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4th GoGreen Summit

Holiday Inn Express Kuala Lumpur City Centre, Malaysia

Organized by:

BioLEAGUES Worldwide

In Association with

POLITEKNIK NEGERI MALANG

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From BioLEAGUES Directors's Desk…

On behalf of Bioleagues, I am delighted to welcome all the delegates and participants around the globe to Holiday Inn Express Kuala Lumpur City Centre, Malaysia for the ***"4th GoGreen Summit"*** which will take place from 29th – 30th December '18

This conference will revolve around the theme "**Conflicts and Solutions concerning Climate Change & Sustainable Green Environment**".

It will be a great pleasure to join with Academicians, Students, Research Scholars and Industrialists all around the globe. You are invited to be stimulated and enriched by the latest innovations in all the aspects of Environment issues and prevention techniques, while delving into presentations surrounding transformative advances provided by a variety of disciplines.

I congratulate the reviewing committee, coordinator of Bioleagues and all the people involved for their efforts in organizing the event and for successfully conducting the 4th GoGreen Summit. I wish all the delegates and participants a very pleasant stay at Kuala Lumpur, Malaysia.

Mr. Siddth Kumar Chhajer
Director,
BioLEAGUES Worldwide.

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Message from the Conference Chair

It is a big pleasure to me on behalf of the Organizing Committee of a two-day International Conference of **4th Go Green Summit** to welcome all the delegates and participants of this conference held at **Holiday Inn Express, Kuala Lumpur, Malaysia** on December 29th &30th , 2018.

As stated in the title, the scope of the cenference covers about Sustainable Development of Environmental Science and Engineering towards climate change and Environmental Health, for the smart living, which are in a fact, requires many diciplines that constitute engineering as a whole and united field.

We are whole-heartedly knowledgeable that differs from academic fields and industry professionals, this conference may also give opportunities to under and post graduate students and research scholars alike to take an active part and present research papers.

By doing so, they will not only gain greater insight into their discipline, but also contribute to the existing body of knowledge in that domain.

I am certain that the conference will prove to be a healthy point of academic interaction and so the students and faculty members as well will not only give but also benefit and draw inspiration also networking from the talks and presentations from the distinguished guests.

I would like to express my deep appreciation to keynote speakers for the efforts to present the ideas and methods in a lively and accessible way.

Finally, but not least, I would like to thank those who have responded to our call to take part and to contribute to this conference. We have a big hope that all of you enjoy, and get more knowledge and fruitful experience through the conference.

Bambang Sugiyono Agus Purwono
State Polytechnics of Malang, Indonesia

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Message from the Conference Co-Chair

The planet's average surface temperature has risen about 1.62 degrees Fahrenheit (0.9 degrees Celsius) since the late 19th century, a change driven largely by increased carbon dioxide and other human-made emissions into the atmosphere. Most of the warming occurred in the past 35 years, with the five warmest years on record taking place since 2010. Not only was 2016 the warmest year on record, but eight of the 12 months that make up the year — from January through September, except for June — were the warmest on record for those respective months. Going green just means finding ways to make your home and lifestyle more energy and eco-efficient. This can include making changes to your utilities and how they serve you, shopping locally instead of shopping online, and reducing your carbon footprint altogether.

With that in the picture, BioLEAGUES Worldwide welcomes you to "4th GoGreen Summit" at Holiday Inn Express, Kuala Lumpur, Malaysia. This International Conference assures to be an interactive and informative event which will explore the issues, innovations and integrated approaches towards environmental sustainability and climate change. The speakers from various discipline around the world gather at "4th GoGreen Summit" to speak on Sustainable Development of Environmental Science and Engineering towards climate change and Environmental Health. In this GoGreen Summit, participants can take part in a number of educational formats including General Sessions, Oral Presentations, Poster Presentations, Workshops/Symposium and other interactive sessions. Have a fruitful meeting and enjoyable stay in Kuala Lumpur.

Dr. Erry Yulian T. Adesta
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Message from the Secretary

I take the pleasure of inviting all the eminent scientists, academicians and researchers coming from all over the country and abroad to attend 2018 Annual Conference, "4th GoGreen Summit". I would like to thank the BioLEAGUES Worldwide authorities in conferring me the responsibility of conducting this prestigious International Summit. This conference will focus on the themes covering various fields like Climate Change and Climatology, Global Warming Effect & Causes, Environmental Sustainability, Solid Waste Management, Bioenergy and Biofuels and Renewable Resources, with a clear perspective to solve research problems holistically.

It lays a platform for researchers to interact with most renowned speakers from various parts of the world.
The present conference brings together the eminent scientists and academicians across the globe with different disciplines of environmental research. The conference shall mainly focus to explore the current issues, innovations and integrated approaches towards environmental research. This conference will be elevating the role of renewable resources in the management of a sustainable man friendly environment. The conference will highlight the ways in which technologies in combination with best practices and evidence-based policies can improve regional, national and global in the field of climate change.
Your participation will make this conference half success and I am sure that your active presence, discussions and debates shall make this conference a grand success.

On behalf of 4th GoGreen Summit organizing committee, I warmly welcome the delegates, to share their knowledge among the scientific community with active interactions during these 2 day conference and I wish to have a pleasant time in Kuala Lumpur, the capital city of Malaysia.

Arifullah Mohammed
Universiti Malaysia Kelantan, Malaysia

Preface

This book reports the Proceedings of the ***4th GoGreen Summit*** held at ***Holiday Inn Express Kuala Lumpur City Center, Malaysia*** on the 29th & 30th of December – 2018, organized by ***BioLEAGUES Worldwide***.

The publishing department has accepted more than 90 abstracts. After an initial review of the submitted abstracts, 42 papers were presented at the conference and were accepted for publication in the Conference Proceedings. The topics that are covered in the conference include Climate Change & Climatology, Global Warming effects & causes, Environmental Sustainability, Pollution & its effects, Solid Waste Management, Waste Water Treatment, Renewable Resources, Agriculture, Circular Economy, etc... We would like to thank all the participants for their contributions to the conference and the proceedings.

Reviewing papers of the ***4th GoGreen Summit*** was a challenging process that relies on the goodwill of those people involved in the field. We invited more than 20 researchers from related fields to review papers for the presentation and the publication in this Conference Proceeding. We would like to thank all the reviewers for their time and effort in reviewing the documents.

Finally, we would like to thank all the proceeding team members who with much dedication have given their constant support and priceless time to bring out the proceedings in a grand and successful manner. I am sure this ***4th GoGreen Summit*** proceeding will be a credit to a large group of people, and each one of us should be proud of its successful outcome…

GoGreen Summit

Keynote Speakers

Investigation of quality characteristics of groundwater in northern Kelantan, Malaysia.

Mohammad Muqtada Ali Khan
Department of Geoscience, Faculty of Earth Science, Universiti Malaysia Kelantan, Campus Jeli, 17600 Jeli, Kelantan, Malaysia

Kishan Raj Pillai
Department of Geoscience, Faculty of Earth Science, Universiti Malaysia Kelantan, Campus Jeli, 17600 Jeli, Kelantan, Malaysia

Hafzan Eva Mansor
Department of Geoscience, Faculty of Earth Science, Universiti Malaysia Kelantan, Campus Jeli, 17600 Jeli, Kelantan, Malaysia

Abstract
The present study focuses on the assessment of the major ions and in-situ parameters in shallow groundwater in northern parts of Kelantan, Malaysia. Groundwater resources are the main source of domestic water supply in the region. 29 groundwater samples and 3 surface water samples from the study area were analysed in 2016. All the samples were used for domestic purpose. Efforts were made to interpret the probable sources of the major ions present in the samples. The results were compared with the World Health Organization (WHO) and Ministry of Health (MOH) guidelines to evaluate the appropriateness of groundwater for drinking and other domestic purposes. Based on the analysis most of cations and anions are found in moderate concentrations and are below the permissible limits as established by WHO and MOH and are deemed suitable for various domestic purposes. The interaction of the groundwater with the various geological formations, during its lateral subsurface movement influences its hydro chemical characteristics

Key Words:
Groundwater, quality, shallow aquifers, Kelantan

Biography:

Mr. Khan, presently working as a senior lecturer in Faculty of Earth Science, University Malaysia Kelantan since 2011 to till date. After completing his doctorate from Aligarh Muslim University, he joined in October 2009 as a postdoctoral fellow for eighteen months in Universiti Sains Malaysia, and worked on Development of a Quantitative Risk Assessment Model for Landslide in Malaysia. His research is mainly focused on hydrogeological modelling, conventional groundwater quality assessment, groundwater recharge and contamination studies using stable isotopes. He has also been involved in a project on groundwater development resources and seawater intrusion into groundwater in states of Kelantan Malaysia.

The Simulation Effect of the Water Flowrate, Turbine Type, and It's Interaction to the Power Generated by MHPP

Bambang Sugiyono Agus Purwono
Politeknik Negeri Malang - Indonesia
Awan Setiawan
Politeknik Negeri Malang - Indonesia
Supriatna Adhisuwignjo
Politeknik Negeri Malang - Indonesia

Abstract

The Indonesian energy demand is growing faster and the non-renewable energy decreased very rapidly, so the government try to shift and to look for an alternative energy to prevent future scarcity of energy resources. One alternative used is to utilize water energy. Water is one of the most renewable and environmental friendly energies so it has the potential to reduce dependence on current energy use (petroleum, oil, gas, and coal). The purpose of this research is to simulate effect of turbine type and water flowrate to the power generated by Micro Hydro Power Plants (MHPP). The research method uses experimental design with null hypothesis: there is no effect of turbine type to the power generated by water turbine and there is no effect of water flowrate to the power generated by MHPP. There are two type of MHPP are Pelton and Crossflow type. The research result is rejected the null hypothesis, it means there is an effect of turbine type to the power generated by water turbine and there is an effect of water flowrateto the power generated by water turbine.

Keyword:

Pelton, Crossflow, water flowrate, MHPP, water energy, power.

Biography

Dr. Ir. Bambang Sugiyono Agus Purwono, MSc born in Maospati, Indonesia, 5th March 1954. A lecturer in Mechanical Engineering Department - State Polytechnic of Malang, Indonesia. Bachelor of Science in Mechanical Engineering, Faculty of Technology, Brawijaya University, Malang, Indonesia

(1982). Master degree in Industrial Engineering, ITB, Bandung, Indonesia (1988). Doctor in Management Science, Faculty of Economics and Business, Brawijaya University, Malang, Indonesia (2011).

Textbooks have already published are Strategic Planning, Productioan Management, Heat Transfer, Maintenance Management, Entrepreneur and Technopreneur, and Research Methodology.

Also as a speaker in numerous international conferences and national seminars about Entrepreneurship and Cooperative, Balance Scorecard, SWOT Analysis, Strategic management, and Renewable Energy, Wind Turbine, Plastic Waste, Quality Control, Water Treatment Plants, and MHPP in Malang, Bali, Yogyakarta, Bandung, Jakarta, Timor Leste, Melbourne (Australia), Hong Kong Polytechnics University (Hong Kong), National Institute of Technology (Tiruchirappalli - India), Bangkok- Thailand, and Manila – Philippines.

HIV AIDS advocacy in Bangkok and Wuppertal German as a participants are sponsored by UNAIDS.

