



CGES Newsletter

CLEAN AND GREEN ENVIRONMENTAL SOCIETY

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VISION

Clean and Green Environment for Healthy Life

MISSION

To Strive for A Clean and Healthy World

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Er. Sumer Agarwal

PRESIDENT'S MESSAGE

Dear Fellow Members,

Clean and Green Environmental Society (CGES) has successfully completed its four years of journey last year in July, 2019 with the active participation of a team of more than 200 committed members. CGES had three major programs during the last one year for creating mass awareness about saving of environment and maintaining cleanliness in their surroundings for better health and life. These include CGES Foundation Day Celebrations on 7th July, 2019, plantation drive in Netaji Subhash Chandra Bose Park and CGES-LMA-IIT Roorkee Alumni joint Summit on Environment and Health on 15th September, 2019. CGES is extremely thankful to the media for spreading the message by publishing the news reports from time to time. CGES also felicitated its member and Senior Principal Scientist, CSIR- National Botanical Research Institute, Dr. Prabodh K. Trivedi on being conferred as the Fellow of Indian National Science Academy (FNA) for his significant contributions in the area of plant improvement.

On February 22-23, 2020, CGES in collaboration with a premier institute of CSIR, National Botanical Research Institute (NBRI), Lucknow is organising a National Conference on Climate Change: Agriculture, Biodiversity and Human Health (CABH-2020). Nearly 200 delegates from various states will be participating in the National Conference. The aim of the CABH-2020 is to bring the eminent scientists, academicians, environmentalists, policy makers, non-government organisations from all over the country on a common platform to discuss critical issues arising from the Climate Change, and its effects on agriculture, biodiversity and human health and to formulate the strategies for taking up the corrective measures.

Friends, in the fast developing world today, we have great responsibility as citizen of India to educate people towards saving our Planet Earth by contributing a bit towards pollution control and cleanliness, wherever we are and whatever we do in our daily life. Let us resolve as a member of the CGES to devote a few hours every month for this task and adopt few schools and parks in our city to educate people, especially women and children keeping their places clean and green by planting saplings in the vacant spaces.

Prof. S.C. Sharma, Secretary General, CGES is a driving force and it is due to his sincere efforts that the Clean and Green Environmental Society has been able to organise events, seminars, hands-on training program round the year in Lucknow and other places. My thanks to the CGES Advisors, Executive Councillors and Life Members for their cooperation and support to strengthening the society. My special thanks to Prof. S.K. Barik, Director, CSIR-NBRI for his constant support to the CGES. I hope the participants will be benefited from the deliberations in the forthcoming CABH-2020 Conference and will go back to their place with the sweet memories of heritage city Lucknow, capital of Uttar Pradesh.

I wish New Year's Greetings to all our esteemed members and well wishers,

Er. Sumer Agarwal
President, CGES and Chairman,
LEVANA Group, Lucknow-226 001

CGES New Life Members

Dr. P.K. Mehrotra, Prof. K.M. Patel, Mrs. Kanta Patel, Er. Udai Pandey, Mrs. Sheela Pandey, Dr. S.N. Pandey, Mrs. Vandana Pandey, Mr. Aditya Tripathi, Mr. O.P. Agarwal, Dr. Ramesh Rastogi, Mr. S.C. Vidyarthi, Dr. Alka Kumari, Dr. Prerna Mitra, Col. Khan Mahmood, Mrs. Saima Khan.



Obituary

During last year on 8th July, 2019, we lost our Life Member Prof. Ayodhya Prasad, D.Sc., Former Dean Agriculture, Chandra Shekhar Azad Agriculture and Technical University, Kanpur. CGES will always remain indebted for his outstanding contributions to the society.

Global Climate Change: Human Health Concerns

Devina Sharma

Direct risks of global climate change are expected especially on natural resources like agriculture, fishing, forestry, health care, real estate and tourism.

There was little awareness of the health risks posed by global climate change in early 1990s due to poor understanding of how the disruption of biophysical and ecological systems might affect the longer-term well being and human health. For the first time in 1991 the risks on human health were addressed in the UN's Intergovernmental Panel on Climate Change (IPCC) report. Later, in 1996 and 2001 it concluded that: "Overall, climate change is projected to increase threats to human health, particularly in lower income populations, predominantly within tropical/subtropical countries." It clearly emphasized that "Climate change can affect human health directly (e.g., impacts of thermal stress, death/injury in floods and storms) and indirectly through changes in the ranges of disease vectors and lengthening the transmission seasons (e.g., mosquitoes), water-borne pathogens, water quality, air quality, and food availability and quality. Studies also suggest that climate change is likely to continue to increase exposure to dengue. The actual health impacts are strongly influenced by local environmental conditions and socio-economic circumstances, and by the range of social, institutional, technological, and behavioral adaptations taken to reduce the full range of threats to health."

