

Organisers:



Co-Organiser:



THE 3RD INTERNATIONAL CONFERENCE ON SUSTAINABLE DEVELOPMENT GOALS ICSDG

5 -6 DECEMBER 2023
ROYALE CHULAN
PENANG, MALAYSIA

THEME

Reinforcing SDGs Implementation for a Sustainable Future: Ensuring Inclusivity for All

PROGRAMME & ABSTRACT BOOK

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12 RESPONSIBLE CONSUMPTION AND PRODUCTION



13 CLIMATE ACTION



14 LIFE BELOW WATER



15 LIFE ON LAND



16 PEACE, JUSTICE AND STRONG INSTITUTIONS



17 PARTNERSHIPS FOR THE GOALS



THE
3 **RD**
INTERNATIONAL
CONFERENCE ON
SUSTAINABLE
DEVELOPMENT
GOALS
(ICSDG2023)

**REINFORCING SDGs IMPLEMENTATION
FOR A SUSTAINABLE FUTURE:
ENSURING INCLUSIVITY FOR ALL**

5th & 6th December 2023 | Royale Chulan Penang

PROGRAMME & ABSTRACT BOOK

Prepared by:

Secretariat, International Conference on Sustainable Development Goals 2023,
Centre for Global Sustainability Studies (CGSS), Universiti Sains Malaysia.

BACKGROUND

The 3rd International Conference on Sustainable Development Goals (ICSDG2023) is a continuation of the International Conference on Sustainable Development Goals (ICSDG2016) and the International Conference on Sustainable Development Goals (ICSDG2019). ICSDG2016 and ICSDG2019 were introduced to help facilitate the implementation of the United Nations' (UN) new agenda or the Sustainable Development Goals (SDGs). This agenda includes 17 goals that must be achieved by all countries within 2030. The Centre for Global Sustainability Studies (CGSS), which serves as the secretariat for the South East Asia Sustainability Network (SEASN), will coordinate and administer this conference.

The first conference, ICSDG2016, was held on December 7 and 8 at Universiti Sains Malaysia in the Cultural Hall, USM. This conference was supported by the Ministry of Foreign Affairs, Malaysia National Commission for United Nations Educational, Scientific and Cultural Organization (UNESCO) and Construction Research Institute of Malaysia (CREAM). The five themes of the ICSDG2016 conference are Prosperity, People, Planet, Peace, and Partnership.

While the ICSDG2019 conference is the 2nd conference held at the Olive Tree Hotel on 30 and 31 July 2019 in Penang. This conference is themed Achieving SDGs: Rising to the Challenge by focusing on the three cores of sustainability which are Social, Economy and Environment

The 7th SEASN Board Member Meeting was held at the Olive Tree Hotel, Penang on 27 August 2018, SEASN Board Members have agreed and suggested holding ICSDG every two years. To further enliven the ICSDG, Board Members also proposed to hold the SEASN Annual Meeting together with the ICSDG.

The 3rd International Conference on Sustainable Development Goals (ICSDG2023) aims at seeking strong collaboration and cooperation among all organizations worldwide in achieving the SDGs, with a theme of "Reinforcing SDGs Implementation for a Sustainable Future: Ensuring Inclusivity for All".

The 3rd International Conference on Sustainable Development Goals will be administered and coordinated by the South East Asia Sustainability Network (SEASN) whereby the Centre for Global Sustainability Studies (CGSS), Universiti Sains Malaysia (USM), serves as the secretariat.

AIMS

Consistent with the goals of the ICSDG series, the aims of the 3rd International Conference on Sustainable Development Goals (ICSDG2023) are as follows:

- i. Providing a platform for researchers to share information, experiences, initiatives and best practices in addressing sustainability issues using the framework of the Sustainable Development Goals (SDGs).
- ii. Strengthening collaborative relationships between researchers and organizations in achieving the SDGs.
- iii. Strengthening collaborative relationships between researchers and organizations in achieving the SDGs.

PROFILE OF PARTICIPANTS

Delegates attending the 3rd International Conference on Sustainable Development Goals (ICSDG2023) come from a cross-sectoral range of areas including:



It is believed that the wide range of participants will help to better outline the need for integrated approaches towards sustainable development and, hence contribute to the achievement of Sustainable Development Goals 2030.

EVENT STRUCTURE

The 3rd International Conference on Sustainable Development Goals (ICSDG2023) is consisted of a set of presentations dealing with issues of strategic value in reviewing the state of the art of sustainability today. Each presentation will be 15 minutes, followed by 5 minutes of question-and-answer session which makes up 20 minutes of total presentation period.

MANAGEMENT COMMITTEE

Advisor

Professor Dato' Ir Dr. Abdul Rahman
Mohamed FASc
(Vice Chancellor, USM and Chairman of SEASN)

Chairman

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Shafiei
(Director, CGSS, USM and General Scretary of
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Hassan/ Dr. Mohd Sukri Shafie

Publicity/Protocol

Dr. Noor Adelyna Mohammed Akib/
Mrs. Sharifah Nurlaili Farhana Syed Azhar

Graphic/Website

Miss Wan Sharipahmira Mohd Zain/
Mrs. Nur Syazwana Hamzah
Mr. Adli Hanafi Bin Azmi (MPRC)
Mr. Mohamad Zaidi Bin Jaini (MPRC)

Registration

Mrs. Diana Fariha Saad

Guest Invitation/Speakers

Dr. Suzyrman Sibly/
Mrs. Diana Fariha Saad

Conference Kit/Proceedings

Dr. Chee Su Yin /
Mrs. Asmi Mahani Md Ismail

Technical/Logistics/Exhibition

Mr. Abdul Muin Md Akil/
Dr. Mohd Sukri Shafie/ Mr. Syafiq Saifullah
Azmi

LOCATION & SCHEDULE

The 3rd International Conference on Sustainable Development Goals (ICSDG2023) is held from 5th -6th December 2023 at Royale Chulan Penang, Malaysia. Parallel sessions will be held at (location of parallel sessions-TBC)

| TIME | 05 December 23 (Tuesday) – 1st Day |
|----------|---|
| 8.00 am | Registration |
| 9.45 am | <p>Welcoming Speech</p> <p>Assoc. Professor Dr. Mohd Wira Mohd Shafiei Director of the Centre for Global Sustainability Studies, Universiti Sains Malaysia & Secretary General of South East Asia Sustainability Network (SEASN)</p> |
| 10.00 am | <p>PLENARY I : “Protected and Conserved Areas tool for Climate Change Mitigation and Adaptation”</p> <p>The Honourable Mr. Ludi Apin Deputy Director Management, Operations & International Relations SABAH PARKS</p> |
| 10.30 am | Coffee/Tea Break & Networking |
| 11.00 am | <p>Arrival of Invited Guests</p> <p>The Honourable Dato’ Seri Sundarajoo A/L Somu Housing & Environment Exco of Penang</p> <p>The Honourable Profesor Dato’ Gs. Dr. Narimah Binti Samat Deputy Vice Chancellor (Academic & International), Universiti Sains Malaysia</p> |
| | <p>Negaraku Corporate Video Presentation by USM Dua recitation</p> |

| TIME | 05 December 23 (Tuesday) – 1st Day |
|----------|--|
| 11.15 am | <p>Officiating Speech & ICSDG2023 Opening Ceremony</p> <p>The Honourable Profesor Dato' Gs. Dr. Narimah Binti Samat Deputy Vice Chancellor (Academic & International), Universiti Sains Malaysia</p> |
| 11.30 am | <p>Keynote Speech : - "Reinforcing SDGs Implementation for a Sustainable Future: Ensuring Inclusivity for All"</p> <p>The Honourable Dato' Seri Sundarajoo A/L Somu Housing & Environment Exco of Penang</p> |
| | <p>Presentation (Cultural Performance) Penang Convention & Exhibition Bureau (PCEB)</p> |
| 12.00 pm | Lunch |
| 2.00 pm | <p>Parallel Session A</p> <p>Session A1 (Social) – Grand Ballroom Session A2 (Social) – Foyer 2 Session A3 (Environment) – Foyer 3 Session A4 (Environment) – Batu Feringgi Room Session A5 (Governance) – Georgetown Room Session A6 (Economy & Social) – Tanjung Bunga Room</p> |
| 3.30 pm | <p>Parallel Session B</p> <p>Session B1 (Social) – Grand Ballroom Session B2 (Social) – Foyer 2 Session B3 (Environment) – Foyer 3 Session B4 (Environment) – Batu Feringgi Room Session B5 (Governance) – Georgetown Room</p> |
| 5.00 pm | Coffee/Tea Break & End of Day 1 |

| TIME | 06 December 23 (Wednesday) – 2nd Day |
|----------|--|
| 8.30 am | <p>PLENARY II : - “ESG Standardisation: Shaping a Sustainable Future for Businesses”</p> <p>Mdm. Noraslina Mat Zin SIRIM Berhad, MALAYSIA</p> |
| 9.00 am | <p>Parallel Session C</p> <p>Session C1 (Social) – Grand Ballroom Session C2 (Environment) – Foyer 2 Session C3 (Environment) – Foyer 3 Session C4 (Environment) – Batu Feringgi Room Session C5 (Governance) – Georgetown Room</p> |
| 10.30 am | Coffee/Tea Break & Networking |
| 11.00 am | <p>Parallel Session D</p> <p>Session D1 (Social) – Grand Ballroom Session D2 (Social) – Foyer 2 Session D3 (Environment) – Foyer 3 Session D4 (Environment) – Batu Feringgi Room Session D5 (Economy) – Tanjung Bunga Room</p> |
| 1.00 pm | Lunch |
| 2.30 pm | <p>CLIMATE CHANGE FORUM</p> <p>Moderator Dr. Vishantini A/P Kanasan State Secretary's Office of Penang</p> <p>Speaker 1 Ms. Josephine Tan General Manager, Penang Green Council</p> <p>Speaker 2 Associate Prof. Dr. Japareng Lalung Antarctic Researcher, Universiti Sains Malaysia</p> |
| 4.00 pm | <p>ICSDG2023 Award and Closing Ceremony</p> <p>The Honourable Professor Dr. Azlan Amran Deputy Vice-Chancellor, Industry & Community Network, USM</p> |
| 4.30 pm | Coffee/Tea Break & End of ICSDG2023 |

