that reduce carbon footprints and contribute to climate resilience. Governments can incentivize research and development in these areas by providing funding, tax breaks, and creating favorable policies that encourage innovation.

6. Strengthening Healthcare Systems with Scientific Innovation

The role of science in advancing healthcare cannot be overstated. Holistic development must involve improving public health systems to ensure that people have access to quality healthcare, especially in low-income regions. Scientific research should be directed toward solving pressing health issues like infectious diseases, non-communicable diseases, and mental health disorders. In addition, integrating digital health technologies and telemedicine can significantly improve healthcare access in remote or underserved areas.

In addition, health education and the promotion of preventive healthcare should be integral parts of science-based public health initiatives. Raising awareness about healthy lifestyles, nutrition, mental well-being, and hygiene through scientific studies and public campaigns can contribute to a healthier society overall.

7. Supporting Innovation and Technology Transfer to Foster Economic Growth

For science to contribute to holistic development, it must be tied to tangible outcomes in economic development. Innovation drives productivity, creates new industries, and improves the quality of life. Governments should create supportive environments for innovation by providing funding and resources for research and development, facilitating technology transfer from research institutions to industries, and offering incentives for startups and entrepreneurs in the technology sector.

Additionally, developing technology and scientific infrastructure in developing regions of the country can create opportunities for economic growth, reduce poverty, and enhance the quality of life. Collaborations between India and developed countries

in scientific research and technology transfer can lead to mutually beneficial outcomes and contribute to global development goals.

8. Ensuring Inclusivity in Science and Technology

Inclusivity must be at the core of fostering science for holistic development. Historically, certain groups, such as women, indigenous communities, and those in marginalized communities, have had limited access to scientific education and resources. To achieve truly holistic development, it is imperative to ensure that all individuals, regardless of gender, socioeconomic status, or geographic location, have equal opportunities to engage with and contribute to scientific advancements.

Programs to promote diversity and inclusion in science, such as scholarships for underrepresented groups, mentorship programs, and targeted outreach, should be expanded. By empowering all individuals to participate in the scientific process, societies can unlock a greater potential for creativity and innovation.

9. Summing Up

Fostering science for holistic development requires a collaborative, ethical, and inclusive approach. By enhancing education, promoting sustainability, improving public health, and supporting economic growth through scientific innovation, we can create a future where science serves as a powerful force for good in society. Holistic development is achievable when science is integrated into all aspects of human life, working not just for technological advancement but for the overall well-being of individuals and communities across the globe.

10. Odisha as a Model

A special drive needs to be undertaken by the Government of

Odisha for fostering science in order to achieve holistic societal development, emphasizing on environmental sustainability. This can be accomplished by involving all the stakeholders – scientific institutions, universities, corporate houses, civil society organizations and above all, the government.



4.3 Felicitation to Distinguished Scientists at OBPC (2006-2024)

SI No	No. of OBC (Year)/ Venue	Distinguished Scientists Felicitated
20.	25 th (2024) IMMT, Bhubaneswar	Prof. Omkar Nath Mohanty , Former VC, BPUT; Prof. Kulamani Parida , Dir, N&N Centre, SOA Univ; Prof. Lala Behari Sukla , B&B Res. Centre; Prof. CBK Mohanty , Former DMET, Odisha and Prof. Rama Chandra Mohanty , Former HoD of Botany, Utkal University
19.	24 th (2023) Berhampur University	Prof. Asok Kumar Mohapatra , former Director, AIIMS. Prof. Sunil Kumar Sarangi , former Director of NIT, Rourkela. Prof. Gouri Shankar Tripathy , former Head of Physics, Berhampur University. Prof. Malaya Kumar Mishra , former Head of Botany, Berhampur University.
18.	23 rd (2022) Sambalpur University	Prof. Pravat Kumar Mohapatra Former Professor, School of Life Sciences, Sambalpur University Prof. Pramod Chandra Mishra , Former Professor, Dept. of Environmental Sciences, Sambalpur University Dr. Chitta Ranjan Mishra , Former DGM, NALCO and Science Communicator Prof. Hrushikesh Sahoo Former Professor of Geology, Utkal University

		Prof. Sankar Prasad Pati Former Professor, School of Physics, Sambalpur University
17	22 nd (2021) Ravenshaw University	Prof. Krushna Chandra Sahu Former Professor, IIT Bombay Prof. Ganapati Panda Former Dy. Director, IIT BBSR Prof. Sanjay Kumar Nayak Vice Chancellor, Ravenshaw University Padmashree Dr. Ajay Parida Director, ILS Bhubaneswar Dr. Sanghamitra Pati Director, ICMR-RMRC, BBSR
16	21 st (2019) SOADU, Bhubaneswar	Prof. Ashok Kumar Tripathy Power Systems Engineer. Prof. Niranjana Barik Former Professor of Physics, Utkal University. Prof. Santosh Kumar Kar Professor, School of Biotechnology, KIIT University. Prof. Amit Banerjee Vice-Chancellor, Siksha 'O' Anusandhan University, Bhubaneswar
15	20 th (2018) NISER, Bhubaneswar	Prof. Mahendra Ku. Mahanti Former Dean, School of Physical Sciences, NEHU, Shillong Prof. Rabindranath Nayak Former Professor, Dept. of Microbiology, IISc, Bangalore. Prof. Sudarsan Nanda Prof. of Eminence & Research Chair, KIIT University, BBSR

		<p>Prof. Sudhakar Panda Director, NISER & Institute of Physics (IOP), Bhubaneswar.</p>
14	19 th (2017) KIIT University, Bhubaneswar	<p>Prof. Damodar Acharya Former Chairman, AICTE & Former Vice Chancellor, BPUT.</p> <p>Prof. Ch. Rajendra Praharaj Former Emeritus Professor, Institute of Physics, BBSR.</p> <p>Prof. Dhruva Raj Naik, Former Vice Chancellor, Sambalpur University.</p> <p>Padma Shri Prof. Subrat Kumar Acharya Former Dean, AIIMS, New Delhi</p>
13	18 th (2016) OUAT, Bhubaneswar	<p>Prof. Uma Charan Mohanty Former President, Odisha Bigyan Academy</p> <p>Prof. Uday Chand Biswal Former Vice Chancellor, Sambalpur University</p> <p>Prof. Surendranath Pasupalak Vice Chancellor, OUAT</p> <p>Dr. Trilochan Mohapatra Secretary, DARE & DG, ICAR</p>
12	17 th (2014) ITER, SOA University, Bhubaneswar	<p>Prof. Bhabendra Ku. Patnaik Former Vice Chancellor, Berhampur University.</p> <p>Prof. Sadananda Torasia Former Director, Sci. & Tech. Dept., Odisha.</p> <p>Prof. Chandra Sekhar Sarangi Former Vice Chancellor, Sri Jagannath Sanskrit University</p>

		<p>Prof. Bhaskar Dash Former Prof. and Head of Chemistry, Utkal University</p> <p>Prof. Gokulananda Das Former Vice Chancellor, Utkal University</p> <p>Dr. Sundara Narayana Patro, Founder Convenor, ISCA, Bhubaneswar Chapter</p>
11	16 th (2013) Institute of Physics, Bhubaneswar	<p>Prof. Amulya Kumar Panda Former Principal, Ravenshaw College</p> <p>Prof. Banchhanidhi Mishra Former Head, Dept. of Botany, Berhampur University</p> <p>Prof. Padma Lochan Nayak Former Head, Dept. of Chem., Ravenshaw College</p> <p>Prof. Pradipta Kishore Dash Director (R&D), ITER, SOAUniv., BBSR.</p> <p>Prof. Swadheenanda Pattanayak Former Head, Dept. of Math, Sambalpur University</p>
10	15 th (2012) Dept. of Geology, Utkal University	<p>Prof. Priyambada Mohanty Hejmadi Former Vice-Chancellor, Sambalpur University</p> <p>Prof. Somnath Mishra Former Principal, NIT, Rourkela</p> <p>Prof. Premananda Das Former Chief Executive, RPRC, Bhubaneswar</p> <p>Prof. Gopabandhu Behera Former Head, Dept. of Chem. Sambalpur University</p>