It is assessed that between 2030 and 2050, climate change is expected to cause approximately 250,000 additional deaths per year, from malnutrition, malaria, diarrhoea and heat stress. The direct damage costs to health is estimated to be between USD 2-4 billion/year by 2030 which excludes agriculture, and water and sanitation. Mostly the developing countries will be the least able to cope without assistance to

prepare and respond. The world has warmed by approximately 1°C in last 130 years. Extreme high air temperatures contribute directly to deaths from cardiovascular and respiratory disease, particularly among elderly people. Pollen and other aeroallergen levels are also higher in extreme heat which can trigger asthma affecting around 300 million people. Rising sea levels and increasingly extreme weather events will destroy homes, medical facilities and other essential services. More than half of the world's population lives within 60 km of the sea. People may be forced to move, which in turn heightens the risk of a range of health effects, from mental disorders to communicable diseases. Increasingly variable rainfall patterns are likely to affect the supply of fresh water. A lack of safe water can compromise hygiene and increases the risk of diarrhoeal disease, which kills over 500 000 children aged under 5 years, every year. Floods contaminate freshwater supplies, heighten the risk of water-borne diseases, and create breeding grounds for disease-carrying insects such as mosquitoes. They also cause drowning and physical injuries, damage homes and disrupt the supply of medical and health services.

Reduction in emissions of greenhouse gases through better transport, food and energy-use choices can result in improved health, particularly through reduced air pollution. In 2015, the WHO Executive Board endorsed a new work plan on climate change and health which includes:

- Partnerships for proper representation of health issues in the climate change agenda.
- Awareness raising to provide and disseminate information on the threats that climate change presents to human health, and opportunities to promote health while cutting carbon emissions.

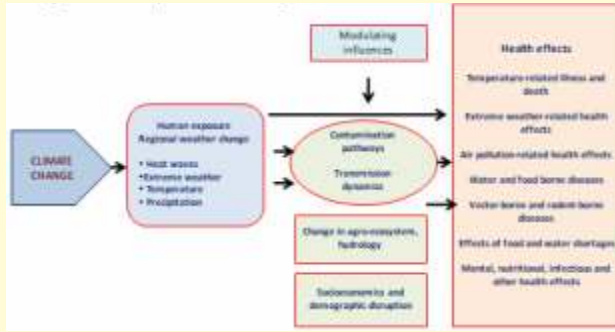


Figure: Various ways the climate change affects human health

- Science and evidence to coordinate reviews of the scientific evidence on the links between climate change and health, and develop a global research agenda.

Support for implementation of the public health response to climate change to assist countries to build capacity to reduce health vulnerability to climate change, and promote health while reducing carbon emissions.

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Diminishing Biodiversity of India and Challenges to Protect It

Utkarsh Mishra

India is the country which shows a diversity in its religion, language, culture and biota. Due to varied climatic conditions, India has a wide range of natural vegetation. Vegetation of India can be divided into five types – Tropical evergreen forest, Tropical deciduous forest, Thorny bushes, Mountain vegetation and Mangrove forests [N.C.E.R.T.]

TROPICAL RAIN FORESTS occur in the areas that receives a heavy rainfall. They are so dense that sunlight doesn't reach the ground. Trees found in these forests shed their leaves at different times of the year. Therefore, they always appear green and are called evergreen forest. Important trees found in these forests are mahogany, ebony and rosewood. Andaman and Nicobar Islands, parts of North-Eastern states and a narrow strip of the Western slope of the Western Ghats are home of these forests.

TROPICAL DECIDUOUS FORESTS are found in a large part of our country. These forests are also called monsoon forests. They are less dense and shed their leaves at a particular time of the year. Important trees of these forests are sal, teak, peepal, neem and shisham. They are found in Madhya Pradesh, Uttar Pradesh, Bihar, Jharkhand, Chhattisgarh, Odisha, and in parts of Maharashtra. **THORNY BUSHES** type of vegetation is found in dry areas of the country. The leaves are in the form of spines to reduce the loss of water. Cactus, khair, babool, keekar are important and are found in the states of Rajasthan, Punjab, Haryana, Eastern slopes of Western Ghats and Gujarat.

MOUNTAIN VEGETATION witnesses a wide range of species according to the variation in height. At a height between 1500 metres and 2500 metres most of the trees are conical in shape. These trees are called coniferous trees. Chir, Pine and Deodar are important trees of these forests.

MANGROVE FORESTS can survive in saline water. They are found mainly in Sunderbans in West Bengal and in the Andaman and Nicobar Islands. Sundari is a well-known species of trees in mangrove forests after which Sunderbans have been named.

Forests are very useful for us since they perform various functions. Plants release oxygen that we breathe and absorb carbon dioxide. The roots of the plants bind the soil; thus, they control soil erosion. Forests provide us with timber for furniture, fuel wood, fodder, medicinal plants and herbs, lac, honey, gum, etc. Forests are the natural habitat of wild life. Natural vegetation has been destroyed to a large extent because of the reckless cutting of trees. We should plant more trees and protect the existing ones and make people aware of the importance of trees. We can have special programmes like Van Mahotsav to involve more people in making our earth green.

