

WPCAAE 17, Bangkok, Thailand.

Day 1 : October 11th 2017

8.30am - 9.00 am

- **Registration**

9.00 am - 9.15 am

- Inaugural session

9.15 am - 9.30 am

- Group photo

Keynote Forum

9.30 am - 10.00 am

- Dr. Wafik Noseir
Egyptian Modern Center, Egypt.

10.00 am - 10.20 am

- **Coffee Break**

Session Introduction

10.20 am - 10.50 am

--- Oral Presentation by **Dr. Pranab Pal**
Topic :- Global Warming and its Impact on Biodiversity Conservation : Major Focus on Sustainable Development.

10.50 am - 11.10 am

--- Oral Presentation by **Dr. Bambang Sugiyono Agus Purwono**
Topic :- The Strategy of Simulation Effects of Wind Speed, Variation of Turbine Blades and It's Interaction to Power Generated by Vertical Axis Wind Turbine Using NACA 2412

11.10 pm - 11.30 am

--- Oral Presentation by **Mr. Anil Panchal**
Topic :- Impact of the tourism on the physicochemical characteristics of three different lakes of Udaipur city (Rajasthan)

11.30 pm - 11.50 am

--- Oral Presentation by **Prof B.R. Bamniya**
Topic :- Assessing the Effectiveness of Selected Roadside trees in Mitigating Air Pollution in Urban areas of Udaipur City

11.50 am - 1.00 pm

--- **Lunch Break**

- 1.00 pm - 1.20 pm --- Poster Presentation by **Ms. Nami Prasad**
Topic :- Human induced environmental heterogeneity in aquatic ecosystems promote macrophyte invasion in tropical floodplain landscapes of northeast India
- 1.20 pm - 1.40 pm --- Poster Presentation by **Dr. José Antonio Rodríguez Martín**
Topic :- Tree-ring of Pinus halepensis as archive of heavy metal pollution in Spain
- 1.40 pm - 2.00 pm --- Video Presentation by **Prof. Simone Ramires**
Topic :- Sustainable Energy Efficient Hotspot
- 2.00 pm – 2.20 pm --- Video Presentation by **Prof. Nashwa Shiqwarah**
Topic :- Suitability of Renewable Energy Technologies in the Public Realm: Analytical Framework
- 2.20 pm - 2.40 pm --- Video Presentation by **Prof. Simone Ramires**
Topic :- Evaluation of System Efficiency of Water Treatment Wash Truck mixers in a concrete batching plant in the city of Cuiabá-MT
- 2.40 am - 3.00 am - **Coffee Break**

Keynote Forum

3.00 pm - 3.30 pm -

Dr.A.G. MURUGESAN

Manonmaniam Sundaranar University, India.

- 3.30 pm - 3.50 pm --- Oral Presentation by **Mr. D. Vasudevan**
Topic :- Hazardous waste management in Tamil Nadu (India): Current scenario and future opportunities
- 3.50 pm - 4.00 pm --- Feedbacks

--- DAY 1 END ---

WCPCAE 17, Bangkok, Thailand.

Day 2 : October 12th 2017

Keynote Forum

8.45 am – 9.30 am - Dr.K.Karthikeyan
Chairman of CoEUSWM & WasmanPro, India.

Session Introduction

- 9.30 am -9.50 am --- Oral Presentation by **Dr. Nidhi Rai**
Topic :- Assessment of indoor air quality of urban areas of Udaipur city (Rajasthan), India
- 9.50 pm- 10.10 pm --- Oral Presentation by **Ms. Geetika Pal**
Topic :- CHALLENGES FOR ENVIRONMENTAL ENGINEERING :
FROM THE EYES OF AN "ENGINEER"
- 10.10 am - 10.30 pm - **Coffee Break**
-
- 10.30 am - 10.50 am --- Oral Presentation by **Dr. Chunde Yao**
Topic :- A New Technical Route for HD Diesel Engine to Meet Demand of Euro V Emission Legislation urea free with DMCC
- 10.50 am - 11.10 am --- Oral Presentation by **Dr.Hind Abdelrahman Salih Eltahir**
Topic :- Exploration of Oil - Absence of International Legislation and Loss of the Rights of Local Communities
- 11.10 am - 11.30 am --- Oral Presentation by **Dr. Nigamananda Swain**
Topic :- Catchment management interaction with land and water for reduced sediments and water pollution in a watershed environment in Afghanistan
- 11.30 am - 11.50 am --- Oral Presentation by **Dr. Kesu Ram Panwar**
Topic :- Study of Organic Waste Management and Pollution Control using Earthworm Species Eisenia fetida in Indian Thar Desert
- 11.50 am - 1.00 pm --- **Lunch Break**

- 1.00 pm - 1.20 pm --- Oral Presentation by **Dr. B.R. Gadi**
Topic :- Fluoride induced Growth and Metabolic Changes in plants
- 1.20 pm - 1.40 pm --- Oral Presentation by **Dr. Foo Keng Yuen**
Topic :- Smart Agriculture System for Integrated Food and Water Security Management
- 1.40 pm - 2.00 pm --- Oral Presentation by **Dr. Mohammad Ali Badri**
Topic :- Application of Genetic Algorithm and Analytic Hierarchy Process to Generate an Oil Spill Risk Map
- 2.00 pm – 2.20 pm --- Oral Presentation by **Mr. Omar Awad**
Topic :- The Influences of water content on Performance and emissions of SI engine running with blending of fusel oil –gasoline
- 2.20 pm - 3.00 pm --- **Certificate distribution & Feedback**

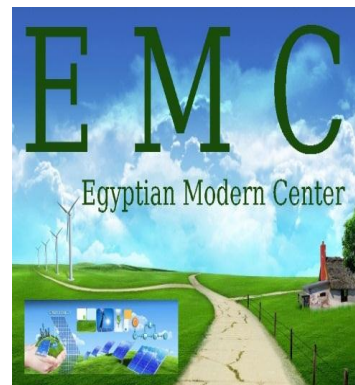
--- **DAY 2 END** ---



KEYNOTE FORUM

2nd World Congress on Pollution Control & Advances in Environmental Engineering

11th - 12th October 2017, Bangkok, Thailand



Prof. Dr. Wafik Noseir

Egyptian Modern Center

Population - Pollution

Abstract

The importance of population and environment has been highlighted. Population growth and development patterns have a significant impact on the environmental performance. The issue of concern is whether population growth or the consumption/production patterns are responsible for environmental deterioration. This paper is an attempt to capture the impact of technological development, affluence, and population on environmental performance index, while previous studies had captured the impact of these three factors on environment only through CO₂ emissions. The analysis reveals that technological development and population size have a negative impact on environmental performance, whereas measures to improve affluence have a positive impact. Technological development has increased the production of energy efficient products but at the same time consumption of these products has increased manifold leading to environmental deterioration. Demographic attributes need specific attention to improve environmental performance. This paper concludes on some policy reflections on slowing the population growth as well as persuades individuals and economies to look to their consumption and production patterns and channel their efforts to protect the environment.

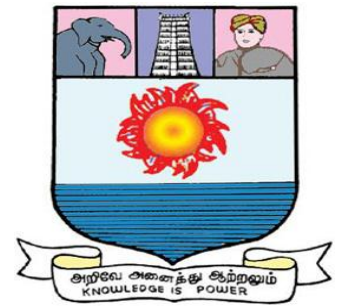
Biography

Member of World Congress For Environment

Environmental Engineering Consultant □ has many publishes in the sustainable development especially with the environment, worked in the first Solar Energy Corporation at Egypt that was established by company "Honeywell" since 1983 , Petroleum sector Planning & follow up manager at 3 main companies at Egypt , and many international companies such as Arthur Ande Center onsultant firm and Coca-Cola as a projects & Environmental manager□Project manager of the National project of Egypt on year 2000 called "Toshka", have participated in many International Conferences inside & outside Egypt especially the World Congress for the Environment that have represented Egypt as a freelancer 9 times lately was at Washington DC, California, Portland and Florida USA & France & Turkey & UK & Denmark, Dubai and China etc□ founder & owner of Egyptian Modern Center (EMC), which is an Environmental Engineering Consultation firm that is trying to find its way in a polluted environment Please see website: www.drwafik.com

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A.G. Murugesan

Manonmaniam Sundaranar University, Sri Paramakalyani Centre of Excellence in Environmental Sciences, Alwarkurichi- 627412, Tamil Nadu, India.

