



IETSC NEWSLETTER

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From the Chairman's Desk

Dear Fellow fraternity,

Biodiversity, the diversity of life on Earth, is essential to the healthy functioning of ecosystems. Habitat loss and overexploitation, driven by our rapid population growth and unsustainable consumption patterns, are the primary causes of biodiversity loss which is now happening up to ten thousand times faster than for millions of years before.

In May 2019, the Intergovernmental Science Policy platform on Biodiversity and Ecosystem Services (IPBES), released its global assessment, identifying the major threats to biodiversity worldwide. It explicitly noted that human population growth is an indirect driver of biodiversity loss:

It elaborated that, Healthy ecosystems, interdependent webs of living organisms and their physical environment are vital to all life on Earth. Our ecosystems provide us with clean air, fresh water, food, resources and medicine. Biodiversity, the variation of life on Earth, is a major factor in nature's resilience. In a bio-diverse ecosystem, if the environment changes and some organisms can no longer thrive, others can take their place and fulfill essential functions. It is often the most overlooked species that are the most important to healthy ecosystems. Insects, for example, play an essential role in pollinating flowering plants - a third of the food we eat depends on animal pollinators.

Since life appeared on Earth, there have been several mass extinctions in which many species were wiped out because of catastrophic climate change, volcanic activity, the impact of an asteroid or other reasons we have not yet discovered. The plants and animals which currently live on Earth have continued to evolve over the 65 million years since the last mass extinction. But many scientists consider the huge reduction in biodiversity since the emergence of humans is now on the scale of another mass extinction. This is known as the Anthropocene extinction or sixth mass extinction.

WWF's latest Living Planet Report estimates that we have lost 60% of all vertebrate wildlife populations since 1970. That's more than half of all birds, mammals, reptiles, amphibians and fish gone in just 50 years. During that time, our population has more than doubled, increasing from 3.7 billion to over 7.8 billion today.

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Invertebrates, while understudied, aren't faring any better. A German study found that flying insect populations (including pollinators) have crashed by three-quarters since 1989, reflecting similar trends around the world. In its landmark 2019 report, IPBES reported that one million species are now at risk of disappearing for good and according to the IUCN Red List of Threatened Species, 41% of amphibians, 25% of mammals, 34% of conifers, 13% of birds, 31% of sharks and rays, 33% of reef-building corals, and 27% of crustaceans are threatened with extinction. Some countries are worse off than others. The 2016 State of Nature report concluded that the United Kingdom was one of the most nature-depleted countries in the world. Biodiversity loss is attributable to several causes but by far the biggest culprits are habitat destruction and overexploitation of species, driven by our exploding numbers and unsustainable consumption.

With regards,


Dr G Rameshwar Rao, FIE
Chairman



From Hon. Secretary's Desk

Dear Friends,

As you are kindly aware the year 2020 brought us unprecedented devastation not only to our country but also to most of the countries world over. The devastation caused by Covid-19 pandemic may be the worst memory of the mankind of this century. The pandemic started gradually towards the end of 2019 and rapidly spread like the proverbial wildfire resulting calamity with the loss of a large number of human life, worst economy, miserable loss of earning, loss of industrial production and other innumerable sufferings throughout the year of 2020.

As per the latest statistics worldwide the total infection cases are about 8.6 crores with the loss of life of about 18.67 lakhs mostly affecting even some of the advanced countries like U.S.A, U.K, Italy,

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VENUE FOR PROGRAMMES

"Visvesvaraya Bhavan" Khairatabad, Hyderabad - 500 004. Ph : 040-2331 4969
E-mail : telanganasc@ieindia.org | ieitelanganasc@gmail.com | Website : www.ieitsc.org.in



The Institution of Engineers (India)
TELANGANA STATE CENTRE
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to mention a few among hundreds.

In India the total loss of life on account of the Covid-19 is around 1.50 lakhs with active cases of about 1.03 crores. In our State of Telangana the loss of life is about 1554, the active cases are being about 2.88 lakhs. The biggest relief in the news is that the recovery rate has now crossed 96.00% and the other gratifying news being the position of this catastrophic incident is gradually improving by the day.