PARALLEL SESSION SCHEDULES FOR ORAL PRESENTER

PARALLEL SESSION A1 – Social

Date : 5 December 2023

Time : 2.00 pm – 3:30 pm

Venue : Ballroom, Royale Chulan Hotel

Session Chairperson : Associate Prof. Dr. Sayuti Mohd Hassan

| NO. | PAPER ID | TITLE & AUTHOR (S) |
|-----|----------------|--|
| 1. | ICSDG2023-0008 | FRACTAL CHARACTERISTICS AND INFLUENCING FACTORS OF LANDSCAPE SPACE OF TIBETAN RURAL IN WESTERN SICHUAN: A CASE STUDY OF THREE TRADITIONAL VILLAGES Fan Ding, Nor Zarifah Binti Maliki, Yu Siwei, Gong Yaoyao, Tong Jia |
| 2. | ICSDG2023-0009 | LEAVE NO ONE BEHIND: ENHANCING REFUGEE YOUTH SOCIAL WELL-BEING THROUGH ALTERNATIVE EDUCATION SYSTEM Norani Abu Bakar, Thirunaukarasu Subramaniam |
| 3. | ICSDG2023-0010 | RESEARCH ON CUSTOMER SATISFACTION OF MID-TO-HIGH-END HEALTH AND WELLNESS HOTELS IN CHINA BASED ON ONLINE REVIEWS Chen Xiaolin |
| 4. | ICSDG2023-0016 | MEASURES TO IMPROVE EARLY CHILDHOOD TEACHERS' PSYCHOLOGICAL WELL BEING AFTER THE COVID-19 PANDEMIC: A DEVELOPMENTAL PSYCHOLOGY PERSPECTIVE Zhou Hansen |
| 5. | ICSDG2023-0097 | LESTARI CANVAS: A SUSTAINABLE SOCIO-ECONOMIC DEVELOPMENT ECOSYSTEM Noraziah Abdul Wahab, Mohammad Affendy Arip |
| 6. | ICSDG2023-0253 | WAYS TO ENCOURAGE PERSONAL SAVINGS FOR ADULTHOOD AMONG STUDENTS IN MALAYSIA Haniza Hashim, Shadia Suhaimi, Siti Nurul Huda Mohd, Nur Baiti Shafee, Maheysch A/L P. Krishnan |

PARALLEL SESSION SCHEDULES FOR ORAL PRESENTER

PARALLEL SESSION A2 – Social

Date : 5 December 2023

Time : 2.00 pm – 3:30 pm

Venue : Foyer 2, Royale Chulan Hotel

Session Chairperson : Dr. Siti Masayu Rosliah Abdul Rashid

| NO. | PAPER ID | TITLE & AUTHOR (S) |
|-----|----------------|--|
| 1. | ICSDG2023-0021 | FACTORS AFFECTING LECTURERS' WILLINGNESS AND READINESS TO TEACH THE INTEGRITY AND ANTIRASUAH COURSE Nazirah Md Yusof, Jasmine Selvarani Emmanuel, Rabikha Hasni Suparman |
| 2. | ICSDG2023-0028 | SUSTAINING LIVELIHOOD FOR ROHINGYA REFUGEES: IDENTIFYING CHALLENGES TOWARDS PROPOSING RECOMMENDATIONS Mahadevan Krishnan, Hamoon Khelgat Doost, Jamilah Ahmad, Suriati Saad, Suzyrman Sibli |
| 3. | ICSDG2023-0029 | ENGLISH TEACHERS ONLINE ASSESSMENT SUSTAINABLE PRACTICES: ANTECEDENCE AND CHALLENGES Yuan Ye |
| 4. | ICSDG2023-0267 | INTEGRATING ENVIRONMENTAL, SOCIAL, AND ENTREPRENEURIAL SDG-VALUES IN AKADEMI BAKAT ABS: THE CHALLENGES AND PROSPECTS Suhaili Ikhsan, Nor Hidayah Mustafa |
| 5. | ICSDG2023-0234 | STRENGTHENING THE SOCIAL INNOVATION ECOSYSTEM IN MALAYSIA: ASSESSING ACADEMIC'S ABILITY FOR ADVANCING RESEARCH AND INNOVATION EXCELLENCE IN HIGHER EDUCATION INSTITUTES Nurhazliyana Hanafi, Jalaluddin Abdul Malek, Mohamad Pirdaus Yusoh, Mohd Yusof Hussain |
| 6. | ICSDG2023-0219 | POVERTY AND HEALTH RESEARCH FROM 2010-2023: BIBLIOMETRIC INVESTIGATION VIA MACHINE LEARNING FOR UNLABELED BIG DATA Las Johansen B. Caluza |

PARALLEL SESSION SCHEDULES FOR ORAL PRESENTER

PARALLEL SESSION A3 – Environment

Date : 5 December 2023

Time : 2.00 pm – 3:30 pm

Venue : Foyer 3, Royale Chulan Hotel

Session Chairperson : Dr. Noor Adelyna Mohammed Akib

| NO. | PAPER ID | TITLE & AUTHOR (S) |
|-----|----------------|--|
| 1. | ICSDG2023-0013 | SUSTAINABLE ANALYSIS OF CONFUCIAN NARRATIVES IN COURTYARD ARCHITECTURE AND HUTONGS IN JINAN, CHINA Weihan Rong, Azizi Bahauddin, Mengyun Xiao |
| 2. | ICSDG2023-0019 | HYBRID ENERGY SYSTEMS: A PATHWAY FROM CONVENTIONAL TO SUSTAINABLE POWER GENERATION Muhammad Paend Bakht, Mohd Norzali Hj Mohd, Nuzhat Khan |
| 3. | ICSDG2023-0035 | ENVIRONMENTAL IMPLICATIONS OF BREASTFEEDING AND ITS ROLE IN ATTAINING THE UNITED NATIONS SDGs Vasumathi Subramanian, Azlinda Azman |
| 4. | ICSDG2023-0044 | ENVIRONMENTAL ASPECTS OF DIGITAL MEDIA PRODUCTION TO CONSUMPTION: A SUSTAINABILITY PERSPECTIVE Anshuman Singh, Suzyrman Sibly |
| 5. | ICSDG2023-0054 | THE PROGRESSION OF SUSTAINABLE DEVELOPMENT FROM URBAN SATURATION IN KUALA LUMPUR AND PENANG CITY CENTRE Dayang Shahrizat Abang Mahmud, Izuandi Yin, Diana Mohamad, Mou Leong Tan |
| 6. | ICSDG2023-0062 | ADOPTION OF HOUSEHOLD BIODIGESTER TECHNOLOGY FOR SANITATION PURPOSES IN THE PHILIPPINES Dr. Julius P. Mario, Dr. Marvi D. Niog, Pamela Jean V. Selisana, Steve Selisana, Joewen Aruta, Klinton Sam Duarte, Ariel Kevin Manago, Dr. Leovigildo Manalo, Jojo Monillas, Florianne Adlawan, Brian Kae Enriquez |

PARALLEL SESSION SCHEDULES FOR ORAL PRESENTER

PARALLEL SESSION A4 – Environment

Date : 5 December 2023

Time : 2.00 pm – 3:30 pm

Venue : Batu Feringgi Room, Royale Chulan Hotel

Session Chairperson : Associate Prof. Dr Japareng Lalung

| NO. | PAPER ID | TITLE & AUTHOR (S) |
|-----|----------------|--|
| 1. | ICSDG2023-0075 | NON-MARKET VALUATION OF ECOSYSTEM SERVICES AT THE URBAN GREEN SPACES IN PENANG, MALAYSIA Chia Chia Koay, Riccardo Scarpa, Frank Scrimgeour |
| 2. | ICSDG2023-0077 | DESIGN AND RESEARCH ON FLOOD MANAGEMENT SYSTEM BASED ON SUSTAINABLE DEVELOPMENT CONCEPT AND ARTIFICIAL INTELLIGENCE TECHNOLOGY Chen Meili, Narimah Samat, Mohammad Javad Maghsoodi Tilaki |
| 3. | ICSDG2023-0091 | PREDICTIVE ANALYSIS OF OIL PALM YIELD: COMPARISON OF LINEAR AND NON-LINEAR MODELING WITH MULTIVARIATE TIME SERIES DATA Nuzhat Khan, Mohamad Anuar Kamaruddin, Usman Ullah Sheikh, Muhammad Paend Bakht |
| 4. | ICSDG2023-0096 | CONSERVATION GENETICS OF THE SPOTTED SARDINELLA (AMBYGASTER SIRM) IN MALAYSIAN WATERS: A MOLECULAR APPROACH WITH MICROSATELLITE MARKERS Phoebe Ong Yunliang, Noor Adelyna Mohammed Akib |
| 5. | ICSDG2023-0099 | THE EFFECT OF PULANG-BATO SPRING ON THE COPPER AND ZINC CONTENT AT THE ZONE OF IMPACT OF THE SPRING AND A SECTION OF BUTUANON RIVER Larino, Ranel C., Castanares, Josephine |
| 6. | ICSDG2023-0115 | ASSESSING THE HISTORIC URBAN LANDSCAPE OF WATER TRANSPORTATION DISTRICT ALONG THE SEAFRONT IN GEORGE TOWN CORE HERITAGE ZONE, PENANG Nuraini Zakaria, Nor Arbina Zainal Abidin, Rohayah Che Amat |

PARALLEL SESSION SCHEDULES FOR ORAL PRESENTER

PARALLEL SESSION A5 – Governance

Date : 5 December 2023

Time : 2.00 pm – 3:30 pm

Venue : Georgetown Room, Royale Chulan Hotel

Session Chairperson : Prof. Dr. Hooy Chee Wooi

| NO. | PAPER ID | TITLE & AUTHOR (S) |
|-----|----------------|--|
| 1. | ICSDG2023-0027 | FORMULATING SUSTAINABLE PUBLIC ART FRAMEWORK & GUIDELINES (SPAFG) FOR MELAKA TOWN AREAS Azahar Harun, Sharmiza Abu Hassan, Khairunnisa Mohd Abdul Ghani |
| 2. | ICSDG2023-0063 | THEORETICAL FRAMEWORK FOR NET ZERO IN HOSPITALITY INDUSTRY IN MALAYSIA Anthony Tee Mooi Kwong |
| 3. | ICSDG2023-0084 | BEYOND REPORTING: HOW EXTERNAL STAKEHOLDERS AND STRATEGIC POSTURE SHAPE ESG DISCLOSURE IN MALAYSIA Wong Wai Khuen, Teh Boon Heng, Tan Siow Hooi |
| 4. | ICSDG2023-0106 | CHALLENGES AND LESSONS LEARNED IN THE IMPLEMENTATION OF GOVERNMENT POLICIES DURING COVID-19 PANDEMIC Julie Ann Deseo, Dennis Sagbigal, Rhenmar M. Galvez |
| 5. | ICSDG2023-0114 | ASSESSING URBAN CULTURAL ELEMENTS OF CORE HERITAGE ZONE ALONG WELD QUAY STREET, GEORGE TOWN, PENANG FOR URBAN CHARACTER CONSERVATION Nurfarahin Roslan, Nor Arbina Zainal Abidin, Zalena Abdul Aziz |
| 6. | ICSDG2023-0155 | COMMUNICATION STRATEGY IN SMART GOVERNMENT AND SDG GOVERNANCE: THE EXPERIENCE OF YOGYAKARTA CITY GOVERNMENT, INDONESIA Gatut Priyowidodo, Inri Inggrit I., Astri Yogatama |