CORAL-ALGAL REEFS are the most important habitat for the aquatic biota and can be compared with the rainforest of Ocean. Lakshadweep atoll and Dwarika islands are the most important region where the coral-algal reefs can be seen. Coral animal belongs to the phylum Coelenterata. An algae belonging to the group Zooxanthellae occurs in a symbiotic association with the coral and it provides colour to it. Coral, in turn, provides shelter to the algae. There are three types of reefs namely Fringing reef, Barrier reef and atoll reef. The atoll reef can be distinguished from other two types of reefs in having a fore-reef and a back reef. Fore-reef separates the oceanic water from the shallow water of lagoon. The lagoon water is therefore the oceanic water splashed at the other side of the fore-reef. Lagoonal water is different from oceanic water in terms of salinity, pH, temperature etc. Reef formation occurs only at the tropical to subtropical regions of the oceans in the world. Temperate water of Arctic and Antarctic

regions of the world shows an absence of coral-algal reef.

In recent years, it has been seen that the reefs in India are getting affected by change in temperature of the ocean and addition of a variety of chemicals through porting. A recent study has shown that the keel of a ship is also responsible for breaking of the reef in the region from where it passes. The reefs are getting bleached and brittle. Legal acts for reef protection should be made more stringent since the coral-algal reefs are the important habitat for a variety of aquatic animals and also forms the base of many islands such as Lakshadweep. Periodic Patrolling of the reef

should be done to regulate the illegal exploitation of reef rocks later to be used as a bulk material for building and cementing.

To conclude, though there are challenges for protection of the rich biodiversity of the country but a proper planning and its execution through legal acts and a consciousness for saving our environment can make it possible to protect our biodiversity from getting diminished.

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Hotspots of Floristic Diversity in Uttarakhand, India

Tariq Husain and Priyanka Agnihotri

Uttarakhand, part of central sector of Indian Himalayan Region, is bestowed with lush green forests, perennial rivers and diversified topography ranging from high alpine glaciers to low lying plains. The region represents a transition between dry western and humid eastern Himalaya. Reconnaissance of the region revealed the presence of representative elements of both the Himalayan regions. A wide range of physiographic and phytoclimatic conditions support enormous diverse and luxuriant vegetation in the state. The flora and fauna depict great variations making it one of the mega-reservoirs of biodiversity in India. Realising the importance of identifying and preserving such species and habitats, nine areas have been discussed in detail. Each of those areas represents species richness and diversity at different organizational level.

Uttarakhand encompasses an area of 53,483 km² which accounts for 1.69% of the total geographical area of the country. Ca. 64.8% of the total geographic area of the state is under forest cover, of which 35.6% is under dense forest cover and ca. 19.2% is under open forest cover. The region is predominantly mountainous and is divided into four geographical units; the trans Himalaya (4500–5700 m asl), the greater Himalaya (3000–4500 m asl), the lesser Himalaya (800–3000 m asl) and Siwalik range (1000–1200 m asl). The diversity of climate varies from tropical at the base of the mountains to permanent ice and snow covered areas at the highest elevation and such habitats support vast and luxuriant vegetation. Vegetation of Uttarakhand is broadly grouped into tropical, subtropical, temperate and alpine zones. Floristic analysis of Uttarakhand reveals the presence

of ca. 4700 species under 1503 genera and 213 families, almost representing 27% of total Indian angiospermic flora. The dicots dominates with ca. 3493 species under 1163 genera and 182 families while monocots have ca. 1173 species under 340 genera and 31 families (Uniyal et al., 2007). Among dicots, Asteraceae has the largest number of genera i.e. ca. 125 followed by Fabaceae (76), Lamiaceae (49), Apiaceae (47) and Brassicaceae (39); whereas among the monocots, Poaceae was the dominant family having 122 genera followed by Orchidaceae (71), Liliaceae (30), Cyperaceae (24) and Araceae (19). The gymnosperms are represented by ca. 20 genera and 32 species. Pinaceae with 5 genera and 8 species is the largest family followed by Cupressaceae (3/8) and Taxodiaceae (4/4). There are certain areas with unique patterns of plant diversity those have been identified for their highest botanical importance. Extensive survey for the published literature on Uttarakhand flora was made and information on species/population/community performance and distribution has been gathered.

On account of recorded details, 9 such centers of diversity have been identified in Uttarakhand. These are Gangotri National Park, Nanda Devi Biosphere Reserve, Rajaji National Park, Tons valley, Kedarnath Wildlife Sanctuary, Niti Valley, Nilang Valley, Pindari Valley and Govind Wildlife Sanctuary.

Gangotri National Park: GNP lies between coordinates (30°50' – 31°12' N and 78°45' – 79°02' E) and 1800 – 7083 m asl in the Uttarkashi district of Uttarakhand. It is the largest National Park in the state with 2390 km² area including a considerable stretch

of snow clad mountains and glaciers. The park mainly displays arctic – alpine and glacial vegetation and harbors many endangered species of plants and animals. Major vegetation types in national park are Deodar forest between 2600 – 3250 m altitude, Pine forests are dominating between 2600 – 3600 m, where Birch is also scattered. Birch forests occur almost throughout the protected area dominantly between 3100 – 4200 m asl and form the upper storey dominantly. Rhododendron scrub vegetation occurring at higher elevations between 3500 – 5000 m on rocky slopes, as part of alpine bushy vegetation dominated by species of Rhododendron with intermixed grassy patches and cushioned herbs. GNP is a rich repository of floristic components and is represented by 109 families, 389 genera and 923 species of which 87 families, 357 genera and 844 species belong to Angiosperms.