9	14 th (2011) OUAT, Bhubaneswar	<p>Dr. Bishnu Prasad Das Former EIC, Water Resources (Odisha)</p> <p>Prof. (Dr.) Rabindranath Sahoo Former Prof. in Neurology, SCB Medical College.</p> <p>Prof. Bimbadhar Nayak Former Prof. in Chemistry, IIT, Kharagpur.</p> <p>Prof. Debi Prasad Ray Vice Chancellor, OUAT,</p> <p>Dr. Achyuta Samanta Founder of KIIT & KISS, Bhubaneswar</p>
8	13 th (2010) RMNH, Bhubaneswar	<p>Prof. Satyananda Acharya Former Vice-Chancellor, Utkal University</p> <p>Prof. Nimai Charan Panda Former Principal, SCB Medical College</p> <p>Prof. Siva Prasad Mishra Former Director, Institute of Physics, Bhubaneswar</p>
7	12 th (2009) RMNH, Bhubaneswar	<p>Prof. Basudev Kar Former Principal & Superintendent, SCB Medical College</p> <p>Prof. Madhab Chandra Dash Former Vice-Chancellor, Sambalpur University</p> <p>Prof. Surjyo Narayan Behera Former Vice-Chancellor, Berhampur University</p>
6	11 th (2008) KIIT University, Bhubaneswar	<p>Padmabhusan Dr. Trilochan Pradhan, Former VC, Utkal Univ.</p>

		Dr. Susil Kumar Sinha, Former Prof. of Botany, OUAT
5	10 th (2006) OUAT, Bhubaneswar	Dr. Basant Kumar Behura, Former Prof. of Zoology, Utkal University Dr. Iswar Chadra Mahapatra, Former VC, OUAT. Dr. Khageswar Pradhan, Former VC, OUAT. Dr. Prafulla Kumar Jena, Former Director, RRL, Bhubaneswar Dr. Sanatan Rath, Former Prof. of Medicine (Neurology), SCB Medical College, Cuttack
4	9 th (2005) Institution of Engineers (India), BBSR	Dr. Gokulananda Mohapatra, Former Prof. of Chemistry & Popular Science Writer Dr. Radhanath Rath, Former Prof. of Psychology, Utkal University Dr. Gadadhara Mishra, Former Prof. of Botany, Utkal University
3	8 th (2004) RPRC, Bhubaneswar	Dr. Sarat Chadra Misra, Orchidologist (Former Chief Engineer - R&B
2	7 th (2003) Utkal University Bhubaneswar	Dr. Ajit Kumar Pattnaik, Chief Executive, Chilika Development Authority, Bhubaneswar

<p>1</p>	<p>6th (2002) Berhampur University, Berhampur</p>	<p>Dr. Kota Harinarayana, Aeronautical Engineer, Hindusthan Aeronautics, Bangalore Dr. Bibhuti Bhusan Deo, Former VC, Berhmapur University Dr. Prafulla Chandra Tripathy, Former Prof. of Botany, Utkal University Dr. Chandi Charan Das, Former Prof. of Zoology, Berhampur University</p>
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'ସମାଜର ସାମଗ୍ରିକ ବିକାଶ ପାଇଁ ବିଜ୍ଞାନର ବ୍ୟବହାର ଆବଶ୍ୟକ'



ଭୁବନେଶ୍ୱର, ୧୯ ଅକ୍ଟୋବର: ବିଜ୍ଞାନ ଏବଂ ପ୍ରଯୁକ୍ତି ବିଭାଗର ବିଭିନ୍ନ କ୍ଷେତ୍ରରେ ପରିଚିତ ଅନୁଷ୍ଠାନର ପ୍ରମୁଖ ନେତାମାନଙ୍କର ଉପସ୍ଥିତିରେ ଓଡ଼ିଶା ବିଜ୍ଞାନ ଓ ପରିବେଶ କଂଗ୍ରେସର ୬^ଶ ବାର୍ଷିକ ଉତ୍ସବ ଆୟତ୍ତ ହୋଇଛି। ଏହା ଉତ୍ସବର ଆରମ୍ଭିକ ଅଂଶରୂପେ ଚଳିଥିଲା। ଏହା ପରେ ଉତ୍ସବର ଅନ୍ୟାନ୍ୟ କାର୍ଯ୍ୟକ୍ରମ ଆରମ୍ଭ ହେବ। ଏହା ଉତ୍ସବର ଅନ୍ୟାନ୍ୟ କାର୍ଯ୍ୟକ୍ରମର ଅନ୍ତରାଳରେ ଚଳିଥିଲା। ଏହା ଉତ୍ସବର ଅନ୍ୟାନ୍ୟ କାର୍ଯ୍ୟକ୍ରମର ଅନ୍ତରାଳରେ ଚଳିଥିଲା।

ଓଡ଼ିଶା ବିଜ୍ଞାନ ଓ ପରିବେଶ କଂଗ୍ରେସର ୬^ଶ ବାର୍ଷିକ ଉତ୍ସବ ଆୟତ୍ତ ହେବ। ଏହା ଉତ୍ସବର ଅନ୍ୟାନ୍ୟ କାର୍ଯ୍ୟକ୍ରମର ଅନ୍ତରାଳରେ ଚଳିଥିଲା। ଏହା ଉତ୍ସବର ଅନ୍ୟାନ୍ୟ କାର୍ଯ୍ୟକ୍ରମର ଅନ୍ତରାଳରେ ଚଳିଥିଲା। ଏହା ଉତ୍ସବର ଅନ୍ୟାନ୍ୟ କାର୍ଯ୍ୟକ୍ରମର ଅନ୍ତରାଳରେ ଚଳିଥିଲା।

ଓଡ଼ିଶା ବିଜ୍ଞାନ ଓ ପରିବେଶ କଂଗ୍ରେସର ୬^ଶ ବାର୍ଷିକ ଉତ୍ସବ ଆୟତ୍ତ ହେବ। ଏହା ଉତ୍ସବର ଅନ୍ୟାନ୍ୟ କାର୍ଯ୍ୟକ୍ରମର ଅନ୍ତରାଳରେ ଚଳିଥିଲା। ଏହା ଉତ୍ସବର ଅନ୍ୟାନ୍ୟ କାର୍ଯ୍ୟକ୍ରମର ଅନ୍ତରାଳରେ ଚଳିଥିଲା। ଏହା ଉତ୍ସବର ଅନ୍ୟାନ୍ୟ କାର୍ଯ୍ୟକ୍ରମର ଅନ୍ତରାଳରେ ଚଳିଥିଲା।

ଓଡ଼ିଶା ବିଜ୍ଞାନ ଓ ପରିବେଶ କଂଗ୍ରେସର ୬^ଶ ବାର୍ଷିକ ଉତ୍ସବ ଆୟତ୍ତ ହେବ। ଏହା ଉତ୍ସବର ଅନ୍ୟାନ୍ୟ କାର୍ଯ୍ୟକ୍ରମର ଅନ୍ତରାଳରେ ଚଳିଥିଲା। ଏହା ଉତ୍ସବର ଅନ୍ୟାନ୍ୟ କାର୍ଯ୍ୟକ୍ରମର ଅନ୍ତରାଳରେ ଚଳିଥିଲା। ଏହା ଉତ୍ସବର ଅନ୍ୟାନ୍ୟ କାର୍ଯ୍ୟକ୍ରମର ଅନ୍ତରାଳରେ ଚଳିଥିଲା।

ODISHA BIGYAN 'O' PARIBESH CONGRESS

'Sc & tech must for devpt of society'