PARALLEL SESSION SCHEDULES FOR ORAL PRESENTER

PARALLEL SESSION A6 – Economy & Social

Date : 5 December 2023

Time : 2.00 pm – 3:30 pm

Venue : Tanjung Bunga Room, Royale Chulan Hotel

Session Chairperson : Dr. Norlaila Mohd Zanuri

| NO. | PAPER ID | TITLE & AUTHOR (S) |
|-----|----------------|--|
| 1. | ICSDG2023-0144 | THE INEQUALITY OF 'GENDER' EQUALITY WITHIN SDG 5: THE MALAYSIAN CONTEXT Mary George |
| 2. | ICSDG2023-0146 | QUANTUM SCIENCE AND TECHNOLOGY (QST) EDUCATION-A BIBLIOMETRIC ANALYSIS Hengchao Zhang, Zarinah Hamid, Noorihsan Mohamad, Mior Nasir Mior Nazri, Maya Puspa Abdul Rahman |
| 3. | ICSDG2023-0053 | LOST IN EXCLUSION: REDEFINING THE NEXUS OF PEDAGOGY AND DIGITIZATION TO OVERCOME DIGITAL EXCLUSION Dr. Nazir Jomezai |
| 4. | ICSDG2023-0163 | A CONCEPTUAL APPLICATION OF THE EMOTIONAL-CULTURAL DESIGN FRAMEWORK (ECDF) IN DESIGNING PLEASURABLE CHINESE INTERIOR SPACES Liang Rui, Muhammad Firzan |
| 5. | ICSDG2023-0246 | WASTE TO WEALTH – GREEN GRAPHENE FROM BIOMASS FOR SUSTAINABLE ECOSYSTEM DEVELOPMENT Anis Zafirah Mohd Ismail, Daniel Bien Chia Sheng, Devandran Krishnan, Rezal Khairi Ahmad |
| 6. | ICSDG2023-0180 | CORPORATE FINANCING COSTS AND ESG DISCLOSURE: CHINESE A-SHARE LISTED COMPANIES' EVIDENCE Sixin Ren, Salmi Mohd Isa |

PARALLEL SESSION SCHEDULES FOR ORAL PRESENTER

PARALLEL SESSION B1 – Social

Date : 5 December 2023

Time : 3.30 pm – 5:00 pm

Venue : Ballroom, Royale Chulan Hotel

Session Chairperson : Dr Haslindar Ibrahim

| NO. | PAPER ID | TITLE & AUTHOR (S) |
|-----|----------------|--|
| 1. | ICSDG2023-0083 | A DEEP LEARNING MODEL: THE INFLUENCE OF MOBILE PHONE INTERFACE METAPHORS ON THE COGNITIVE LOAD BEHAVIOR OF THE ELDERLY Zhang Xiaona |
| 2. | ICSDG2023-0086 | DESIGN AND DEVELOPMENT OF FORMATIVE ASSESSMENT FOR STUDENTS WITH AUTISM IN LEARNING ENGLISH LANGUAGE THROUGH PROJECT BASED LEARNING: A NEEDS ANALYSIS Amal Mohamad Hassan, Low Hui Min |
| 3. | ICSDG2023-0087 | THE DEVELOPMENT AND THE EFFECTIVENESS OF SCHEMA THERAPY ON MALAYSIAN FEMALE Amos Lian En Zhe, Suzanna A. Bono, Chooi Weng-Tink |
| 4. | ICSDG2023-0095 | EVALUATING HOSPITAL DISASTER PREPAREDNESS COMMUNICATION IN RESPONSE TO COVID-19: A RETROSPECTIVE STUDY OF HOSPITAL UNIVERSITI SAINS MALAYSIA DISASTER COMMUNICATION EFFECTIVENESS Mustafa AZ, Sibly S, Che Hamzah MS |
| 5. | ICSDG2023-0161 | AYO BALAY, AYO PANIMALAY (REBUILDING HOUSE, RESTORING HOME): A COMMUNITY-BASED COPING STRATEGY IN RESPONSE TO A DISASTER Funtilar, Jay Lloyd B., Eguia, Ma. Lorna A. |
| 6. | ICSDG2023-0229 | LESTARI CANVAS: A SUSTAINABLE SOCIO-ECONOMIC DEVELOPMENT ECOSYSTEM Venny Sin Woon Chong, Jason M.S. Lam (MIMM, AMS) |

PARALLEL SESSION SCHEDULES FOR ORAL PRESENTER

PARALLEL SESSION B2 – Social

Date : 5 December 2023
Time : 3.30 pm – 5:00 pm
Venue : Foyer 2, Royale Chulan Hotel
Session Chairperson : Dr Suzyrman Sibly

| NO. | PAPER ID | TITLE & AUTHOR (S) |
|-----|----------------|--|
| 1. | ICSDG2023-0118 | STRESS AND MOVEMENT CONTROL ORDER: UNVEILING THE SUSCEPTIBLE GROUPS AMONG ADULT POPULATION DURING COVID-19 PANDEMIC IN KEDAH Amalina Ismail, Tengku Alina Tengku Ismail, Muhammad Fadhil Mohamad Marzuki |
| 2. | ICSDG2023-0120 | ENHANCING SUSTAINABLE DEVELOPMENT GOAL 3 THROUGH TIMELY HIV CASE PRESENTATION: A STUDY IN PULAU PINANG, 2017–2021 Ahmad Syahid Ibrahim, Wan Mohd Zahiruddin Wan Mohammad, Janizah Abd Ghani |
| 3. | ICSDG2023-0123 | ACTIVE AGING AND ELDERLY LABOR’S REEMPLOYMENT: A QUALITATIVE STUDY IN HEBEI, CHINA Yikun Feng, Yee Whah Chin, Harn Shian Boo |
| 4. | ICSDG2023-0126 | TRADITIONAL KNOWLEDGE AND USES OF PLANTS AMONG THE HIGAONON COMMUNITY AND LOCAL RESIDENTS IN APOSKAHOY, CLAVERIA, MISAMIS ORIENTAL, PHILIPPINES Louh Mariell M. Emano, Karylle Kaye P. King, Lady Jane C. Morilla, Sarah Grace M. Zamudio, Val B. Salares, Muhmin Michael E. Manting |
| 5. | ICSDG2023-0090 | WATER SHORTAGE IN BITOON, DUMANJUG, CEBU, AND ITS EFFECTS ON DOMESTIC ACTIVITIES: PROPOSED ACTION PLAN Goldstyn Gavril Ferrer Riconalla |

PARALLEL SESSION SCHEDULES FOR ORAL PRESENTER

PARALLEL SESSION B3 – Environment

Date : 5 December 2023

Time : 3.30 pm – 5:00 pm

Venue : Foyer 3, Royale Chulan Hotel

Session Chairperson : Associate Prof. Dr. Ng Theam Foo

| NO. | PAPER ID | TITLE & AUTHOR (S) |
|-----|----------------|--|
| 1. | ICSDG2023-0130 | INFLUENCE OF INNOVATION CHARACTERISTICS AND ORGANIZATIONAL FACTOR ON ISO14001 ENVIRONMENTAL MANAGEMENT SYSTEM ADOPTION AMONG HIGHER EDUCATION INSTITUTIONS Lay Queen Lee, Ai Ping Teoh |
| 2. | ICSDG2023-0133 | SPATIOTEMPORAL ANALYSIS OF PLASMODIUM KNOWLESI INFECTION IN PAHANG, 2011-2022: ALIGNING WITH SUSTAINABLE DEVELOPMENT GOAL TARGET 3.3 FOR ENDING MALARIA EPIDEMIC 'Abdul Muntaqim Bin Abu Bakar, Nik Rosmawati Nik Husain, Ahmad Filza Ismail, Suzana Binti Mohd Hashim |
| 3. | ICSDG2023-0147 | NATURE'S SUSTAINABLE STRAW: LEPIRONIA ARTICULATA STEM MORPHOLOGY STUDY Rohani Shahrudin |
| 4. | ICSDG2023-0157 | MICROPLASTICS OCCURRENCE IN RHIZOPHORA APICULATA ROOTS IN SETIU LAGOON, TERENGGANU Nur Syafiqah Mohd Maulana, Tuan Nurul Sabiqah Tuan Anuar, Rohani Shahrudin |
| 5. | ICSDG2023-0171 | PUBLIC WILLINGNESS TO PAY FOR AN ENTRANCE FEE AT THE NEWLY PROPOSED MARINE PARK PROTECTED AREA IN MALACCA Ayu Naqibah Ahmad Sufi, Julia Aqila Japry, Nitanan Koshy Matthew, Nik Nor Rahimah Nik Ab Rahim, Mohd Rusli Ya'cob, Ilmas Abdurofi |
| 6. | ICSDG2023-0170 | COVID-19, NIGHTTIME LIGHT EMISSIONS, AND AIR QUALITY IMPROVEMENTS IN SELANGOR, MALAYSIA Nurul shuhadah Salehudin, Siti Aminah Anshah |

PARALLEL SESSION SCHEDULES FOR ORAL PRESENTER

PARALLEL SESSION B4 – Environment

Date : 5 December 2023

Time : 3.30 pm – 5:00 pm

Venue : Batu Feringgi Room, Royale Chulan Hotel

Session Chairperson : Dr Chee Su Yin

| NO. | PAPER ID | TITLE & AUTHOR (S) |
|-----|----------------|---|
| 1. | ICSDG2023-0184 | COASTAL MEDICINAL PLANTS IN TERENGGANU: A TREASURE TO PRESERVE AND SUSTAIN AS POTENTIAL NATURAL ANTIOXIDANTS AND ANTIBACTERIAL Suvik Assaw, Khaizuran Shahiran Mohd Izhan, Nurshuhana Suhaimi, Nurfatihah Nazar, Nurizzah Syahmina Norzaidi, Dhia Airina Noor Salizam, Nur Anis Alyaa Zulkifli, Muhammad Mika Arif Mohd Zaini, Dhipan Raj Subramaniam and Illia Aqila Mohd Taib |
| 2. | ICSDG2023-0186 | CHARTERING EDUCATION FOR SUSTAINABLE DEVELOPMENT THOROUGH CLICK GREEN PROJECTS Helmer B. Montejo, Imie Villaver, Helen Bacalso, Jennilyn Geagonia, Juliet De la Cruz |
| 3. | ICSDG2023-0199 | CLOSED CAVITY FAÇADES WITH TGU INNER SKIN REDUCE PEAK OPERATING TEMPERATURES FOR THERMAL COMFORT IN HOT, HUMID CLIMATES Ahmad Fadel Al Kahlout, Faizal Baharum, Anas A. M. Alqanoo, Mohd Nasrun Mohd Nawi |
| 4. | ICSDG2023-0217 | EMISSION FACTOR DEVELOPMENT FOR LIQUID FUEL USED IN ROAD TRANSPORTATION SECTOR FOR MALAYSIA'S NATIONAL GREENHOUSE GAS INVENTORY Wan Nur Syuhada Wan Ata, Ahmad Rosly Abbas, Mohamad Fetri Zainal, Alexandra Quek, Nur Zaqira Izzati Sukhairul Zaman, Md Fauzan Kamal Mohd Yapandi, and Zul Fadli Ibrahim |
| 5. | ICSDG2023-0235 | IMBIBING SUSTAINABLE DEVELOPMENT GOALS THROUGH ACTIVE STUDENT ENGAGEMENT: A WOU EXPERIENCE Jasmine Selvarani Emmanuel, Rabikha Hasni Suparman, Nazirah Md Yusof, Prakash V Arumugam |
| 6. | ICSDG2023-0119 | ENVIRONMENTAL LANDSCAPE PLANNING OF URBAN FRINGE BASED ON THE CONCEPT OF SUSTAINABLE DEVELOPMENT: A CASE STUDY OF CHENGDU, CHINA Jiang Wanxia |