Photobiological Hydrogen Production from *Chlorella vulgaris* by utilizing seaweed aqueous extract of *Valoniopsis pachynema*

Abstract

The global enhanced population of the twenty first century and contemporary lifestyle of mankind is gearing up for a confrontation with energy requirements. Already, the earth primary energy resources are nearly dwindling down. At the present stage of extraction estimations proved that the reserves of coal would be exhausted in another 113 years, the last cubic meter of natural gas in 2069, and the entirety of crude oil reserves by 2067. Simultaneously, fossil fuels emit greenhouse gases which leads to increase of temperature in earth's atmosphere. In 2014, global carbon emissions were estimated from fossil fuel use around 9.795 gigatonnes. The greenhouse gases like CO₂ and other heat trapping gases have elevated the greenhouse effect resulting in rise of the earth's surface temperature. When compared to several other greenhouse gases, CO₂ is one of the most important gas contributing for global warming. Electricity production, transportation, industry, commercial and residential, agriculture activities were the primary emitting sources of CO₂. The transportation and electricity generation are the largest contributors of CO₂ in recent decades. The search for renewable

energies without damaging the bionomical balance is been a ubiquitous emphasis of research. While entering the theme of renewable resources, hydrogen secures its crucial role in concern of energy security, environmental and socio-economic issues of the world. At present among environmental problems, bio hydrogen is the keystone to preserve the ecosystem. Due to these environmental merits, biohydrogen will grow fast in the next decade in the automotive fuel market and other fields. The bio hydrogen are usually obtained from biodegradable organic materials of plants, animals and microorganisms such as bacteria and microalgae. There are many conventional methods, followed for the production of hydrogen such as photo electrochemical, steam reforming of methane and hydrocarbons, non-catalytic partial oxidation of fossil fuels, etc. Among all, biological hydrogen production is more efficient and eco-friendly. The main objective of the present study deals with optimization of photo biological hydrogen production from freshwater microphyte *Chlorella vulgaris* employing seaweed *Valoniopsis pachynema* as substrate. Assessment of biohydrogen productivity of the microalga *C. vulgaris* by introducing it into aqueous and acid hydrolysate as substrate. To optimize the biohydrogen productivity different variables such as substrate concentration, pH, temperature and carbon dioxide level were optimized by using Response Surface Methodology. Since the green seaweed *V. pachynema* is possessing sufficient essential nutrients and growth promoting compounds it can be explicated as one of the promising substrate for culturing the microorganisms. The provisions of *V. pachynema* aqueous extract enhanced the microalgae *C. vulgaris* growth along with bio hydrogen production with economic viability. The sustained growth and bio hydrogen production evidenced the potentiality of aqueous extract. The suggested RSM model distinctly proved that the individual and interactive variables had significant impacts on production of bio hydrogen. The optimized substrate concentration and other variables displayed that it can be an economically cheap feedstock for biohydrogen production.

Biography

Prof. A.G Murugesan has intensively worked on environmental toxicology with special reference to the impact of industrial effluents and other xenobiotics on immunotoxicity, haematotoxicity etc. He is continuously assessing the water quality and self-purification capability of the perennial river Tamirabarani, and other southern rivers. He has assessed the environmental quality of the Gulf of Mannar region and thermal ecology of the Kudankulam marine environment. Dr. Murugesan has developed an integrated method of biological control of the water hyacinth employing weevils, mite and fish at field levels. He has developed technologies on biological treatment of industrial effluent employing bacteria, fungi, and aquatic weeds, reeds and recycling the treated water for irrigation. He has intensively worked and successfully produced bio-ethanol, biopolymer and hydrogen fuel using agricultural wastes, water hyacinth, coir industrial waste, micro algae and seaweeds employing microbial technology. He has conducted Environment Impact Assessment for several industries. Prof. Murugesan has published more than 115 quality research papers and written 7 books on environment and global warming, more than 50 popular science articles on different environmental issues in leading dailies and weekly magazines. He has produced 39 PhDs, 35 M.Phils and 90 PGs. Dr. Murugesan has successfully operated 32 major research projects, in addition to several minor projects, funded by national and international agencies to the tune of about 5.2 crores. He has been bestowed with one national award and two state government awards in addition to a few more prestigious awards for his teaching, research and extension activities in environmental pollution. Dr. A.G. Murugesan is a fellow in several academies.

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Dr. Karthikeyan

Chairman , CoEUSWM , Chennai, India, Center of Excellence In Urban Solid Waste Management

Circular Economy in Waste Management for Indian Subcontinent

Abstract

The circular economy - an economic model focused on eliminating waste, inefficiency and promoting greater resource productivity, promises big opportunities for companies to drive growth, innovation and competitiveness. Circular economy is restorative and regenerative by design and aims to keep products, components, and materials at their highest utility and value at all times. Traditionally, the economy has been one where reusing, re-purposing and recycling have been second nature. In a world that is increasingly running out of natural resources, this thinking is an asset that must be leveraged by businesses, policymakers and citizens in an organized manner and expanded to include other elements to make the economy truly circular. Construction, mobility and agriculture in India can be re-purposed to offer more-for-less by designing out waste, digitizing production and consumption and optimizing the use of economy wide assets. Sectors such as mobility, agriculture and construction will play a crucial role in the future growth of India. This concept distinguishes between technical and biological cycles; the economy is a continuous, positive development cycle. It preserves and enhances natural capital, optimizes resource yields, and minimizes system risks by managing finite stocks and renewable flows. A circular economy works effectively at every scale, marked by creative innovations

and a systems-level approach, can be used to tackle many of the world's most complex environmental and social challenges. .

We can significantly benefit from a circular economy by creating jobs and cutting pollutions, especially to address clean environment. “India has the opportunity to improve economically and do well by adopting the circular economy principle in waste management. We can leapfrog the ‘take-make-waste’ traditions of industrialized countries, and offer its consumers a new path to prosperity. This opportunity needs smart policy and business champions. To improve the standard of living of citizens, compatible with its resources. Increasing circularity in the Indian economy, by better utilization of materials, energy and innovative ideas ranging from India’s traditional knowledge to latest technologies will be very important to realize India’s sustainability goals over the next decades.

Biography

Former Member Secretary, TamilNadu State Pollution Control Board, India. Former Director for Environmental Training Institute, TamilNadu State Pollution Control Board, India. Joint Chief Environmental Engineer in Solid Waste Management, TNPCCB and now Chairman, Center of Excellence in Urban Solid Waste Management an Independent Body based in Chennai, India. Has 30 years of experience in handling all the industrial verticals with expertise in environment policy and law.

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ACCEPTED ABSTRACTS

2nd World Congress on Pollution Control & Advances in Environmental Engineering

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The Strategy of Simulation Effects of Wind Speed, Variation of Turbine Blades and It's Interaction to Power Generated by Vertical Axis Wind Turbine Using NACA 2412

Abstract

The objectives of this paper is to simulate the effects of the wind speed, variation of turbine blades and interaction of wind speed and variation of turbine blades to the power capacity generated by Vertical Axis Wind Turbine (VAWT) using NACA 2412 and to stratify the power capacity generated by the VAWT simulation. The research background are the wind energy potential in Indonesia is about 9.290 MW and has already elaborated by Ministry of Mining and Energy Resources is about 50 MW. This wind energy is environmentally (clean energy), economically (cheapest), easy to operate and easy to maintain, also renewable energy. The method of analysis is quantitative approach using two way classification (analysis of variance or design of experiments). The research variables are wind speed, variation of turbine blades and these interaction as independent variables and the power capacity as dependent variables. Data wind speed simulation vary from 3 m/s till 6 m/s. The quantity of turbine blades vary from 3 till 8 unit. The finding of this research is accepted the null hypothesis or are not differ significantly at 5% from each independent variables. The scenario and the parameters of the strategy development uses turbine blades, wind speed and power generated by VAWT and the maximum power generated is 16.38 watt, the wind speed is 6 m/s and the number of turbine blade is 4 units. However, the minimum power generated by VAWT is 0.45 watt, the wind speed is 6 m/s and the number of turbine blade is 3 units.

Keywords

VAWT; NACA 2412; Wind speed; Turbine blades; Power; Renewable energy

Biography

Bambang Sugiyono Agus Purwono born in Maospati - Indonesia, March 5, 1954. Lecturer in Mechanical Engineering Department – State Polytechnics of Malang. Master Degree in Industrial Management and Technology– ITB – Bandung (1988) and Doctor in Management Science – Faculty of Economics and Business – University of Brawijaya, Malang (2011). Textbooks has already published are Strategic Planning, Production Management, Thermodynamics, Heat Transfer, and Maintenance Management.

As a speaker about Entrepreneurship and Cooperative in Republic of Democratic Timor Leste (2008), in International Conference about Management Strategic and Renewable Energy in Malang, Bali, Yogyakarta, Bandung, Jakarta, Melbourne, and Hong Kong Polytechnics University. As a keynote lecture in International Conference about Renewable Energy in National Institute of Technology – Tiruchirappalli – India.

Member of World Society of Sustainable Energy Technology (WSSET).

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D. Vasudevan

Environmental Engineer, Tamil Nadu Pollution Control Board, Chennai – 600 032, India

A.G. Murugesan

Professor and Head, Sri Paramakalyani Centre of Excellence in Environmental Sciences, Manonmaniam Sundaranar University, Alwarkurichi - 627 412, Tirunelveli Dist, Tamil Nadu, India

Hazardous waste management in Tamil Nadu (India): Current scenario and future opportunities

Abstract

Proper treatment and disposal facility of Hazardous waste (HW) is need of hour as the industrial development is happening at a rapid phase. Till 1997 there was no proper secured landfill facility to dispose of Hazardous Waste (HW) in India. At present, there are 27 well-established treatment, storage and disposal facilities (TSDF) across India. This paper describes about the unique methodology adopted in Tamilnadu and explains about the operation of the facility. Necessary regulatory mechanisms formulated by Ministry of Environment and Forests, Govt.Of India and implemented by State Pollution control boards. The Hazardous Waste Management (HWM) comprises of several aspects including identification, quantification, treatment, and disposal of HW. As the disposal is the last option, at present both regulators and industries are supporting utilisation of waste in co processing. Co-processing of these waste has been identified as one of the best strategy to convert

hazardous waste into blending material and to increase the thermal substitution rate in cement industries. 7.66 million tonnes of hazardous waste is generated from 36,165 units each year in India. Tamil Nadu contributes around 4.15% of the total HW generated in India. This article aims to study the current status, problems and challenges, and future strategies for improvement in HW management system in India. It especially focuses on impact of hazardous waste landfill site to explore environmental assessment relating to disposal facility.

