

International Conference on Environmental Sustainability and Resource Security
(IC-ENSURES), 2019



UTM
UNIVERSITI TEKNOLOGI MALAYSIA

Centre for Environmental
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(IPASA)



INTERNATIONAL
CONFERENCE ON
ENVIRONMENTAL SUSTAINABILITY
AND RESOURCE SECURITY

IC-ENSURES 2019

5 & 6 NOV 2019

THE ROYAL WIDAD RESIDENCE,
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PROCEEDING

**CLEAN
TECHNOLOGY FOR
SUSTAINABLE
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International Conference on Environmental Sustainability and Resource Security
(IC-ENSURES), 2019

IC-ENSURES 2019

International Conference on Environmental Sustainability and Resource Security, 2019

**5th & 6th November 2019
Kuala Lumpur**

PROCEEDINGS

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(IC-ENSURES), 2019**

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PREFACE

The International Conference on Environmental Sustainability and Resource Security (IC-ENSURES) 2019 aims to become the leading annual conference in fields related to environmental sustainability, development and protection as well as resource security. IC-ENSURES 2019 covers broad topics such as climate resiliency, water and energy security, environmental health, ecosystem vitality, advanced treatment technology, cleaner production and sustainable production and consumption. This conference provides a platform for dissemination of environmental research and aiming to identify pathways towards a sustainable society.

The main themes of the conference are Environmental Sustainability and Resource Security. This proceeding records the full papers presented at the conference. The conference has solicited and gathered technical research submissions related to all aspects of major conference themes and tracks. Reviewing and initial selections were undertaken electronically. Align with enhancing the achievement of Sustainable Development Goals (SDG), the goal of IC-ENSURES 2019 is to gather scholars from all over the world to present advances in the relevant fields and to foster an environment conducive to exchanging ideas and information. This conference also provides an ideal environment to develop new collaborations and meet experts on the fundamentals, applications, and products of the mentioned fields.

Selected papers will be published under the Special Issue of the participating journals. The conference embraces international keynote speakers from academia, industry and government institution. The conference Committee is itself quite diverse and international, with membership from different countries. We would like to thank the program chairs, advisor, technical committees and other committees for their cooperation and efforts to make this event a success. We hope that all the participants and other interested readers benefit scientifically from the proceedings and also find it stimulating in the process. Lastly, we would like to wish you success in your technical presentations and social networking.

With warmest regards,

The Organizing Committees

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CONTENTS

Preface	iii
Organizing Committee	iv
Parallel Session 1	
Determine Of Nutrient Status Of Coffee Trees In PNG <i>Kamal Kishore Goundar, Emma Kiup, Mark K Kenny, Ibuki Norihiko, Shreeshivadasan Chelliapan and Sathiabama T. Thirugnana</i>	2-5
Determination Of Mass Transfer Resistance Of Boron Removal From Wastewater By Electrocoagulation <i>Ezerie H. Ezechi and Khalida Muda</i>	6-10
Analysis Of Static And Dynamic Factors Of The Gravitational Flow Sewer Pipe In Malaysia <i>Afifa Safira A Gani, Shreeshivadasan Chelliapan, Samira Albaty Kamaruddin and Nithiya Arumugam</i>	11-15
Mass Transfer Resistance Of Textile Dye Decolorization On Magnetic Activated Carbon Aerobic Granules <i>Khalida Muda, Ahmad H. Omar, Ezerie H. Ezechi and Mohd H. Khamidun</i>	16-20
A Mini Review: Artificial Intelligence Based Models For River Water Quality Prediction For River In Tropical Climate <i>Ariani Dwi Astuti, Azmi Bin Aris, Mohd Razman Bin Salim, Shamila Binti Azman, Mohd Ismid Bin Md Said and Salmiati</i>	21-27
Parallel Session 2	
Indoor Air Quality And The Risk Of Lower Respiratory Tract Infection Among Young Children In A Mediterranean Climate <i>Wesam A. Al Madhoun, Mohammad Khaled, Ashraf Eljedi, Hyunook Kim, Amanda Pomeroy Stevens and Faizah Che Ros</i>	29-33
Habitat Suitability Index For <i>Melaleuca cajuputi</i> In Setiu, Terengganu <i>N. Zafirah Ab.lah, Zulkifli Yusop and Mazlan Hashim</i>	34-38
A Review Of Regionalization Methods For Ungauged Watershed In Swat Model <i>Ainul Syarmimi Rosli, Azmi Aris, Salmiati and Mohd Ridza Mohd Haniffah</i>	39-44
Assessment Of Physical-Chemical Water Quality In The Environment: Current State, Understudied Area And The Way Forward: Case Study Of The Lower Johor Straits, Malaysia <i>Y.Q. Liang, K.V. Annammala, P.Martin, E.L. Yong, L.S. Mazilamani, M.Z.M. Najib</i>	45-50
Parallel Session 3	
Strategic Framework For Managing Sustainability Into The Construction Industry Sector In Developing Countries	52-57

