



6th Global summit on
Climate Change
November 19-20, 2018 Paris, France

**SCIENTIFIC TRACKS
& ABSTRACTS
DAY 1**

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Who are responsible for sustainability?

Since the process of the development of human civilization we, human beings, have been taking immense benefits from nature. By the time we have reached the present, we have had a great leap in technology and science. However, to fulfill the needs of the expanding population, the irrational consumption of the natural resources has also been ever increasing. Deforestation, landslide, unplanned urbanization, industrialization, the emission of carbon, modernization in agriculture and the land use change are today's prominent issues. These anthropogenic activities have induced the imbalance in natural resources which has caused the amount of carbon dioxide in the atmosphere to increase leading to an increment of greenhouse gases. The negative effects of the emission of these toxins are already evident in the ozone layer. In the last centuries the terrain temperature of the world has been increasing gradually. These impacts of the greenhouse effects are directly evident in the glacier and the high mountainous regions. The surface of the ocean is gradually increasing due to the melting of the snow. Consequently, an intricate problem such as climate change has originated. Not only this, ecological imbalance has also badly affected the lifestyle of organisms causing imbalance in the circumstantial ecosystem. Thus, these problems have become a social and a political dilemma in today's world. The existence of the organisms and their life cycle has been endangered because of the gradual increase of such complex problems. Excessive rainfall, draught, arid land, flood, landslide and similar natural disaster are increasing every year and has created a widening misunderstanding and a conflict in the upper and the lower ecological shores. We the humans must unite to protect the earth through sustainable management and development. We must guarantee the right to live, co-existence and co- relation of all the organisms who live on this earth. We must respect their existence. We must cross the boundaries of race, religion and ethnicity, helping to forge new understanding and tolerance amongst each other. Removing all the past prejudices and misunderstandings we must ignite ourselves to garden our thought for a better world to live. We must all start thinking from today about the legacy that our descendents would carry. We must stop unnecessary exploitation and destruction of the nature which is the basis of our lives. Let us make a commitment to give continuity to this campaign.

Biography

Dhaka Mohan Adhikari is an Environmentalist; he has received his MSc degree in Mathematics in 2005 from Tribhuvan University of Nepal, and involved in teaching. In 2008, he has moved to Germany for second graduation sustainable resource management (2012) and has joined Technical University of Munich. He was also involved in different peatland, grassland and agriculture ecosystems sites of Bayern as assistance researcher. In 2003, he returned Nepal and has been conducting research and environmental awareness campaign in more than 1000 institutions and different communities and raising fund for deprived chepang children for their health and education. He is guinness world record holder, an environmental song by 365 Nepalese singers as a lyricist, music composer and director. He is Founder President of SEEM Nepal.

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Pollution control–indoor and outdoor pollution correlation indices of key pollutants in three different exposure areas of Lagos, Nigeria – a megacity in a hurry



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Climate change is a major consideration and the United Nations (UN) has many agreements and conventions in place to abate/mitigate its attendant effects. The main causative factor for climate change is the depletion of the ozone layer due to gaseous emissions which, in turn, leads to consequent events resulting in the phenomenon of climate change. It has also been established that increases in gaseous pollutants like total suspended particulate matter (TSP), Particulate matter ($PM_{2.5}$, $PM_{10.0}$), nitrogen oxides (NO_x) and sulphur dioxide (SO_2) could have significant effects on human health. This study sought to establish hitherto unavailable relationships between indoor and ambient levels of $PM_{2.5}$, $PM_{10.0}$, and NO_x in three diverse areas of a rapidly expanding megacity (Lagos) with a view to comparing the results with those from other climes and initiating measures of control. NO_x has also been implicated in ozone formation hence its control can be critical especially when it is an unseen killer at high levels. This would obviously reduce their effects on the climate. Attempts were also made to establish the relationship between the results and local weather indices like temperature and humidity. Studies are still ongoing in a bid to use the results to formulate an indigenous policy approach that governments in the country can use to protect its citizens.

Biography

Babatunde Odesanya completed his PhD from Strathclyde University, Glasgow in Applied Sciences. He has worked extensively in the Pharmaceutical, Food and Chemical Industries and presently lectures and stimulates impactful research at Caleb University, Imota, Nigeria. He is a Researcher in the Analytical/Environmental area with special focus on pollution to water and air which are key indices of Climate change. He has over 25 publications in reputable journals and is a certified lead auditor in ISO 9001:2015 and 14001:2015 Quality Management Systems.