Biography

D.Vasudevan received the B.E degree in Civil Engineering from Thiagarajar College of Engineering, Madurai, India and M.tech degree in Environmental Engineering from the Indian Institute of Technology(IIT) Madras, India. In 1986 he joined as a Lecturer in Thai Moogambigai College, Maduravoyal, Chennai. From 1990 to 2010 he worked as Assistant engineer in Tamil Nadu Pollution Control Board and in 2010 he became The District Environmental Engineer (DEE) for Maraimalai Nagar and presently he is working as DEE for Ambattur taluk, Chennai, India. His current research interests are focused on management and proper disposal of hazardous waste.

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José Antonio Rodríguez Martín

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School of Forest Engineering, UPM. Madrid, Spain

Tree-ring of *Pinus halepensis* as archive of heavy metal pollution in Spain

Abstract

The natural levels of Heavy metals (HMs) in the environment have increased during the industrial era to the point of posing a serious threat to public health and to the environment. In this sense, the use of tree species to register and monitor the contamination is a well-known practice. HMs are incorporated in plant tissues through their absorption by the root system or by absorption and/or

simple deposition on the leaf surface. The objective of the study was comparing HMs levels under different pollution conditions, a) soil pollution (due to mining residues) and b) atmospheric pollution (due to coal-fired power plant emission). We report significant HM enrichment in tissues of *Pinus halepensis*. Near of burning power plants Pb content in wound is 2.5 times greater than the natural areas. In mining areas Cd content is 25 times greater than the natural areas. However, the results of Hg do not show enrichment. The hypothesis is that the chemical composition of the ring of growth of a specific year should reflect by corresponding year. However, the results of this study are very often contradictory probably as a result of a detoxification mechanism and high soil HMs contents.

Biography

Dr. Jose Antonio Rodriguez is a biologist that received the Ph.D. degrees in School of Forest Engineering in 2001. Currently he is civil servant of Spanish government since 2008 in Department of Environment of Instituto Nacional de Investigación y Tecnología Agraria y Alimentaria (Spain). Their research projects are focused on the study of contaminants in soil (as heavy metals). His main research interests are environmental soil science, soil pollution sources and geostatistics. He published over 40 papers in recognized scientific journal since 2006.

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Dr. Nidhi Rai

Department of Environmental sciences, Mohanlal Sukhadia University, Udaipur, Rajasthan (India)

Assessment of indoor air quality of urban areas of Udaipur city (Rajasthan), India

Abstract

Air quality monitoring and assessment is an integral part of air quality assessment of any area to evaluate the pollution status of any sampling site. The present scientific venture is an attempt to monitor the indoor air quality of the residential areas and the sub urban areas where a large number of air pollutant sources can be identified. These sources are both mobile and stationary. Vehicles are the major mobile sources in the suburban patches of Udaipur which are continuously adding gaseous pollutants to the indoor environment. This study is an attempt to evaluate the concentration of SO_x, NO_x, CO, CO₂ and particulate matter (PM₁₀) which poses a potential health risk for human health and safety. Five major sampling sites were selected on the basis of visual pollution load in Udaipur and continuous monitoring of these selected sampling sites was done for 24 to 48 hours weekly for 8 weeks for the primary pollutants mentioned above. The observation revealed a very high concentration of Sox in the sub urban pockets where vehicle load is considerably high and the type of vehicles which act as major pollutant sources are commercial and private vehicles having two stroke engines which emit a large amount of pollutants particularly SO_x and NO_x and Particulate matter. The monitored concentration of these obnoxious gases was compared with the Euro standards and Indian standards and the possible health effects were also explored. The results are discussed extensively on the basis of the literature available and the practically applicable suggestions are also given for safety life measures of the residents.

Keywords

Indoor air pollution, particulate matter, air quality, vehicular pollution

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Pranab Pal

Wildlife Institute of India, Dehradun

Global Warming and its Impact on Biodiversity Conservation : Major Focus on Sustainable Development

Abstract

Global warming is the increase in the average temperature of the Earth's near -facade air and the oceans seeing as the mid-twentieth century as well as it is motionless continuing. The Intergovernmental panel on climate change (IPCC) concludes that anthropogenic human sourced greenhouse gases are responsible for nearly all of the observed temperature augment. According to IPCC global exterior temperature will in all probability go up a more 1.1 to 6.40 C during the twenty-first century. The Biodiversity is being pretentious worldwide by climate change as the average temperature on Earth becomes warmer, by way of more numerous severe weather events pessimistically affecting biodiversity, ecosystem functioning and eventually the stipulation of ecosystem services and human well-being. Quantitative appraisal, done by the IUCN there are 57 critically endangered species of animals in India. It is estimated that every day, some 350 sq km of forest cover are lost global. In excess of exploitation of biodiversity on the Earth's ecosystems by means of human through unsustainable hunting, fishing as well as the extraction of raw material is increasing the ecological footprint, a gauge of human insist on the Earth's ecosystems. The Gangetic dolpin *Platanista gangetica* occurs in the Brahmaputra along with Barak Rivers and their tributaries. It has become rare in current decades owed to poaching for its oil and inadvertent deaths due to strangulation in fishing nets. It is estimated that the world's in progress commercial fish species will

be extinct by 2048. The Earth's forest exterior has been abridged by 40% , wetland by 50%, coral reef 20% as well as mangroves by 35%. Dam in addition to canals have disjointed 60% of large rivers. According to expert there are two species Rhinos (The Javan rhinoceros *Rhinoceros sondaicus*, Sumatran rhinoceros *Dicerorhinus sumatrensis*) are currently treated seeing that critically endangered. Human make use of 45% of the water running keen on rivers. Due to radical changes in the Earth's environment, species have evolved to stay alive as well as flourish, some have decreased or turn into extinct. Global warming puts coral reefs in peril seeing that the ocean warms. Experts dread that coral reefs will not be able to get a feel for rapidly adequate to the resulting changing conditions, in addition to bleaching incidents and diseases will increase. Science daily news mention that by 2080 morethan 80% of genetic diversity within species might disappear in convinced groups of organisms . Environmental pollution is hostile adjustment of our surroundings, entirely seeing that a by-product of man's activities all the way through direct or indirect efforts of changes in the physical, chemical in addition to biological characteristics of land, air or several enviable living thing. Rivers acquire polluted by means of enormous amounts of sewage, garbage, agricultural discharge , biocides as well as heavy metals. Many animals along with plants are ever more threatened because of international trade in wildlife as well as wildlife products. In some cases , living organism is in strain. In further cases, precise body parts like skin, furs, bones , ivory , sex organs, bile, skeletons in addition to claws are exceptionally appreciated for ornaments, jewelry or for putative medicinal or aphrodisiac qualities. Illegal trade in wildlife at the moment the third largest contraband business subsequent to trade in illegal drugs in addition to weapons as well as worth an average 810 million per annum. India suppose that protecting our biodiversity is a serious national main concern seeing that it is linked to local people in the country. Sustainable use of our biodiversity therefore has equally ecological and economic value. However, additional concentration requirements to be devoted to the management of renewable resources, because they make available the basis for long-term sustainable production of goods as well as services vital for human wellbeing.

Keywords

Global warming, Extinction, Biodiversity Loss, Illegal trade, Sustainable development.

Biography

Dr. Pranab Pal Wildlife Institute of India, Dehradun obtained his Ph.D. from H.N.B. Gharwal University Srinagar after a research work undertaken on “Effect of Management Strategies Resources use by Local People on habitats in Kaziranga national Park” Assam. He started his career with Assam Forest Department and worked in different capacities from 1980 to 1988. Subsequently he was deputed to Wildlife Institute of India (WII) in 1989. He contributed significantly to the “in situ” conservation of various flagship species, namely rhino, wild buffalo, swamp deer, tiger etc and helped in strengthening Biodiversity Conservation in Assam Forest Department (Kaziranga National Park, Lawkhowa Wildlife Sanctuary). While working with Assam Forest Department(AFD) in Kaziranga National Park he was badly gored by a rhino. He miraculously survived the order and continued to work with undiminished enthusiasm. He was awarded a Certificate and cash reward from AFD for his meritorious service in wildlife area during 1986. During his tenure with AFD more than 40 rhinos were saved from poachers and he also caught 60 poachers. In WII his job responsibility includes motivating

youth in natural resource management, environmental awareness and biological diversity conservation for different target groups especially college, university students and rural and urban people. His work on conflict resolution with long term man-animal conflict mitigation strategies have helped different forest department in different parts of the country. Dr Pal has been shouldering responsibilities to develop the WII training facilities for various programme since 1989 and presently he is involve with scientific non government organization working with Himalayan mountain area. Dr. Pal has visited almost 75 national parks, Tiger Reserve, World heritage and sanctuaries in India, as well as abroad (USA, Spain, South Korea, Singapore, UK, Malaysia, Philippines, Nepal, Bhutan etc). He attended and participated in more than 70 International/ National Seminar, conference, workshop, Keynote speaker, chairperson, organizer Secretary etc . He has published more than 50 scientific paper and popular articles.

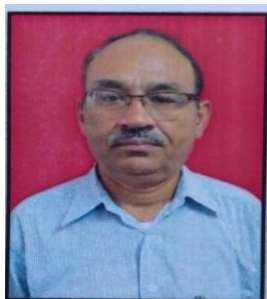
He has been awarded 1st position for “Global Position System” and 2nd position for “Vegetation analysis” by the Smithsonian Institute USA during the year 1996 for “Conservation of Biodiversity and Wildlife Management”. He got an outstanding Certificate for his “country talk” (Environmental Education) from NAAEE USA during 1997.