**International Conference on Environmental Sustainability and Resource Security
(IC-ENSURES), 2019**

Ayman Ahmed Hassan

Comparative Assessment Of Artificial Neural Network Based Baseline Energy Model To Quantify Energy Savings Of Chiller System In Commercial Building 58-62
Wan Nazirah Wan Md Adnan, Nofri Yenita Dahlan and Ismail Musirin

Hedonic Price Regression For Stratified Green Residential Building In Johor Bahru 63-67
Nur Amira Aina Zulkifli, Shazmin Shareena Ab. Azis, Nurul Hana Adi Maimun, Muhammad Najib Razali and Ibrahim Sipan

Rainwater Harvesting Dynamic Financial Model For Residential Properties 68-72
Muhammad Najib Razali, Shazmin Shahreena Ab Azis, Nurul Hana Adi Maimun and Zulkifli Yusop

Green Biosynthesis Of Silver Nanoparticles Using *Muntingia Calabura* Leaf And Its Effectiveness Against Pathogenic Bacteria 73-77
Mohd Azlan Ahmad and Salmiati

Not In My Backyard! A Hedonic Analysis On Heavy Industrial Site Proximity Impacts On Malaysian House Prices 78-82
Nuratikah Karunzaman, Nurul Hana Adi Maimun, Shazmin Shareena Ab. Azis, Muhammad Najib Razali, Azizah Ismail, Zakri Tarmidi And Sufi Pisol

Parallel Session 4

Ultrafine Palm Oil Fuel Ash As Stabilizer In Compressed Earth Brick 84-88
Yvonne W. T., Abdul K. M. and Hidayati A.

Characterization Of Eco-Processed Pozzolan As Pozzolan Material 89-93
Raihana Farahiyah Abd Rahman, Hidayati Asrah, Ahmad Nurfaidhi Rizalman and Abdul Karim Mirasa

Carbonization Of Excess Sewage Sludge By Using Super-Heated Water Vapor To Make Fuel 94-98
N.A. Haridan, H. Yoshida, M.A.M. Salleh and S. Izhar

Defining The Biogas Generation Potential And The Kinetics Of Biogas Generation For House- Hold Generated Rice Cooking Wastewater 99-102
S M Shabab Islam, Umme Farah Shakin Neha and Nadim Reza Khandaker

A Critical Review On The Current Technologies For Recovery Of Precious Metals From Industrial Wastes 103-112
Santhana Krishnan, Nor Syahidah Zulkapli, Ooi Theam Yiew, Mohd Fadhil Md Din, Zaiton Abd Majid, Iwao Kenzo, Yo Ichikawa, Shreeshivadasan Chelliapan, Hesam Kamyab

Parallel Session 5

A Novel Approach For Measuring Urban Form Sustainability: A Study Of Kano Traditional City, Nigeria 114-118
Abubakar Siddiq Usman, Dr. Wan Mohd Zakri Bin Wan Abdullah