PARALLEL SESSION SCHEDULES FOR ORAL PRESENTER

PARALLEL SESSION B5 – Governance

Date : 5 December 2023

Time : 3.30 pm – 5:00 pm

Venue : Georgetown Room, Royale Chulan Hotel

Session Chairperson : Dr Mohd Sukri Shafie

| NO. | PAPER ID | TITLE & AUTHOR (S) |
|-----|----------------|--|
| 1. | ICSDG2023-0166 | ASSESSING SUSTAINABILITY REPORTING OF ASEAN UNIVERSITIES Mohd Yusoff Ishak |
| 2. | ICSDG2023-0185 | EMPOWERING MALAYSIA'S ENERGY FUTURE: P2P ENERGY TRADING, RECS, AND VPPS FOR CLEAN ENERGY ACCESS Maniam, T.V., Chin, C.M.M., Sakundarini, N. |
| 3. | ICSDG2023-0201 | MODELING SUSTAINABLE DEVELOPMENT SATISFACTION LEVEL FROM COMMUNITY PERSPECTIVE (SDSL-CP): COMBINING IMPORTANCE-PERFORMANCE ANALYSIS WITH SOCIAL PROGRESS INDEX Yuta Inaguma Charles Santhanaraju Vairappan |
| 4. | ICSDG2023-0213 | SUSTAINABILITY-ORIENTED PUBLIC-PRIVATE PARTNERSHIPS: A CASE STUDY OF KUALA LUMPUR – SINGAPORE HIGH SPEED RAIL (HSR) Nur Azlinda Mohd Aris, Elisha Nasruddin, Yunieta Anny Nainggolan |
| 5. | ICSDG2023-0222 | EMPOWERING SUSTAINABLE DEVELOPMENT THROUGH NANOTECHNOLOGY PRODUCT CERTIFICATION Nurul Aini Azam, Hazmy Iman Abas, Nur Aimi Mohd Nasir, Johan Iskandar Hasan, Daniel Bien Chia Sheng, Rezal Khairi Ahmad |
| 6. | ICSDG2023-0228 | STRATEGIC ENVIRONMENTAL ASSESSMENT ON THE LONG-TERM LOCAL DEVELOPMENT PLANNING BASED ON THE SUSTAINABLE DEVELOPMENT GOALS. CASE STUDY OF JEMBER REGENCY, INDONESIA Eko Budi Santoso, Ema Umilia, Hertiaridajati, Nida Farikha, Amrih Eka Pratiwi |

PARALLEL SESSION SCHEDULES FOR ORAL PRESENTER

PARALLEL SESSION C1 – Social

Date : 6 December 2023

Time : 9.00 am – 10:30 am

Venue : Ballroom, Royale Chulan Hotel

Session Chairperson : Associate Prof. Dr. Sayuti Mohd Hassan

| NO. | PAPER ID | TITLE & AUTHOR (S) |
|-----|----------------|---|
| 1. | ICSDG2023-0128 | A REVIEW AND INTERGRATED THEORETICAL MODEL OF THE DEVELOPMENT OF AGEING IN CHINA Zhao Jing, Ong Beng Kok |
| 2. | ICSDG2023-0129 | COLLABORATION BETWEEN STAKEHOLDERS TO REDESIGN MALAYSIAN PUBLIC SCHOOLS: THE MOTIVATION AND CHALLENGES Nur Syazadiyanah binti Suraini, Nor Fadzila binti Aziz |
| 3. | ICSDG2023-0132 | IMPACT OF ORAL HEALTH COMMUNITY MOBILIZATION IN THE CORDILLERA ADMINISTRATIVE REGION Anod-Bawang, Anabelle A, Bawang, Rex John G |
| 4. | ICSDG2023-0137 | IP EDUCATION AS A CATALYST FOR SOCIAL TRANSFORMATION: IMPACT ASSESSMENT OF LPU'S INTERVENTION WITH THE DUMAGAT IN MASLA, GEN. NAKAR, QUEZON Shobie Roselle S. Vicente, Joseph B. Dongel, Marilyn L. Ngales, Leonora H. Astete |
| 5. | ICSDG2023-0245 | LINKING EARLY CHILDHOOD EDUCATION AND SUSTAINABILITY: INSIGHTS FROM A GLOBAL CHALLENGES RESEARCH-FUNDED (GCRF) STUDY ON MALAYSIA'S REFUGEE COMMUNITY Kong, K., Siraj, I. & Ereky-Stevens, K. |
| 6. | ICSDG2023-0041 | THE CO-LIVING CONCEPT ON HIGH RISE BUILDING FOR URBAN AREAS IN MALAYSIA Azlina Md Yassin, Haidaliza Masram, Haryati Shafii, Mohd Yamani Yahya & Mohd Hafizal Ishak |

PARALLEL SESSION SCHEDULES FOR ORAL PRESENTER

PARALLEL SESSION C2 – Environment

Date : 6 December 2023

Time : 9.00 am – 10:30 am

Venue : Foyer 2, Royale Chulan Hotel

Session Chairperson : Dr. Norlaila Mohd Zanuri

| NO. | PAPER ID | TITLE & AUTHOR (S) |
|-----|----------------|---|
| 1. | ICSDG2023-0164 | MITIGATING CONSUMPTION-BASED CARBON EMISSIONS OF UNIVERSITY STUDENTS IN TACLOBAN CITY, PHILIPPINES Ma. Lucille W. Abarracoso, Pearl Aphrodite B. Carnice |
| 2. | ICSDG2023-0162 | BREATHING PLASTIC: STUDYING THE SUSPENDED ATMOSPHERIC MICROPLASTICS IN METRO MANILA, PHILIPPINES Rodolfo A. Romarate II, Sheila Mae B. Ancla, Dawn May M. Patilan, Sherley Ann T. Inocente, Christine Joy M. Pacilan, Astrid L. Sinco, Jaime Q. Guihawan, Rey Y. Capangpangan, Arnold A. Lubguban, Hernando P. Bacosa |
| 3. | ICSDG2023-0145 | ABILITY OF CAULERPA LENTILLIFERA AS PLANT BIOSTIMULANT ON PROMOTING GROWTH OF SWEET CORN Stephanie S. Madjos, Jeruel B. Rubas, Faith Hannah S. Gabiola, Danica Jane P. Yuzon |
| 4. | ICSDG2023-0277 | STUDY THE FACTORS AND MITIGATION FLASH FLOODS IN BANDAR KUCHING, SARAWAK: EXPERIENCED BY MALAYSIANS Haryati Binti Shafii, Ting Heng Chieh, Azlina Md Yassin, Haidaliza Masram |
| 5. | ICSDG2023-0179 | HOW CAN META-KNOWLEDGE FACILITATE DISRUPTIVE INNOVATION FOR CORPORATE SUSTAINABILITY: A RESOURCES-TO-CAPABILITY PERSPECTIVE Xinxiang Gao, Thillai Raja Pertheban, Jiawen Yu |

PARALLEL SESSION SCHEDULES FOR ORAL PRESENTER

PARALLEL SESSION C3 – Environment

Date : 6 December 2023

Time : 9.00 am – 10:30 am

Venue : Foyer 3, Royale Chulan Hotel

Session Chairperson: Associate Prof. Dr. Ng Theam Foo

| NO. | PAPER ID | TITLE & AUTHOR (S) |
|-----|----------------|---|
| 1. | ICSDG2023-0236 | OPTIMAL ENGINE OPERATING CONDITION FOR SHELL ECO-MARATHON (SEM) GASOLINE VEHICLE Muhammad Iftishah Ramdan |
| 2. | ICSDG2023-0239 | FROM GREEN TO NET ZERO CARBON UNIVERSITY: KHON KAEN UNIVERSITY, THAILAND Chumnan Boonyaputthipong |
| 3. | ICSDG2023-0192 | TEMPERATURE PROFILES OF HEAT-NOT BURN PRODUCTS IN RESPONSE TO ENVIRONMENTAL CONDITIONS IN MALAYSIA Jauharah Khudzari, Yee Guan Ng, Shahrman Abu Bakar, Rishan Murali, Sukport Sunan, Zuradzman Mohamad Razlan, Muhammad Faiz Hilmi Rani |
| 4. | ICSDG2023-0191 | THERMAL DISTRIBUTION OF HEAT-NOT BURN PRODUCTS UNDER AMBIENT ENVIRONMENTAL CONDITIONS Rishan Murali, Yee Guan Ng, Shahrman Abu Bakar, Jauharah Khudzari, Sukport Sunan, Zuradzman Mohamad Razlan, Muhammad Faiz Hilmi Rani |
| 5. | ICSDG2023-0232 | RELATIONSHIP EATING PATTERN, HOME SANITATION AND PARENTING MOTHER WITH STUNTING EVENTS IN CHILDREN UNDER TWO YEARS 6-23 MONTHS IN THE WORKING AREA OF PUSKESMAS PUUWATU KENDARI CITY Suriana Koro, Evi Kusmawati, Kameriah Gani, Astaty, I Made Rai Sudarsono, Kasmawati, Hesti Yustika Alfid |
| 6. | ICSDG2023-0098 | EFFECT OF PULSED LASER ON GRAPHENE OXIDE SHEET FOR REDUCTION PROCESS S. Nasiron, M.D. Nurhafizah |