During 2006 he got best “Environmentalist” award by the NESAI, Delhi. During 2007-2008 he got 2nd Best Project (Civic Sense & Pollution Control) & 2009-10 Best Lion Awards from International Lions Club.

He has been awarded First Adyiti Smiriti for the year 2012 along with Cash Prize, Citation ,Trophy from Central University of H.N.B. Garhwal University, Srinagar, Uttarakhand, Srinagar, India. Dr. Pal is also life member, Board members,managing committee members of several organization

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B.R. Bamniya

University/Organization: Department of Environmental sciences, Mohanlal Sukhadia University, Udaipur, Rajasthan (India)

Assessing the Effectiveness of Selected Roadside trees in Mitigating Air Pollution in Urban areas of Udaipur City

Abstract

Urban air pollution is rapidly becoming an environmental problem of public concern worldwide. The booming vehicular population today has completely transformed the socio-economic scenario in urban India. Vegetation naturally cleanses the atmosphere by absorbing gases and some particulate matter through leaves. It is important that plants used for the development of urban forest must be tolerant to air pollutants. Levels of air pollution tolerance vary from species to species, depending on the capacity of plants to withstand the effect of pollutants without showing any external damage. Screening of plants for their sensitivity/tolerance level to air pollutants is important because the sensitive plants can serve as bio-indicator and the tolerant plants as sink for controlling air pollution in urban and industrial areas. To develop the usefulness of plants as bioindicators requires an appropriate selection of plant species which entail an utmost importance for a particular situation. Four commonly grown Plant Species i.e. Psidium guajava L., Albizia lebbeck L., Guazuma ulmifolia Lam and Bombax ceiba L. along the roadside of Udaipur city were chosen for the analysis and they were compared with plants grown in pollution free atmosphere. The Anticipated Performance Index

(API) of these plant species was also calculated by considering their APTI values together with other socio-economic and biological parameters. The higher APTI value as compared to the control site signifies more tolerance. In the present investigation, average APTI for *Albizia lebbeck* L. was found to be highest followed by *Bombax ceiba* L., *Psidium guajava* L. and minimum for *Guazuma Ulmifolia* Lam in the experimental site. Based on the API score *Albizia lebbeck* L. was found to be excellent for roadside plantation followed by *Bombax ceiba* L. *Psidium guajava* L. was also found to be a good option and *Guazuma ulmifolia* Lam. was considered moderate for growing in urban areas.

Keywords

APTI, API, Air pollution, Roadside plants, Tolerant species

Biography

Prof. B.R. Bamniya, a Senior Professor and Head in the Department of Environmental Sciences, Mohanlal Sukhadia University, Udaipur. He is also Associate Dean in the faculty of Science in the University. He has 29 years of teaching experience of Undergraduate and Postgraduate level. Under his supervision Eight students have completed PhD degree. He is author of four books and number of chapters in edited books. He has published more than 15 Research papers international Journals and 20 in National Journals. He is member of number of academic bodies in different Universities. He also participated in more than 40 Conferences, Workshops and Training programmes

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Geetika Pal

MTech, Jaypee Institute of Information Technology, Noida.

Challenges for Environmental Engineering: from The Eyes of an "Engineer"

Abstract

Environmental Engineering is utilizing the standards of designing, soil science, and science to create answers for ecological issues. They are included in endeavors to enhance reusing, squander transfer, general wellbeing, and water and air contamination control. They additionally address worldwide issues, for example, dangerous drinking water, environmental change, and natural manageability. An environmental engineer thus performs these common roles: 1. Getting ready, auditing, and refreshing natural examination reports. 2. Configuration extends to prompt ecological insurance, for example, water recovery offices, air contamination control frameworks, and operations that change over waste to vitality. Expert believe that only 2.5% of earth's water is fit for consumption. Of this ground water is fast depleting and other freshwater sources are also threatened. India consumes most of its usable water for agriculture purpose, while households get only 5 % of it. 3. Getting refreshing look after arrangements, grants, and standard working systems. 4. Give specialized support to ecological remediation ventures and for legitimate activities. 5. Dissect logical information and do quality-control checks .6. Screen the advance of ecological change programs. 7. Review mechanical and city offices and projects keeping in mind the end goal to guarantee consistence with natural directions .8. Prompt enterprises and government organizations about systems for tidying up polluted locales. Ecological architects direct unsafe waste administration contemplates in which they assess the hugeness of a risk and prompt on treating and containing it. They additionally plan frameworks for metropolitan and modern water supplies and mechanical wastewater treatment, and research the natural effect of proposed development ventures. Ecological architects in government

create controls to forestall disasters. Some natural specialists contemplate approaches to limit the impacts of corrosive rain, environmental change, car outflows, and ozone exhaustion. Occasional dissolving of solidified water stores, for example, icy masses and snow packs, smoothes the impact of very factor summer precipitation and ice sheets assume an essential part in supporting natural social and financial framework in the mountains and downstreams. One group of gases in particular has been observed to damage the ozone layer. These are called CFCs (Chloro Fluoro Carbons). They likewise work together with natural researchers, organizers, perilous waste professionals, and different designers, and in addition with masters, for example, specialists in law and business, to address ecological issues and ecological manageability. For more data, see the occupation profiles on natural researchers and experts, risky materials evacuation laborers, attorneys, and urban and local organizers. Hence, environmental engineering from the perspective of an engineer is to deal with the problem by not only considering the environmental factors but by also dealing with them using technical measures. Since we are blessed with technological discoveries why not use it to protect our mother nature!!!

Keywords

Environment protection, Ecological issues, Pollution, Urban Design, Awareness

Biography

Ms Geetika Pal completed her BTech from College of Engineering Roorkee, Uttarakhand in the year 2014. She obtained her Post Graduate Diploma- IT Infrastructure, System and Security from Centre for Development of Advanced Computing, Noida, (CDAC, Noida) during the year 2015. After the completion of PGD she joined Jaypee Institute Information Technology, Noida during 2015 as a part of her higher study i.e. M.Tech. She completed her M.Tech programme in the year 2017. During her study period she was involved in many extracurricular activities such as Anchoring. She has visited many National Parks, Wildlife Sanctuaries, Tiger Reserves, World Heritage etc in India which shows her keenness towards wildlife. She has been shortlisted for PhD programme by BITS Pilani.

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Nami Prasad

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Tapati Das

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Human induced environmental heterogeneity in aquatic ecosystems promote macrophyte invasion in tropical floodplain landscapes of northeast India

Abstract

Invasive aquatic macrophytes (IAM) cause equilibrium shift in aquatic ecosystems (AEs). This shift in equilibrium often has deleterious effects on the native biodiversity and ecosystem service provisioning capacity of the AEs. Nonetheless, anthropogenic influences may aggravate the problem of IAM invasion. In the present study, we used a multivariate approach to study whether human induced environmental heterogeneity promote macrophyte invasion. Fifteen AEs comprising of ponds, streams, and wetlands were selected in the floodplain landscape of Barak valley in northeast India. We studied the physico-chemical parameters of water and estimated the density of the IAMs for a period of one year. Multivariate tools viz., principal component analyses (PCA) and canonical correspondence analyses (CCA) were used to study the underlying factors causing environmental heterogeneity and their relationship with the abundance pattern of IAMs across different AEs. PCA indicated that the

human induced changes in water properties are primarily responsible for environmental heterogeneity in different AEs. CCA revealed that the preference of habitat condition for the IAM varied from one species to the other across different AEs. The study therefore highlights the necessity for suitable management strategies based on specific requirements of the AEs..

Keywords

Invasive aquatic macrophytes, water quality, aquatic systems, Barak valley

Biography

Myself Nami Prasad, born at Bongaigaon, Assam, India. My father is a teacher in a government school and my mother is a housewife. My younger brother is pursuing his B.Tech degree. And I have done my schooling from Netajee Hindi Vidya Pith and college from Birjhora Mahavidyalaya. I have completed my M.Sc in Ecology and Environmental Science from Assam University, Silchar. Currently, I am pursuing my Ph.D on the topic is entitled as “Diversity, distribution, and ecology of invasive macrophytes in Barak Valley, Assam” from Assam University, Silchar.

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Anil Panchal

University/Organization: Department of Environmental Sciences, Mohanlal Sukhadia University, Udaipur, Rajasthan (India)

Impact of the tourism on the physicochemical characteristics of three different lakes of Udaipur city (Rajasthan)

Abstract

Udaipur city better known as the city of lakes and the Venice of the east is adorned with a large number of fresh water lakes which adorn this place as a centre of international and national tourism. The present study is based on a comparative study of the water quality of three fresh water lakes of Udaipur which are major tourist hubs of southern Rajasthan. Although Udaipur is situated in a semi-arid zone, still the presence of these manmade lakes of Udaipur gives it panoramic scenery with immense aquatic and terrestrial biodiversity which attracts travelers from all over the globe. The tourist load in the city begins in the month of August and continues to increase till November and December. Due to constant travel visit and water recreational opportunities the lakes have immense anthropogenic interference which deteriorates the physicochemical characteristics of lake water which may ultimately affect the aquatic flora and fauna and degrade the water ecosystem. The results clearly depict that the water quality deterioration is directly proportional to the tourist load. So that the convergence of tourists is always increasing and they are constantly increasing without much change in air, water and land quality through proper environmental management system.