Bhubaneswar, Nov 29: Humanity needs to utilise advancements in science and technology in a constructive way that will bring about holistic development of the society and culminate in removal of the inequality and discrepancies in the society, stated Orissa Environmental Society (OES) president Sundara Narayana Patro at the Silver Jubilee celebration of Odisha Bigyan 'O' Paribesh Congress here Friday. Organised by joint efforts of OES and CSIR-Institute of Minerals and Materials Technology (IMMT), the inaugural function of the Congress was attended by former VC of BPUT and chairman of AICTE Damodar Acharya as the chief guest and VC of OAU Pravat Kumar Roul as the guest of honour. Ramesh Goel from the University of Utah, USA joined as the key-



note speaker, while IMMT chief scientist Laxmidhar Bisra presided over the function. Highlighting crucial aspects of the theme, 'Fostering science for holistic development', the guests opined that incredible advancements have been made in diverse frontiers of science and technology that have brought about not only lasting solutions to innumerable human predicaments, but also boosted the productivity, efficiency, longevity and ultra-modern lifestyles of human

species. However, lopsided and unsustainable mechanisms adopted for development in the recent times have engendered a plethora of problems not only for the mankind, but also for the whole living world as well as our planet. "We are confronting several social, economic and environmental challenges that threaten the mankind as well as the living system of the world. In such a scenario, the humanity needs to utilise the advancements in science and technol-

ogy in a constructive way that will bring about holistic development of the society," said the OES president. On the occasion, OES conferred 'Award for Excellence in Science' on scientists for their lifetime contributions in the field of science education and research. BPUT former VC Omkar Nath Mohanty, SOA University's B and B research centre director Lala Behari Sukla and N and N centre director Kulamarni Parida, IIMS pro-VC CRK Mohanty and Utkal University former emeritus professor Rama Chandra Mohanty received the award. Over 500 scientists, researchers and academicians from across the state and beyond participated. The event will continue for two days. Several research papers will be presented by the delegates in different technical sessions.

4. Awards Instituted by OES and OES-Members

(A) Lifetime Achievement Award- presented on OES Foundation Day

- 2024 **Prof. Binayak Rath**, Former Vice Chancellor,
Utkal University
- 2023 **Dr. Bipra Charan Patnayak**, Ex Director, Central Sheep
& Wool Research Institute, Rajasthan
- 2022 **Dr. Bijay Ketan Patnaik**, Former PCCF (Wildlife) & Chief
Wildlife Warden, Odisha
- 2021 **Dr. Bharat Panda**, Former Principal, Parsuram Gurukul
College, Gajapati
- 2020 **Mr. Saroj Kumar Patnaik**, IFS (Retd.), Former Addl.
Principal Chief Conservator of Forests (Wildlife) and Chief
Wildlife Warden, Odisha
- 2019 **Dr. Sundara Narayana Patro**, Founder Secretary and
Present President, Orissa Environment Society
- 2018 **Dr. Jafran Keshari Roy**, Former Jt. Director, NRRI,
Cuttack
- 2017 **Dr. Udaya Narayan Dev**, Ornithologist, Odisha
- 2016 **Prof. Lalit Narayan Patnaik**, Former Chairman, State
Pollution Control Board, Odisha

2015 **Prof. Satyananda Acharya**, Former Vice Chancellor, Utkal University

2014 **Prof. Rebati Charan Das**, Former Vice Chancellor, Berhampur University

2013 **Dr. Chitta Ranjan Mohapatra**, Former Principal Chief Conservator of Forests (WL) and Chief Wildlife Warden, Odisha

2012 **Prof. Madhab Chandra Dash**, Former Vice-Chancellor, Sambalpur University

(B) Environmentalist of the Year

(Smt. Parbati Mishra Memorial Award)- presented on World Environment Day

2024 **Prof. Baman Chandra Acharya**, Former Professor of Botany, Odisha Education Service

2023 **Prof. Kunja Bihari Satpathy**, Emeritus Professor in Botany

2022 **Padmashri Sushree Sabarmatee**, Sambhav

2021 **Mr. Achyut Das**, Director-cum-Secretary, Agragamee (For Natural Resources Management and Tribal Development)

2020 **Mr. Prasanna Kumar Behera**, Nature and Environment Conservation Activist

2019 **Dr Ramesh Chandra Mishra**, Sr. Scientist, ICAR

2018 **Mr. Sudarshan Das**, Environmental Activist

2017 **Prof. Gopala Krushna Panda**, Former Professor of Geography, Utkal University

2016 **Dr Sudhakar Kar**, Former Sr. Research Officer, Forest Dept (Wildlife Wing), Govt. of Odisha

2015 **Dr Lala Aswini Kumar Singh**, Former Sr. Research Officer, Forest Department (Wildlife Wing), Govt. of Odisha

2014 **Dr Chandra Sekhar Kar**, Former Sr. Research Officer, Forest Dept. (Wildlife Wing), Govt. of Odisha. (Posthumous award)

2013 **Dr. Bibhudhendra Pratap Das**, President, Odisha Krushak Maha Sangha

2012 **Dr. Sudarsan Sasmal**, Former Principal Scientist, Central Rice Institute, Cuttack

2011 **Mr. Prafulla Kumar Dhal**, Director, Biswa Research and Innovation Center

2010 **Mr. Biswajit Mohanty**, Wildlife Society of Orissa

(C) B. C. Panda Award

For Environment and Science Communication- presented on OES Foundation Day

2024 **Prof. Ajay Kumar Patra**, Former Professor in Zoology, Utkal University

2023 **Dr. Pramod Kumar Mohapatra**, Eminent Science Writer and Editor, The Samaja

- 2022 **Dr. Arun Chandra Sahu**, Former Prof. of Botany
- 2021 **Dr. Murari Mohan Dash**, Former Reader in Zoology
- 2020 **Dr. Mayadhar Swain**, Former Director, School of Electrical Engineering, KIIT University, Bhubaneswar
- 2019 **Dr. Nikhilanand Panigrahy**, Former Director, Odisha Text Book Bureau
- 2018 **Dr. Suryamani Behera**, Former Professor of Chemistry
- 2017 **Dr. Ramesh Chandra Parida**, Former Professor of Chemistry, OUAT
- 2016 **Dr. Jayakrushna Panigrahi**, Past Convener, ISCA Bhubaneswar Chapter
- 2015 **Dr. Chitta Ranjan Mishra**, Former DGM, NALCO
- 2015 **Dr. Bijay Ketan Patnaik**, Former PCCF (Wildlife), Odisha

**(D) Prof. B. S. Patro Award for
'Excellence in Environment'**

(The award was instituted from the year 2023)

- 2024 **Dr. V.P. Upadhyay**, Former Advisor, MoEFCC
- 2023 **Dr. Jaya Krushna Panigrahi**, Environment Expert, and Secretary of OES.

(E) Nature Conservation Award (instituted by Dr. S. N. Patro in the year 2023 in Memory of his Parents)

- 2024 **Prof. Bivas Pandav**, Wildlife Institute of India, Dehra Dun.
- 2023 **Er. Manoranjan Mishra**, Joint Secretary, OES.