PARALLEL SESSION SCHEDULES FOR ORAL PRESENTER

PARALLEL SESSION C4 – Environment

Date : 6 December 2023

Time : 9.00 am – 10:30 am

Venue : Batu Feringgi Room, Royale Chulan Hotel

Session Chairperson : Dr Chee Su Yin

| NO. | PAPER ID | TITLE & AUTHOR (S) |
|-----|----------------|--|
| 1. | ICSDG2023-0105 | ENRICHING ECOSYSTEMS, EMPOWERING WOMEN: LESSONS FROM BOJO RIVER'S ECOTOURISM Isabela Victoria Olano Sierra |
| 2. | ICSDG2023-0231 | REPELLANT ACTIVITY OF ESSENTIAL OIL POGESTEMON CABLIN AMONG 3 MONTHS STORAGE AGAINST AEDES AEGYPTI Reni Yunus, Supiati, Susilawati, Askrening, Anita Rosanty, Fonnie E. Hasan |
| 3. | ICSDG2023-0241 | DEVELOPMENT OF COBALT PROMOTED NICKEL-BASED CATALYST FOR CO2 UTILIZATION TO SYNGAS IN DRY REFORMING METHANE Muhammad Hakimi Khairuddin, Muhammad Akmal Harith Saifull Bahri, Nur Hidayati Othman, Nurina Adriana Abdul Razak, Muhammad Shafiq Mat Shayuti, Nur Hashimah Alias, Norhasyimi Rahmat @ A Rahman, Sumaiya Zainal Abidin |
| 4. | ICSDG2023-0255 | THE EFFECT OF NUTRITION COUNSELING USING AUDIOVISUAL MEDIA ON KNOWLEDGE AND ATTITUDE ABOUT BALANCED NUTRITION FOR STUNTING MOTHERS IN THE WORK AREA OF UPTD PUSKESMAS EAST MAWASANGKA, CENTRAL BUTON REGENCY Sri Yunanci V Gobel, Risma Sake, Kamera, La Banudi, Masrif, Rasmaniar, Evi Kusumawati, I Made Ray Sudarsono, Hasan, Rofiqoh, Mega Mustika |
| 5. | ICSDG2023-0249 | RISK FACTORS ASSOCIATED WITH INCIDENTS OF STUNTING G IN TODDLER AGES 24-59 MONTHS IN THE WORKING AREA OF THE UPTD PUSKESMAS BATARAGURU Fatmawati, Suriana, I Made Rai Sudarsono, Petrus |

PARALLEL SESSION SCHEDULES FOR ORAL PRESENTER

PARALLEL SESSION C5 – Governance

Date : 6 December 2023

Time : 9.00 am – 10:30 am

Venue : Georgetown Room, Royale Chulan Hotel

Session Chairperson : Dr. Radieah Mohd Nor

| NO. | PAPER ID | TITLE & AUTHOR (S) |
|-----|----------------|--|
| 1. | ICSDG2023-0011 | SUSTAINABLE DEVELOPMENT MANAGEMENT AMONG PUBLIC COMPANIES IN MALAYSIA: EXPLORING THE IMPLICATIONS, CHALLENGES, AND OPPORTUNITIES ON ENVIRONMENTAL, SOCIAL AND GOVERNANCE INITIATIVE Chin-Ling Loh, Suzyrman Sibly, Hamoon Khelghat-Doost |
| 2. | ICSDG2023-0012 | IDENTIFICATION OF KEY STAKEHOLDERS' ENGAGEMENT FACTORS OF SUSTAINABILITY MANAGEMENT IN MALAYSIA WITH A MODIFIED MODEL ON STAKEHOLDER THEORIES Chin-Ling Loh, Suzyrman Sibly, Hamoon Khelghat-Doost |
| 3. | ICSDG2023-0051 | CONCEPT OF PUBLIC PRIVATE PARTNERSHIP IN HOUSING DEVELOPMENT TO ENCOURAGE EQUAL ACCESS TO AFFORDABLE HOUSING Haidaliza Masram, Azlina Md Yassin, Haryati Shafii |
| 4. | ICSDG2023-0169 | IN THE DEANS' SHOES: A QUALITATIVE EXAMINATION OF ISSUES REQUIRING STRATEGIC DECISION-MAKING IN TEACHER EDUCATION INSTITUTIONS Jefferson E. Flores |
| 5. | ICSDG2023-0195 | THE POWER OF FEEDBACK: AN INDUSTRY INTERNS' SUPERVISOR ASSESSMENT OF THE BS INFORMATION TECHNOLOGY STUDENT INTERNS IN A PHILIPPINE STATE UNIVERSITY Rommel L. Verecio |
| 6. | ICSDG2023-0188 | A SYSTEMATIC LITERATURE REVIEW OF GAPS IN PRIMARY SCHOOL PHYSICAL LEARNING SPACE DESIGN Rongrong,S., Firzan, M |

PARALLEL SESSION SCHEDULES FOR ORAL PRESENTER

PARALLEL SESSION D1 – Social

Date : 6 December 2023

Time : 11.00 am – 1:00 pm

Venue : Ballroom, Royale Chulan Hotel

Session Chairperson : Dr Mohd Sukri Shafie

| NO. | PAPER ID | TITLE & AUTHOR (S) |
|-----|----------------|--|
| 1. | ICSDG2023-0182 | STUDY ON CHILD-CENTERED INTERVIEW FACILITY IN SOCIAL WEFALRE AND DEVELOPMENT AGENCY Margie Pinton |
| 2. | ICSDG2023-0204 | EARLY INSIGHTS INTO PATIENT-CENTRIC WEARABLE HEALTHCARE TECHNOLOGY: A PRELIMINARY STUDY Sook Fern Yeo, Cheng Ling Tan, Kah Boon Lim, Mohammad Tariqul Islam Khan, Anushia Chelvarayan, Mohd Helmi Ali |
| 3. | ICSDG2023-0207 | DIGITAL MARKETING DYNAMICS: INVESTIGATING INFLUENTIAL FACTORS IN CONSUMER PURCHASE BEHAVIOUR Lim Kah Boon, Veronica Tan Wan Juan, Yeo Sook Fern, Tan Cheng Ling |
| 4. | ICSDG2023-0218 | POST-PANDEMIC RESILIENCE: ASSESSING THE ROLE OF CORPORATE SOCIAL RESPONSIBILITY (CSR) PRACTICES IN THE HOTEL SECTOR IN FULFILLING SUSTAINABLE DEVELOPMENT GOALS (SDGs) Fazreena Mansor, Nur Fakhzan Marwan, Roslina Ali |
| 5. | ICSDG2023-0226 | MALAYSIAN LOCALIZATION OF A MODIFIED FEAR-AVOIDANCE BELIEF QUESTIONNAIRE Roy Chang Kwang Yang, Sim Kok Swee, Lau Siong Hoe |
| 6. | ICSDG2023-0227 | PROBLEMATICS WITH LOCAL SALT PRODUCTION IN THE EASTERN COASTAL REGION OF KARAWANG REGENCY, INDONESIA Made Panji Teguh Santoso, Angga Sanita Putra, Rina Maria Hendriyani, Medi Nopiana |
| 7. | ICSDG2023-0265 | EDUCATION AND AWARENESS PROGRAM IN MANAGING HUMAN-WILDIFE CONFLICT IN HYDROELECTRIC DEVELOPMENT PROJECT: A CASE STUDY Aisah Md Shukor, Ayuni Samsul Bahri, Alyaa Filza Effendi, Nur Syuhadah Shafie, Sharudin Shahadan, Mohd Syafiq Saharudin, Mohd Muizz Snawi, Shukor Md Nor |

PARALLEL SESSION SCHEDULES FOR ORAL PRESENTER

PARALLEL SESSION D2 – Social

Date : 6 December 2023

Time : 11.00 am – 1:00 pm

Venue : Foyer 2, Royale Chulan Hotel

Session Chairperson : Dr. Teh Sin Yin

| NO. | PAPER ID | TITLE & AUTHOR (S) |
|-----|----------------|--|
| 1. | ICSDG2023-0248 | RELIGIOSITY, FAMILY-OF-ORIGIN AND THE MARITAL SATISFACTION OF MALAYSIAN CHRISTIANS: A PILOT STUDY Genevieve Wong Tze-Lynn, Tam Cai Lian |
| 2. | ICSDG2023-0159 | SUSTAINABLE AND NOVEL DEVELOPMENT OF METAL MATRIX COMPOSITE USING SCRAP ALUMINIUM ALLOY REINFORCED WITH SCRAP BOROSILICATE GLASS PARTICLES BY STIR CASTING TECHNIQUE Said Al Oraimi, Pradeep Kumar Krishnan, Anasyida Abu Seman, Zuhailawati Hussain |
| 3. | ICSDG2023-0259 | UNLOCKING THE SECRETS OF FINANCIAL FREEDOM: EXPLORING THE SYNERGISTIC EFFECTS OF CONTENTMENT, SELF-CONTROL, FINANCIAL KNOWLEDGE AND FINANCIAL BEHAVIOR ON EMERGING ADULT FINANCIAL WELL-BEING Mohd Samsuri Ghazali, Siti Hasziani binti Ahmad, Ratha Krishnan Suppiah, Noor Junaini Arwin Yaacob, Nurul Izzat Kamaruddin |
| 4. | ICSDG2023-0121 | PRISON CLIMATE AND LIFE SATISFACTION AMONG INMATES IN SATELITTE PRISON: MEDIATION EFFECTS OF SOCIAL SUPPORT Mohd Norbayusri Baharudin, Nordin Muhamad |
| 5. | ICSDG2023-0156 | LEGAL NARRATIVES OF THE EFFECTS OF SURROGACY AGREEMENTS UNDER A CHILD'S RIGHTS LENS Dustine Marlee C. Serpa Juan; Jessa Frida T. Festijo |
| 6. | ICSDG2023-0224 | BRIDGING THE GAP: SUSTAINABLE DEVELOPMENT GOALS AND PERSONALISED DISTANCE LEARNING FOR WORKING ADULTS Nurulhasanah Abdul Rahman |