Nanda Devi Biosphere Reserve: NDBR lies between latitudes 30°16' to 30°41' N and 79°40' to 80°05' E longitudes in the Chamoli district of Garhwal Himalaya in Uttarakhand. It covers an area of about 2000 km² and altitude ranges between 1416 m to 7817 m asl with 75% of the area of found in greater altitudes between 3000 – 6000 m and only small area is located beyond the range of 2000 – 6000 m. On the basis of altitudinal gradients and microhabitats ca. 750 species of higher plants and five vegetation zones have been identified. This includes 739 species of Angiosperms under 378 genera and 98 families. In addition, 11 species of Gymnosperms under 8 genera and 4 families have been documented. Asteraceae was determined as the dominant family with its 44 genera and 82 species, Poaceae is the second dominant family with 30 genera and 46 species followed by Rosaceae with 16 genera and 43 species and Ranunculaceae with 14 genera and 43 species.

Rajaji National Park: Rajaji National Park is nestled between the Shivalik ranges and the Indo-Gangetic plains, which lies between 77° 52' E to 78° 22' E and 29° 51' N to 30° 15' N covering an area about 820.40 km². It extends over the Shiwalik Range from Dehradun-Saharanpur road in the north-west to the Rawasan River in the southeast. The area has an uneven topography, with elevation ranging from 242 to 1362 m asl. The area is covered with thick green forest, mainly Sal, and other varieties of deciduous trees, along with grass and shrubs. The dominant tree, *Shorea robusta* Gaertn. forms pure belt of Sal forest in major part of the park. Rajaji National Park is known

to house 812 species of angiosperms belonging to 106 families in which 652 are dicotyledonous and 160 are monocotyledonous. Fabaceae is the dominant family followed by Poaceae, Asteraceae, Lamiaceae, Acanthaceae, Urticaceae and Malvaceae.

Tons valley: Tons valley (30° 35' – 30° 18' N latitudes and 77° 49' – 78° 37' E longitudes) is one of the floristically rich Himalayan valley located in Garhwal Himalaya. Moreover, the area is a homeland of some primitive communities dominated by Jaunsaris, who are authentic and intimate repository of wisdom on plant wealth of the area. Owing to topographic and climatic diversities, there is unique assemblage of tropical, temperate and alpine elements in the flora. Owing to great variations in physiography, altitudes and climatic conditions, the Tons valley vegetation represents an admixture of tropical, temperate and sub-alpine species. In all 761 species of flowering plants from 480 genera and 132 families are found in the Tons valley of which ca 40% are being used by one or the other local inhabitants. As many as 115 species are used as medicinal, 45 edible, 15 fibres, 53 fodder etc. from the 115 medicinally important plant some species.

Kedarnath Wildlife Sanctuary: Kedarnath Wild Life Sanctuary, situated in the Garhwal region of Western Himalaya is bounded to the north by a range of places and peaks (30° 26' – 30° 45' N, 78° 54' – 79° 36' E) with altitudes ranged from 1,160 to 7,068 m asl. KWLS is one of the largest protected areas with 97517.80 ha (25293.70 ha in Chamoli district and 72224.10 ha in Rudraprayag district) in the Western Himalaya and falls under the IUCN management category IV (Managed Nature Reserve). The floristic richness of KWLS can be attributed to its location that is at the junction of Indian sub-continent and Indo-China biogeographic regions. The great variety of climate, geology and topography reflects complex and diverse nature of the vegetation in the region. It is estimated that about 44.4% to 48.8% of the sanctuary is forested, 7.7% comprises alpine meadows and scrub, 42.1% is rocky or under permanent snow and 1.5% represents formerly forested areas that have been degraded. A total of 530 species of dicotyledons and 691 species of monocotyledons have been recorded from KWLS. The sanctuary covers wide altitudinal range and has sizeable areas with limited human pressure, hence, it harbours diversity of flora (>2000 species). However, some parts of the sanctuary which are heavily used by human beings for pilgrimage and livestock grazing.

Niti Valley: Niti Valley is situated in the buffer zone of the Nanda Devi Biosphere Reserve of Western Himalaya. The valley with an elevation ranging from 3500 – 5000 m asl is spreading over ca. 727.7 km². The valley comprises 62% of the vascular plants of NDBR and ca. 35% of the flora of cold deserts of Western Himalaya. This valley is represented by 267 genera and 73 families of vascular plants. Out of which, 383 species are dicots, 93 monocots, 9 pteridophytes and 10 gymnosperms. The dominant families in terms of high number of species in the valley are Asteraceae (32 genera with 58 species) followed by Poaceae (22 genera with 41 species) and Lamiaceae (15 genera with 19 species). Among gymnosperms, three major families (Pinaceae, Ephedraceae and Cupressaceae) are recorded, of which Pinaceae has five species, Cupressaceae has four species and Ephedraceae has only one species.