(F) Felicitation for 'Excellence in Environment Reporting'

2024 **Mr. Harekrishna Choudhury**, News Correspondent, Nitidin

2023 **Shri Sarada Prasad Nanda**, Senior Journalist and Resident Editor, The Pioneer

(G) 'Green Crusader Award' on the World Environment Day (Instituted by Dr. Chitta Ranjan Mishra)

2024 **Mr. Sukant Patnaik**, CSR Expert

2023 **Dr. Prakash Chandra Jena**, Associate Professor

(H) 'Water Man of Odisha' on the World Environment Day. (Instituted by Iswar-Parbati Trust)

2024 **Er. Ramesh Chandra Tripathy**, Eminent Water Resource Management Expert

2023 **Padmashree Daitari Naik** of Keonjhar District

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5. Felicitation to Senior Life Members

**(Felicitation to Senior Life Members at the
Foundation Day Functions)**

2024

1. Mr. Ekadasi Nandi, Retd. Chief Seed Certification Officer, OSSOPCA
2. Mr. Ramnarayan Gupta, Retired Scientist D, Central Ground Water Board
3. Mr. Prakash Chandra Mishra, IFS (Retd.), Former Chief Conservator of Forests
4. Mrs. Swapna Behera, Retired Teacher, Kendriya Vidyalaya
5. Mr. Biswanath Puhan, Retired Manager, NABARD

2023

1. Shri Guru Charan Das, Former Director, Geological Survey of India
2. Dr. Jyotshna Mahapatra, Former Associate Professor in Chemistry
3. Dr. Pratibha Kumari Nanda, Former Reader in Botany
4. Dr. Gouranga Charan Swain, Former Asst. Professor in Botany
5. Prof. Rama Chandro Misro. Former Professor of History

2022

1. Prof. B. Sitaram Patro, Former Principal, CET, BPUT
2. Er. Binod Chandra Padhi, Former Engineer-in-Chief, Works
3. Er. Harish Chandra Behera, Former Engineer-in-Chief, Water Resources

4. Prof. Nimain Charan Mishra, Former Professor of Entomology, OUAT
5. Shri Biranchi Mishra, Former Jt. Secretary, Tourism and Culture

2021

1. Dr. B. M. Faruque, Former Director, Geological Survey of India
2. Mr. Jitasatru Mohanty, IFS (Retd.) Former Conservator of Forests, Odisha
3. Dr. P. Sasi Bhushana Rao, Former Professor, Dept. of Life Sciences, SKCG (A) College
4. Mr. Swadesh Sundar Patnaik, Former Chairman, Odisha Staff Selection Commission
5. Prof. Nirmal Chandra Dash, Prof. Emeritus, School of Anthropology, KISS University

2020

1. Dr. Shailendra Kumar Tamotia, Former Chairman-cum-Managing Director, NALCO
2. Mr. Satya Narayan Bohidar, IFS (Retd.), Former Chief Conservator of Forests
3. Mr. K. Bhaskar Patra, Former Director, Economics and Statistics, Government of Odisha
4. Er. Narayan Mishra, Former Sr. General Manager, GRIDCO
5. Dr. Narayan Sahoo, Former Principal Scientist (IIWM), ICAR

2019

1. Mr. Rama Chandra Patra, Former Under Secretary, OSS
2. Er. Subas Chandra Satapathy, Former Engineer-in-Chief, Water Resources, Govt. of Odisha

3. Er. Muktipada Panda, Former Chief Engineer, Electrical Govt. of Odisha
4. Mr. Debendra Nath Satpathy, Former Superintendent of Police, Govt. of Odisha
5. Er. Umesh Chandra Mohanty, Former Assistant Engineer, Electrical, Govt. of Odisha

2018

- 1 Dr. Seba Mohapatra, Former Director, Health Services, Govt. of Odisha
- 2 Dr. Bhagirathi Behera, IFS (Retd) Former Director, Environment, Govt. of Odisha
- 3 Dr. Sadasiba Biswal, Former Reader in Physics and Principal
- 4 Er. K. Gandhi Choudhury, Former Superintending Engineer, Electrical, Govt. of Odisha
- 5 Mr. Jagabandhu Sarangi, Former Director of Handicrafts, Govt. of Odisha

2017

- 1 Mr. Ramesh Chandra Pani, Former Chairman and MD, Central PSU
- 2 Mr. Rabindra Nath Padhi, Former Deputy Director General, Geological Survey of India
- 3 Er. Somnath Mishra, Former Engineer- in-Chief-cum-Secretary, Works, Govt. of Odisha
- 4 Mr. Sarat Chandra Patnaik, Former District Panchayat Officer, Govt. of Odisha



6. Felicitation to Conservationists

2022

1. **Mr. Rabindranath Sahu**, Founder, Rushikulya Sea Turtle Protection Committee
2. **Mr. Jiban Saha Baba**, Founder, Saha Charitable Trust
3. **Mr. Sudhir Kumar Rout**, Environment Activist
4. **Mr. Antarjyami Sahoo**, Environment Activist

2021

1. **Mrs. Anshuprghyan Das**, Dy. Conservator of Forests, Office of PCCF (Wildlife)

2020 None

2019 None

2018 **Mr. Prafulla Samantara**, Goldman Environmentalist Awardee

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7. Fellows of OES

Life Members of Orissa Environmental Society are nominated as OES Fellows in appreciation of their outstanding contribution and persistent support to the field of Environment and Natural Resources Management. The certificate of Honour as Fellow is presented on the occasion of the Foundation Day of the Society.

Fellows nominated / honoured on the occasion of the 43rd Foundation Day, 2024

1. **Dr. V.P. Upadhyay**, Former Adviser, MoEFCC.
2. **Prof. Sarat Kumar Palita**, Professor & Head, Dept. of Biodiversity and Conservation of Natural Resources, Central University, Koraput
3. **Dr. Nabin Kumar Dhal**, Chief Scientist & Head, E & S Dept., IMMT, Bhubaneswar
4. **Prof. Puspanjali Parida**, Professor of Zoology, Sri Ram Chandra Bhanj Deo University, Mayurbhanj, Baripada

Fellows nominated / honoured on the occasion of the 42nd Foundation Day, 2023

1. **Prof. Baman Chandra Acharya**, former Prof. of Botany
2. **Prof. Kunja Bihari Satapathy**, Emeritus Prof. in Botany

Fellows nominated / honoured on the occasion of the 41st Foundation Day, 2022

None

Fellows nominated / honoured on the occasion of the 40th Foundation Day, 2021

1. **Dr. Pradip Kumar Pattajoshi**,
Asst. General Manager (Environment), NALCO
2. **Prof. Nimai Charan Mishra**,
Former Professor (Entomology), OUAT
3. **Dr. Sudhakar Kar**,
Former Senior Research Officer, Forest Department

**Fellows nominated / honoured on the occasion of the 39th
Foundation Day, 2020**

1. **Dr. Krishna Chandra Sahu**, Former Professor, IIT-Bombay.
2. **Dr. Siba Prasad Adhikary**, Former Vice-Chancellor, Fakir Mohan University
3. **Dr. Soujanendra Swain**, Former Principal Scientist, M.S. Swaminathan Foundation
4. **Dr. Amar Nath Singh**, Assistant Professor, Department of Botany, A.N. College, Dumka (Jharkhand).

**Fellows nominated / honoured on the occasion of the 38th
Foundation Day, 2019**

1. **Prof. (Dr) Aruna Kumari Mishra**
Former Professor of Botany, Utkal University
2. **Prof. Binayak Rath**
Former Vice Chancellor, Utkal University
3. **Sri Prakash Chandra Mishra**
President, Odisha Bigyan Academy
4. **Dr. Debabrata Swain**, Former Principal
Chief Conservator of Forests & Head of Forest Force, Odisha

**Fellows nominated / honoured on the occasion of the 37th
Foundation Day, 2018**

1. **Prof. B Sitaram Patro**
Former Dean, CET, Biju Patnaik University of Technology

2. **Prof. Sailabala Padhi**
Former Professor of Botany, Berhampur University
3. **Dr. Budurddin Mohammad Faruque**
Former Director, Geological Survey of India
4. **Dr. Lala Aswini Kumar Singh**
Former Sr. Research Officer (Wildlife) Forest and Environment Dept., Govt. of Odisha
5. **Dr. Chitta Ranjan Mishra**
Former DGM, NALCO

Fellows nominated / honoured on the occasion of the 36th Foundation Day, 2017

1. **Prof. Satyananda Acharya**
Former Vice Chancellor, Utkal University
2. **Prof. Amulya Kumar Panda**
Former Principal, Ravenshaw College (now University)
3. **Prof. Madhab Chandra Dash,**
Former Vice Chancellor, Sambalpur University
4. **Prof. Debi Prasad Ray**
Former Vice Chancellor, OUAT
5. **Dr. Bijay Ketan Patnaik, IFS (Retd.)**
Former PCCF (WL) and Chief Wildlife Warden, Odisha
6. **Er. Binod Chandra Padhi**
Former Engineer-in-Chief, Odisha
7. **Dr. Sachidananda Tripathy**
Former Professor of Geography, Utkal University
8. **Dr. Bipra Charan Patnayak**
Former Director, ICAR
9. **Dr. Naba Kishore Mahalik**
Former Professor of Geology, Utkal University
10. **Dr. Sarat Chandra Mishra**
Former Chief Engineer (Works), Govt. of Odisha