PARALLEL SESSION SCHEDULES FOR ORAL PRESENTER

PARALLEL SESSION D3 – Environment

Date : 6 December 2023

Time : 11.00 am – 1:00 pm

Venue : Foyer 3, Royale Chulan Hotel

Session Chairperson : Dr. Noor Adelyna Mohammed Akib

| NO. | PAPER ID | TITLE & AUTHOR (S) |
|-----|----------------|--|
| 1. | ICSDG2023-0139 | EFFECTIVENESS OF RICE (ORYZA SATIVA) HULL ASH (RHA) AS PARTIAL REPLACEMENT OF CEMENT IN CONCRETE EXPOSED IN COASTAL CONDITIONS Dean Aldrene O. Badua, Raffy M. Espiritu, Daniel Jovin V. Valmores, Nicole A. Gaudia, Ryan Christian A. Mazano, Roel D. Supsup, Karen Joyce B. Santiago, Carluz R. Bautista |
| 2. | ICSDG2023-0242 | MOBILE POWER GENERATOR BASED ON HYDROGEN TECHNOLOGY: POTENTIAL DESIGN AND CHALLENGES Nurliana Farhana Salehuddin, Ridzuwan Mohd Jais, Noraziah Muda |
| 3. | ICSDG2023-0154 | ESTIMATION OF THE ACHIEVEMENT OF SDGS ON POPULATION-BASED ENVIRONMENTAL PILLAR INDICATORS IN BANDAR LAMPUNG CITY Eko Kuswanto, Mahmud Rudini |
| 4. | ICSDG2023-0116 | OPTICAL SPECTROSCOPY IN SUSTAINING QUALITY OF LIFE Ahmad Fairuz Omar |
| 5. | ICSDG2023-0031 | PRO-ENVIRONMENTAL CONSERVATION BEHAVIOR THROUGH THE LENS OF NORM ACTIVATION MODEL: A SYSTEMATIC REVIEW (2018–2023) Muhammad Jaffar |
| 6. | ICSDG2023-0189 | THE FUTURE LANDSCAPE OF SUSTAINABLE MANUFACTURING Novita Sakundarini, Christina Chin May May |

PARALLEL SESSION SCHEDULES FOR ORAL PRESENTER

PARALLEL SESSION D4 – Environment

Date : 6 December 2023

Time : 11.00 am – 1:00 pm

Venue : Batu Feringgi Room, Royale Chulan Hotel

Session Chairperson : Associate Prof. Dr Japareng Lalung

| NO. | PAPER ID | TITLE & AUTHOR (S) |
|-----|----------------|--|
| 1. | ICSDG2023-0181 | A STUDY ON VULNERABILITY AND DISASTER MANAGEMENT IN COASTAL COMMUNITIES Nuñez, Ella Marie D., Arante, Jan Roy L. |
| 2. | ICSDG2023-0240 | FACTORS RELATED TO THE INCIDENCE OF STUNTING IN INFANTS UNDER TWO YEARS IN AREA OF THE KEMARAYA PUBLIC HEALTH CENTER, KENDARI CITY, SULAWESI TENGGARA La Banudi, Suriana Koro, Rasmaniar, Fatmawati, Astaty, Rofiqoh, Evi |
| 3. | ICSDG2023-0049 | UNIVERSITI SAINS MALAYSIA CAMPUS NATURE CHALLENGE: A COLLABORATIVE CITIZEN SCIENCE INITIATIVE FOR BIODIVERSITY CONSERVATION AND ENVIRONMENTAL AWARENESS Cik Ramlah Che Jaafar, Musa Mohamed Ghazali, Mohd Ikhwan Ismail, Noor Adilah Azmi, Mohd Abdul Muin Md Akil, Nadine Ruppert |
| 4. | ICSDG2023-0270 | JAWI RIVER WATER QUALITY INDEX MODELING THROUGH NEW STANDARDIZATION APPROACH AND PCA INTERRELATIONS Khayell Balamurali, Zalina Mohd Ali |

PARALLEL SESSION SCHEDULES FOR ORAL PRESENTER

PARALLEL SESSION D5 – Economy

Date : 6 December 2023

Time : 11.00 am – 1:00 pm

Venue : Georgetown Room, Royale Chulan Hotel

Session Chairperson : Dr Suzyrman Sibly

| NO. | PAPER ID | TITLE & AUTHOR (S) |
|-----|----------------|--|
| 1. | ICSDG2023-0017 | ANALYSIS OF MALAYSIA'S EXPORT POTENTIAL OF PALM OIL AND ITS PRODUCTS TO RCEP MEMBER COUNTRIES Yang Xiaoxi |
| 2. | ICSDG2023-0047 | RESEARCH ON THE INFLUENCING FACTORS OF SUSTAINABLE DEVELOPMENT OF E-COMMERCE IN SMALL AND MEDIUM-SIZED ENTERPRISES Xuesongzi Feng, Lilis Surlenty, Handi Liu |
| 3. | ICSDG2023-0073 | SHARED LEADERSHIP AND KNOWLEDGE SHARING ON EMPLOYEE INNOVATION IN THE CHINESE TELECOMMUNICATION INDUSTRY: ROLE OF OPEN INNOVATION Dong Ke |
| 4. | ICSDG2023-0110 | THE HYDROGEN ECONOMY AND ENERGY TRANSITIONS IN EAST AND SOUTHEAST ASIA: A GLOBAL PRODUCTION NETWORK APPROACH Neil McGregor, Godfrey Yeung |
| 5. | ICSDG2023-0125 | AN ECOLOGICAL-ECONOMIC APPROACH IN DEVELOPING SUSTAINABLE MANAGEMENT OPTIONS FOR BEACH FORESTS IN ILIGAN BAY, MINDANAO, PHILIPPINES Wella T. Tatil, Canesio D. Predo, Cristino L. Tiburan Jr., Rico C. Ancog, Hildie Maria E. Nacorda |
| 6. | ICSDG2023-0138 | THE DETERMINANTS OF EMPLOYEE DEVELOPMENT IN FAMILY BUSINESS ORGANIZATION IN HOUSING DEVELOPMENT INDUSTRY IN YUNNAN PROVINCE, CHINA Hua Xia, Yong See Chen |
| 7. | ICSDG2023-0152 | EFFECT OF PURPLE NONSULFUR BACTERIA (<i>Rhodopseudomonas palustris</i> IMB3) FEED ON ARTEMIA FITNESS AND NUTRITIONAL VALUES Jasnizat Saidin, Athirah Zaidi, Yeong Yik Sung |
| 8. | ICSDG2023-0211 | THE ROLE OF THE CENTRAL BANK OF INDONESIA IN EMPOWERING MICRO, SMALL, AND MEDIUM ENTERPRISES (MSMEs) THROUGH FINANCIAL INCLUSION: A CASE STUDY IN "PERKUMPULAN TENAGA KERJA PURNA & KELUARGA (PERTAKINA)" Joko Susilo, Ugi Suharto |

POSTER

| NO. | PAPER ID | TITLE & AUTHOR (S) |
|-----|----------------|--|
| 1. | ICSDG2023-0273 | THE IMPACT OF AGILE SUPPLY CHAIN MANAGEMENT ON THE SUSTAINABLE DEVELOPMENT OF ENTERPRISES Li Mingjuan, Mohd Sayuti Hassan |
| 2. | ICSDG2023-0269 | RESEARCH ON THE IMPACT OF SUSTAINABLE DEVELOPMENT AWARENESS AND KNOWLEDGE LEVEL ON INDIVIDUAL ATTITUDES TOWARDS ELECTRICITY CONSUMPTION: A CASE STUDY OF XINXIANG, HENAN PROVINCE, CHINA RESIDENTS Wang Wenxin |
| 3. | ICSDG2023-0272 | RELATIONSHIP BETWEEN RECYCLING FACILITIES AND PROGRAMS BY THE LOCAL AUTHORITIES AND HOUSEHOLDS' PRACTICES ON SOLID WASTE SEPARATION AT SOURCE IN SELANGOR, MALAYSIA Nur Aqilah binti Azni |
| 4. | ICSDG2023-0260 | EXPLORING THE DETERMINANTS OF CASHLESS TRANSACTIONS WITHIN RURAL NORTHERN MALAYSIAN COMMUNITIES Nur Baiti Shafee, Shadia Suhaimi, Haniza Hashim, Siti Nurul Huda Mohd |
| 5. | ICSDG2023-0261 | PRELIMINARY ASSESSMENT OF PLANT DIVERSITY ALONG NENGGIRI RIVER AND KARST LIMESTONE HILLS IN NENGGIRI, GUA MUSANG, KELANTAN Alyaa Filza Effendi, Fariz Amirul Hisyam Kamarudin, Aisah Md Shukor, Ayuni Samsul Bahri, Mohd Shafiq Zakeyuddin, Shahril Mod Husin, Rahmad Zakaria, and Asyraf Mansor |
| 6. | ICSDG2023-0032 | THE QUALITY OF CLASSROOM INFRASTRUCTURE AND SUSTAINABILITY IN EDUCATION: A CASE STUDY IN CAMBODIA Tuong Quyen Vu |
| 7. | ICSDG2023-0193 | EFFECTS OF RELATIVE HUMIDITY AND AIRFLOW ON THE TEMPERATURE OF DISCARDED HEAT-NOT-BURN STICKS AND CIGARETTES Sukport Sunan, Yee Guan Ng, Shahrman Abu Bakar, Jauharah Khudzari, Rishan Murali, Zuradzman Mohamad Razlan, Muhammad Faiz Hilmi Rani |

POSTER

| NO. | PAPER ID | TITLE & AUTHOR (S) |
|-----|----------------|---|
| 8. | ICSDG2023-0208 | DRIVER OF SUSTAINABILITY: EVALUATION AND COMPARISON OF COLLABORATIVE INNOVATION EFFICIENCY IN CHINA'S CHENGDU-CHONGQING URBAN AGGLOMERATION Ying Fu, Dayang Haszelinna Abang Ali, ZhaoHan Wang |
| 9. | ICSDG2023-0225 | PHYSICAL CHARACTERIZATION OF MICROPLASTIC POLLUTANTS IN GROUNDWATER Nurain Saipolbahri, Noor Syuhadah Subki, Norashikin Mohd Fauzi |
| 10. | ICSDG2023-0233 | THE RISK FACTORS STUNTING IN TODDLERS AGES 6-36 MONTHS AT THE COASTAL AREA AT SOROPIA, INDONESIA. Rasmaniar, Nur cahyaning Fitroh, Risma Sake, Teguh Fathurrahman, Suriana Koro, Fatmawati, Sri Yunancy V.Gobel, I Made Ray Sudarsono, Astati, Petrus, Kameriah Gani, Lena Atoy |
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PROGRAMME & ABSTRACT BOOK

ABSTRACTS: ORAL / POSTER PRESENTATION

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ICSDG2023-0008

FRACTAL CHARACTERISTICS AND INFLUENCING FACTORS OF LANDSCAPE SPACE OF TIBETAN RURAL IN WESTERN SICHUAN: A CASE STUDY OF THREE TRADITIONAL VILLAGES

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ABSTRACT

This study examined the landscape space of traditional Tibetan villages in western Sichuan and selected three national-level traditional villages of different Tibetan clans in Gyatso, Amdo, and Baima Tibet as samples. Using fractal theory, along with counting-box dimension measurement and spatial analysis methods, it analyzed the fractal characteristics of their landscape space and their influencing factors comparatively. The study revealed that the landscape space of these villages has certain fractal characteristics, manifested by self-similarity and irregularity. The fractal characteristics of different villages are affected by various factors such as natural conditions, religious beliefs, folklore, etc., exhibiting differences and diversity. There is a certain correlation between the fractal dimension and the distribution of landscape elements and spatial patterns, which can be used to describe the complexity and diversity of landscape space patterns. The article contended that fractal theory offers a new perspective and method for exploring the spatial characteristics of traditional Tibetan villages, which helps to uncover their intrinsic formation mechanisms and cultural connotations and provides new insights into the sustainability of traditional village culture. Meanwhile, the article acknowledged the limitations and shortcomings of the study and suggested directions and recommendations for future research.