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Dana Tuleukulova

Kazakhstan Gharysh Sapary, The Republic of Kazakhstan

Flood and inundation space monitoring assessment on Akmola region based on KazEOSat-1, 2 Kazakhstan spacecraft remote sensing data usage

Situation distance control after flood and inundation is one of the main problems to be solved by space monitoring of emergency situations, developed in Kazakhstan since 2001. There is an acute security issue during spring time inundation, till nowadays there is no science-based methodology for predicting and modeling of flood and inundation using modern methods of GIS- projecting and update remote sensing data. The ongoing development of own space remote sensing system, usage of KazEOSat-1, 2 space craft data for inundation modeling and predicting, authenticity models studying, and DEM construction are the basis for scientific research in hydrological modeling of inundation. Dynamics of terrain flooding and the identification of areas for evacuating the population and moving cattle can be shown in the program. Flat relief models of flooding have been developed similar to the relief of Northern Kazakhstan. Created DEMs are filled with a filling step of 1 meter in height colors due to spatial resolution of the original DTM and the step of the relief heights for every 1 meter in the cartesian coordinate system from KazEOSat-1, 2 spacecraft remote sensing data.

Biography

Dana Tuleukulova has completed her Bachelor's and Master's degrees from Karaganda State Technical University. She has been working at Kazakhstan Gharysh Sapary, since November 01, 2017 as the Major Specialist at Geo-services department in geo-products bureau of Geo-informationData and Services Center. She has published one paper in a reputed journal.

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Global warming effect and causes in Bangladesh

Global warming significantly increases the sea surface temperature in the shallow Bay of Bengal and also melting ice bar in the poles, which scientists believe has caused Bangladesh to suffer. Some of the fastest recorded sea level rises in the world, storm surges from more frequent and stronger cyclone, tornado push sea water with a range from 120 to 240 kilometers up to the coastal areas. At the same time, melting of glaciers and snowpack in the Himalayas which hold the 3rd largest body of snow on earth has swollen the rivers that flow in to Bangladesh from Tibet, Nepal, Bhutan and India. Every four to five years, there is severe flood that may cover 60% of the country rapid erosion of costal area has inundated dozens of islands in the Bay of Bengal. For example, Swandip island near Chittagong has lost 90% of its original 23 square miles mostly in the last two decades. Thus, the country loses huge fertile farm and liveable land. Because of climate change in recent years, river bank erosion has annually displaced between 0.50 million to 2.00 million people, a three foot rise in sea level would submerge 20% of the entire country and displaced more than 30 million people, some scientists project a five to six foot arise by 2100, which would displace perhaps 50 million people. In this ways global warming affects both rich and poor countries like Bangladesh severely.



Minto Barua

Atish Dipankar Society, Bangladesh

Biography

Minto Barua has completed his Master's degree in Industrial Psychology and LLB from National University of Bangladesh. He is an Assistant Secretary of Atish Dipankar Society which is a humanitarian organization. He has involved in various kinds of volunteer duties like blood donation and planting trees at local area etc.

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Emissions from waste burning, uneven rainfall and flood events as predictors of climate change effects in a Nigerian community

Flooding and waste management related problems have become matter of public health concern in the last few years in Ibadan, Nigeria. Over the period 1985 to 2014, it has affected more than 11 million lives with a total of 1100 deaths and property damage exceeding US\$17 billion. It is argued that more robust and scientific approaches to flood risk mitigation such as: flood modeling and vulnerability assessment are lacking. In this study, waste management activities at Kube-Atenda in Ibadan with a focus on greenhouse gases emissions (GHS), rainfall pattern and occurrence of flooding were investigated. Data were collected, using calibrated digital meters; portable global positioning system (GPS) device and ArcGIS 9.3 to develop maps of GHG distribution pattern in the community, Intergovernmental Panel on Climate Change (IPCC) model for GHG generation potential of solid waste burning in a year and, gamma and Weibull distribution for prediction of rainfall pattern and flooding in the area. The levels of GHGs reduced with distance away from the dump site and were higher than regulatory limits. The quality of outdoor air was very poor and in one year, burning of waste can introduce 70,000 Gg/yr. Since $\beta=6.744$ is positive, in three years from 2014 upward, there is about 40% chance of rainfall exceeding the threshold of 1400 mm annually, which could lead to flooding in the study area if there is no proper management plan to cater for the amount of rainfall.

Biography

Hammed Taiwo Babatunde is a Lecturer in the Department of Environmental Health Sciences, University of Ibadan. He received his Bachelor's degree in environmental management and toxicology from the University of Agriculture, Abeokuta, Ogun state in 1999 and both Master's (2009) and PhD degrees (2015) in Public Health (Environmental Health) from the University of Ibadan, Nigeria. He has worked in different capacities with NGOs that deal with environmental sanitation and management since 1998. He was also a Netherlands Fellowships Programs (NFP) award winner for UNESCO-IHE online course on Solid Waste and Engineering (2008) and also received "Roy F Weston Award", Widener University, Philadelphia, Pa, USA, 2016 in recognition of his contributions to the field of Solid Waste Technology and Management. His research interests span areas such as: solid waste recycling (composting, material recovery and biogas), sewage treatment and excreta disposal. He has published papers in both local and international journals.