Organic framework based metal Nano catalyst for waste water treatment

Dr. Irshad Ul Haq Bhat
School of Fundamental Science, Universiti Malaysia Terengganu, Kuala Terengganu, Malaysia

Abstract

Water pollution has produced a significant threat to the ecological system as well as public health. The higher level of pollutants in wastewater bodies can reach to humans and can cause serious neurotoxicity, blood toxicity, kidney ailments, liver damage, and teratogenicity. The discharge of different pollutants generated from fertilizers, pesticides, leached from landfill, textile, leather, paper production, industries is a great threat to the ecosystem. A varied range of conventional treatment methods and techniques (e.g. chemical coagulation, activated sludge, trickling filter, carbon adsorption, and photodegradation techniques) for removal such pollutants have been used and investigated extensively. But the real problem remains a huge threat as these pollutants are not been actually removed but transformed from one media to other. Thus, a novel approach with a goal of complete destruction of these pollutants is a need of time. The nano-size catalysts can provide a sustainable approach and curb the problem to a greater extent. The metal coordinated nanocatalyst with organic framework can add new avenues for this research so that smaller amounts of well-coordinated metal catalysts can destroy larger amounts of pollutants with least possibility of leaching the coordinated metals as the organic framework can provide a large number of functional groups.

Biography:

I have received all degrees B.Sc. (Hon's), M.Sc. and Ph.D. from Aligarh Muslim University, India. I have worked as a Project Associate in a project sponsored by Department of Biotechnology (DBT) New Delhi, India. From May 2009-May 2012, I have worked as a postdoctoral fellow, School of Industrial Technology, University of Science Malaysia (UMK). Later joined the University of Malaysia Kelantan as a Senior Lecturer till December 2018 was awarded Excellence Service Award by UMK. I have published more than 30 papers, 6 book chapters, 10 abstracts, 23 papers presented in conferences and given 5 invited talks. My current research areas are Synthetic chemistry, Medicinal Inorganic Chemistry, Nano Catalysis and water treatment, Preparation of nanoparticles by green synthesis, Material Science (Nano-Bio composites).

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ABSTRACTS

Important factors that affect Vietnamese consumers' green purchasing behavior

Tong, Gia Tuong
PhD Student in Soongsil University, Seoul, Korea

Abstract

In the modern era of marketing, green marketing becomes the new strategy for companies and marketers to change customer purchasing behavior, becomes noteworthy due to its both affluence and influence. So that, the purpose of this research is to identify important factors that affect Vietnamese consumers' green purchasing behavior. The findings suggest that respondents have a high positive attitude regarding green products and are ready to buy green products more often. This research also serves as a pioneer study to identify important factors in affecting consumers' green purchasing behavior in the Viet Nam context. It offers practical guidelines to international green marketers planning to target the Asian markets.

Keywords:

Consumer behavior, Green marketing, Environment concern, Social responsibility, Environmental behavior

Evaluation of Segregation, Mutilation and Needle-recapping aspects of Biomedical Waste Management in a Tertiary Care Medical Institute of North India

Dr Rajiv Kumar
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Abstract

Management of Biomedical Waste (BMW) in a hospital is one of the most important aspects not only for safety of Health Care Workers (HCWs) and patients, but also for safety of environment as improperly managed BMW may lead to environmental degradation especially when chlorinated plastics enter into the waste stream meant for incineration.

The present study was carried out by physically visiting 29 patient care areas in a tertiary care medical institute of North India from 10th to 17th October 2018 making observations in a self-structured proforma.

It was found that segregation score of yellow (soiled infectious), red (plastic) and blue (glass sharps) categories of BMW was 100% each whereas that of white (metallic sharps) category was 60.34%. The score of mutilation of needles, hub of plastic syringes, plastic bottles and tubings was 68.97%, 79.31%, 82.76% and 75.86% respectively. In only 6 areas (20.68%), none of the used needles were recapped whereas in the remaining, at least some of the needles had been recapped.

The recapping of the needles is one of the causes leading to needle stick injury to HCWs and should be avoided. If ever recapping is to be done, it should be done with one-hand scoop technique and not using both hands. The manner of recapping could, however, not be ascertained in present study as methodology was limited to making observations from the waste bins.

The study shows that good segregation practices are being followed. However, HCWs may require more sensitization about mutilation and recapping aspects of BMW management.

Biography

I am working as Chief Medical Officer in Postgraduate Institute of Medical Education and Research (PGIMER), Chandigarh since December 1995. After doing MBBS, I have done MHA (Masters in Hospital Administration) from an apex tertiary care medical institute of India with thesis work in the field of Biomedical Waste (BMW) management. Thereafter, I did a WHO-accredited certificate course in Healthcare Waste Management (CHCWM). I have published research articles related to BMW management and also related to hand hygiene in international journals. Presently, I am discharging duties as convener of the statutorily required Hospital Biomedical Waste Management Committee which has been assigned the task of reviewing and monitoring activities related to BMW management in PGIMER, Chandigarh.

EEOI, EEDI – Assessment Index for the Green Shipping Nowadays

Tien Anh Tran
Faculty of Marine Engineering, Vietnam Maritime University, Haiphong 180000, Vietnam

Abstract

Most of the ships operate on the international maritime lines must obey the regulations and the international laws. In particular IMO (International Maritime Organization) regulations have been refered to all nations which are the membership of IMO. In where, MARPOL 73/78 is the International Convention for The Prevention of Pollution from Ships, 1973 as modified by the Protocol of 1978 with Annex VI came into force. It is introduced the requirements to regulate the air pollution being emitted by ships, including the emission of ozone depleting substances, Nitrogen Oxides (NOx), Sulphur Oxides (SOx), Carbon dioxides (CO2),…It is also established the requirements for reception facilities for waste from exhaust gas cleaning systems. Due to the exhaust gas emission need to reduce the researching follows of the Annex VI/MARPOL 73/78 is necessary. This article has been pointed out that the impacts of EEOI (Energy Efficiency Operation Index) and EEDI (Energy Efficiency Design Index) to optimize fuel consumption and how to reduce the Greenhouse Gas Emission in order to have the green shipping nowadays.

Biography

Tien Anh Tran works as a Researcher, Lecturer at Faculty of Marine Engineering, Vietnam Maritime University, Haiphong city, Vietnam. He has got Ph.D degree at School of Energy and Power Engineering, Wuhan University of Technology, Wuhan , P.R. China. During time of research working, he has published about 08 papers for international journals, conference proceedings. He has jointed to write a chapter of book: Low Carbon Technology and Economic. He is a Reviewer for some papers of Journals: Ship and Offshore Structures" and " Proceedings of the Institution of Mechanical Engineers, Part O: Journal of Risk and Reliability. Moreover, he has joined as an organization member of The 4rd International Conference on GoGreen will be hold in Malaysia on December 29-30, 2018. His field concentrates on energy efficiency of Photograph Organization Logo ships, optimal operations for ships, reducing greenhouse gas emissions, green shipping, bio energy, etc.
Currently, He is an Associate Editor of an international journal: Advances in Oceanography& Marine Biology; an Editor Board of Acta Scientific Microbiology Journal.

Fighting against the climate change through environmental education and public awareness: Study from Marathwada region of Maharashtra, India.

Dr. M. B. Mule

Professor , Department of Environmental Science, Dr. Babasaheb Ambedkar Marathwada Uniiversity, Aurangabad, MS India.

Abstract

The climate change phenomenon in Marathwada region of Maharashtra, India is a phenomenon of changing weather conditions to extreme and which are shifting the average values of weather parameters. Today the climate change phenomenon in Marathwada region is being observed in significant manner by altering the normal , uniform seasonal rainfall to abnormal rainfall resulting in abrupt cloud busting phenomenon in one region, whereas in another region there is no rainfall resulting in to flooding and drought condition respectively.

The climate change in Marathwada is influencing the each and every important sector of human life ranging from its food, health, agriculture and national monuments etc. directly as well as indirectly, resulting flooding and droughts hazards frequently. Marathwada region is frequently facing severe droughts resulting in severe water crises. The scarcity of water is resulting various problems such as, decreasing water table in region, health problems to living organisms including man, decreasing agricultural yield, loosing biodiversity, triggering desertification etc. Therefore to tackle the climate change problem, there is a need of proper environmental education among the society members through formal and non formal systems and make them aware about climate change and its adverse impacts and how to overcome them. It is realized that, the percolation of gogreen concept in society and public awareness are the major tools to mitigate the impact of climate change in Marathwada region.

Biography

I am Prof. Dr. M. B. Mule, Working as a Professor in the Department of Environmental Science at Dr. Babasaheb Ambedkar Marathwada University, Aurangabad MS India. Born in economically backward rural part of Maharashtra, i.e. from Marathwada region and serving since last 27 years in educational field as PG Teacher in university.

I born on 15 June 1965 at Mulewadi, District Osmanabad of Marathwada region of Maharashtra. I have taken my primary education up to fourth class in school from my native place and up to 7 th in nearby villages near to my native place. I have taken my high school education up to 10th class at Dahitane, Tal. Akalkot, Dist Solapur and joined Junior college at Omerga, Dist Osmanabad and passed 10th and 12th in second class in years March1980, and March 1983 respectively. I have joined my B.Sc. education at R. P. College, Osmanabad and completed my B.Sc. degree in first class in March1986. Then I have completed my M.Sc. degree in Environmental Science from former Marathwada University in the year 1988 in first class with distinction and stood first in rank of merit. Subsequently I have completed my Ph.D. in Environmental Science in the year 1991. My Ph.D. work was on eco-toxicological aspects and I have studied the impact of toxicants on fresh water snails. Specifically, I have worked out the effect of pesticides and heavy metal pollutants effect on fresh water snails Thiara tuberculata along with their toxicity assessment.

Started my career as a teacher at Shivaji University, Kolhapur and served there up to 26th December 2005 and later on from 27 December 2005 I am working at Dr. Babasaheb Ambedkar Marathwada University, Aurangabad as Professor in the Department of Environmental Science. I have contributed as a teacher and researcher in the subject of environmental Science.

As a researcher in the field of Environmental Science, I have worked on ecological aspects, limno-biological aspects of fresh water bodies. The water pollution study has been carried out using water quality parameters analysis. Simultaneously I have studied the indicators of water pollution, specifically the phyto and zoo plankton's indicator species were worked out for indicating river water pollution sources and pollutants.

The wild life conservation and management was also studied from Western Ghats of Maharashtra i.e. Chandoli Wild Life sanctuary. The finding of this work was useful for conservation and management of wild life in Western Ghats of Maharashtra.

As an important topic from Environmental Science I have worked on solid waste disposal problem of Aurangabad city. Specifically I dealt with the composting of organic waste and disposal of plastic waste along with its reuse potentials.

The urban centers are facing severe problems of ground water quality due to industrialization and unsafe disposal of liquid and solid waste. Also I have worked out the underground water quality in vicinity of Aurangabad city and currently working on the water purification methods for sewage and salt contaminated water.

Fly ash is a major problem of environment during the electricity generation from coal, and due to industrial use of coal. I have worked out various aspect of reuse and recycle potential of fly ash and completed one major research project.

Under my guidance one M. Phil. and nine Ph.D. students has been awarded for their Ph. D. degree. Presently seven students are working for their Ph. D. course. As a outcome my research work, I have published about 48 research papers in scientific journals. Some papers are published in proceedings and in books and about 69 papers were presented in scientific conferences, workshop, seminars etc along with my research students. One book was published from Germany.