11. **Mr. Shailendra Kumar Tamotia**
Former CMD, NALCO
12. **Dr. Sundara Narayana Patro**
Former College Principal
13. **Dr. Chitta Ranjan Mohapatra,**
Former Principal Chief Conservator of Forests (WL) and
Chief Wildlife Warden, Odisha
14. **Prof. Rebati Charan Das,**
Former Vice Chancellor, Berhampur University
15. **Dr. Jaya Krushna Panigrahi**
Associate Professor in Zoology
16. **Dr. Jitendra Kumar Sundaray,**
Head, Division of Fish genetics and Biotechnology, CIFA,

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9. Patrons of OES

Sl. No.	Name/Address	Year of Honour
01.	<p>Dr. Shailendra Kumar Tamotia Hon. Dean-cum-Director General and Vice Chairman, Bharatiya Vidya Bhavan, Bhubaneswar Kendra Flat No. D/801, Gymkhana Palm Heights, Near SUM Hospital, Shampur, PO- Ghatikia, Bhubaneswar-751003 Mob: 09937011356; Email: sk_tamotia@yahoo.co.in</p>	2015
02.	<p>(Late) Dr. Lalit Narayan Patnaik Former Chairman, OSPCB, 116, Mechatech House, Kalyan Nagar, Cuttack Mob: 9437000973, Email: lnpatnaik116@gmail.com</p>	2015
03.	<p>Dr. Sundara Narayana Patro Former Reader in Botany and Principal, MIG-106, Phase-1, Khandagiri Enclave, Housing Board Colony, Khandagiri, Bhubaneswar Mob: 09437190420; Email: snpatro11@rediffmail.com</p>	2015
04.	<p>Prof. Debi Prasad Ray Former Vice-Chancellor, OUAT, House No: HIG -105,(K-5), Kalinga Vihar, Patrapara, Bhubaneswar-751019 Mob: 09881721435; 08087815770 Email: dpray1949@gmail.com</p>	2015
05.	<p>Dr. Jaya Krushna Panigrahi Reader in Zoology, 41-A, Prachi Enclave, Chandrasekharapur, Bhubaneswar-751016 Mob: 09437076100; Email: jk.panigrahi@gmail.com</p>	2016

- 06. Dr. Jitendra Kumar Sundaray** **2016**
Head, Division of Fish genetics and Biotechnology,
CIFA, Kausalyaganga, Bhubaneswar- 751002
C/o. Purna Chandra Sundaray,
At/PO. Aiginia, Bhubaneswar-751019
Mob: 09437166872; Email: sundarayj@yahoo.com
- 07. Dr. Bipra Charan Patnayak** **2016**
Former Director, Central Sheep and Wool Research
Institute (ICAR), S/30, Maitree Vihar, Bhubaneswar
Mob: 09937000824; Email: bpatnayak@yahoo.co.uk
- 08. Prof. Amulya Kumar Panda** **2016**
Former Principal, Ravenshaw College,
73, Cooperative Colony, (Near Chandrasekharpur),
PO: KIIT, Bhubaneswar-751024
Mob: 09937440390; Email: amulyapanda39@gmail.com
- 09. Dr. Ashutosh Das** **2018**
Vice-Chancellor and Director, Center for
Research and Development, Center for Environmental
Engg., PRIST University, Tamilnadu, India
744, Sriram Nagar, Pillaiyarpatti,
PO- Vallam, Thanjavur- 613403, Tamilnadu, India
Mob: 09894122821,
Email: director_cee@prist.ac.in; acadas@gmail.com
- 10. Dr. Lala Aswini Kumar Singh** **2018**
Former Sr. Research Officer,
Govt. of Odisha, Forest Department,
1830- Mahatab Road, Friends Colony, Old Town,
Bhubaneswar-002, Mob: 09861092928; 7978335983,
Email: laksinghindia@gmail.com

- 11. Dr Prakash Chandra Jena** **2018**
Founder cum President, Ever Green Forum,
At- Raisar, PO- Narada, Via- Tyendakura,
Dist.- Kendrapada, Odisha-754134
Mob: 09937623053; Email: prakashjena81@gmail.com
- 12. Dr. B. Seetarama Patro** **2019**
Former Dean and Prof. Mechanical Eng. BPUT,
L-1, Housing Board Colony, Baramunda, Bhubaneswar
Mob: 09437309977; 09556342407
Email: bspatro@gmail.com
- 13. Dr. Bijaya Kumar Rath** **2019**
General Manager (Geology), ONGC,
3rd Floor A2- 06, Hi-Tech Plaza, Sundarpada,
Bhubaneswar
Mob: 9643301931, Email: bijay.rath1960@rediffmail.com
- 14. Dr. Chittaranjan Mishra** **2019**
Former Dy. General Manager, (R and D), NALCO,
B-3, HIG, Baramunda Housing Board Colony,
Bhubaneswar
Mob: 09338204993, Email: crmishra49@yahoo.in
- 15. Dr. (Mrs.) Rekha Das** **2019**
Former, Secretary, Odisha Bigyan Academy
130, VIP Colony, Ekamra Vihar, IRC Village,
Bhubaneswar-751015
09938454233, E-mail: rekhadas1957@rediffmail.com
- 16. Dr. Seba Mohapatra, M.D. O&G,** **2019**
Former Director, Health Services, Govt. of Odisha,
N1, A/10, IRC Village, Bhubaneswar-751015
09437035531, Email: drsebamohapatra@yahoo.co.in

17. **Mr. Bimal Krushna Mishra** 2019
Director, Tiki Engineering Pvt.Ltd.
S-72, MaitreeVihar, Bhubaneswar-751023
Phone: 06742302485, E-mail: bimalkmishra@gmail.com
18. **Dr. Jafran Keshari Roy** 2019
Former Jt. Director, CRRI, Cuttack
19. **Prof. (Dr.) Nirmal Chandra Dash** 2021
Former Professor of Anthropology,
Bhubaneswar
Email: ncdash.anth@gmail.com
20. **Prof. (Dr.) Ram Chandro Misro** 2022
Professor of History
21. **Prof. (Dr.) Abhalaxmi Singh** 2023
Research Asst. Professor,
University of Illinois, USA
22. **Prof. (Dr.) Saurabh Priyadarshi** 2023
Research Asst. Professor,
University of Illinois, USA
23. **Prof. (Dr.) Baman Chandra Acharya** 2023
Former Professor of Botany
24. **Prof. Krushna Chandra Sahu** 2024
Former Professor
25. **Prof. Puspanjali Parida** 2024
Lecturer, P.G. Department of Zoology,
North Orissa University, Baripada
26. **Mr. Parsuram Panda** 2024
Former GM, BOI, Ex- CVO, CBOI
27. **Mr. Tapas Ranjan Mallick** 2024
Former Executive Director, LIC
28. **Mr. Ekadashi Nandi** 2024
Former Seed Certification Officer, OSSOPCA