Keywords: Tibetan villages, landscape space, fractal characteristic, complexity, influencing factors

ICSDG2023-0009

LEAVE NO ONE BEHIND: ENHANCING REFUGEE YOUTH SOCIAL WELL-BEING THROUGH ALTERNATIVE EDUCATION SYSTEM

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ABSTRACT

According to 2022 UNICEF's report, poverty and lack of financial resources were refugees' main barriers to education in Malaysia, leading to prioritization of earning over learning. Hence, implementation of SDG 4 Quality and Equitable Education for refugees can only be effective when the strategies are developed according to their need and context. This can't be achieved through public education as refugees' illegal immigrant status stipulated by Malaysia's Immigration Act impedes their access to national schools. Currently, around 70% of the school-going-aged refugees are not schooling. Alternative Learning Centres (ALCs), despite lacking in resources, have been the main agencies that provide education for their holistic growth. This study explores refugees' views on their social well-being (SWB) and its correlation with their education. The research, conducted using mixed-method analysis and deductive approach, utilized an online survey adapted from Keyes 5 SWB Dimensions for its quantitative analysis. For its qualitative study, thematic analysis was conducted using in-depth-interview data. The statistical result revealed refugee students' positive perspective on their SWB. Five key themes surfaced on correlation between ALCs and refugee learners' SWB. Based on quantitative results from factor analysis and the qualitative findings, an improved version of refugee youth SWB indicators for Malaysia's context was proposed. This newly developed framework can help progress refugee youth SWB in line with Malaysia's SDG commitment to 'Leave No One Behind.'

Keywords: education; refugee youth; well-being; SDGs.

ICSDG2023-0010

RESEARCH ON CUSTOMER SATISFACTION OF MID-TO-HIGH-END HEALTH AND WELLNESS HOTELS IN CHINA BASED ON ONLINE REVIEWS

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ABSTRACT

With the rapid development of information technology, the acquisition of online review data is more convenient and can truly reflect the hotel customer satisfaction. It is necessary to study the factors that affect hotel customer satisfaction based on online review content. Through the analysis of relevant literature on online reviews, taking 50 mid-to-high-end health and wellness hotels in China as the research object, using Python to crawl online review data, and comprehensively analyzing the semantic keywords and categories of customer online comment statements. Through the factor analysis, it is found that service, facilities, sanitation, etc. are the factors that affect customer satisfaction in mid-to-high-end health and wellness hotels. The article will put forward specific countermeasures and suggestions to improve customer satisfaction from the aspects of facilities and services, continuously improve customer satisfaction in health and wellness hotels, attract more customers to spend in health and wellness hotels, and help the sustainable development of health and wellness hotels.

Keywords: online reviews; customer satisfaction; health and wellness Hotels; China.

ICSDG2023-0016

MEASURES TO IMPROVE EARLY CHILDHOOD TEACHERS' PSYCHOLOGICAL WELL BEING AFTER THE COVID-19 PANDEMIC: A DEVELOPMENTAL PSYCHOLOGY PERSPECTIVE

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ABSTRACT

Purpose: This article aims to bridge the gap in recent research on early childhood education for sustainability (ECEfs), which has primarily focused on children and teaching. In this study, we investigate the post-COVID-19 pandemic scenario to improve the psychological well-being of teachers, a critical component in childhood education, from a developmental psychology perspective to ensure sustainability in this field. Design: Interviews were conducted with volunteered early childhood teachers to gather information regarding factors negatively influencing their psychological well-being. The collected data was analyzed through NVivo to explore possible solutions to improve their psychological well-being status. Findings: The study reveals several factors significantly affecting early childhood teachers' psychological well-being: teacher beliefs, teaching efficacy, and work environment. These findings suggest that effective measures to enhance their psychological well-being should address all three aspects. Originality: This article contributes by identifying the factors that negatively influence early childhood teachers' psychological well-being and proposes potential measures for improvement from a developmental psychology perspective.

Keywords: early childhood teachers' psychological well-being; developmental psychology; early childhood education for sustainability; NVivo; COVID-19.

ICSDG2023-0021

FACTORS AFFECTING LECTURERS' WILLINGNESS AND READINESS TO TEACH THE INTEGRITY AND ANTIRASUAH COURSE

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ABSTRACT

Recently, the Ministry of Higher Education has made it compulsory for all higher institutions to teach the Integrity and Antirasuah course starting from September 2023. In Malaysia, it is required for the lecturers to have specific training before they are able to teach the General Education Courses (MPU henceforth). Aside from the quality education, this study is also relevant to other SDG goals which are peace, justice and strong institutions. This study examines the connection between the characteristics of the current MPU lecturers and non-MPU lecturers (n=50) in selected universities and their willingness and readiness to teach the Integrity and Antirasuah course. A completed survey will be analysed using descriptive analyses while selected lecturers will do a semi-structured interview. On average, the lecturers were only willing to teach the Integrity and Antirasuah course and were more likely to have experienced teaching MPU courses before, taught a least one (1) MPU subject before, have received the training to teach the mentioned course and have a greater understanding on the importance of the course to the students. Almost half of the population who participated in the survey are reluctant to teach the new MPU courses due to certain factors such as the need to teach the course in Bahasa Melayu, they were not trained to teach the course and perceive that the MPU courses are less important to the students. In this study, the results are discussed in terms of the implications for training designed to increase lecturers' willingness and readiness to teach the Integrity and Antirasuah course.

Keywords: Integrity and Antirasuah course, lecturer characteristics, General Education Courses

ICSDG2023-0028

SUSTAINING LIVELIHOOD FOR ROHINGYA REFUGEES: IDENTIFYING CHALLENGES TOWARDS PROPOSING RECOMMENDATIONS

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ABSTRACT

In Malaysia, the Rohingya refugees inhabit semi-urban and big cities, seeking employment possibilities to supplement their income as they await the implementation of long-term solutions. Due to this, they are now compelled to work in the informal sector in a variety of jobs and income-producing ventures, including temporary, unskilled labour at little pay, despite the danger of exploitation and arrest. Therefore, in order to identify their difficulties, categorize their coping mechanisms, and create an integrated intervention policy to address those difficulties while taking into account the justifiable concerns of the Malaysian government and society, a study of the status of Rohingya refugees in Malaysia is required.

Keywords: refugee, rohingya, economy, sustainability

ICSDG2023-0029

ENGLISH TEACHERS ONLINE ASSESSMENT SUSTAINABLE PRACTICES: ANTECEDENCE AND CHALLENGES

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ABSTRACT

The researchers employed a mixed-method approach including quantitative method via an online investigation and qualitative method by interviews and explored three crucial dimensions related to online assessment within the framework of sustainable practice: (1) English teachers' observations of sustainable online assessment practices, (2) the exploration of potential significant differences in the implementation of sustainable online assessment practices between teachers in China and Malaysia, and (3) challenges that teachers encounter while integrating sustainable practices into online assessments. The findings indicated that the overwhelming majority of English teachers expressed a moderate attitude towards the concept of sustainable online assessment practice (SOAP). These educators offered both positive and neutral perspectives on techniques or methods employed in the pursuit of sustainable online assessments, signifying an emerging appreciation for sustainability in educational contexts.

Keywords: English teacher; Online Assessment Practices (OAP); Sustainable practice; Mix-method.

ICSDG2023-0056

A DYNAMIC APPROACH TO PARTICIPATORY PLANNING AND STAKEHOLDER ANALYSIS IN THE FISHING AND FISHERIES COMMUNITIES OF THE GAZA STRIP

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ABSTRACT

Sustainable development is a collective responsibility that requires strong and diverse partnerships among different stakeholders. This study focuses on the fishing and fisheries sector of the Gaza Strip, which faces multiple challenges due to crises and disasters. The study aims to design a structural model for stakeholder engagement and participatory planning in this sector, as well as to evaluate its performance and potential. The study adopts a dynamic technique of participatory planning, using dialogues, focus groups, brainstorming, and participatory observations with various actors, such as government agencies, international organisations, unions, associations, fishermen, and aquaculture farmers. The study develops a relevant model that analyses, classifies, engages, and communicates among three main institutional levels and secondary actors. The study also identifies the factors that influence the application of participatory planning, such as knowledge gaps, implementation barriers, financial or political constraints, and partnership weaknesses. The study recommends organizing workshops and meetings to define the roles and responsibilities of all entities involved in the structural plan, to ensure effective participatory planning, representation, and coordination in times of crises and disasters.

Keywords: sustainability; climate change; disaster; fishing community; Palestine.

ICSDG2023-0083

A DEEP LEARNING MODEL: THE INFLUENCE OF MOBILE PHONE INTERFACE METAPHORS ON THE COGNITIVE LOAD BEHAVIOR OF THE ELDERLY

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ABSTRACT

Interface metaphor is a design strategy considered as a way of interacting with users with technology to help them understand and manipulate the interface of software, applications, or any interactive system. By introducing real-world metaphors into user interfaces, designers can reduce the burden of learning a new design and improve the user experience. However, its effectiveness is still unknown in the elderly population. (Purpose) This study uses people's experience and knowledge of the natural world to help them understand and use digital interfaces. (Methods) An empirical study was conducted to investigate how older adults use mobile interfaces in the presence of metaphors, using a questionnaire and a "deep learning" approach to comprehensively assess the possible influence of user perception, user experience, and interface preferences. (Conclusions) The results suggest that using interface metaphors can help reduce cognitive load for older adults, but only for those with a higher technical user experience. In addition, overuse of interface metaphors may lead to increased interface complexity, thus reducing user efficiency and satisfaction. Therefore, different factors must be weighed to achieve an optimal user experience during the design process.

Keywords: deep learning; metaphors; cognitive load; older adults; impacts.

ICSDG2023-0086

DESIGN AND DEVELOPMENT OF FORMATIVE ASSESSMENT FOR STUDENTS WITH AUTISM IN LEARNING ENGLISH LANGUAGE THROUGH PROJECT BASED LEARNING: A NEEDS ANALYSIS

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ABSTRACT

Project Based Learning (PBL) is an educational approach that highlights student-centered learning by acknowledging and valuing students' abilities, tendencies, cognitive skills, and talents. As a part of formative assessment, Project Based Learning facilitates a comprehensive learning experience by offering students the chance to investigate and explore knowledge while also engaging in self-evaluation and reflection. The significance of this learning process is in its ability to enable students to articulate novel findings, transformations, and emotions encountered during the execution of a project. This paper reports on the first phase of the study which aims to probe into the needs of having a teaching module that consists of instruments and rubrics of Project Based Learning which also serves as formative assessment in assessing students with autism in primary school. Data accumulated from responses on survey questionnaires based on 5 Likert-point scale were analyzed statistically.