The Development of Diesel Methanol Dual Fuel Marine Engine

Chunde Yao
Tianjin University, China

Abstract

At present, energy saving and emission reduction of marine diesel engines are the two important challenges for development of marine diesel engines. In order to realize diesel methanol compound combustion (DMCC), we have carried out plenty of studies, such as to investigate into combustion in constant-volume combustion chamber, to carry out performance of engine and after-treatment experiments at test bench. The results obtained in these studies showed that the combustion of diesel engaging is reinforced while methanol involving in burning, which is the reason that diesel/methnanol dual fuel combustion (DMDF) has high thermal efficiency. The results from visualization in constant volume bomb illustrated that premixed methanol motivated the diesel premixed combustion. In addition, diesel multiple auto-ignition accelerates the heat release rate of methanol air mixture. The developed DMDF engine can automatically operate and does need to change the mode of operation of engine after it is modified. The emissions from marine engine with the DMDF mode at propulsion cycle are lower than those of engine with diesel mode. The CO emission was 0.003g/kW.h, THC emission 0.009 g/kW.h, NOx emission 5.813 g/kW.h and soot emission 0.06 g/kW.h, which are lower than that of China I emission legislation for marine engine. Compared with conventional diesel engine, since there is a higher ratio of NO2/PM in DMDF engine, it is easier to achieve passive regeneration of diesel particle filter (DPF), and beneficial to prolong the cycle of active regeneration.

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 in 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 350 scientific and technology papers so far. He developed the diesel methanol compound combustion (DMCC) technology and won the award at first level from Chinese Association of Mechanical and Industrial in 2016.

Case study of Civil waste management for collapsible soil.

Abhishek Sharma
Second Year, Department of Environmental Engineering, DTU, Shahbad Daulatpur, Delhi, India
Kartik Sharma
Second Year, Department of Environmental Engineering, DTU, Shahbad Daulatpur, Delhi, India
Prof. A.K. Gupta
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Prof. Kongan Aryan
Expert and faculty advisor, Department of Civil and Environmental Engineering, DTU, Shahbad Daulatpur, Delhi, India

Abstract

Various types of recyclable materials are currently used in civil engineering applications. These include tire shreds, ground tire rubber, fly and bottom ash, blast-furnace slag, steel slag, cement kiln dust, silica fume, crushed glass, reclaimed asphalt pavement (RAP), and rice husk ash. Reutilization of these recyclable materials is especially beneficial in civil engineering applications that require large volumes of materials. When these waste products are used in place of other conventional materials, natural resources and energy are preserved and expensive and/or potentially harmful waste disposal is avoided. This special issue deals with the use of recyclable materials in diverse civil engineering applications focusing on sustainable development. The papers in this special issue present results of laboratory tests and important research findings for these materials, recommendations for debris recycling practices, and documented field applications of several waste or recyclable materials.
The risk of constructing structures on collapsible soils presents significant challenges to geotechnical engineers due to sudden reduction in volume upon wetting. Identifying collapsible soils when encountered in the field and taking the needed precautions should substantially reduce the risk of such problems usually reported in buildings and highways. Collapsible soils are those unsaturated soils that can withstand relatively high pressure without showing significant change in volume. One method for treating collapsible soils is to densify their structure by compaction. The ongoing study presents the effect of compaction on the geotechnical properties of the collapsible soils. Undisturbed block samples

were recovered from test pits at four sites in Borg El-Arab district, located at about 20 km west of the city of Alexandria, Egypt. The samples were tested in both unsoaked and soaked conditions. Influence of water inundation on the geotechnical properties of collapsible soils was demonstrated

Keywords-

*Civil waste *Collapsible soil *Environmental application, *Civil Engineering Application *Prediction air pollution Delhi India and Kaula Lumpur Malaysia *During Spring Period

Case Study of Electrical Waste Management for Expansive Soil

Mr. Abhinav Antil
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Prof. A.K. Gupta
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Prof. Kongan Aryan
Expert and faculty advisor, Department of Civil and Environmental Engineering, DTU, Shahbad Daulatpur, Delhi, India

Abstract
Expansive soils are composed primarily of hydrophilic clay minerals, such as Montmorillonite, and with significant swelling and shrinking characteristics. These soils can cause heavy economic losses, as well as being a source of risk to the population . The cyclic wetting and drying process causes movement in expansive soils leading to failure of civil engineering structures found on such soils. The problem of expansive soil crack has gradually become a research hotspot, elaborates the occurrence and development of cracks from the basic properties of expansive soil, and points out the role of controlling the crack of expansive soil strength. So we use the soil stabilisation method in which we stablise the soil using different industrial waste material which are primarily emanate from industries all over the globe,. so we have carried out a research on the us of on use of e-waste in expansie soil to make it more stronger and workable .

Keywords-
*Medical Waste *Expansive *Environmental application * Electrical Engg. application *Prediction air pollution Delhi India and Kaula Lumpur Malaysia *During Rainy Period

Construction Material from Mechanical Industry Waste

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Prof. Kongan Aryan
Expert and faculty advisor, Department of Civil and Environmental Engineering, DTU, Shahbad Daulatpur, Delhi, India

Abstract

NVarious types of recyclable materials are currently used in Mechanical industries. Waste include industrial waste, power plant waste such as chemical solvents, pigments, Red mud, Copper slag, Silica fumes, sludge, metals, fly-ash, paints, sandpaper, paper products etc. Reutilization of these recyclable materials is very beneficial, When these waste products are used in place of other conventional materials, expensive and/or potentially harmful waste disposal is avoided.

Nowadays, natural resources are depleting worldwide, while at the same time the generated wastes from the industries are increasing substantially. The aim of this paper is to describe the industrial and natural waste utilization in construction materials. According to their fineness and specific gravity the wastes are partially or fully replaced with the construction materials (cement, fine and coarse aggregates). The industrial wastes contain high pH and they are calculated under the different temperatures to improve its reactivity. Generally the wastes contain the pozzolonic properties due to its fineness and plasticity, so it increases the strength of the materials. The pozzolonic characteristics may partially replace the materials and known benefits on the durability of the products. Under this the wastes are partially replaced to the construction material and using an different grades of concrete mix and tests were conducted for various proportions to analysis or finding the strength attainments (compressive, flexural, tension etc.,) tests are followed under the standard setup procedures and

machines. Nowadays, the wastes are not having any industrial applications, so it can be innovatively using these wastes as a raw material in the civil engineering field. By using these wastes as the non-conventional and reuse or recycling of waste material in order to compensate the lack of the natural resources. So, wastes can be used to produce new products or can be used as admixtures in the civil engineering field. So the environment is protected from waste deposits.

Keywords

Fly ash, Red mud, Copper slag, Silica fumes, Cement, Aggregates, Mechanical industry waste, Mechanical Engineering Application, Environmental application.

Biotransformation of Cr(VI) by the cyanobacterium Synechocystis sp. PUPCCC 62

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Abstract

The cyanobacterial strain *Synechocystis* sp. strain PUPCCC 62 isolated from the Satluj River, Ludhiana, India was resistant to hexavalent chromium up to 200 µM with IC_{50} to be 100 µM Cr(VI). The organism removed 250 nmol Cr(VI) mg^{-1} protein in 8 h from imidazole-HCl buffer under optimized conditions of pH (6.0), temperature (28±2 °C), biomass load (200 µg protein mL^{-1}) and initial metal concentration (100 µM). The Cr(VI) removal by the organism was light/photosynthesis dependent. Kinetics of Cr(VI) removal by the test organism fitted well with the Lineweaver-Burk plot and showed V_{max} of 62.5 nmol Cr(VI) mg^{-1} protein h^{-1} and K_m of 5.8 µM Cr(VI). Not only pH of the solution, phosphate ions also influenced metal removal as Cr(VI) is taken up by the organism through phosphate transporter. It has been demonstrated that the organism enzymatically reduced Cr(VI) to Cr(III) intracellularly and excreted it outside the cells. The enzyme responsible for Cr(VI) reduction was 50 fold purified through ammonium sulphate precipitation and chromatographic techniques. The purified enzyme has 40 kD molecular weight and shared 69% homology with dihydrofolate reductase of *Bifidobacterium mongoliense*. This cyanobacaterium/its enzyme can be efficiently exploited for bioremediation of Cr(VI) laden industrial effluents before their discharge in to water bodies.

ISBN: 978-81-939929-0-6

Service Quality Implementation to Increase the Youth's Parishes Satisfaction at ABC Church

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Abstract

Service quality and parishes satisfaction are very important aspects that an organization or a foundation must understand in order to remain competitive in service and hence grow. It is very important for the organization or foundation to know how to measure these constructs from parishes's perspective in order to better understand their needs and hence satisfy them. The main purpose of the research is to measure and describe how parishes perceive service quality and their satisfaction and also the gap between perception and expectation. The research method used self-completion questionnaire that was developed from the service quality dimensions and attributes and interview. The analysis used descriptive statistic and qualitative approach to determine their perception, expectation and the gap. The participants is youngsters, youth's coordinator, and reverands in ABC Church. The research result showed a reliability gap scale is -0.88, assurance is -0.74, tangibles is -1.23, empathy is -0.96, and responsiveness is -0,78. The gap between perception and expectancy is less than -1.4. The main proposition is the decreasing gap between perception and expectation of the reliability, assurance, tangibles, empathy, and responsiveness (RATER) scales which reveal increased the youngsters' parishes satisfaction.In Mediterranean ecosystems, high population density increases ignitions and frequency of fires. The high temperatures, the drought and the west winds are the worst enemy of the forests, especially in the central and southeastern Mediterranean, scope of this study, in which, from a psychosocial approach, we will know some aspects about the way of perceiving the landscape in a region of eastern Spain.

In summary: The future fire regime depends not only on climate, but there are other factors that can be more relevant when modeling fires and landscapes, and, without a doubt, the human being is targeted as the main fire regime modifier throughout the planet.

Keywords
Servqual, RATER, parishes, youngsters, perception, expectation.

Biography
Dr. H. Ali Nasith, MSi, M Pd I born in Jombang – Indonesia, July 5, 1964. Lecturer in State Islamic University of Maulana Malik Ibrahim, Malang - Indonesia. Bachelor of arts degree in Indonesian Letters Department - Faculty of Teaching and Training, Malang Islamic University (UNISMA). Master degree in Public Policy – University of Merdeka, Malang (2002). Master degree in Islamic Science, Darul Ulum University, Jombang (2011). Ph D degree in Social Sciences, University of Merdeka, Malang (2013). As a speaker in numerous National and International seminars, such as: International Conference on Islamic Education in Malang (2017), Accounting Skill and English Competition (ASEC) Java-Bali (2018).

Design Solar Blow Dryer as the Equipment Drying Fish by Using the Method of Ergonomics

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Abstract

Pasuruan city is the main line of transportation system in the northern coast of Java island which is directly adjacent to the strait of Madura island. Many citizens at Pasuruan city work as fishermen. A few of fishermen sold their fish at the fish market place directly, and the others one produce salted fish. The salted fish process are: cut fish in a half, place them, then they are dried using solar energy. The steps of implementation of drying salted fish are: the workers squat to set and place the fish that there already cut in half on the tray, place at the upper of the tray, sit, and stand, and twist their body repeadly for a few hours. These steps are not natural movements, so the workers will get tired and injured. The objective of this research is to analyze and to determine the injury or musculoskeletal disorders using Rapid Upper Limb (RULA) method, and to design the ergonomics equipment (solar blow dryer) using the data of anthropometric measurement of the workers at Pasuruan city. The research result shows that the ergonomics equipment dimension are the height of the squeeze is 75.9 cm, the height of the eye stands is 148.9 cm, and the range is 206.3 cm.

Keywords:

Ergonomics, solar blow dryer, RULA.

Biography

Dr. Ir. Julianus Hutabarat, MSIE born in Surabaya, Indonesia, 16th July 1961. A lecturer in Industrial Engineering Department – National Institute of Technology - Malang, Indonesia. Master degree in Industrial Engineering, ITB, Bandung, Indonesia (1991). Doctor in Mechanical Engineering, Faculty of Technology, Brawijaya University, Malang, Indonesia (2014).