Keywords

Ecotourism, water pollution, physicochemical, monitoring

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Swain, Nigamananda

ICARDA

Catchment management interaction with land and water for reduced sediments and water pollution in a watershed environment in Afghanistan

Abstract

ICARDA has effectively designed local suitable watershed interventions in Afghanistan that effectively interacts with local agro-ecosystems in order to address water and soil erosion under steep slope, low-vegetation, low-biomass, eroded soil, and low rainfall conditions in the country. The results are indicative of effectively protecting soil from erosion, reduced sediment pollution in stream flow, and enhancing soil fertility which otherwise deteriorates at an alarming rate. Over the past two decades 50% of farmlands in Afghanistan were not cultivated due to in part to prolong dry periods and severe soil erosion. The barren and undulating topography that dominates these landscapes contributes to the erosive nature of rainfall run-off. The impact of land degradation contributes to a complex interplay between food security and poverty that pervades large areas of rural Afghanistan. Eight percent of agriculture is under dryland farming depending on low and extremely variable rainfall. Hence, a declining water balance is increasingly affecting food security of Afghanistan's 27 million population. In order to address these issues, ICARDA and Afghanistan Ministry (MAIL) collaborated to

pilot implement nine catchment management models in seven provinces of Afghanistan during 2012-2017 with support from ACIAR (Australian Center for International Agriculture Research). The results observed are analysed to assess sediment interception and reduced sediment load on stream flow apart from precipitation harvested by these structures.

(150-200 Words/ 222 Words)

Biography

More than 12 years of research and development experience in watershed, NRM and related agri-disciplines; involved with ICARDA-Afghanistan watershed project, he has co-authored publications on “Integrated Catchment Management Options for improving Livelihoods in Afghanistan (accepted as poster at 61st Annual Conf. of AARES 2017, Brisbane); “Review Paper on Watershed Development in Afghanistan: Lessons from South Asia”, and other watershed impact case study, manuals and materials published by him for use by various stakeholders. Has co-authored two papers on genotype x environment interaction in wheat and chickpea in Afghanistan

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Nashwa Shiqwarah

University/Organization: Ajman University

Suitability of Renewable Energy Technologies in the Public Realm: Analytical Framework

Abstract

Renewable Energy Technologies (RETs) are considered as one of the main solutions for energy efficiency in face of the climate change issue. Urban areas should contribute to the reduction in consumption of non-renewable energy sources by emphasizing on energy efficient solutions, which can play a vital role in the field of urban design and the nature of the public realm in cities, communities and neighborhoods. This paper is concerned with the installation of RETs in the public realm. It aims to analyze the potentiality of installing RETs within the public spaces in addition to its effects and limitations. The paper sheds light on the physical aspects of the public realm, types of RETs and presents a framework identifying the RETs suitability to be used in the public spaces

Biography

Nashwa has a Master's degree in Environmental Studies and Urban Design from the prestigious Arab Academy for Science & Technology & Maritime which is one of the top academic institutions in the Middle East, also it is the only accredited by RIBA in the region , also she holds a Bachelor degree in Architecture from Ajman University for Science & Technology.

In the academic field, Nashwa is teaching various of the architectural courses and Design Principles in Ajman University. Nashwa also has practical experience working as a Senior Green Building Engineer in Dubai Municipality which developed a comprehensive understanding of the Green Building Regulations and Specifications that are used nationally and internationally, coupled with the ability to contribute in issuing the first Green Building Rating System in Dubai (Al Saafat).

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Prof. Chunde Yao

Tianjin University, China

Taoyang Wu

Tianjin University, China

Wang Pan

Tianjin University, China

Bin Wang

Tianjin University, China

Hongyuan Wei

Tianjin University, China

Anren Yao

Tianjin University, China

A New Technical Route for HD Diesel Engine to Meet Demand of Euro V Emission Legislation urea free with DMCC

Abstract

Diesel methanol compound combustion (DMCC) technology proposed by Prof. Yao from Tianjin University could help the baseline Euro IV heavy duty (HD) diesel engine to meet the demand of Euro V emission legislation without urea SCR system. DMCC has the advantage of minor modification to the baseline diesel engine. At present, there are more than 100 in-use HD diesel vehicles equip with DMCC system around China. The application of DMCC technology on HD diesel vehicles can replace diesel fuel for more than 30% in average, and the methanol consumption is less than 1.5 L when replaces 1 L diesel fuel. The HD diesel engine in Europe and China ordinarily equips with selective catalytic reduction (SCR) system in order to meet Euro V emission legislations, and the urea consumption of SCR system is around 6% that of fuel consumption. The high running cost drives drivers to install illegal devices such as SCR emulator on their vehicles, which will do much harm to the environment. DMCC could save more than 15% of the running cost because the price of methanol is only one third of the price of diesel in China, which largely promotes the enthusiasm of drivers to apply DMCC technology

Biography

Prof. Yao received his Ph.D. degree in internal combustion engine engineering from Tianjin University in 1988. From 1988 to 1997, he was an assistant professor in the automotive college at Hefei University of Technology. In 1997 he joined the State Key Laboratory of Engines of Tianjin University, where he is now a professor. His current research interests include alternative fuel for engine and super knock in gasoline engine. He has published over 70 SCI papers, and the diesel methanol compound combustion (DMCC) technology invented by him won the first prize of China Mechanical and Industrial Science and Technology in 2016

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Simone Ramires

Federal University of Rio Grande do Sul

Marcos Maragno Fernandes

Federal University of Rio Grande do Sul

Thiago Rigatto

Federal University of Rio Grande do Sul

Sustainable Energy Efficient Hotspot

Abstract

This work addresses the creation of an innovative environment, through the revitalization of an idle space at UFRGS. The project is based on the integration of the economic, environmental and social pillars to create a place of coexistence and student awareness, proposing the harmonious and sustainable integration of the environment and technology. The project intends to install a green curtain, making the environment inviting and easing the heat. It also provides the opportunity for a green roof that has the objective of reducing the incidenting heat from the sun, while also reducing air conditioning expenses. In the same space, there are stationary bicycles generating energy that will be coupled to a circuit of lamps that light as the person pedals. And lastly, install photovoltaic modules above the stationary bicycles, generating energy and demonstrating generation values in real time.

This will show the potential microgeneration can have and contribute to the awareness of renewable energy. The power generated from the boards will supply batteries coupled to charging stations, which will be used to recharge electronic devices. It will be through harmonious coexistence with nature that the use of fully efficient energy will be achieved, ensuring a better future for all.

Biography

Holds a degree in Civil Engineering from URI (2002), Master in Geotechnics from the Federal University of Rio Grande do Sul (2010), PhD student at PPGE3M /UFRGS. She worked as a lecturer at the Federal University of Mato Grosso from 2011 to 2014 and is a collaborator at the PPGEAA / UFMT. Currently, she works at UFRGS in Production Engineering as a Teacher, Advisor at the School of Engineering, Researcher at the Nucleus of Educational Engineering - NEED and Coordinator of Sustainable Projects. Has experience in Civil Engineering, with emphasis on Engineering Teaching, working mainly in the following subjects: engineering teaching, geotechnics, innovation.

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Simone Ramires

Federal University of Rio Grande do Sul

Karen Rebeschini de Lima Rossi

Federal University of Rio Grande do Sul

Evaluation of System Efficiency of Water Treatment Wash Truck mixers in a concrete batching plant in the city of Cuiabá-MT

Abstract

The Central Metering Concrete or concrete producers make the dosage of the products in the company's yard, then this material is carried to its final destination by truck mixers, which after unloading the material is added to water in the balloon of the truck to prevent hardening of the material adhered to the wall of the same. In Brazil, the lack of investment in technology and the lack of financial resources make several small and medium businesses cannot establish effective treatments for inerting and minimize these environmental liability. In concrete producers are constructed treatment systems known as beats ballast consisting of several sedimentation tanks in series to retain the solid material present in the wash effluent truck mixer. This study aimed to identify the efficiency of the treatment system for ballast beats, comparing the concentrations of the system output with standards established norm for release in water bodies. The work consisted in analyzing the following parameters: temperature, dissolved oxygen, pH, turbidity, alkalinity, hardness, chemical oxygen

demand, oil and grease, conductivity and number of solids. It is concluded that the system is highly efficient in removing solids, and any number of hit a solid efficiency above 90%. One concern relates to the chemical parameters such as pH, alkalinity, hardness and COD, since their concentrations in the outlet systems are highly elevated, being at variance with the limits laid down in the standard.

Biography

Holds a Bachelor's degree in Civil Engineering by URI(2002), a Master's in Geotechnology by UFRGS(2010) and is a PhD student by the same university's PPGE3M, or Post-Graduate Program in Mining, Metallurgical and Materials Engineering. Has worked as a professor at the UFMT between the years 2011 and 2014, and as a colaborator for the PPGEAA/UFMT. Currently works at UFRGS as Professor of Production Engineering, Advisor of the School of Engineering, Researcher for the NEED and Coordinator of Sustainable Projects. Has experience in the area of Civil Engineering, with emphasis in Engineering Education, acting based on the following themes: engineering education, geotechnical engineering and innovation.