10. List of Life Members (From 2024)

- 800 Champati (Dr.) Bibhuti Bhusan 9439614399**
(2024) Project Associate -1, DBT- Govt of India Funded
Himalayan Bio-resource Mission Project.
At- Tigiria, PO- Kandagoda, PS- Gadisagoda, Bi- Kanas,
Dist- Puri, 752011
Email: bbchampati77@gmail.com,
- 801 Jain (Dr.) Surabhi 9791265761**
(2024) Prakruti Construction
Plot No.- 2256/2320, Govind Prasad,
Behind Ekamra Hall, Bomikhal,
Bhubaneswar- 751010
Email: surabhi1991jain@gmail.com,
- 802 Mishra (Dr.) Hemanta Kumar 9437168168**
(2024) Former Associate Professor in Physics
Flat No. - 201, Sri Jagannath Enclave,
Samantarapur, Old Town, Bhubaneswar
Email: hkmpphysics11@gmail.com
- 803 Sahoo (Sri) Shyama Sundar 9438042523**
(2024) Headmaster, Govt. High School, Budaguda
At/Po: Budaguda, Via: Baliguda
Dist: Kandhamal 762103
Email: sssahoo69@gmail.com
- 804 Nayak (Dr.) Satish Prasad 9861966775**
(2024) Former Reader in Botany
Vikash Nagar, 3rd Line, Mandiapalli, Po: Rangeilunda
Via: Berhampur University, Ganjam: 760007
Email: satish.p.nayak75@gmail.com
- 805 Sahu (Dr.) Sarat Chandra 9437485328**
(2024) Former Director, Meteorological
Centre, Bhubaneswar, Flat No: 123, Block C-8,
Kendriya Vihar, Phase: II, Tamando, Bhubaneswar 751028
Email: scsahuimd@gmail.com

- 806 Lenka(Prof.) Pravu Charan 9437164830**
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Email:
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(2024) Ex- GM, RSP, Sail, Rourkela
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- 809 Das (Dr.) Bhakta Kabi 9437015603**
(2024) Former Engineer in Chief,
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- 811 Mallick (Mr.) Tapas Ranjan 9593223121**
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- 813 Patnaik (Mr.) Bhuban Mohan 8895084123**
(2024) Former G.M. NABARD

- 821 Panda (Dr.) Debabrata** **9437511187**
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- 825 Mohapatra (Dr.) Bikash Ranjan** **9861345648**
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- 831 Dash (Ms.) Mamata 9437082741**
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11. OES Publications

01. Environment and Natural Resources Management 1983
02. Mass Mobilization Campaign on Wildlife 1984
(Black Buck) Conservation
03. Environmental Conservation 1984
04. Conservation of Similipal in its Wilderness 1985
05. Environment and Indira Gandhi (Odia) 1986
06. Chilika: The Pride of our Wetland Heritage 1986
07. Environment and Sustainable Development 1990
08. My Home (Cost Reduction Techniques and
Low-Cost Materials for Rural Housing 1990
09. Public Hearing on Environment and
Development Strategies-Orissa Report 1991
10. Mahendragiri: The Pride of Eastern Ghats 1991
11. Environment Conservation Movements in Orissa 1991
12. Noise Pollution 1992
13. Save Environment: Save Yourself 1992
14. Eastern Ghats in Orissa: Environment, Resources 1994
and Development
15. Spatial Dimension of Geography 1995
16. Useful Plants for Diabetes 1997
17. Similipal: A Natural Habitat of Unique Biodiversity 1998
18. Auto- Vehicular Pollution (Odia) 1998
19. Biodiversity Conservation: Problem and Prospects 1998
20. Keep Our Water Resources Clean (Odia) 1999
21. Kathina Barjyabastu Parichalana (Odia) 2000
22. Manaba Sebare Udbhida (Odia) 2001
23. Sahania Bikash (Odia) 2002

24. Jala o Jibana (Odia) 2003
25. Jibana Paain Jala (Odia) 2004
26. Kathina Barjyabastu (Odia) 2005
27. Kathina Barjyabastu: Samasya Ebam Nirakaran (Odia) 2006
28. Kathina Barjyabastu: Eka Samikhya (Odia) 2007
29. Souvenir: Silver Jubilee Commemoration Volume 2007
30. Jaiba Bibidhata: Eka Samikhya (Odia) 2008
31. Biswa Tapan Ebam Jalabayu Paribartan (Odia) 2009
32. Jalabayu Paribartan: Eka Samikhya (Odia) 2010
33. Mahendragiri (English) 2010
34. Jaiba Bibidhata (Odia) 2011
35. Nirantara Jiban Dharana Paain Aranya (Odia) 2012
36. Manaba Sebare Jaiba Bibidhata (Odia) 2013
37. Orissa Environmental Society- A Profile 2013
38. Jaiba Bibidhata (Odia) 2014
39. Jayadev Vatika (English) 2015
40. Orissa Environmental Society- Annual Report 2016
41. Lectures on Environment and Science, Annual Report 2017
42. Lectures on Environment and Science, Annual Report 2018
43. Lectures on Environment and Science, Annual Report 2019
44. Lectures on Environment and Science, Annual Report 2020
45. Lectures on Environment and Science, Annual Report 2021
46. Lectures on Environment and Science, Annual Report 2022
47. Lectures on Environment and Science, Annual Report 2023
48. Lectures on Environment and Science, Annual Report 2024

Besides the above publications, the Society has brought out a good number of souvenirs, proceedings and research reports.



12. Executive Committee of OES Including Office Bearers

Executive Committee 2024 - 2027

Sl. Name and Address with E-mail

01 Dr. Sundara Narayana Patro

President

Former College Principal

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02 Dr. Jaya Krushna Panigrahi

Working President

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03 Dr. Bijay Ketan Patnaik, IFS, (Retd.)

Vice President

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and Chief Wildlife Warden, Odisha,

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04 Dr. Lala Aswini Kumar Singh

Vice President

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05 Er. Manaranjan Mishra

Secretary

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Joint Secretary

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07 Dr. B. Seetarama Patro

Treasurer

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08 Mr. Ekadasi Nandi

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09 Er. Bimal Chandra Dash

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10 Mr. Ramesh Chandra Panda

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11 Er. K. Gandhi Choudhury

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12 Er. Ashok Kumar Behera

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12 **Mr. Biswanath Puhan**

Member

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13 **Mrs. Swapna Behera**

Member

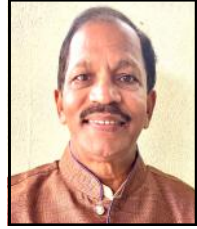
Retd. Teacher, Kendriya Vidyalaya Samasti
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14 **Mr. Parasuram Panda**

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13. Advisory Body

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5. **Dr. Chitta Ranjan Mishra**
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14. Obituary

Members of OES have offered deep condolences to the revered departed soul who were intimately associated with the Orissa Environmental Society.



Mr. Sarat Chandra Pattnaik
20 July 1937 – 06 April 2025



Mr. Prabhakar Rout
11 June 1942 – 14 March 2025

15. OES Membership Application Form

Orissa Environmental Society

(Registered under Societies Registration Act 1860,

Regd. No. PBN 100/19 of 1982-83

And Foreign Contribution (Regulation) Act 1996,

Regd. No. 104830132 of 2003

ND-4, VIP Area, IRC Village, Bhubaneswar-751015, Odisha, India

Phone: +91 81444 20254, Email:oesbbsr@gmail.com,

Website: www.odishaenvironment.org

APPLICATION FORM FOR MEMBERSHIP

To

The Secretary, Orissa Environmental Society,

ND-4, VIP Area, IRC Village,

Bhubaneswar (Orissa, India) – 751015

Dear Sir,

I wish to be enrolled as an Annual Member*/ Life Member of the Orissa Environmental Society.

(In case of individuals)

We wish to enrol our Organization/Institution/Department as an Institutional Member of the Orissa Environmental Society.

(In case of Organization/Institution/Department)

Enclosed herewith, please find the bank draft/*cheque/cash for an amount of Rs. _____

(Rupees _____) only towards individual- annual / life membership subscription; Institutional Membership subscription (Strike words not applicable).