Focus research in Production system, and Ergonomics.

Study of Urban Areas and Architecture Character, a case study: Malang City

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Abstract

A development of city is motivated by various aspects of life such as population growth, advancement of science and technology, the dynamics of economic activities, the development of communication networks, and transportation. These aspects will bring changes to the use and function of the area as well as change the city's the area and architecture character, both physically and non-physically. These changes, if left unmanaged, will result in a decrease in the quality of the function and image of the region. Research with the title of study of regional character and city architecture is a better way to find out the regional elements and urban architecture that can be maintained and developed, so that the identity of the city is not easier to change. The research objective is to "create" a regional clusters, to establish the buildings that can be maintained, "to create" a master plan for urban areas both in two dimensions and three dimensions, so that the establishment policy issues of regional government and development of urban areas can be achieved as insightful urban, also the environment and handling the development of the city can also be handled well and directed. The location taken as a research

case is Malang city. This city is a colonial city designed by the Dutch government based on the decentralization law in 1905. In the Act, Malang city was designed in 1914. Retrieval data in this study uses several methods, namely; questionnaire methods, interviews, cognitive map sketches, place recognition through the preparation of photos, and visual observation. Data obtained from these five methods are categorized based on the benefits and depth of the meaning of the data. The research findings are Malang region and architecture character can be used as a basic concept in determining of the Malang city development policy, the preservation policies of old areas and buildings in the city of Malang, and the development policies of Malang city in the future.

Keywords
Regional Character, City Architecture, Building Preservation, City Identity, Malang City.

Biography
Dr. Ir. Lalu Mulyadi, MT born in Praya, Central Lombok, Indonesia, 18th August 1959. A lecturer in Architecture Department, Faculty of Civil Engineering and Planning, National Institute of Technology, Malang Indonesia. Bachelor of Science in Architecture Department, Faculty of Civil Engineering and Planning National Institute of Technology, Malang Indonesia (1986). Master degree in Architecture, Post Graduate School in Univeersity of Gajahmada, Yogyakarta, Indonesia (2001). Doctor in Architecture, Faculty of Built Environment, Universiti Teknologi Malaysia (2008). A member of Ikatan Arsitek Indonesia (IAI), Malang city District in Urban Planning division. Also as a speaker in numerous international conferences and national seminars, especially in Architecture, Urban Planning and Ergonomics.

Ergonomic Approach of Comfortable Public Space Case Study: Public Open Spaces in Malang City Center

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Abstract

Public spaces provide facilities for people to carry out personal or groups activities. Malang city center is a place for community activities with different intensity in each place. The existing condition of Malang city centre shows a mismatch with the ideal conditions of a comfortable public open space. The empty spaces that are not utilized, inappropriate sidewalk, and supporting facilities that do not meet the requirements also the limited place of activity convenient for the urban community are some indications of the gap in the ideal condition of a public open space beside the problem of open space public quality in downtown area in supporting the community activities. This study employs qualitative approach and ergonomics. The data collection on physical and nonphysical conditions is followed by data processing then is analysed based on related theories followed by concluding the results of the analysis and producing recommendations in the form of design directions. The results obtained: first, differences in quality between sub-regions, both physical quality and non-physical quality; second, the linear sub-region has better quality than the square type sub-region; third, from the side of responsive aspect, sub-regions with mixed functions have more quality than sub-regions with a single function; fourth, from democratic aspects, subregions with shady vegetation and diverse functions have better quality. Therefore, the further recommendation is instructions of structuring public open spaces that utilize all sub-regions as a place of activity for people living in the centre of Malang.

Keywords:
Utilization quality, public space, Malang city.

Biography
Dr. Ir. Lalu Mulyadi, MT born in Praya, Central Lombok, Indonesia, 18th August 1959. A lecturer in Architecture Department, Faculty of Civil Engineering and Planning, National Institute of Technology, Malang Indonesia. Bachelor of Science in Architecture Department, Faculty of Civil Engineering and Planning National Institute of Technology, Malang Indonesia (1986). Master degree in Architecture, Post Graduate School in Univeersity of Gajahmada, Yogyakarta, Indonesia (2001). Doctor in Architecture, Faculty of Built Environment, Universiti Teknologi Malaysia (2008). A member of Ikatan Arsitek Indonesia (IAI), Malang city District in Urban Planning division.

Also as a speaker in numerous international conferences and national seminars, especially in Architecture, Urban Planning and Ergonomics.

Strategy of Flood Control in Urban Area of Nganjuk city, East Java, Indonesia

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Abstract

The urban area of Nganjuk city is passed by a national road that connects East Java Province and Central Java Province. Rainwater that does not seep into the soil becomes surface runoff, and in some places it cannot be completely channeled, causing puddle. Puddles of water accumulated with overflowing water from irrigation channels are often flooded several residential areas and roads. The floods affected the health of the environment, economic activities and traffic transportation. Urban areas are divided into seven Water Catchment Areas (WCA), namely: Kuncir Kanan River, Maria Primary Channel, Asri Primary Channel, Kuncir Kiri River, Jl. Barito Primary Channel, Jl. Begawan Solo Primary Channel, and Widas River. Rain water caught on those seven catchments and channeled downstream are as irrigation water. Thus, the water level elevation in the channel must be controlled in order water can flow into the rice field by gravity. This is a major obstacle in the development of the Nganjuk City drainage system, so the right strategy is needed. The making of retention ponds and installation of flood pumps is an option of flood control, while the making of infiltration and bio pore wells is an option for public education.

ISBN: 978-81-939929-0-6

Keywords:
Urban Flood, Irrigation System, Retention Pond, Pump.

Biography
Dr. Ir. Kustamar, MT. born in Blitar – Indonesia, February 1, 1964. Lecturer in National Institute of Technology Malang. Bachelor of Water Resources Engineering degree in National Institute of Technology Malang. Master degree in Civil Engineering in Gajah Mada University-Indonesia. Doctor of Water Resources Engineering degree in Brawijaya University - Indonesia.

As a speaker in numerous National and International seminars, such as: Annual Conference of Science and Technology (ANCOSET) Malang-Indonesia (2018)

Lecturer Research Policy in Higher Education in Indonesia

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Abstract

This article aims to examine the research policies of lecturers in higher education in Indonesia. Based on the library research method, the following conclusions can be found: 1) Producing research that is in accordance with national development priorities; 2) Ensure the development of specific superior research based on comparative and competitive advantages; 3) Achieve and improve quality according to the target and relevance to the community; 4) Increase dissemination of research results and protection of Intellectual Property Rights (IPR). The standards of lecturer research policies, namely: 1) Standard direction of research refers to research maps based on the vision and mission of higher education; 2) Standard research processes include: planning, implementation, control and research quality improvement systems; 3) Standard results, namely fulfilling standard universal scientific rules; 4) Competency standards, namely the competence of researchers in accordance with universal scientific rules; 5) Funding standards, which are in accordance with the principle of autonomy and accountability; 6) Standard facilities and infrastructure to produce valid scientific findings; and 7) Standard outcomes, namely research activities must have a positive impact on the development of nations and countries in various sectors.

ISBN: 978-81-939929-0-6

Keywords:
Policy, Research, Lecturer

Biography
Dr. H. Mulyono, MA. born in Ponorogo - East Java – Indonesia, June 26, 1966. Lecturer in State Islamic University of Maulana Malik Ibrahim. Complete Bachelor in Islamic Education Management (1999) and Masters in Islamic Education Management at Malang State Islamic University (2002), and Doctoral Program in Educational Administration from Bandung University of Education (2011).

Law Perspective for Green Technology Terminology

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Widaningsih Condrowardani
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Abstract

Nowadays the development of science and technology have made people's life easier. Unconsciously there are many human activities using technology causing the climate change or affect the environment. Those negative impacts that happen to our environment became one of challenges in our daily life. On the other side, environment is our investment and necessity until the next generation. Because of that, people are to follow the current development while maintaining the environmental sustainability. In this case, we need to utilize the green technology. Yet the availability of the green technology is not enough to keep the environment well. We need another instrument such as the regulation or the law regulating about human activities relating to environment, so they could use the technology but still maintain the environmental sustainability.

Keywords

Current development, green technology, environmental sustainability, environmental law.

Prevention Strategy of Criminal People around Bromo Tengger Semeru National Park

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Roibin
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Bambang Sugiyono Agus Purwono
The State Polytechnic of Malang - Indonesia

Abstract

Communities around national forest of Meru Betiri have a degree of dependence on forest products contained in the conservation area of living natural resources. Dependency effects in behavior that violates legislation. The aim of this paper is to explain the strategy of criminal policies against violations of law committed by the community and public response to criminal policies. The research method used qualitative research through interview as the instruments and document review. The research analysis used qualitative descriptive. Research finding shows that the strategy pursued is a policy of penal and non-penal policies. The penal policy is in the form of the application of criminal punishment, while the non-penal policy is in the form in-situ and ex-situ conservation strategies. Responsiveness of communities around the forest is 234 respondents. The result are 66 (28.3%) respondents stated that they are very realistic, followed by 105 (44.7%) respondents who stated that they are realistic. Furthermore, only 56 (24.1%) of the respondents stated that they are quite realistic, and 7 (3.0%) respondents who felt they are not realistic.

Keywords:

Strategy, criminal policy, responsiveness, penal, non-penal

Biography

Dr. Saifullah, S.H., M.Hum was born in Tanjungredeb, December 5, 1965, lecturer at Sharia Faculty of The State Islamic University of Maulana Malik Ibrahim of Malang. Bachelor degree at Muhammadiyah University of Jember; Master Degree at Diponegoro University of Semarang (1995); Doctoral Degree at Diponegoro University of Semarang (2003), Researchers and speakers at the national level Presented in Short Course and Internship, such as International Class Program of Islamic Studies at the National University of Malaysia (2013); Presentation on the 1st of Moderate Islamic Biennial International Conference and Cultural Events in Indonesia (2017); International Conference on Law, Technology and Society (2018).

Building Customer Trust through Digital Non-Financial Performance of Microfinance Institutions

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State Polytechnic of Bali
Bambang Sugiyono Agus Purwono
Politeknik Negeri Malang

Abstract

Tight competition between microfinance institutions requires a service innovation and good performance. This study aims to examine non-financial performance information based on cultural harmony presented on the website to the level of customer trust. The two approaches used in this study are quantitative and qualitative approaches (explanatory sequential mixed method). One hundred fifty-five companies that have websites are used as samples. Quantitative results show that the delivery of information on general management performance and risk management influences the level of customer trust. Qualitative results show that the element of belief in cultural values maintained by microfinance institutions adds motivation to participate in advancing the company. Customer trust in microfinance institutions is increasingly strong through the delivery of information about cultural activities. The results of this study contribute to the legitimacy theory and the competitive strategy by integrating cultural values with information technology (IT) is a new finding in microfinance institutions. Building customer trust can be done non-financially so that managers can use IT with culture as a competitive strategy.

Keywords:

Customer trust, non-financial digital performance, microfinance institutions

Biography

Dr. I Putu Astawa SE., M.M was born in Singaraja, Bali Province, September 20, 1966. Lecturer at the State Polytechnic of Bali on a Tourism Business Management Study Program. In 2013 he obtained a Ph.D. at the Brawijaya University in the field of Management Science. The master degree in Management at Udayana University in 2010. Some scientific works in the form of published books are The Strength Of Rural Credit Harmony Culture And Hotel And Restaurant Operations. Owning copyright in the form of non-financial performance applications based on cultural harmony. Active in conducting research in the field of management specifically related to company performance. Several research results have been presented at international seminars and national seminars, and have also been published in national and international journals.