Nilang Valley: Nilang valley is spread over an area of about 1100 km² located in Uttarkashi District, which lies between 31° 00' 44.1" to 31° 27' 06.26" N latitudes and 78° 53' 39" to 79° 15" E longitudes. Biogeographically, the Nilang Valley exhibits close affinities with the Tibetan Plateau both in terms of proximity and species composition. Visually, this area is divisible into glacial and periglacial types of landforms. The flora of the Nilang valley typically reflects the prevalence of Trans-Himalayan elements. A total of 421 species from 221 genera and 69 families of vascular plants are so far recorded from the valley. Of these, 341 are dicotyledons, 64 monocotyledons, 9 pteridophytes and 7 are gymnosperms. The plant diversity of Nilang is seriously threatened by heavy grazing even as the inclemency of the climate leaves a very short period for its revival.

Pindari Valley: Pindari Valley is located at about 30°15.30" N and 79°13' – 80°2" E. The roughly 'V'-shaped Pindari valley is situated in Bageshwar district of Uttarakhand at an altitude ranges from 1700 to 3660 m. The vegetation of the valley comprises of Pinus, Acer, Juglans, Cupressus, Quercus and Rhododendron in temperate to subalpine zones, while area between Phurkia and Pindari glacier is mostly devoid of trees and is occupied by alpine meadows. The total numbers of 720 species are found in this area, of which 676 are Angiosperms, 4 are Gymnosperms and 40 are Pteridophytes

Govind Wild Life Sanctuary: Govind Wildlife Sanctuary is located between 31° 17' to 35° 55' N

latitudes and 77° 47' to 78° 37' E longitudes in Purola tehsil of Uttarkashi of Uttarakhand, in the Western Himalaya. It spreads over an area of 957.96 km². Many high altitude lakes such as Juda Tal, Ruinsara Tal, Maildakaru Tal, Bharadsar Tal, Saru Tal, Morinda Tal provide specific microhabitat for number of rare, endangered and threatened taxa. GWLS has different altitudinal gradients ranging from 1300 to 6323 m asl. In spite of great floral diversity the sanctuary is bestowed with varied landscape features that provide multitude of habitats to a diverse array of faunal communities. Till now, 527 species belonging to 274 genera and 92 families of Angiosperms have been collected, but species diversity in dense forest cover is very high, which is additionally supported with contiguous forests and ca. 1500 – 2000 plant taxa of higher plants are estimated to be present in GWLS.

Conclusion

Uttarakhand Himalaya exhibits much wider altitudinal and topographical variations which resulted in immense plant diversity at several regions. These regions have been identified as centres of high plant diversity and most of these regions have been acknowledged for their rich diversity by declaring them the protected areas. Identification of such diversity centres reflect as priority actions for conserving the Himalayan flora.

Although, the present identification of few such potential areas in Uttarakhand is mainly based on inadequate floristic account yet we feel it includes three basic parameters (i.e. species, habitat, ecosystem) for selecting such areas for attention and conservation. It is well understood that within identified areas too, species / habitats of actual interest never coexists at single locality and also it is not possible to isolate the priority species/habitats from those that are common and of lesser interest. Therefore, more detailed analysis of identified areas is needed for drawing practically feasible action oriented programmes keeping in view the potential benefits that the selected species/population/ ecosystem could provide to mankind in general and to all the inhabitants of the area in particular.

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**Plant Diversity, Systematics & Herbarium

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CGES Activities at a Glance

Fourth Foundation Day of CGES

Clean and Green Environmental Society (CGES) celebrated its Fourth Foundation Day on 7th July, 2019 by organising a special function in the auditorium of the CSIR-NBRI in which large number of eminent scientists, educationist, environmentalist, social workers, researchers and other invitees were present. Dr. Girish Sahni, Former Director General, CSIR and Secretary, Department of Scientific & Industrial Research, Govt. of India and currently Bhatnagar Fellow, CSIR was the Chief Guest and Padma Shri Dr. Mansoor Hasan, Former Head Lari Cardiology, KGMU, Dr. Surya Kant, Head, Pulmonary Medicine, KGMU and Dr. Amrita Dass, Director, Institute of career Studies, Lucknow were the Guests of Honour. The Theme of the CGES Foundation Day this year was 'Environment and Health'. The speakers called upon the people to make well planned and joint efforts to protect the environment for ensuring better health of the family. They also praised the initiatives taken by CGES in this regard through various awareness and training programmes involving general public including students and women organised during the last three

years. A CGES newsletter highlighting various activities undertaken and containing articles by the eminent scientists on various important topics was also released on this occasion.

Speaking on the occasion, Dr. Girish Sahni said that today, civilisation stands truly at the cusp of an existential cross-roads. It is defined, or rather, overshadowed by two major grand issues: civilisational conflicts/wars, and environmental catastrophe and how do we avoid it. Dr. Sahni further said that all of the major environmental issues, namely public health, urban sprawl, waste disposal, over population, water scarcity, deforestation, loss of bio-diversity, climate change etc. seem to be 'victims' of global, big interests where the citizen, even a well educated one, seems utterly helpless. However, all changes in society arise from the individuals in society and one must remain optimistic, involved and aware to help usher in the much needed change. He added. Dr. Sahni called up on the people to make the efforts to identify where we may practically contribute so that positive improvements occur at cultural and societal levels and the side effects of industrialisation and consequent environmental



Lighting of the lamp



Prof. Girish Sahni making the point



Release of CGES Newsletter



A view of the audience

damage are reversed. He also suggested for making a work plan for this purpose.