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**YOUNG
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Rainfall and river discharge variability in Bagmati river catchment of Nepal

Impacts of climate change on precipitation and water availability are found to vary depending on geographic location and other characteristics of the region. Variabilities in rainfall and river discharge of a Himalayan mountainous catchment of the Bagmati river in Nepal were examined based on historical gauge records of 1970-2015. Daily rainfall series from 12 stations and river discharge from Karmaiya/Pandheradovan station were used in this study. Prior to creating annual series, both datasets were homogenized. Non-parametric Mann-Kendall test was employed to identify trends in annual rainfall and discharge series. The analysis showed that annual rainfall in the region and river discharge from the catchment is decreasing, however the changes are statistically insignificant (at the 95% confidence level). An evaluation of five-yearly rainfall departure from mean revealed that fluctuation of rainfall during 1975-2000 corresponds to the long-term mean value of the study period. In contrast, the catchment had remarkably varying rainfall in all three of the five-yearly periods after 2000. Further, it had substantially low rainfall during 2005-2015. Results also confirmed that river discharge of the catchment is directly associated with rainfall, even though the magnitude of difference between the two become more pronounced in certain periods. The study indicated that variability of rainfall in the region is increasing and availability of freshwater may become scarce in response to climate change.



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Biography

Dinesh Tuladhar is pursuing his PhD at Curtin University, Western Australia. He has completed his Master's degree in Geography from Tribhuvan University (2006) and Master's degree in Geospatial Information Sciences (GIS) from Curtin University (2009). He has over 10 years of experience in GIS, remote sensing, data analysis and research. His PhD research includes case study of river flow variability and influencing factors in two Himalayan mountain catchments in Nepal with contrasting geographical characteristics.

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Bringing algae to data centers

The main problem faced by both modern and traditional data centers is carbon usage effectiveness (CUE) and power usage effectiveness (PUE). As per a report, over 10 years, data centers will waste over £0.5M in power charges and emit 80% of CO₂ but the chances of increasing the percentage in coming years are more. Thus, creating data center a 'Villain- Destroyer of Earth'. This paper illustrates and explains about the new algae concept for carbon usage efficiency and power usage efficiency. Algae a unicellular microorganism is a billionnaire solution for all the current data centers. It can absorb tons of carbon dioxide in few minutes whereas a single tree can't even do in its life time. Algae undergo photosynthetic reaction and gives biogas and biofuel as a by-product. Thus, turning CO₂ into valuable products lead to significant changes in data centers, this new CO₂ controlling technique to save the environment with the help of algae panels can give us the most profitable business. By moving to algae centered power plant (ACPP) model, we can achieve the sustainability, energy efficiency and global conservation. Data center operators are no longer a pure consumer, but also, they have become a producing consumer- a "Prosumer". The opportunities to change a data center from the consumer to prosumer are more diverse here. This technology is a pioneer in green algae power and carbon neutrality. Using this algae technology, data center can change its image from "CO₂ villain to an environment savior".

Biography

Sai Guna Ranjan Emani has completed his Post-graduate Diploma in Cloud Computing - Infrastructure in National College of Ireland, Dublin, Ireland. He has passion towards research and currently working on power usage effectiveness, networking, cloud, and carbon usage effectiveness of data centers and other industries.

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Climate change impacts and adaptation measures at buffer zone area of Shuklaphanta wildlife reserve, Kanchanpur, Nepal



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Nepal is among the most vulnerable countries with regard to climate change. The study includes climate change phenomenon, its effect on crop production, perception of local respondents and measures of the adaptation. Bhimdatta Nagar Municipality of Kanchanpur district in Far-Western Nepal was selected for the study because it is directly linked to the reserve and also lies in the vicinity of Mahakali River. It is more productive area and people living in the area are mainly dependent on agriculture and livestock to fulfill the basic needs. This study showed that current illiteracy rate of respondents was only 42.42% and 81.10% respondents engaged in agriculture. The major crops grown in the area were maize, wheat and paddy. Paddy production was found fluctuate with erratic rainfall pattern, but according to 65.20% of respondents, maize yield has decreased over the last five years. Majority 71% households were dependent on agriculture products as a source of fodder because the entry of local people inside the park was restricted to collect fodder. Majority of the respondents (60%) accepted that temperature was the most rapidly changing climatic factor followed by 23% respondents with rainfall due to climate change. Hydro meteorological data (from year 1980-2011) were analyzed by using XLSTAT software and tested by Mann-Kendall test. The maximum temperature in Kanchanpur district was found annually decreasing by 0.0159°C but minimum temperature was annually increased by 0.0519 °C. Statistically annual mean rainfall trend of Kanchanpur district was decreased by 2.1489 mm and monsoon rainfall was decreased by 6.414 mm.

Biography

Deepak Chaulagain has completed his Master's degree with Major Environmental Science at College of Applied Sciences-Nepal affiliated by Tribhuvan University. He obtained his Bachelor's degree from Tri-Chandra Multiple Campus. He has attended Tropentag Conference 2018 with ATSAF grant in Ghent University, Belgium. He is a young Researcher of Climate Change in Tribhuvan University and his major interest is to study the effect of climate change in remote area of Nepal and local adaptation mechanisms to address climate change and mitigations. He has done three months intern in Ministry of Forest and Environment, Nepal.

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