Case Study on Air Pollution and Pollutants.

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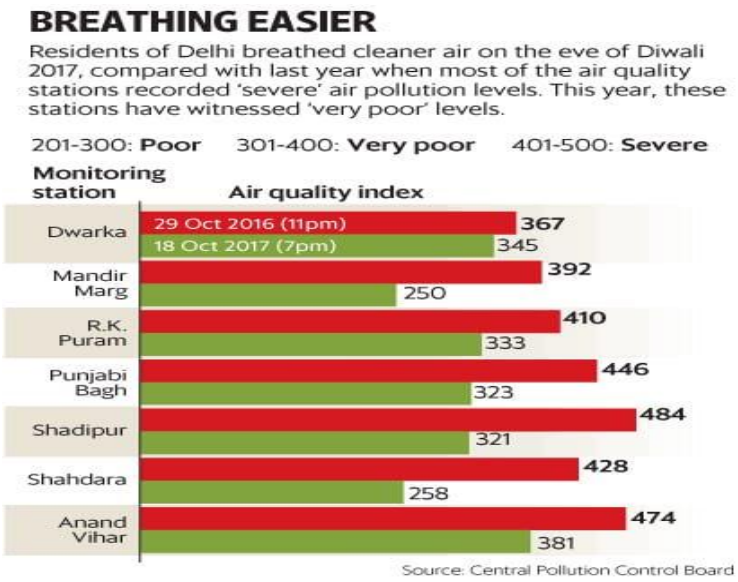
Abstract

Air pollution is the contamination of air via several unwanted substances which further pollutes the environment. These particles can be particulate matter or various other poisonous gases. These contaminations cannot be eliminated completely. These have a drastic effects on the human beings of each age group. The gases from the industries and factories tends to pollute the environment, the particles emitted from the automobile or vehicular transmissions are the particles of very small diameter which gets settled down in the lungs and arteries of the human being. These particles are known as particulate matter. As an individual extent we can reduce pollution by carpooling or by using public transport, but what about the status or pollution present this time in the environment, we need to rethink and remake the rules, regulations and laws for preventing pollution penetrating deep into the environment. Consequences or air pollution is climatic changes and adverse health effect, on every individual depending upon the condition of the human and its age. Main contaminants are SO_2, NO_2, CO, PM Etc. These pollutants are categorized as primary and secondary based on their effect. Other pollutants are heavy metals including lead, arsenic, CFC and radioactive pollutants. Now talking about the effect of radioactive air pollutants, which releases ultrasonic rays, UV rays, these are deadliest rays causing air pollution, and further damaging ozone layer, which further causes global warming issue which is an issue of world concern. Depletion of various air pollutants is the only way to reduce air pollution and prevent further damages of environment



SOURCE: CENTRAL POLLUTION CONTROL BOARD

Case Study on Air Pollution in Delhi

Jyoti Kumari Yadav
Delhi Technological University, New Delhi ,India

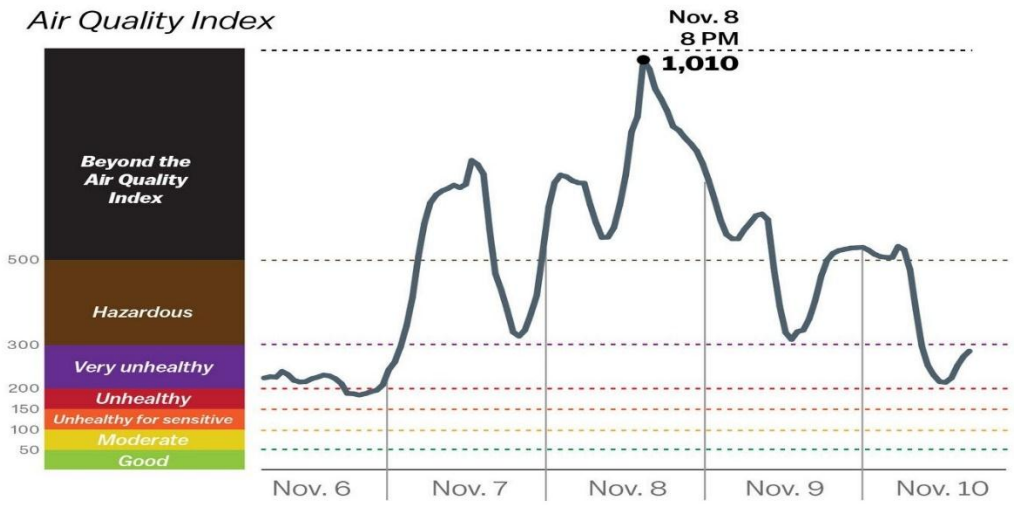
Abstract

Here is an abstract regarding air pollution and its hazards in DELHI NCR. Air pollution is one of the deadliest type of pollution effecting major portion of the population, which can be a kid or an adult. Almost everyone is subjected and effected by air quality, it can be polluted air inside the house or in the outside environment. The major sources of pollution are automobile and industrial emission. The particulate matter enters the environment which are the deadliest pollutants for humans. The PM2.5 and PM10 are the major and hazardous pollutants present in environment, whose normal concentration remains 5-10 times than its permissible limit. The maximum PM being 999µg/m3, which is almost 10 times the permissible limit of PM. Pollution level is so high that WHO declared DELHI under the world's 25 most polluted cities. Major constituents of air pollution is particulate matter, which are matter having diameter less than 10µ and 2.5µ, these particles directly settled down in the arteries and lungs and effect human of each age group. Most vulnerable are the one who are subjected to outside pollution the most like traffic cops, drivers, shopkeepers, hawkers, vendors, residential areas near highways etc.

Conclusions

• Government initiatives are rather ineffective, or not effective to that extent, which includes various laws passed by our government.
• Respiratory masks, use of various renewable energy resources, limiting pollutants, limiting vehicles, standardizing limits of pollutants can be done to reduce pollution.
• As an individual we need a lot to cope up with air pollution, for its preventive measure.

ISBN: 978-81-939929-0-6



Air quality index of DELHI.

Electronic Waste Management

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2nd year Environmental Engineering, Delhi Technological University (DTU)
Ritika Chopra
2nd year Environmental Engineering, Delhi Technological University (DTU)
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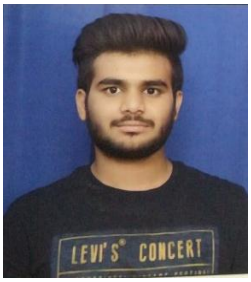
Prof. Kongan Aryan
Expert and Faculty Advisor, Department of Civil and Environmental Engineering, Delhi Technological University (DTU)

Abstract

In an approach to bridge the digital divide, it is necessary to get an affordable, equitable and quality access to ICT. It is estimated that two third of world's population is still offline so there is a need to provide affordable access to internet for all. As we all know India is a developing country so for the developing countries, it has become a priority area to alleviate poverty by promoting access to ICT. At the same time, tremendous growth in use of electronic devices and services, faster change of technology and frequent innovations in electronic sector, had left the world with a threat of deterioration in environmental conditions and human health as the-waste of electronic, electrical and computer equipment, which contains hazardous components, is still handled in an environmentally unfriendly manner mainly in developing nations. It is huge challenge for the nations to handle e-waste in responsible manner and protect the environment. In this paper an approach is made towards assessing the present situation of ewaste management globally as well as in India, considering the present regulations and guidelines. It is also a fact that major part of recycling of e-waste is being handled by informal sector who have little/no knowledge about the consequences of exposure to hazardous substances. To address the issue of e-waste management in a sustainable method, the concept of EPR (extended producer responsibility) will be helpful if the regulations incorporate monitoring and penalty clauses. The reuse of EEE has greater environmental and social benefits than recycling as it increases the useful life time of the ICT equipment and enables greater resource efficiency and energy efficiency. In developing nations, it can help in uplifting the status of the

informal sector with help of education and employment. In addition to the technical, social and organizational aspects of the EEE-waste management system, it is also crucial to consider the economic aspects, if the system has to be made financially viable and sustainable along with being socially acceptable.



Case Study on Air Pollution in Delhi NCR

Aaditya Kumar
Delhi Technological University, Delhi, India

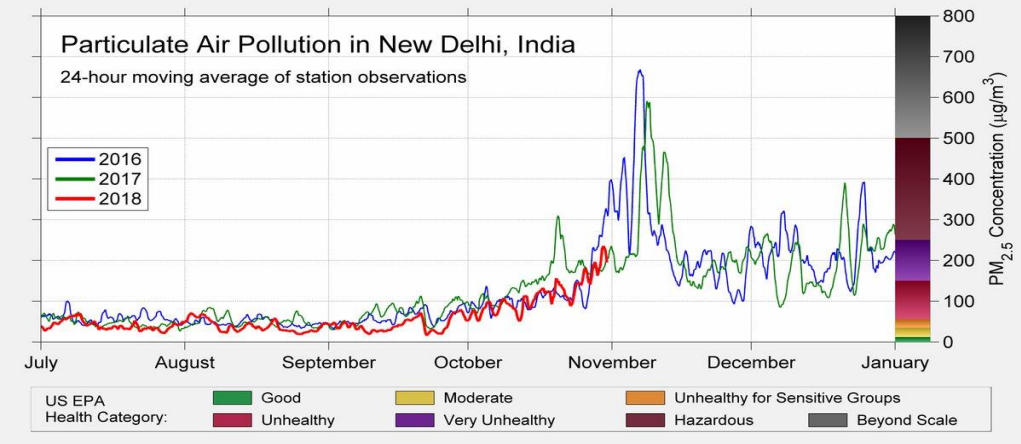
Abstract

Air pollution is responsible for many health problems in the urban area. This paper provides an evidence-based insight into the status of air pollution in Delhi and its management.Calculation of pollution is based on the presence of particulate matter, that is PM $_{2.5}$ and PM_{10} .These are hazardous pollutants present in the air. The maximum permissible limit for $PM_{2.5}$ and PM_{10} is 60µg/m^3 and 150µg/m^3 respectively but the normal concentration of $PM_{2.5}$ and PM_{10} in DELHI varies from 247 to 350µg/m^3, the max concentration of particulate matter reaches 999µg/m^3 in November 2018 which is the maximum limit of particulate matter, causing worst scenario for air pollution in DELHI. Emission of CO is also excess, permissible limit being 2000µg/m^3 presence being 6000µg/m^3.Other gases causing pollution is categorized as methane, non-methane and hydrocarbon. The PM_{10} and $PM_{2.5}$ are standard includes particles with a diameter of 10µm and 2.5µm. These small particles are likely to be responsible for adverse health effects. WHO declared DELHI in the top 25 "world's most polluted cities". Life expectancy decreases by 6 years, which causes premature deaths, and around 14000 premature deaths were reported.

MANAGEMENT OF AIR POLLUTION

• Many govt. initiative took place regarding pollution control, but didn't work that much, more initiatives are on the way like Air visuals, air cleaners of public usage, are on the way.

• We as civil engineers, we can reduce air pollution by creating 'green buildings', we are working on a concept named 'green highways', and other various measure to control pollution, during construction of highways or any other structure.



Particulate Matter Chart of Delhi

Environmental cadmium toxicity – A causative to induce Atherosclerosis and Antioxidant metabolic changes in Rabbits.