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B. R. Gadi

Stress Physiology Laboratory, Department of Botany, Centre for Advanced Study, Jai Narain Vyas University, Jodhpur (342005) India

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Amra Ram

Stress Physiology Laboratory, Department of Botany, Centre for Advanced Study, Jai Narain Vyas University, Jodhpur (342005) India

Verma Pooja

Stress Physiology Laboratory, Department of Botany, Centre for Advanced Study, Jai Narain Vyas University, Jodhpur (342005) India

Fluoride Induced Growth and Metabolic Changes in plants

Abstract

Fluoride, a common phytotoxic which exists naturally in soil, water, and atmosphere. High level of Fluoride is widely reported in different parts of the world especially the Africa, China, South Asia and Middle East. In India, more than 19 states are facing acute fluorosis problems including Thar Desert. It has inhibitory effects on respiration, photosynthetic pigments, mineral and water uptake and activity of enzymes. Fluoride inhibits seed germination, growth, physiological and biochemical characteristics in different plant species. The higher concentration of fluoride in irrigation water caused chlorosis and necrosis of leaves, reduction in growth of root and shoot, and ultimately reduced the biomass yield of plants. It has toxic effects on the phosphorylation of mitochondrial membrane proteins and different enzymes activity such as acid phosphatase, ATPase, RuBiSCO, amylase and nitrate reductase etc. Fluoride inhibits the water uptake and hydrolytic conductivity of plant at root level and thereby creates water stress by reducing water potential. Therefore, accumulation of osmolytes i.e. soluble sugars, glycine betaine and proline play important role under F stress. Plants have antioxidant defence mechanism comprising of enzymatic (superoxide dismutase, peroxidase, catalase) and non enzymatic (ascorbic acid, carotenoids, glutathione) which remove or neutralize and scavenge the reactive oxygen species (ROS) induced by Fluoride stress. Exogenous application of Salicylic acid (a plant growth regulator) and glycine betaine ameliorate phytotoxicity of fluorides in some plants. There is need to study the advanced molecular, biotechnological and plant breeding approaches for resistance.

Keywords

Antioxidants, enzyme activity, growth, metabolism, osmolytes, Photosynthesis

Biography

Dr. B.R.Gadi is Associate Professor in Botany, Centre of Advanced Study, J.N.Vyas University Jodhpur (India), currently focusing on physiology, cytogenetics and conservation of Desert plants. He obtained M. Phil. and Ph.D. degree in botany with emphasis on physiology of plants under Environmental stresses. He researches and conducts postgraduates, M.Phil. and Ph.D. students supervision in the field of Environmental Stress and Plant Physiology, a field in which he has published extensively. He was Summer Research Fellow of Indian Academies of Sciences (INSA-NASI-IASc) Bangalore, India for 2011 and 2014.

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Hind Abdelrahman Salih Eltahir

Department of Animal Production, Faculty of Natural Resources and Environmental Studies University of Kordofan, Elobeid, Sudan

Exploration of Oil - Absence of International Legislation and Loss of the Rights of Local Communities

Abstract

Oil and gas industry has a vital role to play in Africa's development. But too often exploration and extraction are linked to human rights abuses against local residents. Oil and gas revenues prop up repressive governments, and the promise of poverty alleviation is squandered due to opaque relations between companies and government officials. Oil exploration in Sudan was first initiated in 1959 by Italy's Agip Oil Company in the Red Sea area but, the first export of crude oil from Sudan in August 1999. Sudanese oil extraction started in 1998, before the enactment of the Environment Law in 2001. Since the start of exploration for oil until 2016 and after the issuance of the Environment Law in 2001, the environmental impact study was not carried out before starting oil extraction. Because of lack of familiarity with local communities of their legal rights and lack of transparency and the imbalance in the laws and environmental pollution has encouraged companies not to comply with international legislations and the safety and health regulations in the petroleum industry. With diminished the size of the positive change to the discovery of oil on the pastoral and agricultural

sectors in the Western Kordofan State and the absence of state control over companies, this review paper was carried out to call attention to the effects of destructive pollution on human, animal and environment.

Keyword

Exploration of oil, Legislation, Local communities, Environmental Pollution

Biography

Hind Abdelrahman Salih Eltahir (PhD, Animal environmental physiology) has been working as an assistant professor since Feb. 2012 at the Department of Animal Production, Faculty of Natural Resources and Environmental Studies University of Kordofan, Elobeid, Sudan. Beside her duties in teaching and research she is now a Coordinator of Research and Postgraduate Studies, at the same department.

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Dr. KR Panwar

Department of Zoology, Govt. College, Jodhpur-342 001

Study of Organic Waste Management and Pollution Control using Earthworm Species *Eisenia fetida* in Indian Thar Desert

Abstract

Earthworm, a non-chordate wormlike animal, belonging to phylum Annelida, inhabits in moist and organic rich soil. From the period of its origin, it has been working silently for health of the earth beneath our feet. India is an agriculture dominant country therefore, a huge quantity of agricultural wastes and animal manure dumped every year and it pollutes the environment considerably. In present study, an earthworm species *Eisenia fetida* was used to convert different organic wastes into valuable bio-fertilizers. Agricultural waste and cattle manure were used as vermibed of *E. fetida* for preparing vermicompost. The earthworms convert the organic waste into a valuable asset. The present observations showed that potassium, phosphorus and available nitrogen of vermicompost is enhanced significantly as compared to organic waste applied for the vermibed. The vermicompost is used in organic farming. Since, the adverse effects of chemical fertilizer have been proved on soil as well as human health, an alternate should be required. Therefore, vermicompost is a most suitable bio-fertilizer for agriculture, forestry, horticulture and other similar sectors and also minimize pollution from the organic wastes.

Keywords

Earthworm, Vermicompost, Bio-fertilizer, Organic farming.

Biography

I am basically belonging to weaver cum farmer's family. My childhood spent in a small village, Chhila of Jodhpur district of Rajasthan, India. I passed middle school from the same village and senior secondary from the nearby town, Phalodi. I got B. Sc., M.Sc. and Ph.D. degrees from Jai Narain Vyas University, Jodhpur. In year 2000, I qualified NET-JRF from CSIR, New Delhi and worked as JRF in department of Zoology, of the same university till the appointment as lecturer through RPSC. Presently, I am working as a senior lecturer, department of Zoology, Govt. College, Jodhpur.

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Mohammad Ali Badri

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Application of Genetic Algorithm and Analytic Hierarchy Process to Generate an Oil Spill Risk Map

Abstract

The oil spill in water brings damages to the ecosystem, coastlines and human health, particularly to fishery and tourism activities. Hence, it is a crucial task to model oil spill damages and evaluate risks. By identifying the oil slick behavior and considering the velocity and cleaning capacity of oil cleaning vessels, the genetic algorithm (GA) was used to obtain the optimum placement of the vessels for several oil spill scenarios. Meanwhile, major risks of damages were identified for the Persian Gulf in terms of marine ecosystem, tourism, fisheries, beach entry bans, commercial and transit ports. All these factors were systematically analyzed using Analytic Hierarchy Process (AHP). Based on location, volume of oil spill, weather condition and optimum placement of oil cleaning vessels, the risk map of oil spill in the Persian Gulf was developed and the effects of each major risk and overall risks were assessed. A final arrangement for all vessels is proposed as well and an overall risk map. The most risky scenario in the risk map is a refined oil with a spill size greater than 500 tones with wind speed greater than 14 [m/sec]. The high risk zones are related to the north west of the Persian Gulf..

Biography

Mohammad Ali Badri has completed his PhD from Isfahan University of Technology (IUT). He is the director of Hydrodynamics research group at Research Institute for Subsea Science & Technology. He has published more than 50 papers in reputed journals and has been serving as an reviewer member of:

- Journal of petroleum science & engineering, Journal of Energy Efficiency and Journal of Industrial robot
- Horizon Research Publishing
- world academic publishing
- The Open Fuels & Energy Science Journal, Bentham Science Publishers

His research interests are: Modeling of Environmental Contaminants, Computational Fluid Dynamics (CFD) and Renewable Energies.

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Prof. Dato' Dr. Rosli Bin Abu Bakar

Universiti Malaysia Pahang, Malaysia

Analysis and Simulation Combustion and Emission in Small Engine

Abstract

The application of gasoline and diesel in internal combustion engine is substituted to alternative fuel which one of the alternative way to save raw non-renewable resources. Nowadays, people are aware both of these fuels will be depleted over the time. The usage of gasoline and diesel lead to heavy environmental problem. Moreover, excess of carbon dioxide (CO₂) emission from vehicles were release to atmosphere that caused global warming. This paper discusses the Liquefied Petroleum Gas (LPG) as alternative fuel and the development of simulation program for the actual process thermodynamic for four-stroke spark ignition (SI) engine. Cylinder pressure, gas temperature, heat release, mass fraction burn, brake power, brake torque, indicated specific fuel consumption and exhaust gas emissions were found to strongly influence the performance of gasoline and LPG fuel. The target is to predict and analyse the performance and exhaust gas emissions. The understanding of parameter and method used is very important in order to optimize the best result of the engine performance

Biography

Prof. Dato' Rosli Abu Bakar is the lecturer in Faculty of Mechanical Engineering, Universiti Malaysia Pahang, Malaysia. Previously, he completed his degree, master and PhD study at Hanyang University, Seoul, South Korea. After that, he went back to Malaysia and started his education and research career path at Universiti Teknologi Malaysia and continues his research and career at Universiti Malaysia Pahang since 2004. Some of his expertises and teaching experiences are thermodynamics, fluid mechanics, automotive and combustion technology. After joined UMP, he was assigned as the Dean of Faculty of Mechanical Engineering and director of Automotive Excellence Centre for 6 years since 2005. Up to date, he had stepped down from the dean and director post, and become the member of SIRIM standard Malaysia, an active committee of Malaysia Quality Assurance for higher education institution accreditation and still serves as professor in Universiti Malaysia Pahang. Write more than 140 papers in journal and more than 170 papers in conference international and national.