**International Conference on Environmental Sustainability and Resource Security
(IC-ENSURES), 2019**

Sustainable Development Concept Awareness Among Students In Higher Education <i>Florianna L. Michael, Helmi Sumilan, Nur Fatihah A. Bandar, Hana Hamidi, Sheilla L. O. Lim, Siti M. Abdullah, Abg Izhar A. Ahmad, Victoria Jonathan and Nik Norsyamimi M. Nor</i>	119-123
A Structural Equations Modelling Approach To Measuring Urban Form Sustainability: Conceptual Foundations And Methodological Framework <i>Abubakar Siddiq Usman and Dr. Wan Mohd Zakri Bin Wan Abdullah</i>	124-128
Sustainable Management And Conservation Of Peat Swamp Forest In Peninsular Malaysia: A Forgotten Habitat <i>Dato' Mohd Ridza bin Awang, Dato' Lim Kee Leng, Mohd Faris bin Sobri , Regina Mariah Jong</i>	129-140
Parallel Session 6	
Examination Of Malaysian River Water Quality Index By Some Selected Physico- Chemical Parameters <i>Suzanna Rosli Wong, Brittny Chars and Su Na Chin, Noraini Abdullah and Pak Yan Moh</i>	142-144
Enhancement The Biodegradation Of Benzene By <i>Pseudomonas Aeruginosa</i> Through Ultraviolet-Induced Mutation <i>Fahrudin Fahrudin</i>	145-149
Life Cycle Assessment Of Green Diesel Production <i>Che Hafizan, Zainura Zainon Noor and Norelyza Hussein</i>	150-156
Quality And Environmental Conservation Of Coastal Ecosystems In Purworejo Regency, Central Java, Indonesia <i>Widodo B., Lupiyanto R., Nugrahayu Q., Widyastuti A, Harmawan F., Fauzi FM and Galis A.</i>	157-161
The Effect Of Type Of Boarding House On Solid Waste Generation And Composition As A Model Of Solid Waste Management In Indonesia: A Case Study Of Yogyakarta Province <i>Kasam, Eko Siswoyo and Fajri Mulya Iresha</i>	162-166
Occurrence And Behaviour Of Antibiotics In Conventional Sewage Treatment Plant <i>C. X. Chen, A. Aris, E. L. Yong and Z. Z. Noor</i>	167-171
Parallel Session 7	
Food And Wood Waste Composting: Operational Perspective At Landfill <i>Yusouf Latif, Zamri Abdul Rahman Hashim Wahab, Mohd Faizi Abu and Yusof Hassan</i>	173-177
Optimization Of Municipal Solid Waste Conversion Technology Using Process Network Synthesis <i>R.A. Ali and N.N.L. Nik Ibrahim</i>	178-182

**International Conference on Environmental Sustainability and Resource Security
(IC-ENSURES), 2019**

Disclaimer: The works reported in these proceedings were reviewed based on technical content, without extensive English editing

SUSTAINABLE DEVELOPMENT CONCEPT AWARENESS AMONG STUDENTS IN HIGHER EDUCATION

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ABSTRACT

As higher education is given a primary role as knowledge producer, it serves as a powerful means to help create a more sustainable future which involves educating students on the necessity of sustainable development. The purpose of this case study was to survey the students' awareness, attitudes and actions in regard to sustainable development. The study was conducted in one of the public universities in Malaysia located in Kota Samarahan. Questionnaire used was developed based on learning objectives provided by UNESCO. A total of 79.2% (N=507) of students from the same programme participated in the study. Results indicated that 40.7% (N=239) students have insufficient knowledge on sustainable development. Using ANOVA test, it was found that there are significant differences between students' year of study and their sustainability awareness, attitudes, and actions. Further findings revealed that the final year students have the highest level of sustainability awareness (M=3.918, SD=.517), attitudes (M=4.349, SD=.514) and actions (M=4.365, SD=.538) as compared to Year 1 and 2. Improvising the current higher education curriculum is required to effectively equip the students with the knowledge and understanding, skills and attributes in embedding sustainability into their daily activities.

Key words: Sustainable development, Awareness, Higher Education

INTRODUCTION

The United Nations defines sustainable development as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (Emas, 2015). Therefore, sustainable development does not only deal with environmental issues, but economic, social and cultural issues as well. At the same time, global action is needed to create a more sustainable future as there has been increased demands placed on societies and the environment (Clayton & Radcliffe, 2018).

As higher education institutions are given its primary role as knowledge producer as it is able to assist in achieving Sustainable Development Goals (SDGs), it can serve as a powerful means to help create a more sustainable future. Higher education across the globe holds the responsibility for shaping students in terms of sustainability awareness and changing the attitude of future generations towards the importance of sustainability. Universities currently have the potential for educating the younger generations towards sustainability such as environmental through their education system, curriculum, syllabus, practices and Green University vision (Hamid, Ijab, Sulaiman, Md. Anwar, & Norman, 2017). Higher education's role in creating a sustainable future will presumably take on a greater importance as the world continues to become increasingly globalized and