M.Bhaskar

Division of Animal Biotechnology, Dept. of Zoology, S.V. University

Abstract

Cadmium toxicity is a pervasive environment problem prevalent throughout the world. Cadmium is notorious for its toxicity due to its nature of extreme solubility and mobility through food chain. Cadmium strongly absorbs into ecosystems and carried through food web and leads to bioaccumulation. As it is high toxic potential in mammals, it leads to destruction of homeostasis. The contamination of water by metal compounds is a worldwide environmental problem (Nriaguetal,1988,). It has been reported that low-dose exposure for prolonged period to Cadmium leads to hypertension and also arteriosclerosis without renal dysfunction in rats and rabbits [Perry and Erlanger 1974; Subramanyam et al 1992]. Experiments were carried out in rabbits to determine the effects of prolonged treatment of cadmium on histopathological changes and biochemical alterations of lipid profiles in various tissues and serum compared to normal rabbits. The cadmium induced oxidative stress leads to the tissue destruction by the elevated free radicals by suppression of antioxidant scavenger system. Cadmium toxicity is a novel risk factor, and here in, we discuss the toxicological impact on oxidizing agents, biochemical status regarding the tissues in female rabbits. It is postulated that atherosclerotic changes in rabbits probably occurred through toxic effects of cadmium but the exact mechanism needs to be elucidated.

Biography

Completed 26 years of teaching and 34 years of research experience.

Research Accomplishments: Guided 23 PhD's, 7 M.Phil's, Authored 3 books, contributed chapters for 5 books and published 174 research papers

Area of Research: Biotechnology, Molecular Physiology, Bioinformatics, Molecular Genetics, Environmental Toxicology.

Visited Countries - USA, Canada, UK, Sri Lanka, Singapore, Malaysia, Ukraine and Brazil for scientific training and Post doctoral Research.
Member Scientific Bodies: BOS Chairman for Zoology & Animal Biotechnology in SVU.
Awards: State Best Teacher Award from AP State Govt.-2015, B.S. Chauhan Gold Medal Award-2012 by the ZSI, Fellow of RFBCA (USA), FCW (UK), FNESA, FAAB, FABAP, FZSI.
Administrative positions: Worked as Rector, SVU, Registrar I/c of SVIMS (2001-04) and Executive Registrar of NIMS (2004).

Case study of Thermocol waste in fibre reinforced concrete

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Abstract

Various types of recyclable materials are currently used in civil engineering applications. These include tire shreds, ground tire rubber, fly and bottom ash, blast-furnace slag, steel slag, cement kiln dust, silica fume, crushed glass, reclaimed asphalt pavement (RAP),timber waste, thermocol waste and rice husk ash. Reutilization of these recyclable materials is especially beneficial in civil engineering applications that require large volumes of materials. When these waste products are used in place of other conventional materials, natural resources and energy are preserved and expensive and/or potentially harmful waste disposal is avoided. This special issue deals with the use of recyclable materials in diverse civil engineering applications focusing on sustainable development. The papers in this special issue present results of laboratory tests and important research findings for these materials, recommendations for debris recycling practices, and documented field applications of several waste or recyclable materials.In the present scenario, several buildings are being constructed ranging from ordinary residential buildings to sky-scrap structures. Invariably in all the structures, concrete plays a vital role in construction. Generally concrete is a mixture of cement, fine aggregate (River sand), coarse aggregate, water and type of admixtures used depends upon the situations. Now-a-days good sand is extracted and transported from river bed being in a long distance. The extraction of sand has become a serious issue, posing environmental degradation, thereby causing serious threats of flood or diversion of water flow. Nevertheless the resources are also exhausting very rapidly. As a result,

Government imposed a state-wide ban on sand extraction from river-beds resulted rampant demand for river sand and all the civil engineering construction had become stand still. So it is a need of the time to find some partial substitute to natural river sand. By and large plain concrete is a brittle material. It is strong in compression and weak in tension due to some micro cracks formed at the mortar-aggregate interface during drying shrinkage at hardening stage. Thermocol has high thermal insulation makes it a n excellent material to use in the construction of walls and ceilings and it has high sound absorption makes it the ideal choice for sound proofing. Keeping all this in mind, an attempt was made to conduct experimental works in concrete by using thermocol. This experimental work was divided into two phases. In the first phase, workability test was conducted for reference concrete and other mixes. In the second phase strength test was conducted for reference and other mixes after 21 days curing. Cost analysis was also made for various mixes to assess economic mix. From the experimental test results, it was found that concrete mix with 0.3% of thermocol yielded better workability and higher compressive strength. Apparently such study and experimental test results will be useful to the Civil Engineering profession and society.

Determining Dimensions of Service Quality That Affect Perception of Consumer from Public Sector

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Abstract

This study aimed to analyze the performance of public service quality based on development of service quality researches that has existed prior to it. The research approach is using questionnaire as service quality instrument with village administration office for its research object. Number of respondents taken for this study was 109 local people from Langlang Village. The research result shows that all of five service quality dimensions (reliability, assurance, tangibles, empathy, and responsiveness/RATER) influenced the score of service quality significantly. Whereas responsiveness dimension became dimension that affecting service performance. rotary kiln.

Keywords:

Public Service, Service Quality, Responsiveness

Biography

Ir. Ida Bagus Suardika,MM born in Denpasar -Bali Province – Indonesia, August 28, 1957. Lecturer in Institut Teknologi Nasional, Malang - Indonesia. Bachelor of Science degree in Mechanical Engineering - Faculty of Industrial Technology, Malang – Indonesia (1980). Master degree in Management – Universitas 17 Agustus (UNTAG) – Surabaya – Indonesia (1994).

Textbooks has already published are Manajemen Produksi, Pengantar Teknik Industri, and Desain Rencana Strategi untuk Rekayasawan.

As a speaker and participants in numerous National and International seminars.

Conceptualizing a Sustainable Water Management System for Rural Human Settlements

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Abstract

Rural Human settlements (villages) of India suffer from severe water supply and sanitation problems. Rural human settlements usually either have no sewerage systems or have poorly defined sewerage systems. The high strength rural wastewater is mostly discharged or thrown out into road side gutters or open drains, which in turn carry the wastewater to one or more points usually village ponds. In present work, a water management system has been proposed by adopting an integrated approach of encouraging the conservative use of water, segregation of wastewater into black and grey water, adopting eco-sanitation for the minimization of black water generation and conveyance of grey water and stormwater into village ponds. Village pond has been conceptualized as comprising of natural treatment systems and low cost treatment techniques like catch basin, constructed wetland, facultative pond, roughing filter, slow sand filter and a provision for recharging of groundwater by the treated water through vadose zone wells. Pond based treatment system will work as a passive system requiring no human intervention except for a few pre-monsoon works. In most of the studied villages, the additional land requirement for treatment system was found to be extremely low ranging from 0.06 acre to 2.30 acres which can be easily fulfilled in rural areas. Proposed system would work as a passive system with no power input and thus not depending on the un-reliable availability of electricity in rural areas.

ISBN: 978-81-939929-0-6

Biofuels: as Solution for Climate Change and Sustainable Green Environment

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Abstract

Due to the vertical growth in population and urbanization, food and fuel securities are the major challenges of the twenty-first century. Conventional fossil fuel (natural oil and gas) reserves are depleting very past compared to previous years and this led to the unfavorable consequences for the supply, price of fossil fuels and environment. To solve these, strenuous measures have to be taken to achieve climate stabilization, to conserve biodiversity, human wellbeing, global energy security and low-carbon energy supply inview of sustainable development on a local, national and international level. Production and utilization of biofuels is one such measure which is a form of renewable energy from biomass produced by the sun captured through natural processes of photosynthesis. Biofuels comprise a wide range of solid, liquid and gaseous fuels derived from biomass – including the liquid fuels bioethanol, biobutanol and biodiesel as well as biogas. Biofuels also have both pros such as easy storing, variety of usable forms (solid, liquid and gaseous) and cons such as Land use conflicts and food-fuel competition, Monoculture of high yielding crop; Acceptance from the people, greenhouse gas balance is not neutral and financial implications for the establishment of new biorefineries. The energy transformation of fossil into renewable energy can promote sustainable development and better incomes in developing countries if supporting transformations occur within the political, economic and social systems and also from the local, national and international authorities.

ISBN: 978-81-939929-0-6

How to get green: Public opinion, role of technology and environmental governance

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Abstract

The effects of global environmental changes are beginning to be felt and will impact on our lives and those of future generations. Among environmental threats we face today, climate change is recognized to be the most pressing environmental issue of 21st century. The perception of climate change as an environmental problem and public health hazard can significantly affect public behavior in terms of acceptance of the government's actions for mitigation and various forms adaptation strategies. Environmental practices that reduce waste and increase energy efficiency (green practices) can lead to significant improvements in the global efforts of creating clean environment. The study reported herein would be the first of its kind in the Arabian Gulf region that seeks to examine people's opinions on a host of environmental issues in relation to human activities as well as potential solutions to these issues. The findings from this public survey indicate that about 80% of respondents believe human actions have already caused global environmental changes and the current path to economic development may not be sustainable. Respondents showed great concerns for future generations' wellbeing if environmental deterioration continues unabated. While this study is an important first step, only a few aspects of the impacts of climate change are included in the questionnaire. There is a need for future studies to provide more information in order to quantify perceptions of climate risks to society, analyze the benefits of climate action, and enhance adaptive capacity.

Keywords:

climate change, greenhouse gases, energy efficiency, public health, public opinion.

Biography

Dr. Elmi has obtained his PhD from McGill University, Montreal, Canada and postdoctoral studies from Dalhousie University, college of Agriculture, Halifax, Canada. He has published over 60 papers in reputed journals and conference proceedings. Dr. Elmi has been a keynote speaker in a number of high profile international meetings. He has been serving as a technical reviewer and an editorial board member for large number of international journals.

Applying Gandhian Principle for Energy Sustainability and Mitigating Climate Change

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Abstract
Today's world is at the crossroads of a contradictory energy scenario wherein, on the one hand, energy access has to be provided to billions while, on the other hand, increasing demand and usage of energy is causing catastrophic climate change. As per IPCC report 2018, world is already hotter by nearly 1°C and that "limiting global warming to 1.5°C would require "rapid and far-reaching" transition in energy. In this context, mitigating climate change is one of the major global concerns of the 21st century. Increasing energy consumption and dependence on conventional fuels is the primary challenge to limit global warming. The world needs to switch towards green energy sources and utilize energy efficiently for sustainability of energy to reduce greenhouse gas emissions. In this context, the Gandhian principle "Not mass production but production by the masses" is required for energy sustainability and to address United Nation Sustainable Development Goals (SDGs).
Based on this principle IIT Bombay has been implementing Solar Urja through Localization for Sustainability (SoULS) program for socioeconomic and environmental benefits through clean, affordable, reliable and complete energy access built on the foundation of localization. Local people are getting trained to own, manage, and operate solar enterprises at every level including assembly, sale, after-sales service, and manufacturing to create solar energy ecosystem by local for local.Access to affordable innovative technologies for clean environment, local skill development, entrepreneurship, and job creation were observed in remote rural areas after the implementation of the SoULS program. This paper shows the localization approach for the deployment of renewable energy technologies has the potential to bring economic, social, and environmental benefits in rural areas.

Biography:
Prof. Chetan Singh Solanki is a faculty in Energy Science and Engineering, IIT Bombay since past 14 years. He has authored 4 books on the Solar PVtechnology and applications theme, numerous journals (45), conference (62) publications and is awarded 11patents.

Social Entrepreneurship of Eco-charcoal from Water Hyacinth for Rural Energy Application

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Abstract

Water hyacinth, sp. eichhornia crassipes, in an invasive aquatic plant prevalent in tropical climatic region mainly in South East Asia, South Asia and the Amazon basin. The plant is fast growing and spread rapidly and blocks waterways causing major floods usually in rural communities where there is no coordinated effort of removal.