Details of Individual

Name in full (block capital letters) _____

Designation _____

Present Address (with pin code) _____

Telephone _____, Fax _____,

e-mail _____

Permanent Address (with pin code) _____

Telephone _____, Fax _____,

e-mail _____

Date of birth _____

Academic qualification _____

(Attach copy of the last educational qualification certificate)

Brief note on the activities (attach separate sheet)

Details of Institution/Organisation/Department

Name of the Organization _____

(Attach copy of the registration certificate in case of Non-Government Organization/ Trust/ Company)

Address (with pin code) _____

Telephone _____, Fax _____,

e-mail _____

Contact person _____

Brief note on activities (attach separate sheet)

Signature with date _____

Kindly read objectives, membership fees, instruction, etc. below

**Send an additional amount of Rs. 70/- (Rupees seventy) only in case of outstation cheques towards collection charges.*



Orissa Environmental Society

ND-4, VIP Area, IRC Village,
Bhubaneswar-751015, Odisha, India
Email: oesbbsr@gmail.com
Website: www.odishaenvironment.org

The quality of life on the Earth is fast deteriorating consequent upon resource depletion and environmental degradation. This poses a threat to the very existence of the mankind and all other forms of life. The challenge before us now is the reversal of this situation through enrichment of the environment and conservation of the natural resources for a sustainable future. The World Conservation Strategy defines sustainable development as the kind of development that meets the needs of the present without compromising the ability of the future generation to meet their own needs. In other words, it means improving the quality of human life while living within the carrying capacity of the supporting ecosystem. Realising this, the Orissa Environmental Society (OES) was founded in 1982 to promote education and awareness on the fast deteriorating quality of human environment and the need for conservation of the Nature.

Objectives

- ❑ Promote knowledge, understanding and appreciation of nature, and the principles and practices of conservation of natural resources among the common mass.
- ❑ Establish contact with regional, national, and international organizations, the Department of Environment and other such departments/agencies of the State as well as the Union Government so far as these contacts are beneficial to the Society or its objectives.
- ❑ Advise the government and non-government agencies on the environmental matters in the public interest.
- ❑ Conduct and encourage activities like tree plantation, nursing,

habitat conservation, education and awareness programmes- padayatra, mass mobilization campaign, workshop, seminar, conference, training, popular lecture, exhibition, competitions, study, survey, research, publication of proceedings, books, brochures, bulletins, extension materials etc. towards protection, regeneration and conservation of environment and natural resources.

- Frame curricula and co-curricula, and organize courses on environmental sciences at all levels of education.
- Work regardless of race, religion and political belief.
- Adopt any other means that might be advantageous to the Society's objectives.

DETAILS OF SUBSCRIPTIONS

Member	Individual	Institution
Life	Rs.2,000	Rs.25,000
Annual*	Rs.200	-

Payment should be made in shape of bank draft in the name of Orissa Environmental Society to be drawn on any nationalized bank in Bhubaneswar. *In case of out station cheque an additional amount of Rs. 70/- (Rupees Seventy) only should be paid towards collection charges.

*The annual subscription year- 1st April to 31st March

FOR OFFICE USE ONLY

Money Receipt No. _____, dated _____,
 Membership No. _____ Bank Draft/Cheque No. _____,
 dated _____ Name and address of the bank on which to
 be drawn _____ Name and address
 of the draft/cheque issuing bank _____

16. OES Fellow- Guidelines

Guidelines for selection

1. The total strength of OES-Fellows in any year will remain at a maximum of 20% of the number of existing OES Life Members. The calculation will be based on the strength of Life Membership by 25 October each year, which is the Foundation Day of OES.
2. In the first year (2016 as base year), 5% of the total Life Members will be nominated as the Founder Fellows of OES. All eight Patrons of OES, as on 20 Oct, 2016, may be included in the list of “Founder Fellows” as all of them have made significant contributions towards environment. In the starting year, up to 30 (thirty) “Founder Fellows” may be nominated by the Executive Committee of OES.
3. In subsequent years 5 (five) Fellows may be selected out of about 10 (ten) identified or invited nominations.
4. It is not necessary to award the honour of ‘Fellow of OES’ every year, if suitable nominations do not come forth.
5. Individuals or organisations nominated for consideration should have done noticeable field work and made significant contributions to the fields of science and technology, and environment.
6. Normally, the nominee should have been a Life Member of OES for 5 (five) years
7. Life Members who are Patrons of OES and have demonstrated significant contributions towards environmental protection shall be considered for nomination, even if they have not been Life Members for five years.
8. Life Members who have been felicitated with ‘Lifetime Achievement Award’ by OES will ordinarily be considered for award of the honour as ‘Fellow of OES’.

9. Persons who are not Life Members yet but have very significant contributions in the field towards environment protection/ conservation / research may be nominated for consideration for award of the honour as 'Honorary Fellow of OES'.
10. Biographical profiles will be requested from nominees and considered for final selection.
11. Financial mechanism to meet the expenses- the nominees will be appealed for paying a 'goodwill subscription' of at least Rs.2000/- (Rupees two thousand) only for promoting environment protection. The amount donated to Orissa Environmental Society qualify for deduction U/S 80G (5) of the IT Act 1961.
12. Draft Application Format for record of the Society has suggested in Annexure-I.
13. An Undertaking/ Oath as in Annexure-II will be taken by the OES-Fellow



Annexure-I

OES Fellow Guideline

Orissa Environmental Society

(Resume of Prof./ Dr. — — — — — — — — — — 'Fellow' of OES)

- (1.) Name of the applicant:
- (2.) Present address and occupation:
- (3.) Date of birth:
- (4.) OES Life Membership No. with year:
- (5.) Academic qualification:
- (6.) Significant contribution in the field of science, technology and environment:
(Mention within maximum ten lines only):
- (7.) Awards, Felicitations, Honours, etc. received:
- (8.) Contribution to the activities of Orissa Environmental Society to achieve its objectives, and welfare of the society in general.

The information furnished is true to the best of my knowledge

Signature with date

(Full Name:.....)

Annexure-II

OES Fellow Guideline

Undertaking

"I — — — — — — — — — — the undersigned, do hereby subscribe to the obligation that I will make endeavour to promote the interest and welfare of the Orissa Environmental Society for the furtherance of its objects, and observe its rules and regulations so long as I shall continue to be a Fellow thereof".

Signature with date

(Full Name:.....)

17. OES Patron- Guidelines

There is a provision of 'Patron' in the Rules and Byelaws of Orissa Environmental Society (Article IV, b) under the category of members. As per the provision, an eminent person of repute and merit is nominated as 'Patron' of Orissa Environmental Society for distinguished contributions to the cause of protection, conservation and promotion of natural resources and environment.

Any Life Member eligible to become a 'Patron' of Orissa Environmental Society, may submit an application in the enclosed format. The application, basing on the merit, will be considered for the award of the 'Certificate of Honour' as 'Patron'.

Any Life Member to be chosen as 'Patron' will be requested to contribute an amount not less than Rs. 10,000/- (Rupees ten thousand) only to the Corpus Fund of the Society. Donations made to Orissa Environmental Society shall qualify for deduction U/s 80G (5)(vi) of the IT Act 1961.

Orissa Environment Society

ND-4, VIP Area, IRC Village, Bhubaneswar - 751015

www.odishaenvironment.org; oesbbsr@gmail.com

Nomination Form for Award of the Certificate of Honour as 'Patron'

1. Name of the applicant:
2. Present address and occupation:
3. Date of birth:
4. OES Life Membership No. with year:
5. Academic Qualification:
6. Significant contribution in the field of environment, natural resources, science & technology: (Mention within maximum ten lines only):
7. Awards, Felicitations, Honours, etc. received:
(Supporting documents may be attached)
8. Contribution to the activities of Orissa Environmental Society to achieve its objectives.

Signature with date

(Full Name:.....)

Undertaking

"I_____ the undersigned, do hereby subscribe to the obligation that I will make endeavour to promote the interest and welfare of the Orissa Environmental Society for the furtherance of its objects, and observe its rules and regulations so long as I shall continue to be a Patron thereof".

Signature with date

(Full Name:.....)

18. OES Field Activity

18.1 Clean and Green Campaign: 2024

OES has been continuously engaged in its Clean and Green Campaign every year. We believe that each tree we plant has the potential to become the guardian of Nature and trees play a major ecological role in the battle against global warming. We undertake the plantation activities along with the awareness programs at each of these institutions. As the monsoon season commences, we initiate actions for plantation of saplings to conserve our environment.