Dr. Amrita Dass focussed her talk mainly on the effects of both 'outer' and 'inner' environmental pollution on the health and said that we should formulate strategies to mitigate this problem on war footings to improve our health and wellness. Dr. Dass stressed upon the need for creating general awareness among people by disseminating information through various platforms.

Dr. Surya Kant in his lecture emphasized that air pollution causes problems for asthma, common obstructive pulmonary disease (COPD), bronchitis, pneumonia, greater risk of blood pressure, cancer, mental retardation, anxiety, hair loss, infertility, miscarriage, deplete ozone layer, decreases fertility of the land etc.. He said that restrictions on deforestation of forests and plantation of more and more plants, minimize urbanization process, use of high technology by establishing factories from urban areas, minimum use of vehicles and promotion of CNG vehicles, promoting solar energy technology, promoting LPG gas in the rural areas, are some of the activities which can minimize air pollution.

Earlier at the outset, President of CGES Er. Sumer Agarwal welcomed the guests and presented the aims and objectives of the society. Secretary General, CGES Dr. S.C. Sharma presented the progress report including future activities to be undertaken by CGES in coming months. Prof. S.K. Barik, Director, CSIR-NBRI, in his remarks described in brief about the role of his institute in protection of plant biodiversity for welfare of mankind. Prof. Yogesh Sharma, Former Head, Botany Dept., LU and Prof. Naveen Arora, Head Department of Environment, BBAU also spoke on the occasion. Km. Shalini conducted the programme. In the end, Dr. A.K. Singh, organising secretary proposed the vote of thanks.

Summit on Environment and Health

Protect environment for better health which can be achieved by development of green belt specially along the vacant lands, rivers, etc., switching over to organic farming, avoiding the use of inorganic fertilizers, pesticides and insecticides and checking air pollution through various available. These were some of the major recommendations made by the eminent scientists, experts and professionals in a summit on 'Environment and Health' jointly organized by Clean and Green Environment Society (CGES), Lucknow Management Association (LMA) and IIT Roorkee Alumni of Lucknow on 15th September, 2019 at Hotel Levana Suits, Lucknow.

Prof. Arthur Frank, a Medical Doctor from Dernel University, Philadelphia, USA emphasized on the



Felicitation of Prof. S.K. Barik



Felicitation of Prof. Arthur Frank

effect of environment on human health and diseases and suggested the development of green belt along river side, nuclear power generation and recycling to beat the problem. Eminent cardiologist Prof. Mansoor Hasan recommended to keep health safe from the deleterious environmental hazards. Dr. Qamar Rehaman, Former Scientist, IITR spoke on carbon emission in to the atmosphere and its effect on health. Prof. Rana Pratap Singh of BBAU suggested to give up the use of inorganic fertilizers, insecticides and pesticides. He also recommended the organic

farming for better human health. NBRI director Prof. Saroj Barik emphasized to keep the human gut microbes safe for better human health. Prof. Naveen Arora of BBAU dwelt upon the development of sustainable system for human health and survival. Dr. Abhishek Kar of KGMU enumerated the effects of air pollution on Human health and suggested the ways of its prevention.

Earlier at the outset, welcome address was given by Er. Sumer Agarwal, President and introduction of the Summit was given by Dr. S.C. Sharma, Secretary General of the society. Er. Arun Mathur of Lucknow Management Association (LMA) proposed the vote of thanks. A large number of the social workers, educationists, scientists, engineers and other dignitaries and guests attended the summit.

CGES participates in a plantation drive at Netaji park



Planting of Rudraksh sapling

CGES Secretary General Dr. S.C. Sharma, Executive Councilor Dr. A.K. Singh and members Mrs. Parvati Sharma and Mrs. Arpita Bhattacharya participated in a plantation drive on 14th July, 2019 undertaken by he local residents and other voluntary organization with the support of Dainik Jagran Vrikhabhushan programme. More than fifty plants were planted on the occasion. The residents were also made aware about the importance of plants in their daily life.

Felicitation of Dr. Prabodh K. Trivedi

CGES felicitated its member Dr. Prabodh K. Trivedi, Scientist at CSIR-NBRI upon being him inducted as Fellow (FNA) of the premier science academy, the Indian National Science Academy for his notable contributions in basic science applications to crop improvement. CGES wishes him many more successes in his endeavours in years to come.



Felicitation of Dr. Prabodh Trivedi(extreme right)

CGES in the Media

‘विकास के साथ पर्यावरण संरक्षण भी जरूरी’

एनबीआरआई में स्वच्छ व हरित पर्यावरण समिति के स्थापना दिवस पर बोले विशेषज्ञ

अमर उजाला व्यूरो

लखनऊ। विकास के साथ देश के पर्यावरण को भी बचाना होगा। हम इस समय ऐसे चौराहे पर खड़े हुए हैं जहां विकास और पर्यावरण संरक्षण दोनों ही जरूरी हैं। हमें ऐसे तरीके अपनाने होंगे जिससे दोनों ही साथ में चल सकें।

रविवार को स्वच्छ और हरित पर्यावरण समिति (सीजीईएस) के स्थापना दिवस पर एनबीआरआई में आयोजित कार्यक्रम में