Friends, among all the sad news, the silver line and most heartening news is that the vaccine for the pandemic has almost arrived.

Two of the country's most renowned vaccine producing agencies viz- the Serum Institute of India (SII), PUNE and our own local Bharat Bio-tech Industries, Hyderabad have come out successfully about two varieties of vaccines which have already been given green signal for emergency use.

The trial run has already been undertaken with encouraging efforts from all the stakeholders. The process of vaccination, which will be one of the world's biggest exercises, will be commenced very shortly.

In the meanwhile another mutated virus has been found in U.K and is understood to be alarmingly spreading throughout the world including India.

With the experience, the country, with all probability will cross the hurdle and come out success. With the development of the vaccine, let us hope that we all forget the worst effect of the pandemic and face the future with confidence to rebuild the country.

We, the engineers, have a role to play and I appeal to all my fraternity to be proactive and help in building the nation.

With this backdrop, I pray the Almighty to bless the World in general and our country and state of Telangana in particular not only for giving us sufficient strength to face the pandemic but also to succeed and come out in flying colours.

HAPPY NEW YEAR 2021 TO ALL.


(Er T. Anjaiah, FIE)
Hon. Secretary

National Energy Conservation Week Celebrations-2020

The Energy Conservation Mission of The Institution of Engineers (India), Telangana State Centre in association with Telangana State Renewable Energy Development Corporation Limited (TSREDCO) organized "National Energy Conservation Week Celebrations- 2020" on 14th & 15th December 2020 through webinar (ZOOM Cloud Meeting App).



December 14, 2020: Energy Conservation Mission of The Institution of Engineers (India), Telangana State Centre organized "National Energy Conservation Week Celebrations 2020" Inaugural function. The Chief Guest, **Shri G JAGADISH REDDY**, Hon'ble Minister for Energy, Government of Telangana graced the function. In this occasion the Chief Guest released the ECM Souvenir. The Chief Guest has called for bringing awareness among the people on saving electricity and believes that this will facilitate environmental protection along with economic flexibility. Speaking on the occasion, he said that the world, which has so far relied on thermal power, is now looking at unconventional electricity. The state of Telangana has already stood at number one place and also said our Hon'ble Chief Minister was far ahead in this matter and called on the people of the world to take up the challenge of power saving as a movement. The Government formed in the State of Telangana under the leadership of Hon'ble Chief Minister has made planting trees is a social responsibility and praised the efforts of Chief Minister. That the power consumption is a part of human life and saving power consumption will have amazing results, The Telangana State Centre of IEI and TSREDCO were already taking initiative in saving power in the State of Telangana and it went ahead as a people's movement, achieving the target would not be difficult.

Shri Sandeep Kumar Sultania, IAS, Secretary to Government, Department of Energy, Government of Telangana graced the function as Special Guest and said that the Telangana Government is forefront in promoting Energy Conservation, our State is regarded as best State as far as the development of Renewable Energy is concerned. The Special Guest said that use of LEDs will save the consumption of energy, GHMC and other Municipalities are using 100% LEDs. The Telangana Government taken up the project with EESL to install the LEDs in every Gram Panchayat. The Government is distributing various energy efficient appliances to all over State.



Shri N Janaiah, Vice Chairman and Managing Director, TSREDCO graced the occasion as Guest of Honour addressed the gathering. He said all are aware that the National Energy Conservation Day is celebrated every year all over the country 14th December to aware importance of Energy Conservation. He further said that with the support of Telangana Government, TSREDCO is working in all the Energy Conservation and Renewable Energy activities for the advancement of the Government commitment towards India's intended nationally determined contributions, accordingly TSREDCO is promoting many activities under the Energy Conservation Act 2001.

Dr G Rameshwar Rao, FIE, Chairman, IEI, TSC presided over the function. **Er E Srinivasa Chary**, FIE, Chairman, Energy Conservation Mission welcomed the gathering. **Prof. C B V Subbarayudu**, FIE, Convener, Energy Conservation Mission briefed about Energy

Conservation Mission. **Er U Vidyasagar**, FIE, Member, ECM of IEI, TSC read about ECM Pledge **Er T Anjaiah**, FIE, Hon. Secretary, IEI, TSC proposed vote of thanks. After the Inauguration one Technical Session was held, where in two papers were presented with eminent experts in the field of Energy Conservation.

