

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

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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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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