This year OES started its plantation drive on 2nd Jul'24 during Van Mahotsav at SVNIRTAR – i.e. “Swami Vivekananda National Institute of Rehabilitation Training And Research” at Olatpur in Cuttack district. We planted 300 saplings including 100 fruit bearing saplings.

Some tree species have cyclone-resistant qualities in addition to their many other advantages, which would be extremely helpful for the country's eastern coast. Considering this aspect, OES undertook the plantation activity at two locations along the Odisha coast line namely Jagatsingpur area and near Gopalpur coast.

The newly established IISER campus near Berhampur is located adjacent to the coast near Gopalpur and has a very large area available for plantation. In this regard, a proper plantation plan was drawn up and approved by the concerned authorities of the institute. Local specific species saplings were also selected. It was decided to have 10,000 saplings plantation in phases. OES organized 2500 saplings during Van Mahotsav period and jointly

IISER celebrated Van Mahotsav on 4th July in its campus. On the same occasion, 400 saplings were planted inside the campus. Balance saplings were handed over to the institute which was committed to be executed within next two weeks time period. Our next location was Jagatsingpur coastal areas in which only 4 places (Barjasenha Govt High School, Govt High School DedhaswarDeuli, Nilakanthesear Govt High School at Kanaguli, Sarola Jagannath Mandir Campus) were selected, where awareness programmes were conducted and 125 fruit bearing saplings including mangroves were planted. Awareness programs and competitions like drawing, elocution and quiz were conducted in all these above mentioned institutions involving 385 participants including students, staff and local representatives.





ବୃକ୍ଷରୋପଣ ହିଁ କେବଳ ସୁରକ୍ଷା କବଚ

ଭୁବନେଶ୍ୱର, ୫।୧୦/୧୨-୧୨-୨୩: ଓଡ଼ିଶା ପରିବେଶ ସମିତି ଚରପାଠ୍ଟା ଏବଂ ଗାଈ ଅନେଲୋଗସ୍ କଲେକ୍ଟର ଜାତୀୟ ସେବା ଯୋଜନା ଆହୁରିବାରେ ସମ୍ପୂର୍ଣ୍ଣ ମହାବିଦ୍ୟାଳୟ ପରିସରରେ ଛାତ୍ରଛାତ୍ରୀଙ୍କ ସହିତ ପରିବେଶ ସୁରକ୍ଷା ସମାଜୀୟ ସଚେତନତାକୁଳ ଆଲୋଚନା କୋଇପାଇଁ । ଏହି ଅବସରରେ ବେଳ, ଆମ, ପୂର୍ବତନା ସମେତ ଶରଧାଧିକାରୀ ଗଣରେପଣ କରାଯାଇଥିଲା । ପ୍ରକୃତି-ପରିବେଶ-ସମାଜ ପ୍ରଭୃତି ଏହି କାର୍ଯ୍ୟକ୍ରମରେ ସହଯୋଗ କରିଥିଲେ ।

ପରିବେଶ ସମିତିର ସଭାପତି ଡ. ସୁବଳନାରାୟଣ ପାଠ୍ଟା, ସୁସ୍ଥ ସମାଜକ ଉଦ୍ଦିଷ୍ଟତା ମନୋରଞ୍ଜନ ମିଶ୍ର ସମେତ ସମିତିର ସୁସ୍ଥ ବେହେରା, ସୁମିତ୍ରା କୁମାରୀ ପାଠ୍ଟା, ମିରଦ ବରଷ ଖୁଣ୍ଟିଆ, ବିଶ୍ୱନାଥ ପ୍ରହାର ପରିବେଶର ଅବକ୍ଷୟ ଦୃଷ୍ଟିରୁ କିଲି କିଲିର ଅବକ୍ଷୟ ଦୃଷ୍ଟି ହେତୁ ପ୍ରଭାବି ଗଣା ବର୍ଷକ ସହିତ ବୃକ୍ଷରୋପଣ ହିଁ ଏକମାତ୍ର ସୁରକ୍ଷା କବଚ

କୋଲି ମନବ୍ୟକ୍ତ କରିଥିଲେ । ଅନୁଷ୍ଠାନର ଅଧ୍ୟକ୍ଷ ପ୍ରଫେସର ମହମ୍ମଦ୍ କୁମାର ରାଜନ ଅଧିକାରୀଙ୍କୁ ପ୍ରକଟ ସମ୍ବନ୍ଧରେ ସହିତ ଛାତ୍ରଛାତ୍ରୀଙ୍କୁ ମିଳନ ପୁରୁଷ୍କୃତ ଭବିଷ୍ୟତ ପାଇଁ ପରିବେଶ ପ୍ରତି ସଚେତନ ହେବାର ଆବଶ୍ୟକତା ଅଛି ବୋଲି ବକାସ ପ୍ରଦାନ କରିଥିଲେ । ଅନ୍ୟମାନଙ୍କ ମଧ୍ୟରେ ଏନ୍.ଏସ୍.ଏସ୍. ପ୍ରୋଫାସର ଅଫିସର ଏସ୍. କେ. ପୂର୍ଣ୍ଣ, ବି. ବି. ମିଶ୍ର, କେ. କେ. ମିଶ୍ର, ପି. ଗିରି, ଏ. ଏସ୍. ଦେବୁରା, ବି. ଦାଶ, ଏସ୍. ନାୟକ ଚିଆ ଅନ୍ୟମାନଙ୍କରେ ଉପସ୍ଥିତ ରହି ବୃକ୍ଷରୋପଣ କାର୍ଯ୍ୟକ୍ରମରେ ଛାତ୍ରଛାତ୍ରୀଙ୍କୁ ଉତ୍ସାହିତ କରିଥିଲେ । ପରିବେଶ ସଂରକ୍ଷଣ ପ୍ରକଳ୍ପରେ କାର୍ଯ୍ୟକ୍ରମରେ ବିଭିନ୍ନ ଛାତ୍ରଛାତ୍ରୀ ଓ ଗ୍ରାମ ବିଭାଗ ଉପର, ବିଶ୍ୱରଞ୍ଜନ ପାଠ୍ଟା, ସୁସ୍ଥ ପରିମ୍ଳ, ବିଦ୍ୟାରଞ୍ଜନ ଦାଶ, ରାଜେଶ ନାଥ ଶର୍ମା, ସତ୍ୟପ୍ରିୟ ନାୟକ, ପ୍ରାୟଶ୍ଚ ମହାନ୍ତି, ପିୟୁଷ ଆଚାର୍ଯ୍ୟଙ୍କୁ ପୁରସ୍କୃତ କରାଯାଇଥିଲା ।

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ଭୁବନେଶ୍ୱର

‘ପୁରୁଷ୍କୃତ ଭବିଷ୍ୟତ ପାଇଁ ପରିବେଶ ପ୍ରତି ସଚେତନତା ଆବଶ୍ୟକ’

ଭୁବନେଶ୍ୱର, ୫।୧୦ (ସମ୍ବାଦ): ଓଡ଼ିଶା ପରିବେଶ ସମିତି ଚରପାଠ୍ଟା ଗାଈ ଏବଂ ଗାଈ ଅନେଲୋଗସ୍ କଲେକ୍ଟର ଜାତୀୟ ସେବା ଯୋଜନା ଆହୁରିବାରେ ସମ୍ପୂର୍ଣ୍ଣ ମହାବିଦ୍ୟାଳୟ ପରିସରରେ ଛାତ୍ରଛାତ୍ରୀଙ୍କ ସହିତ ପରିବେଶ ସୁରକ୍ଷା ସମାଜୀୟ ସଚେତନତାକୁଳ ଆଲୋଚନା କୋଇପାଇଁ । ଏହି ଅବସରରେ ବେଳ, ଆମ, ପୂର୍ବତନା ସମେତ ଶରଧାଧିକାରୀ ଗଣରେପଣ କରାଯାଇଥିଲା । ପ୍ରକୃତି-ପରିବେଶ-ସମାଜ ପ୍ରଭୃତି ଏହି କାର୍ଯ୍ୟକ୍ରମରେ ସହଯୋଗ କରିଥିଲେ ।

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