December 15, 2020: The Valedictory Function of the “National Energy Conservation Week Celebrations 2020” held on 15.12.2020 at 1600 hrs. The Chief Guest, **Shri A GOPAL RAO**, Chairman & Managing Director, Northern Power Distribution Company of Telangana Limited graced the function and said that it is responsible of every citizen to habituate energy conservation in day to day usages at home & work places and also said not to waste the energy resources. The Chief Guest advised to use energy to the extent necessity. The Chief Guest said that Carbon emissions effect the environment and it creates environmental imbalance and Global Warming. Under the leaderships and vision of Hon’ble Chief Minister of Telangana and Chairman & Managing Director of TSTRANSCO, the power sector stood number one in the country. Recently, The Telangana Government newly established 3741 Megawatt production of Solar and Wind Renewable Energy and 1145 megawatts Lift irrigation projects are under progress.



Er G S V Prasad, General Manager, TSREDCO as Guest of Honour and addressed the gathering. He thanked the IEI and also thanked Government of Telangana for extending whole hearted support and top priority for Conservation of Energy. The Telangana Government has nominated TSREDCO as a nodal agency for conducting Energy Conservation activities. He further said that Telangana Government has issued solar policy in 2015 and they have given tremendous support for this sector. Because of solar policy Telangana State is able to produce solar power near in 3600 MW.

Dr G Rameshwar Rao, FIE, Chairman, IEI, TSC presided over the function. **Er E Srinivasa Chary**, FIE, Chairman, Energy Conservation Mission welcomed the gathering. **Prof. C B V Subbarayudu**, FIE, Convener, Energy Conservation Mission presented the Recommendations. **Er T Anjaiah**, FIE, Hon. Secretary, IEI, TSC proposed vote of thanks.

Before the Valedictory Function one Technical Session was held at 1500 hrs, where in three papers were presented with eminent experts in the field of Energy Conservation.

Dr A Ramakrishna Eighth Endowment Lecture On "The trends of Digitization in Civil Engineering"

December 21, 2020: IEI, Telangana State Centre organized **Dr A Ramakrishna** Eighth Endowment Lecture on “The Trends of Digitization in Civil Engineering” delivered by **Er M P Naidu**, Former Project Director, Hyderabad Metro Rail Ltd, Hyderabad. During his address he said that the present digital technology is disrupting the way works are executed in every field of engineering. Civil Engineering, which was traditionally considered as Brick-and – Mortar industry is also reshaping to Digital tools. Digital techniques, such as Artificial Intelligence (AI) to the Internet of Things (IoT) are dramatically introducing new tools for construction, in place of old



mundane methods of work. Not only, the traditional building and construction landscape is changing, it is even more encouraging to know the factors that are contributing to the change. Clients are demanding for more innovatively tailored products for their projects. Client demands are increasingly towards sustainable, energy efficient, modular, better quality, with varied options, and with definite time lines. These demands call for more state of art execution capabilities with more precision, design options. More affordable Digital techniques are available to address these needs, with varied tools backed by augmented reality and virtual reality (AR/VR), drones, robotics, and additive printing. **Digital Surveying** and Geospatial technologies. LiDAR can give highly detailed complex maps of surfaces, in a very short time. **Building Information Modelling(BIM):** This tool enables virtually creating the project, which enables choice of various options, the right sequence works, eliminating clashes of various services, Quantification, Costing, Scheduling and facility management.

Augmented Reality (AR): This tool offers a live direct or indirect view of a physical, real world environment where elements are augmented or supplemented by virtual computer generated sensory input (sound, video, graphics or GPS data). Users can visualise site limitations, duct clashes, and overlay time (from 4D-BIM platforms) and cost information (from 5D- BIM platform) to experience a real time dry run of a project before real construction begins. **Mixed Reality and Virtual reality:** For example, using AR and video chat to teleconference live with someone in another country to both explore and discuss a hard to access place (e.g., a subsea tunnel) with information overlaid on your view. **Mobile Technology:** Use of phones, tablets and apps offer live and more efficient communication and collaboration on project sites. They make access to information for easier and wider spread.