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Dr. M.S. Panwar
Sristi Thapliyal

Assessment of Noise Pollution in the Cities of Uttarakhand Hill State: A Threat Ahead

Abstract

The present generation and the coming generations have to solve three grave problems namely, population, poverty and pollution if they have to survive. Environment pollution is assuming dangerous proportions all through the globe and India is not free from this poisonous disease. Pollutant is a substance, the presence of which causes pollution. The pollutants reach us through the air we breathe, the water we drink, the food we eat and the sound we hear. This is the gift of modern living, industrialization and urbanization. Noise pollution like other pollutants is also a by - product of industrialization, urbanizations and modern civilization. Broadly speaking, the noise pollution has two sources, i.e. industrial and non- industrial. The industrial source includes the noise from various industries and big machines working at a very high speed and high noise intensity. Non- industrial source of noise includes the noise created by transport/vehicular traffic and the neighborhood noise generated by various sources. Noise pollution can also be divided in the categories, namely, natural and manmade. Most leading noise sources will fall into the following categories : roads traffic, aircraft, railroads, construction, industry, noise in buildings, and consumer products. It is one of the most immediate and identifiable environmental problem associated with rapid industrialization, urbanizations and population growth. Though noise pollution is a slow and subtle killer, yet very little

efforts have been made to ameliorate the same. It is, along with other types of pollution has become a hazard to quality of life. (Chauhan Avnish, Panwar Mayank, et.al, 2010). Noise is defined as unwanted sound. Sound, which pleases the listeners, is music and that which causes pain and annoyance is noise. According to Encyclopedia Britannica: In acoustic noise is defined as any undesired sound. In chambers 21st Century Dictionary the definition of noise has undergone a change. Noise pollution stands carved out as phrase separately from noise.

Measurement of Noise Pollution

A decibel is the standard for the measurement of noise. The zero on a decibel scale is at the threshold of hearing, the lowest sound pressure that can be heard, on the scale. According to Smith, 20 db is whisper, 40 db the noise in a quiet office. 60 db is normal conversation, 80 db is the level at which sound become physically painful.

Impact on Health

However, due to its invisible impacts and associated health problems, people are least concern about noise pollution and ignore its menace. Generally, high exposure to noise level can causes feeling of annoyance and irritation, damage to auditory mechanisms, number of health related effects like physiological disorders, disturbances of daily activities and performances, hypertension and schematic heart diseases (Alam Wazir, 2011). The most serious health hazards associated with high level of noise exposure is deafness which initially causes temporary hearing problem or deafness while prolonged exposure to high noise level causes permanent hearing damage. Primary cause of hearing loss due to exposure to noise is termed as Temporary Threshold Shift (T.T.S.) and due to very high level exposure to noise may cause Noise Induced Permanent Threshold Shift (N.I.P.T.S.) (Alam Wazir, 2011). According to the US National Institute on deafness and other communication disorders (NIDCD), long or repeated exposure to sounds at or above 85 decibels can cause hearing loss, disturbed sleep, cardiovascular and other physiological problems. Scientists, Doctors, Psychologists and other health professionals are finding direct links between noise and many health related issues. These include performance reduction, annoyance responses and rather significantly, unpleasant social behavior among people exposed to high noise levels.

Noise Policy Vision

To promote good health and a good quality of life through the effective management of noise within the context of Government policy on sustainable development and environment protection in the cities of Uttarakhand, the policy frame work on pollution control is urgently required. Pollution in general and Noise pollution in particular become a major problems contributing to the emergence of Non-communicable disease. It has been agreed by different stakeholders during the random survey that there is an urgent need to form an appropriate noise policy for the Uttarakhand Hill State which is known for peace and pilgrimage tourism. The Government of Uttarakhand is also committed to establish smart and eco - cities in this Hill State to promote tourism and pilgrims. Environment protection and sustainable development of the cities are an important thrust area of this mountain state to secure a healthy environment in which the people of Uttarakhand future generation can prosper. One more aspect of this policy is to address the emergence of non-communicable diseases due to noise pollution. The Government recognizes that the effective management of noise in the cities of

Uttarakhand requires a coordinated and long term approach that encompasses many aspects of the modern society. The basic objective of this paper is to assess the urban areas of Uttarakhand which has recorded much above WHO slandered acceptable level i.e. 60 decibel. In view of this alarming situation an attempts has been made to study the impact and causes of noise pollution on the overall society and the possibilities of policy implications for the Uttarakhand Hill State in India.

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Atun RoyChoudhury

Synthesis of Bio-Hydrogen Renovated with Carbohydrate Rich Wastewater, Utilizing Monitoring Based Agitable UASB Reactor

Abstract

During past one decade, there has been a resurgence of interest in biological hydrogen production. Experiments have been carried out, utilizing numerous organic resources among them carbohydrate is proven to be one of the major source, which yields significantly larger quantity of bio-hydrogen compares to protein. Laboratory scale UASB reactor was fabricated and operated for the period of 5 months in order to investigate the bio-hydrogen yield from sugar industry wastewater, maintained at a constant temperature 35°C. Observation reveals H₂ gas production gradually increases up to 8th day and thereafter a decrement was observed in the level of bio-hydrogen production due to formation of methane. Quantifying the overall bio-hydrogen production, a potential growth was significant between 2nd and 8th day of reactor startup, which shows a satisfactory value of 222.1 ml and 272.4 ml at the pH of 5.5 and 5.1 respectively. The reactor operating conditions (acidophilic pH 5.0-5.5) were found to be favorable for effective bio-hydrogen gas production, while maintaining an optimum COD removal rate of 81% at the pH value of 5.0

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Arutchelvan

Technical Feasibility of *Hermetia illucens* in Integrated Waste Management, Spiked with Sewage Water, an Over View

Abstract

In last one decade, many researches have been performed on the black soldier fly larvae to establish the optimal breeding condition in contradiction of the computational temperature, wide sort of substrates and sub optimized feeding ratio. Even though the considerable number of methods has been already established and supervised, there have been a technical lagging always been predominant in the form of egg hatching rate, moisture tolerance, drainage and rearing requirements to categorize the obtainable alternatives. In order to inculcate the reimbursements of the existing technology and full-fill the knowledge gaps pertaining, in this paper, we propose a monitoring based real time hatching system which comprises the technicality and precious management skills. This review emphasizes a comprehensive nutrition technique for BSF larvae by means of different fodder acclimability in association with the adaptability of sewage water and emphasize the change in the behavioral characteristics for the adult as well as on larvae stage, which can open a new economic window in sustainable waste management technique and will be capable of addressing multi-dimensional solution in the form of green and novel alternative

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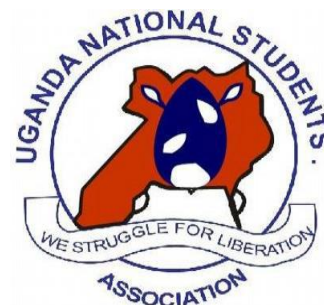


Kasujja Imran

Uganda National Students' Association

Aijuka Nicholas

Uganda National Students' Association



Deforestation in Uganda: population increase, forests loss and climate change

Abstract

Regarding the forest sector in Uganda, in the last one or so decades, Uganda has carried out several policy, legal and institutional reforms aimed at promoting the conservation and sustainable use of the country's forest resources. Among the key reforms include the putting in place of the National Forestry Policy 2001, enactment of the National Forestry and Tree Planting Act 2003 and the new institutional arrangements including the Forest Sector Support Department, the National Forestry Authority, and the District Forestry Services being made. To address the question of enforcement in the forestry and other environment sub-sectors, government also established the Environmental Protection Police Unit. Despite these interventions, the country continues to lose forest cover at a very alarming rate. While for many years it was reported that Uganda was losing approximately 90,000 hectares between 1990 and 2010 of forest cover annually, recent studies indicate that forest cover loss has now increased to an estimated 200,000 hectares annually. The situation is being blamed partly on Uganda's booming population, which is growing at a rate of 3.6% per annum. In the late 1980s, Approx. 75,000 km² (31.7%) out of 236,040 km² of total land in Uganda consisted of forest and woodland. Today, forests and woodlands cover is about 15.2% of Uganda's land surface meaning that Uganda has lost

16.5% of forests and woodland cover. Over the last three decades, growth in human population and corresponding increase in demand for forest products for domestic and industrial use, expansion of agricultural land, illegal settlements and weak forest management capacity have adversely affected the status of natural forests in Uganda, particularly the biodiversity.