Many rural communities in South East Asia and South Asia rely on traditional biomass for domestic cooking and heating in the form of harvested firewood from nearby forests. Traditional firewood combustion produces harmful smoke especially when used in confined spaces and subsequently lead to respiratory diseases. Access to cleaner fuel such as liquified petroleum gas (LPG) or compressed natural gas (CNG) is scarce, more so in island nations such as Indonesia and the Philippines.

Water hyacinth was harvested and initially briquetted as an alternative to firewood as a social enterprise project for rural community in the Philippines. It was found to produce significantly less smoke compared to local forest wood. However, the community required a fuel that is smokeless as a viable alternative. A clean carborniser was then developed with volatile gases recirculation making it a cleaner process compared to traditional charcoal kiln. Eco-charcoal was produced from the water hyacinth plant and this resulted in a market accepted fuel for the rural community here. The eco-charcoal performed as good as local wood charcoal while being visibly smokeless during combustion.
The social enterprise has experienced growth and employs local community to ensure social sustainability while serving the local market.

Keywords:

social enterprise, water hyacinth, biochar, clean carbonisation, rural energy

Environmental changes impact on health hazards: Diabetes

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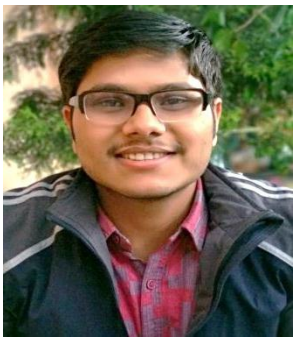
Abstract
The burden of diabetes is rising rapidly worldwide posing an enormous socioeconomic and health challenge. The correlation between environmental changes and diabetes exists, however, the researchers hypothesize that temperatures increase the brown fat which lead to insulin resistance and diabetes. Numerous studies have documented a relationship between changes in seasons and glycemic control in patients with both type 1 and type 2 diabetes. Studies typically report that the highest HbA1c levels occur during the colder months and the lowest levels during the warmer seasons. Furthermore, studies indicate that diabetes increases the susceptibility of patients to the cardiovascular events that can be precipitated by air pollution. Several cohort studies showed greater T2DM risk to be associated with exposure to higher levels of NO and PM2.5. However, A better understanding of the environment–diabetes relationship can inform the formulation of policies that promote health and create opportunities for individuals to translate intentions into sustained behavioural change that are essential to curb the rising burden of diabetes

Biography:
Different elements of the environment have been posited to influence diabetes mellitus (DM). The number of people with diabetes is estimated to further increase from that of 415 million in 2015 to 642 million by 2040.

ISBN: 978-81-939929-0-6



Penalty to Pollutant Act: A Sustainable Solution to Reduce Extreme Pollution

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Abstract

The study 'penalty to pollutant Act: A sustainable solution to reduce extreme pollution' has been carried out after the successful and effective presentation of two research 'Fine Kathmandu Act: A sustainable solution to reduce extreme pollution' in Kathmandu, Nepal and 'Fine Delhi Act: A sustainable solution to reduce extreme pollution' in New Delhi, India respectively in 2016 and 2017 AD. Those studies propose easiest, scientific and effective solution to reduce the pollution of cities completely and to cure various multi-sartorial effect of pollution. The way study suggests is, charging the pollutants of cities by cash and distribution of collected cash making an effective, transparent and responsible fund to affected innocent people directly through making an act (Bill). By reviewing the Cause of pollution in two extremely polluted cities, study has proposed to develop 'penalty to pollutant act'. Study has also discussed who should be punished, penalty areas, affected areas by the pollution, for whom should be reimbursed and how to go ahead. Through descriptive analytical method and textual analysis, study suggests that, the only one justice to the innocent people who are neither in city nor pollutants is punishing the real pollutants by cash. Study focused on the cash back to affected people instead of their insurance on health, education, job and many more. Pollutants are divided in two parts:

Service pollutants: these are all pollutants relating to the service business that buy and use the product of other companies, modify them and serve them to their clients or guests. These are Hospitals, Hotels restaurants, Resorts, transportation companies, Airlines & etc.
Product pollutants : These are all pollutants who produce first hand products including machines or engines who produce temperature increasing gases like carbon monoxide, wooden materials like furniture, household materials, Construction materials, packaged food products, chemicals used in laboratories, explosive materials used in military exercise, radioactive materials etc. Both of these pollution use to occur through below mentioned types of business institutions:

- Multinational companies and their products or services.
- National companies and their products or services.
- Local companies and their products or services.

The Study suggests governments should make an effective and non biasing Law (Act) to charge (punish) the pollutants like above mentioned. This act should regulated by a special commission that specially works for punishing the pollutants, collecting the cash, develop plans and missions, distribution of collected cash to the affected people as compensation. This compensation is for regular health treatment of pollution affected people, for the compensation of reduced production of herbs, crops and other products from farming. The special commission shouldn't lead by government officials or other candidates. It should lead by the nomination from pollution affected people. Study also suggests regulation of collected cash should conduct only by commission, not by government for any other developmental projects or for budget.

Keywords:
Penalty, Act, Bill, Sustainable Solution, Extreme Pollution, pollutants.

Biography
Mr. Ananta Aryal is an environmental activist and an independent researcher. He has carried out several researches related to pollution and Psychology. He is currently chairing 'Mokshatit International' & 'Jambheshwara Research Center'; a nonprofit organization. His current work focuses on Minority psychology, pollution & its effect on human health and yoga

A Comparative Study on the Performance of Some White Leghorn Strains under Gezira State Conditions, Sudan

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Alneelain University
Hytham Sameer Abdelateef
university of Gezira.

Abstract

Enough data on the general performance of exotic egg type strains under Sudan condition is lacking. The main objective of this study is to compare the differences of some white leghorn strains in term of performance during growing, pre laying and laying period under local conditions. The present experiment was carried out in summer season during the period of first of May 2013 till the end of June 2014. Birds were caged randomly in an open-sided poultry house at University of Gezira. One hundred sixty two one-day-old female layer chicks from three white leghorn strains (Hyline, Hisex and Lohman) were used. The chicks were fed pre starter pellets from one day old up to the second week of age. The birds were provided with similar three types of rations, grower from 3 to 15 weeks of age and then pre layer ration from 16-21 weeks, finally layer ration was fed till the end of experiment. A completely randomized design (CRD) was used. Collected data were analyzed using GLM procedure in SAS. Means were separated using Duncan's Multiple Range Test. Weekly body weight, body weight changes, feed intake, feed efficiency, livability percentage, hen day egg production, hen housed egg production and egg mass were reported. During growing period, Hyline strain had significantly ($P \leq 0.05$) showed the lower feed intake and improved feed efficiency versus Hisex and Lohman. During growing, pre-laying and the whole period, Lohman recorded significantly ($P \leq 0.05$) higher average livability% compared to Hyline. Nevertheless Hisex showed no significant ($P \geq 0.05$) difference versus both Hyline and Lohman. During laying period, no significant ($P \geq 0.05$) differences were observed in growth performance parameters among different strains. Moreover, no significant ($P \geq 0.05$) differences in average hen day egg production%, hen housed egg production% and average egg mass (g/hen/week) across different strains. It could be concluded that Hyline strain is superior in feed efficiency during growing period and egg weight while Hisex and Lohman strains have higher livability%.

Keywords:

Egg production, Layers, Performance, White Leghorn Strains.

The World's "New Oil" — Hydrogen

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Abstract

Alternative energy sources like solar, wind, thermal, ocean, geothermal, thermonuclear, hydrogen etc., are being considered as possible sources of energy to meet the growing demand. However, none of these energy sources except hydrogen has all the desirable qualities to replace petroleum and natural gas. For example, some are only intermittently available; others are available away from the consumption centers and cannot be used as fuel for transportation. Therefore, out of the above alternative energy sources, hydrogen is considered the best option, which could form the link between the new energy sources and the user. Hydrogen is the clean fuel and when used as a fuel, produces only water. In the hydrogen energy system, it is envisaged that hydrogen will be produced from non-fossil energy sources, and will be used in every applications where fossil fuels are used today. Over the last decade there have been increasing research efforts to investigate the various aspects of the hydrogen energy systems like production, storage and transport and its applications.

Generation of hydrogen via electrolysis is a well-known and established technology. There are two main types of electrolyser [Alkaline and Proton Exchange Membrane (PEM)] and both are well proven and long-lived. Electrolysis has been traditionally based on an alkaline technology, but Proton Exchange Membrane (PEM) electrolysers are now coming to the forefront. However, due to the high cost of both electricity and material, only a small proportion (4 -5%) of the worldwide hydrogen production comes from electrolysis. Yet electrolyser costs are expected to drop within the few years as a consequence of standardization, mass-production, and a greater competitiveness. The demand for clean-produced hydrogen and its storage potential spell enormous possibilities for renewable electrolysis in the future. Even non-renewable electrolysis is bound to play an important role in the short-term as a source of moderate amounts of hydrogen for small fuelling stations and domestic applications.

In future low-carbon economics, electrolyser technology could provide a central solution to meeting both the power management needs of the electricity sector and the needs of the transport and industrial sectors for low/zero carbon fuels. Electrolytic hydrogen could thereby displace large proportions of non-electricity fuel consumption. Hence, the new market potential for electrolyser dwarfs the existing market potential and on a global scale it is truly vast.

In this talk some of the important and recent developments in the electrochemical alternatives with newer materials for hydrogen generation are discussed. The talk also covers hydrogen based technologies developed at CSIR-CECRI.

ISBN: 978-81-939929-0-6

AMEVIL

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Abstract
Through the partnership with the Educational Engineering's Nucleus (NEED) the Engineering School (EE) and the Hidraulic Researches Institute (IPH), all from the Federal University of Rio Grande do Sul (UFRGS), it has started in the first semester of 2018 a project entitled Engineering Freshmen's Host, that has the goal of "How to make a more sustainable UFRGS". With this in mind, the freshmen of some Engineering School courses' proposed ideas for how to minimize the environmental impacts caused by energy consumption, lack of socializing spaces, and also the reuse of materials that are usually discarded by the University. Based on the reasons mentioned, this project is in a stage of process and intends to promote the researches in the University, once it would strengthen the teaching, the research and the innovation field. The project has its base on the 17 Sustainable Development Objectives proposed by the United Nations Organization (UNO), and it aims to develop

experimental experiences that instigate innovation, criativity and a entrepreneur spirit in the EE studentes. It also aims to promote a debate about the steps of a business venture and the elements that influence this process and to discuss the market's position in a local, national and global level and at the same time, discuss the economic-financial viability, cases, and teorical framework to support the iniciative. Athwart that, it was searched for a proposal to solve the diagnosed problems in the campi. Through the union of freshmen from Environmental Engineering Metallurgy and Civil, along with the Discovery of the University's not used containers and the possibility of using them, made achievable the idea of creating spaces where socializing and resting could align with ecological matters. Therefore, the containers development is based on the 3R's concept: Reduce costs of raw material, Reutilize sediments produced by companies that don't make proper use of them, and Recycle utensils that couldn't be used in their total integrity. Lastly, the project aims to evolve society's thinking and acting to expose the veracity of creating environments in a more ecological and yet economical manner.

Keywords:
Sustainability, Containers, Engineering, Enterpreneurship, UFRGS.