DRONES: Being used increasingly in construction to inspect sites and assets. The right kind of skills is needed to generate the right kind of data to be fed in to, say BIM or analysis process. **Photogrammetry:** Advanced 3D photos images recording can build real-time information about asset conditioning, information and decision making. **IoT and Advanced Analytics:** IoT can allow construction machinery, equipment, materials, structures, and more to talk to a central data platform. Other technologies, including sensors and near-field-communication (NFC) devices, can monitor productivity and reliability.

Robotics: Robots will be programmed to execute some of the repetitive typical works in the



construction arena with its offering of precision and accuracy. The cost of robotics may be high at the beginning, but it will be well worth the benefits. For example, robots can be laying bricks and tying rebar or completing man-operated construction projects. Construction professionals can look at new opportunities for the industry, even though it could come at a cost. Progressive construction companies have already started implementing these strategies to run their operations. The standardization offered by the new technology helps to cut down on costs and lead times. The added benefit of the techniques is that they are eco-friendly because when working on a construction, the extra materials can be easily recycled. In 2021, you can expect developers, engineers, and contractors to easily integrate and manage their existing processes through a single, always-connected cloud-based platform. With cloud-based collaborations, you can also look out for real-time collaboration. Cloud can help contractors to work on the same sets of data across the back office. And you will find projects running in real-time with accurate data and digitization, eliminating various manual tasks, saving time, providing greater cost flexibility, and improving profitability and productivity.

Dr G Rameshwar Rao, FIE, Chairman, IEI, TSC welcomed the gathering and presided over the function. **Er M Nagaraj**, MIE Member, IEI, TSCC introduced the profile of Chief Guest and Speaker and **Er T Anjaiah**, FIE, Hon. Secretary, IEI, TSC proposed vote of thanks.

NATIONAL FARMERS' DAY

(on the occasion of the Birthday of Shri Chaudhary Charan Singh, Former Prime Minister of India)

December 23, 2020: IEI, Telangana State Centre organized National Farmers' Day (on the occasion of the birthday of **Shri Chaudhary Charan Singh**, Former Prime Minister of India). **Dr K YELLA REDDY**, FIE, Dean, Agricultural Engg. & Technology, ANGR Agricultural University, Guntur & Vice President, ICID has graced the occasion as the Chief Guest. The Chief Guest congratulated the Telangana State Centre of IEI for organizing this webinar on the occasion of National Farmers Day and said



farmers are backbone of our country. There is no life without farmers and every citizen should respect & appreciate the farmers' services. The Government of India should modulate farmers towards technology and innovation. In India, many farmers living below the poverty line. The Indian government should provide education and good health for farmers' children so that farmers will be benefited.

Er P W Johnson, Former District Rural Development Officer, Vikarabad and National Water Awardee addressed on "**Importance of Soil & Water Conservation in Agricultural Development**". He said that during his tenure under IWMP programme one village was selected and developed water shed programmes, ponds, percolation tanks, check dams, vegetative structures and some plantation works. Based on the development that village could become as one of model villages in India. Based on the works done by him and his team, the Chief Minister of Telangana appreciated.

Dr G Rameshwar Rao, FIE, Chairman, IEI, TSC welcomed the gathering and presided over the function. **Er P Shankar Prasad**, MIE, Member, IEI, TSCC & Convener, WMF-SRC briefed about Chief Guest & Speaker and **Er T Anjaiah**, FIE, Hon. Secretary, IEI, TSC proposed vote of thanks.

FUTURE PROGRAMMES : JANUARY 2021

Date & Time	Event	Chief Guest/Speaker
26.01.2021 Tuesday 0900 hrs	REPUBLIC DAY	
26.01.2021 Tuesday 1000 hrs.	Er V Subba Rao Third Endowment Lecture	

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