सीएसआईआर के पूर्व महानिदेशक प्रो. गिरीश साहनी ने यह बात कही। कहा, इस समय दो प्रमुख मुद्दों पर चर्चा हो रही है। सभ्यतागत संपर्क और पर्यावरणीय तबाही। हम इसे कैसे टाल सकते हैं, यह तय करना होगा। हमें देखना होगा कि कैसे प्रमुख पर्यावरणीय मुद्दों जैसे सार्वजनिक स्वास्थ्य, शहरी फैलाव, अपशिष्ट निपटान, जनसंख्या वृद्धि, पानी की कमी, वनों को कटाई, जैव विविधता की हानि, जलवायु परिवर्तन से कैसे निपटा जाए। इसके

कई बीमारियों का कारण प्रदूषण

अपने व्याख्यान में प्रो. सुर्यकांत ने कहा कि वायु प्रदूषण से अस्थमा, सीओपीडी, ब्रोंकाइटिस, निमोनिया, रक्तचाप का अधिक खतरा, कैंसर, मानसिक मंदता, बालों का झड़ना, बांझपन, गर्भपात जैसी समस्याएं होती हैं। वनों को कटाई पर प्रतिबंध और अधिक पौधों के रोपण से शहरी विस्तार के नुकसान को न्यूनतम किया जा सकता है। शहरी क्षेत्रों से बाहर कारखानों को स्थापना कर और उच्च प्रौद्योगिकी का उपयोग कर भी नुकसान कम होगा। वाहनों के न्यूनतम उपयोग की नीति को बढ़ावा देने की जरूरत है।

लिए एक कार्ययोजना बनाकर काम करने की जरूरत है। पद्मश्री डॉ. मंमूर हसन, केजीएमयू के पल्मोनरी के विभागाध्यक्ष डॉ. सुर्यकांत, कैरिअर काउंसलर डॉ. अमृता दास ने भी अपने विचार रखे।

Protect environment for better health, say experts

LUCKNOW: "Make efforts to identify where you may practically contribute so that positive improvements occur at cultural and societal levels and side-effects of industrialisation and consequent environmental damage are reversed." Dr Girish Sahni, former director-general, CSIR and secretary, department of scientific and industrial research (govt of India) urged people on Sunday.

He said this while speaking at the fourth foundation day of Clean and Green Environmental Society (CGES) that

was attended by a number of eminent scientists, educationists, environmentalists, social workers, researchers and other invitees. Sahni also suggested for making a work plan for this purpose.

Sahni said all major environmental issues, namely public health, urban sprawl, waste disposal, over population, water scarcity, deforestation, loss of bio-diversity, climate change etc seem to be 'victims' of global, big interests where the citizen, even a well educated one, seems utterly helpless.



• Dignitaries at the fourth foundation day of Clean and Green Environmental Society (CGES).

However, all changes arise from the individuals in society and one must remain optimistic, involved and aware to help usher in the much-needed change, he added.

Amrita Dasa, director, Institute of Career Studies, focused her talk on the effects of 'outer' and 'inner' environmental pollution on health. She said: "We should formulate strategies to mitigate this problem on a war footing to improve our health and wellness." Dasa stressed on the need for creating general awareness among people by disseminating information through various platforms.

Dr Surya Kant, head, pulmonary medicine, KOMU, in his lecture said air pollution causes problems like asthma,

common obstructive pulmonary disease (COPD), bronchitis, cancer, mental retardation, hair loss, infertility, depletes ozone layer, etc.

He said that restrictions on deforestation, plantation of more plants, minimising urbanisation process, minimum use of vehicles and promotion of CNG vehicles, promoting solar energy technology, promoting LPG gas in the rural areas could minimise air pollution. Sumter Agarwal, president of CGES, presented the aims and objectives of the society.

HTC

नेताजी पार्क में किया गया पौधरोपण



लखनऊ: निराशासज निमित्त नेता जी पार्क में रविवार को पौधरोपण किया गया, जिसमें स्वयंसेवक निवासियों ने बड़े पैमाने पर हिस्सा लिया। यह कार्यक्रम अग्रवाल, शंकर, सक्सेना, मुन्ना निगम, नेहा गुप्ता, अर्पिता भट्टाचार्या, डॉ. सौरभ समेत स्थानीय निवासियों ने पौधरोपण में जोर देकर भाग लिया। कार्यक्रम में निराशासज निमित्त नेता जी पार्क में रविवार को पौधरोपण किया गया, जिसमें स्वयंसेवक निवासियों ने बड़े पैमाने पर हिस्सा लिया। यह कार्यक्रम अग्रवाल, शंकर, सक्सेना, मुन्ना निगम, नेहा गुप्ता, अर्पिता भट्टाचार्या, डॉ. सौरभ समेत स्थानीय निवासियों ने पौधरोपण में जोर देकर भाग लिया।