Reduction of fluoride through dietary substances

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Abstract

Fluoridation is a very common problem all over India but in Rajasthan it is up to threat level because excess of fluoride is available in drinking water. Fluoride is beneficial for health if the concentration of the fluoride ion (CF) in drinking water is less than 1.5 mg/L (WHO 1994). Intake of fluoride above 1.5 mg/L may lead to serious manifestations like dental, skeletal, and non-skeletal fluorosis. People living in high fluoride zone can make certain changes in their diet; it may help them to keep away the problem of fluorosis.Vitamin C inhibits the progress of fluorosis.Thus people should be directed to add items like amla, lemon, oranges, tomato, sprouted cereals/pulses and dhainya leaves in their food. Clinical data indicate that adequate calcium intake is clearly associated with a reduced risk of dental fluorosis. So it is recommended to consume calcium rich food in endemic zones. It includes milk, yoghurt, leafy vegetables, drumstick leaves and sesame seed. Foods containing anti-oxidants help in preventing fluorosis. These foods include garlic, ginger, carrot, papaya, pumpkin white onion and green leafy vegetables. Vitamin E also has a prophylactic role. Its sources include whole grain cereals, vegetable oils, green vegetables and dried beans. Avoid the use of Tobacco and beetle nut. Avoid fluoride supplements like Black tea and Lemon tea (tea with milk is safe) Black rock salt (kala namak)Black rock salt lased pickles, Garam masala, salty snacks Chaat and Chaat masala Canned fruit juices Cannel fish Fluoride contaminated drinking water Chewing of tobacco Supari (arccanut) and Hajmola and other Churan containing rock salt. Avoid Fluoride Rich Dental Products like Fluoridated toothpaste Mouth rinse Varnish and Sodium fluoride tablets (for treatment of Osteoporosis) (UNICEF).Boiling water will concentrate the fluoride rather than reduce it as well as freezing water does not affect the concentration of fluoride. Fluoride poisoning can be prevented or minimized by using alternative water sources, by removing excessive fluoride from drinking water, and by improving the nutritional status of populations at risk. Alternative water sources include surface water, rainwater, and low-fluoride groundwater can also helps in prevention of fluoride.

Biography:

Ranjeeta Soni has completed her Ph.D at the age of 34 from Jagannath University,Jaipur.she have more than 14 years teaching experiences. She is professor of Environment Science in Jagannath University in Physical Science Department. She has published more than 6 International and National Journals, two book chapters and attended more than 15 conferences and seminars.

Effects of Poultry Litter Char on the Growth and Yield of Corn (*Zea Mays L.*) and properties of highly Degraded soil

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Abstract

Biochar created from poultry litter is a way to produce a value added soil amendment that isrich in nutrients and locally, but effects on crops and soil properties are unknown. The effect of poultry litter application was studied on a degraded soil to determine its optimum rate enhancing growth and yield of corn and evaluate its effect on the soil physico-chemical properties. Five treatments using 0, 2.5, 5, 10, 20 tons of poultry litter char per hectare were used in a randomized complete block design (RCBD) with three replications. The study showed that poultry litter char is a valuable organic fertilizer and can serve as a suitable alternative to chemical fertilizer in the Philippines. Poultry litter char treatments significantly increased the plant height, resulted to earlier tasseling, fruiting and harvesting of corn and increased their yield particularly number of fruits, fruit yield, ear length, weight of 1000 seeds and stover yield as well.

On the other hand, addition of poultry litter char significantly improved the physico-chemical properties of degraded soil such as reduction of soil strength, increased porosity and water holding capacity, increased pH, % OC, total N, Extractable P, Exchangeable K and Ca. The study recommends an application rate 20 tons per hectare on this type of soil to improve the growth and yield of corn and properties of degraded soil

Keywords:

Biochar, Poultry Litter, Degraded soil, Corn

Green plants as Biofuels

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Abstract
Petroleum has been used as transportation fuel for more than last 100 years. But it is not fulfilling the need of increasing population. LPG, CNG, Diesel are also used as Fuel. Most promising replacement come from organic biomass crops such as Corn, Rapeseed, Sugarcane, Palm oil, Jatropha, Soybean, Cottonseed, Sunflower , Wheat and Switch grass (Panicum virgatum). Biofuels are better than fossil fuels because :
1. Biofuels are renewable. 2. They lower toxic emission. 3. They burn cleaner. 4. No need to import them . 5. They can be grown locally and produced locally. Ethanol is produced from plants and mingled with petroleum diesel and gasoline. Green fuel, biofuel is distilled from plants and animals. It is env. Friendly and Sugarcane, corn put through fermentation to create ethanol. Oil producing plants Vegetable oil can be used as fossil oil to create diesel that can be burn by vehicle. One more fungus Botryococcus braunii which store more fat (tree fungus) can also provide green fuel.

The organism found in Patagonia rain forest produce a mixture of chemicals that Is similar to diesel . The fungus Gliocladium roseum grow inside ulmo tree (Eucryphia cordifolia) North Patagonia produce large amount of long chain hydrocarbon similar to fossil fuel. Green algaes can also produce biofuels.1 acreof algae can produce 200 times as much oil as 1 acre corn.Thus biofuel can be produced by green plants which is renewable and clean. Comparative account of biofuel plants and fossil fuels are studied in the present paper with special reference to Rajasthan INDIA.

Keywords:
Biofuels, Green plants, Fossil fuels, Algae, Fungus.

Wound Healing Products of Keladi Cendik: Waste to Wealth

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Abstract
Keladi Cendik (Alocasia longiloba Miq.) is a plant traditionally used to treat various skin disorders, including wounds. The plant is widely distributed in Peninsular Malysia and grows as a weed in the shady places. The folks especially the Malay community uses the epidermis of plant in curing the wound (skin-cut) and stops the bleeding. Our preliminary study showed the promising effects of ethanol petiole extracts on wound healing in Sprague-dawley rats. Our studies also demonstrated the presence of potential coagulant compounds in this plant. Thus, extracts from A. longiloba has been used to make different wound healing products (Spray, Gel and Band) which were named as HANDY-Z PRODUCTS.

Keywords:
Wound healing, Sprague-dawley rat, Alocasia longiloba petiole extract, pharmaceutical industries.

Go Green: Towards Rahmatan Lil-Alamin

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Abstract
Human as the manifestation of God's creature, according to His guidance, has an obligation to bring mercy (benefit) to the entire universe including to the fellow human beings. One of the blessings of human perfection among God's creatures is intellectual. "Go Green" is a term originated from Thoreau's inspiration through his book entitled The Maine Woods (1864) which has been experiencing scientific evolution in various themes of "Green" until in this era of the Industrial Revolution 4.0. Using qualitative phenomenological study by employing Interactive Model analysis tools, this study aims to answer the focus of the problem of the existence of "Go Green" as a basis for thinking and developing science and its implementation in the era of the Industrial Revolution 4.0. Based on the findings, it can be concluded that humans in the "Industrial Revolution 4.0" era with their intellectuals are able to realize "Go Green" through the implementation policy criteria related to pollution prevention, product stewardship, clean technology, environmental performance, competitive benefits integrated with Internet of Things and Services (IoT and IoS) into Cyber Physical System (CPS) to build Smart Factory. The findings of a depth analysis of the correlation with the Qur'an and Sunnah showed the harmony with the guidance of Islam. The shift in polluted egoistic values is at the end proven to be eliminated by the realization of feminine values. Thus, the existence of "Go Green" in the Industrial Revolution 4.0 era is the right theme to bring and realize the mercy for fellow human beings and the entire universe

Keywords:
Go green, industrial revolution 4.0, *rahmatan lil alamin*.

Biography:

Basuki Rachmat was born in Lumajang on September 15, 1960. Lecturer in the Department of Accounting at the State Polytechnic in Malang, Indonesia. Education in Bachelor of Accounting, Master of Management, and Doctor of Management has been taken at Brawijaya Universitas of Malang. Field of expertise and concentration of shariah-based Accounting & Management research. Actively collaborating with universities and local governments involved in community service. Published book entitled: "Behavioral Accounting - An Overview of Five Flows (2010)," and "Hidden Value Added - A Search for Meanings Through the Postmodern Paradigm (2017)." Involved in writing a book entitled "Citizenship and Anti Corruption (2013)." Engagement in professional organizations as members of the Indonesian Institute of Accountants and Indonesian Lecturer Association.

Impacts of Acidic Soil on Agriculture Crop Production

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Abstract
Most of the world's agriculture production in the tropics and subtropics are dominated by Oxisols and Ultisols. These soils are generally acidic in reaction. Other impacts of acidic soil to agriculture production reduced plant productivity and nutrient leaching. However, the impacts of acidic soil are variable, and it remains unclear if recent enthusiasm can be justified. This paper is to evaluate impacts of acidic soil to ecosystem responses with a comprehensive and updated review. We found that despite variability introduced by soil and climate, the acidic soil resulted in, reduced crop productivity, crop yield, soil microorganisms, nitrogen (N) nodulation fixation, plant tissue potassium (K) concentration, total soil nitrogen (N), soil phosphorus (P), soil potassium (K), and total soil carbon (C) compared with applied lime conditions. Soil pH also tended to decrease and becoming more acidic, when no lime was applied. This paper provides the review on the impacts of acidic soil on multiple ecosystem functions and suggest that if no preventive action taken, acidic soil could affect the energy, carbon storage, and ecosystem function. However, acidic soil's impacts on a fourth component, the downstream nontarget environments, remain unknown and present a critical research gap.

Keywords:
Acidic soil, pH, plant productivity, soil nutrients, soil microorganisms

Green Computing Condition Analysis based on the Perspective of Information Technology Infrastructure Condition and User Behavior at Higher Education

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Abstract

The use of large-scale information technology in office environments with dense buildings such as universities can trigger high electricity consumption. The high consumption of electrical energy will have an impact on the number of costs incurred for infrastructure and the carbon emissions produced will have a negative impact on the environment. Based on these problems, the Green Computing concept is used as a solution to manage the use of electrical energy that is environmentally friendly. Green Computing is a concept that focuses on the greening of the environment for the use, preparation and recycling of information technology (IT) devices effectively and efficiently. In achieving Green Computing conditions, two interconnected approaches are needed, namely information technology user behavior and infrastructure conditions. In the condition of user behavior, researchers used the Theory of Planned Behavior and Theory of Reason Action to analyze the readiness of user behavior. Whereas in infrastructure conditions, researchers used the technique of calculating Power Usage Effectiveness and Data Center Infrastructure Efficiency to measure the readiness of infrastructure conditions. The study was conducted using a qualitative approach. The case study research design used in this study is because researchers want to understand more deeply related to the perspective of infrastructure conditions and user behavior in the case studies taken.

Keywords:

Green Computing, Theory of Planned Behaviour, Theory of Reason Action, Power Usage Effectiveness, Data Center Infrastructure Efficiency .

Biography:

Muhammad Septama Prasetya, S.Kom. is a postgraduate student majoring in Information Systems, Institut Teknologi Sepuluh Nopember (ITS); research students from the Information Systems Management Laboratory (MSI); alumni of Universitas Brawijaya with Final Project (TA) using the topic COBIT 4.1; Surveyor Monitoring and Evaluation (Monev) Implementation of Information Technology Utilization which is a collaboration between E-Government & IT Governance - Research Center with the Office of Communication and Information (Dinkominfo) of the Surabaya City Government for the period August-September 2017.

As a Postgraduate student majoring in Information Institut Teknologi Sepuluh Nopember, Septama actively conducted studies, joint discussions, research and community service based on the Information Systems Management Laboratory. Currently Septama is conducting thesis research on the topic of measuring performance analysis related to green computing from the information technology infrastructure and user behavior perspective. After graduating from the postgraduate education of the Institut Teknologi Sepuluh Nopember, Septama aspires to become a teacher at one of the state universities in Indonesia and contribute more in the world of education in Indonesia.