Consequences

Given that Uganda is a landlocked country that depends on agricultural, agro-pastoral, and pastoral livelihoods, the population expansion has placed increasing stress on limited natural resources i.e forests and woodland have been destroyed. Cropping regions in the West appear most affected by the observed changes in climate. Rainfall has declined in the West and North East threatening Uganda's future food production prospects. Drivers of climate change in most parts of Uganda are as result of deforestation, unpredictable rainfall, frequent droughts and reduced vegetation cover. The impacts of climate change has created challenges and imposing severe losses and hardships on the poorest communities as their livelihoods are sensitive to adverse impacts of climate change. The most dominant and widespread disaster due is drought, whose frequency is observed to be on the increase affecting the agricultural sector leading to impacts such as famine, malnutrition, low production and productivity of crops and animals. The general level of food insecurity in Uganda has started rising. Pastoralists in the northeast, especially in Karamoja are facing chronic food insecurity. More frequent droughts decrease their resilience, as well as the resilience of pastoralists and agro-pastoralists in areas of Kasese, Isingiro, Karamoja among others

Biography

Kasujja Imran is a final year student pursuing Bachelor's degree in Economics- Makerere University, Kampala Uganda. He is the Current Speaker of Uganda National Students' Association. He served as Guild Student Representative and later Makerere University Speaker. Kasujja has represented Makerere University students Body to various international gatherings

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Dr. Foo Keng Yuen

Universiti Sains Malaysia

Smart Agriculture System for Integrated Food and Water Security Management

Abstract

Sustainable food and water security management is a fragmented interplay between the population growth, urbanization, environmental protection, governance policies, and the associated water supply, wastewater flows and storm water run-off. The issues of food and water security have conventionally been addressed independently, and to date, their nexus has emerged to be the most intricate key agenda at the global level. It has been estimated that, over 1 billion of the developing world populations are facing severe food and water crisis, and this fraction would increase to almost 33% by 2025. Food contamination, water pollution and poor sanitation are the primary causes for a vast majority of food and water borne diseases that kill at least 1.6 million children under the age of five. The health threats associated with the cross-contamination of anthropogenic pollutants in the food crops are exacerbated on a larger scale by the bio-accumulation of emerging chemical products, and heavily polluted water supply from the unregulated dumping of household and industrial effluents. These changing variables influence biophysical factors, plant and animal growth, water cycles, biodiversity, nutrient cycling, and the ways in which they are managed through agricultural practices and land use for food production. Within this framework, this research puts forward the concept of Integrated Food-Water Security Management to tackle specific challenges and food-water security

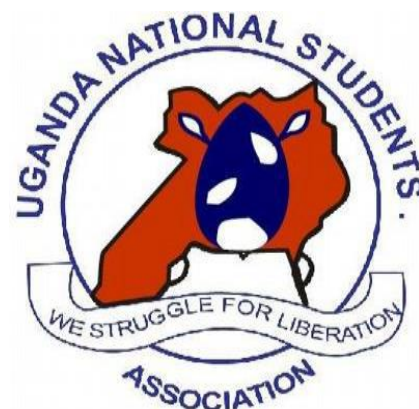
crisis. This project is expected to contribute towards the preservation of sustainable water resource management, sustainability in food productivity and food quality, and improvement of food safety, public health and quality of life.

Biography

Dr. Foo Keng Yuen is a lecturer of River Engineering and Urban Drainage Research Centre (REDAC), Universiti Sains Malaysia. His research interests are environmental engineering, waste utilization, water treatment technology, catalysis, food security and toxicology, and environmental health. Foo has a Web of Science Hirsch (H) index of 30. He has authored more than 90 publications in reputed international, high-impact and proceeding journals, with the accumulative impact factor of 314.39, and total citations of exceeding 4,000 times. He serves as Editor, Editorial Board Members, Scientific Adviser, Technical Committee, Review Committee, Keynote and Invited Speakers in several international scientific journals, conferences and research seminars

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Musasizi Josephat

Uganda National Students' Association

Nakandi Winifred

Dangers of climate change and its impacts on economy and food security to developing countries – Case study Uganda

Abstract

Climate change and the threat of related extreme conditions like flood and droughts, have major implications for economic growth particularly in developing countries like Uganda which is already experiencing the negative effects of climate change and the situation is expected to worsen, as impending calamities which will affect agriculture, infrastructure, health among others. There are worries that if everything continue to be the way they are and nothing is done at all to minimize possible causes of climate change especially manmade Uganda is likely to face serious disaster. This has started affecting the country's development efforts and causing shifts in the spread of diseases like typhoid, malaria, rainfall patterns among others. The country is highly vulnerable to climate change and variability thus, its economy and the wellbeing of its people are tightly bound to climate. Human induced climate change today has the potential to halt or reverse the country's development trajectory.

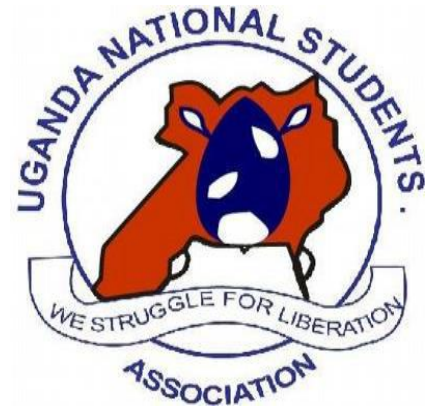
Climate change has a serious implications for the nation's economy previously, with for example, a shift in the viability of coffee growing areas potentially wiping out US \$265.8 million or 40% of export revenue. It is the poor and vulnerable people in remote and hard to reach areas who feel these impacts the hardest. In February 2017, at least 40 people died and unknown number of livestock in Moroto District (North-Eastern Uganda) due to hunger following the prolonged dry spells that rendered a food accessibility a nasty challenge. The dry spell hit hard in neighboring districts of Katakwi, Amuria, Soroti, Kumi and Serere in Teso Sub region. The severe lack of food and drinking water for both humans and animals has compounded the already dreadful situation forcing multitude to flee to areas with food. Prolonged droughts have left many Ugandans in rural areas suffering and has result to hiking of prices for different food commodities due to their scarcity..

Biography

Musasizi Josephat is a final year student on petroleum production & Geosciences- Makerere University, Kampala Uganda. He holds Advanced Diploma in Wildlife, Natural resources & Environment from Uganda Wildlife Training Institute. He is the Chief Executive Officer of African Natural Resources Institute. He is the founding President of European Association of Geoscientists & Engineers Uganda Chapter.

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SSONKO Henry

Uganda Management Training and Advisory Center

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Makerere University Business School

MBAZIIRA MUYANJA Ismail

Makerere University Business School

Ambient Air Pollution in Uganda's Extractive Industry and Civil Legal Liabilities for environmental Harm- Case Study Kasese District Western Uganda

Abstract

People are increasingly suffering from pains caused by polluted air, contaminated water and toxic land on daily basis. Residents in the area complain about air pollution and water pollution that is causing harm to their health and wellbeing.

This paper studies Ugandan law and judicial practice on environmental damages. By examining environmental tort cases in Ugandan courts and analyzing the non-conventional rules and doctrine under General Principles of Civil Law, Civil Procedure Law, Environmental Protection Law, specialized environmental statute tackling air pollution, water pollution and solid waste contamination. The paper also investigates how victims of pollution seek remedies by litigation with focus on the following key aspects: Joint liability, No-fault liability, Burden of proof, Stature of limitations, Remedies among others. The paper will highlight the incredible difficulties involved in fighting environmental legal battles in Ugandan courts that include collection of evidence, case acceptance and enforcement of judgement. The Constitution provides for the right to a clean and healthy environment. The Mining Act, reflecting the spirit and aspirations of the National Environment Act, obliges a mining licensee to carry out an environment impact assessment of proposed operations and to take all necessary steps to ensure the prevention and minimization of environmental pollution through environmental management and restoration plans. Research reveal that although companies have undertaken Environment Impact Assessments (EIA), these EIA reports are not shared with or explained to communities, which has left the affected communities without benchmarks to hold the companies to account. The dust emitted into the atmosphere has been a major health concern for both communities and environmentalists by various companies such as Hima Cement factory in Kasese District where sky is hazy on daily basis with fumes from the

Biography

Ssonko Henry is a final year student pursuing Bachelor's degree in Environmental Management. He holds advance certificate in Climate Change adaptation, a Training Organized for Nile basin Countries by Kagera Project under Nile Basin Initiative done in Rwanda and Burundi. He attended wetlands ecosystems services and environmental flows Regional training course by Nile Basin Capacity Building Network under the Nile Ecosystems Valuation for Wise-Use Project (Nile-Eco-VWU) Sponsored by: CGIAR/IWMI-WLE. Training done in 10 countries of the Nile basin in Africa.

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Sumaya Yusuf Abbas

University of Warwick- WMG, UK

Exploring the Opportunity for Organic Household Waste (OHW) Management Technology Options: An Empirical investigation for Muharraq City

Abstract

Waste management is currently considered one of Bahrain's most important challenges, thus, exploring the opportunity for OHW through selecting the most preferred management solution for the Bahraini context seems to be necessary, especially with the appearance of the harmful effects of dumping it into the landfill. Moreover, exploring the socio-economic and environmental gains of the technology implementation helps the decision makers to have a clear vision for future waste management strategy adoption and policy making. This research aims to explore the opportunity for the OHW management options using the "Case Study" methodology on Muharraq City, via developing a profile/technology matrix from literature review. Empirical OHW samples chemical characterization, and exploring the most preferable OHW Management technology solutions based on Bahraini OHW characteristics criteria. Sustainability gains of the selected technology environmentally, economically and socially, and exploring the enablers and barriers to the technology adoption will be explored. Research methods are quantitative and qualitative approaches. Research provide sufficient information to future adoption of preferred OHW management technology in Bahrain and explore the

barriers and enablers to its adoption which help in decision making, and give a full understanding of OHW characterization in Bahrain and suggest solutions to overcome barriers.

Biography

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PAST CONFERENCES GALLERY



**Gathering of delegates at ICETEEPC 17,
Beijing, China**



Lunch at ICETEEPC 17, Beijing.



**Group photo of students at Nursing
conference at Singapore**



**Plenary Presentation by Prof. Vesna at
ICETEEPC 17, Beijing**



**Poster presentation at ICETEEPC 17,
Beijing**



Dr. Wafik Noseir addressing the gathering at Beijing



Keynote talk at Dentistry conference, Singapore.



Group photo of the delegates at Nanotek conference, Germany



Keynote talk delivered by Kewal Jain at Singapore



Plenary presentation at Nursing conference, Singapore.