प्राचिनवर समाचार सेवा। लखनऊ: के सह मंत्री अवध प्रोत हरि अग्रवाल, पंडित विजय शंकर द्विवेदी ने पौधरोपण करके अभिवादन का शुभारंभ किया। सोमैप से सेवानिवृत्त वैज्ञानिक डा अनिल सिंह, अमिताभ सिंह, राजेंद्र शुक्ला, शंकर सक्सेना, काफला प्रसाद द्विवेदी, शिवांगु विजयपती, मुन्ना निगम, नेहा गुप्ता, अर्पिता भट्टाचार्या, डॉ. सौरभ समेत स्थानीय निवासियों ने पौधरोपण किया।

सुभाष चंद्र बोस पार्क में रोपे गए 50 पौधे

जासं, लखनऊ: निराशासज निमित्त नेता जी सुभाष चंद्र बोस पार्क में सोमवार को सोमैप-सोमैप के पूर्व मुख्य वैज्ञानिक डॉ. अनिल कुमार सिंह के नेतृत्व में पौधरोपण किया गया। यहां खरिद नागरिकों के साथ मोहल्ले के बच्चों ने 50 से अधिक पौधे लगाए। इस मौके पर पर्यावरण विद कृष्णानंद राय ने कावितार सुनाई। सभी ने जागरण के इस अभियान को सफल करने हुए पौधे लगाने का संकल्प लिया। यहां मोहल्ले के हरि अग्रवाल, पंकज शर्मा, मुन्ना निगम, विजय कुमार श्रीवास्तव समेत अन्य गणसंघ व्यक्तित्व उपस्थित रहे। डॉ. अनिल ने बताया कि पार्क की वातावरण पहले वर्ष ही स्वामंत्र्य व लखनऊ से सांसद राजेश सिंह ने बनवाई थी। पार्क में हरे भरे पेड़ों का संकट था, 50 से अधिक पौधे लगाने से यह संकट दूर होगा और पर्यावरण के लिए अच्छा रहेगा।



पुष्पाभूषण अभियान के अंतर्गत निराशासज चौकी गली सुभाष चंद्र बोस पार्क में चंद्र भालेश्वर मंदिर समिति की ओर से पौधरोपण करते हैं। अनिल कुमार सिंह साथ में डॉ. एससी शर्मा, पार्वती शर्मा, अर्पिता भट्टाचार्या, सौरभ गुप्ता, हरि अग्रवाल और प्रमोद सिंघ राजन • जागरण

Aims and Objective of CGES



Dr. S.C. Sharma
Secretary General, CGES

Clean and Green Environmental Society (CGES) has been established as a vibrant body of professionals to promote the program for Clean and Green India to saving the environment with the following aims and objectives:

1. CGES will act as a Think Tank to promote environmental education, diffusion of useful knowledge for the protection and preservation of the environment among the members, public, institutions.
2. Think Globally but act Nationally.
3. Care and Share the Nature.
4. To provide opportunity for better interaction among researchers, teachers, social workers, school children and NGOs on the environmental issues.
5. To generate awareness among the masses and policy makers for saving the environment.
6. To organize lectures of reputed professors and environmental scientists of India as well as abroad.
7. To hold seminars, conferences / symposia / workshops / training programs, focusing on the thrust areas of environmental awareness / issues at national and international levels.
8. To grant financial support to scientists / research workers for attending National / International seminars / symposia, conferences in India.
9. To award medals / certificates / honours to individuals / organizations who / which have achieved outstanding distinction in the area of environmental education, awareness, conservation of bio-diversity and research programs.
10. To honour outstanding environmentalists, life members of the CGES as 'Fellow of the Society'.
11. To publish Newsletter of the Society.
12. To address all such issues or matters as may be related to the protection, preservation etc. of the environment at the local, state, national or international levels
13. To provide consultancy services for the establishment and improvement of the Botanic Gardens, Arboreta, Parks, Herbal Garden, Green Belt, Construction of Urban Ecology etc.
14. To conduct training courses for the gardeners, supervisors, managers under the Skill Development Program of the Govt. of India and other such programs in Uttar Pradesh and other states.
15. To provide authentic information on the medicinal, economical, ornamental, pollution tolerant plants and their source of availability.

Forthcoming Events

National Conference on Climate Change

A National Conference on Climate Change: Agriculture, Biodiversity and Human Health (CABH-2020) is being organised jointly by Clean and Green Environmental Society (CGES) and CSIR-National Botanical Research Institute (CSIR-NBRI) from 22-23 February, 2020. The aim of the CABH-2020 is to bring the eminent scientists, academicians, environmentalists, policy makers, non-government organisations, etc. from all over the country on a common platform to discuss critical issues arising out of the climate change, and its effects on agriculture, biodiversity and human health and to formulate the strategies for taking up the corrective measures. It will also provide a unique forum to the young researchers and the students to present their innovative ideas and sharing their research experiences in the conference. The theme areas of CABH 2020 include climate change and crop productivity, development and popularisation of climate resilient plant varieties, genetic manipulation of plants for combatting climate change, diminishing biodiversity and challenges for conservation, climate change and human health, role of government and non-government organisations to address climatic challenges, eco-tourism and disaster management and hazards of plastic pollution on land and water. About 200 participants from different universities and research organizations are expected to participate in the conference.

CGES Foundation Day

CGES will be celebrating its Fifth Foundation Day on 8th July, 2020 by organizing a special lecture followed by interaction among the participants to mark the occasion.

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