



Conference Report

Report of National Seminar on “Preservation and Sustenance of Biodiversity” held on 9 March 2019

Institute of Science, Education and Culture (ISEC) and Birla Industrial and Technological Museum (BITM), Kolkata collaboratively organized a National Seminar on "Preservation and Sustenance of Biodiversity" on 9 March 2019 at the Seminar Hall, BITM, Kolkata. Prof. Anil Kumar Ghosh, the President of ISEC, inaugurated the seminar with an inspirational speech based on topic of the said seminar. He also welcomed all in the seminar.

The Technical Session I started after inaugural session. Prof. Santanu Das, the Secretary of ISEC introduced Dr. B. Barman to the audience and the chairperson read out brief biography of the Speaker, Dr. J. K. Biswas. In this session Dr. B. Barman, a member of faculty of Kalyani Government Engineering College and Council Member of ISEC acted as the Chairperson. Dr. Jayanta Kumar Biswas, Associate Professor, Department of Ecological Studies (Formerly Department of Ecological Engineering & Environmental Management, and International Centre for Ecological Engineering), University of Kalyani was the speaker of this session. Topic of his lecture was "Life on the Edge: Biodiversity Meltdown by Global Warming and Climate Change". Dr. Biswas discussed on variety and variability of life on Earth (i.e., Biodiversity) which is affected by global warming and it is acting as a weapon of Mass Destruction. He explained how Biodegradation is occurred because of global warming. He mentioned that about 70% of solar radiation is absorbed by the earth and this natural green house effect is good for our planet, Earth to maintain biodiversity. But human induced enhanced green house effect (forced radiation)

increases the level of CO₂, Methane, and Ozone in air that results in global warming and it also migrates the waterways. For this reason, natural climate changes and linkage between entire ecosystems, human well being is affected. As snow coverage in northern hemisphere decreases due to adverse temperature, the global average sea level increases. Ranges of biomes (Checkerspot Butterflies, American Picks, etc.) shift because of phonological change. The timing of biological activity of Wildlife animal, invasive species, bird changes. Density of forest is decreasing. Food habits or food chains are changed for all animals and change in climate affects life on earth. The key points came out from his lecture are: 1. Global Warming is a weapon of Mass Destruction and Bio-degradation. 2. The atmospheric condition in this planet makes man worried and to be very worried. After the lecture, audience and the speaker interacted with each other to discuss about present and future scenario of biodiversity if all would not be aware about it.

The Technical Session II started after a tea break. In this Session Mr. Arun Kumar De, the Patron of ISEC acted as the Chairperson. The eminent speaker of this session was Dr. Asoke Kanti Sanyal, Former Director, Zoological Society of India & the Chairman of Biodiversity Board, Government of West Bengal. He delivered the lecture on “Biodiversity Conservation and Sustainable Livelihood in India”. In his lecture, Dr. Sanyal spoke about the importance of biodiversity, the need of ecosystem conservation & ecosystem services. He said that the most unique feature of Earth is the existence of life. He also explained that the most extraordinary feature

of life is its diversity i.e., biological diversity or biodiversity. The successful living of man on the earth was possible through millions of years of the evolutionary processes supported by the nature, and the development in technology would not be an alternative to ecosystem services of the nature. Different ecosystem services of biodiversity to the human being are; 1. Provisioning Services (e.g., food, freshwater, medicine, fiber, energy etc.), 2. Supporting services (e.g., detoxification, decomposition, air and water purification, soft fertility maintenance, etc.), 3. Regulating Services (e.g., coastal and river channel stability, natural control of pests, etc.), 4. Cultural Services (e.g., aesthetic and cultural values in society). He discussed on the history of today's biodiversity and how does it exist in a wide range with millions of modern animals, plants, fungi, microbes, etc. He said that India is recognized as one of the 17 mega diverse countries which have more than 70% of the world's known species of wildlife. Dr. Sanyal also mentioned that four hot spots have been identified in India. Different bioresources are animal based, forest based, etc. He said about different medium industries like food processing, fish processing, Ayurvedic & unani medicine, leather and jute processing, plywood, etc. in West Bengal are developed availing raw materials from bioresources. He also mentioned that fishery industries are increasing day to day by taking its resource from nature. But because of huge industrial growth, natural bioresources are endangered due to global concern for biodiversity loss (deforestation, etc.) and its conservation. So sustainable development in food and drink, medicine, industrial material, bioremediation, cultural and aesthetics are now a question of preservation. After this lecture, audiences took part in discussion with the speaker about several steps to be taken for preserving the biodiversity.

The Technical Session III started after the lunch break. In this session, the chairperson was Dr. Bijan Kumar Saha, former Senior Deputy Director General, Geological Survey of India and the speaker was Prof. Dr. Sugata Hazra, Director, School of Oceanographic studies, Jadavpur University, Kolkata in "Sustainability of the Delta and its Biodiversity". The speaker gave a graphical analysis of biodiversity loss in the

anthropocene with humans and the extinction crisis. He showed an analysis done on zones of erosion in Indian Sundarban from 1970 to 2015. He explained how much areal loss of Sundarban happened in this period and also the sequential changes in shape of southern island in Indian Sundarbans in the period 1968 – 2017. From his analyses, he mentioned that area of more than 250sq.km has lost between 1975 and 2015. He also mentioned that Lohachara, New Moore islands has disappeared between 1985 and 2000. Other islands like Gharamara, Dalhousi, Maya dwip, Jambu Dwip, etc. are under severe coastal erosion. 107sq.km mangrove cover was lost with minor gain in the inland chars between 1975 and 2013. So, emission of CO₂ increased high above the ground biomass. He also explained the diversity of mangrove species in Bangladesh Sundarban in the year 1985, 1995 and 2005. From his analysis, it is seen that stress on health of sundarban mangroves is increased during the period from 1990 to 2018. The survival of delta region and sea fish breeding become a question of conservation. So, preservation of fresh water and to conserve sea, rivers and wet land are important in survival of biodiversity. Dr. Hazra also showed the graphical presentation by explaining how the trend of annual catch of some commercial fish species is decreased. He mentioned a major issue of sustenance of Hilsa fish because catching limits of hilsa significantly exceeded till the year 2015. But good to hear that Dr. Hazra and his research team are doing several projects to increase the sustainable limits of fishery and the delta region. After his lecture there was an interactive session on his speech.

After the technical session, there was a General Discussion session on Preservation and Sustenance of Biodiversity, and in this session, three eminent speakers and many of the audience shared their individual opinion to preserve and to biodiversity with sustainable livelihood. At the end, Prof. Santanu Das, Secretary, ISEC expressed a Vote of Thanks to all.

(A few Photographs of the event are printed on back inside cover)

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