Keywords: Project Based Learning; formative assessment; instrument; rubric; needs analysis; teaching module; autism.

ICSDG2023-0087

THE DEVELOPMENT AND THE EFFECTIVENESS OF SCHEMA THERAPY ON MALAYSIAN FEMALE

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ABSTRACT

In Malaysia, most psychotherapies were introduced in the 1980s and 1990s. Unfortunately, the development and availability of new psychotherapies have been comparatively slower and neglected in Malaysia, particularly in the context of trauma-focused psychotherapy. A new therapeutic model, schema therapy, has been hypothesized as a potential alternative for trauma treatment. This study adapted schema therapy to be culturally specific for Malaysia and conducted an interventional randomized controlled trial to investigate its effectiveness. The study focused on female young adults in Malaysia who had experienced repeated and continuous trauma. The effectiveness of schema therapy was compared with Trauma-Focused Cognitive Behavioral Therapy (Tf-CBT). Each group comprised 15 participants who received 16 one-hour therapy sessions over a span of 4 months. Post-traumatic stress disorder (PTSD) symptoms were measured during the pre-test, post-test, and 3-month follow-up assessments. Additionally, semi-structured qualitative interviews were conducted with participants from both the schema therapy and Tf-CBT groups to gain a deeper understanding of the differences between the two psychotherapeutic approaches. Both quantitative and qualitative analyses demonstrated that schema therapy exhibited superior short-term and long-term effectiveness compared to Tf-CBT in reducing PTSD symptoms. These findings support the viability of schema therapy as an effective option for addressing trauma in the Malaysian context.

Keywords: PTSD; trauma; Malaysia; Schema Therapy.

ICSDG2023-0095

EVALUATING HOSPITAL DISASTER PREPAREDNESS COMMUNICATION IN RESPONSE TO COVID-19: A RETROSPECTIVE STUDY OF HOSPITAL UNIVERSITI SAINS MALAYSIA DISASTER COMMUNICATION EFFECTIVENESS

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ABSTRACT

This study examines how well Universiti Sains Malaysia (USM) responded to the COVID-19 pandemic, focusing on the university's hospital effectiveness and compliance with the Hospital Disaster Preparedness (HDP) during the pandemic. From January 2020 to December 2021, USM's pandemic disaster communications from internal and external domains were collected, sorted, chronologized, descriptively analysed, screened for HDP elements, and mapped against the World Health Organization (WHO) HDP in Pandemic Influenza checklist (PIC) key component criteria (KCC). During this period, USM released 100 pandemic related communications including announcements (67), Standard Operating Procedures (22), and guidelines (11). The study found that these communications achieved a compliance rate of 58.4 percent with the PIC criteria. The hospital did well in some areas of HDP, such as disaster operation centre, communication planning, human resources, and hospital surveillance while lacking in the areas of logistics management of supplies and pharmaceuticals, hospital surge capacity, essential services continuity, and support. The authors concluded that Hospital USM's communications during COVID-19 pandemic disaster were primarily focused on specific key component criteria outlined in the HDP PIC. However, the authors also identified certain vulnerabilities that needed to be addressed. These vulnerabilities may be addressed by prioritizing education, training, workshops, meetings, policy updates, observations, drills, audits, and surveys. Moreover, HDP PIC key component criteria must be implemented and monitored prior to disaster occurrence.

Keywords: preparedness, response, communication, hospital, pandemic.

ICSDG2023-0118

STRESS AND MOVEMENT CONTROL ORDER: UNVEILING THE SUSCEPTIBLE GROUPS AMONG ADULT POPULATION DURING COVID-19 PANDEMIC IN KEDAH

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ABSTRACT

BACKGROUND: COVID-19 pandemic triggers significant increase in prevalence of stress worldwide. However, the extent and factors associated with psychological distress during COVID-19 in the local population are not adequately explored. This study aimed to determine the prevalence and factors associated with stress among adult population in Kedah, Malaysia during COVID-19 pandemic. **METHODS AND MATERIALS:** This is a cross-sectional study using retrospective record review among adult population of Kedah who were screened for mental health well-being from January 2021 until March 2022. A descriptive and multiple logistic regression analysis was done by SPSS version 26. The dependent variables were presence of stress while the independent variables were sociodemographic, clinical factors and movement control order period (MCO). **RESULT** The prevalence of stress was 45.7% (95% CI 41.6%, 49.8%). The majority of them did not have stress (54.3%), followed by severe stress (12.3%), moderate (11.9%), mild (11.7%) and very severe stress (9.8%). The significant factors associated with stress among adult population in Kedah, Malaysia during COVID-19 pandemic were female (Adj OR 3.035 95% CI: 2.007 to 4.591, p-value <0.001), being unemployed (Adj OR 2.171 95% CI: 1.480 to 3.185, p-value <0.001) and being under MCO (Adj OR 0.383 95% CI: 0.264 to 0.555, p-value <0.001). **CONCLUSION** The prevalence of stress among adult population during COVID-19 pandemic in Kedah was 45.7%, higher than other studies. Being female and unemployed were associated with stress, while MCO period was a protective factor against stress. Preventive strategies should be tailored based on the vulnerabilities of these groups.

Keywords: stress; adult; DASS-21; COVID-19; movement control order

ICSDG2023-0120

ENHANCING SUSTAINABLE DEVELOPMENT GOAL 3 THROUGH TIMELY HIV CASE PRESENTATION: A STUDY IN PULAU PINANG, 2017–2021

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ABSTRACT

Introduction: Late presentation (LP) of HIV cases is a significant barrier to achieving Sustainable Development Goal 3 of ending the AIDS epidemic by 2030. In 2021, 68% of new HIV cases in Malaysia presented late, emphasizing the urgency of addressing this issue. **Objective:** This study aimed to determine the trend and factors associated with LP of HIV cases in Pulau Pinang from 2017 to 2021, shedding light on the relationship between LP and the pursuit of SDG 3. **Method:** A cross-sectional study was conducted utilizing secondary data from National AIDS Registry and Penang State Health HIV/AIDS databases. Data analysis was performed using descriptive and logistic regression. **Results:** Out of 1196 cases, 62.2% presented late. Late presenters included age above 50 years (80.4%), Chinese ethnicity (65.5%), unemployment (60.6%), people who inject drugs (PWID) (68.2%), residing in the Timur Laut District (64.4%), and coinfections with Hepatitis C (72.5%) and Tuberculosis (81.4%). Over the study period, overall late presentation rate increased from 57.6% to 64.4%. Factors associated with late presentation included age (30-49: AOR 1.91, 95% CI:1.45-2.51; 50 and above: AOR 4.0, 95% CI:2.44-6.55), ethnicity (Chinese: AOR 2.06, 95% CI:1.35-3.13; Malay: AOR 2.45, 95% CI:1.64-3.65), unemployment (AOR 1.40, 95% CI: 1.00-1.95), and Tuberculosis coinfection (AOR 2.64, 95% CI:1.69-4.14). **Conclusion:** To advance SDG 3 and ensure inclusivity in HIV care, addressing age, ethnicity, employment status, and Tuberculosis coinfection is essential. These findings call for targeted strategies to improve timely HIV case presentation and ultimately contribute to a sustainable future.

Keywords: HIV; AIDS; SDG 3; late presentation.

ICSDG2023-0123

ACTIVE AGING AND ELDERLY LABOR'S REEMPLOYMENT: A QUALITATIVE STUDY IN HEBEI, CHINA

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ABSTRACT

Participation is one of the three key policy proposals of active aging, empowering elderly individuals to attain self-sufficiency and lead fulfilling retired lives. The paper provides an in-depth understanding of aging in China by analyzing the occupations chosen by the elderly for reemployment. The data, derived from purposive sampling consists of semi-structured interviews with 30 elderly employees in Hebei Province, China. The study compares the types of occupations held by the elderly before and after their retirement. This comparison resulted in three reemployment categories: same organization, same industry, and different industries. The findings highlight that the continuous social participation of the elderly is a vital approach to addressing the societal aging challenges. The paper concludes with policy recommendations to support the reemployment of older workers and promote ongoing socioeconomic development.

Keywords: active aging; elderly labor; reemployment occupations; sustained socioeconomic development.

ICSDG2023-0126

TRADITIONAL KNOWLEDGE AND USES OF PLANTS AMONG THE HIGAONON COMMUNITY AND LOCAL RESIDENTS IN APOSKAHOY, CLAVERIA, MISAMIS ORIENTAL, PHILIPPINES

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ABSTRACT

Rural populations, particularly those near or inside forests, frequently meet their needs for food and traditional medicine using plant resources obtained from the surrounding environment. The Higaonon cultural community and locals in Aposakahoy, Claveria, Misamis Oriental, Philippines were the subjects of an ethnobotanical study. To enhance species protection and advance sustainable resource use, it is crucial to record traditional local knowledge (TLK) about the plants utilized as food, medicine, timber/fuel, and as marketable or economically significant plants in rural areas. The information was gathered through a semi-structured interview, field observations, group discussions, and escorted field walks. The informant consensus factor (ICF), fidelity level (FL), use-report (UR), use-value (UV), relative frequency of citation (RFC), and family importance value (FIV) were quantified. Results show that some plants have the potential for commercialization and can significantly increase farm families' income. This study may help preserve and mitigate decreasing local knowledge as a result of urbanization. This will help in the promotion, optimal utilization, and production of selected plants for food security in the face of climate change. The research area contains a variety of medicinal and edible plants which is crucial for raising awareness, encouraging sustainable use, and thoughtful development as useful plant resources. Additionally, this would support food security, sustainable community and life on land which is among the Sustainable Development Goals (SDGs) of the United Nations. Thus, they continue to recognize the significance of using indigenous plants to suit human requirements and keep traditional knowledge alive for coming generations.

Keywords: ethnobotany; medicinal plants; food plants; SDG; traditional local knowledge.

ICSDG2023-0128

A REVIEW AND INTERGRATED THEORETICAL MODEL OF THE DEVELOPMENT OF AGEING IN CHINA

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ABSTRACT

The development of theoretical models of ageing among the elderly in China is lacking. Different ageing theories provide different ways of seeing and expounding ageing problems in different countries. This paper reviews the existing theoretical models of ageing and introduce an integrated model of active ageing and ageing in place for ageing in China. Several theoretical models of ageing that are supported by empirical research are reviewed. There is disengagement theory, activity theory, continuing theory, symbolic interaction theory and structural functional theory, and biologically based theories. In addition, these models are used to account for geographical and gender-specific factors that may influence the development of ageing in China. Thus, this paper presents an integrated model of active ageing and ageing in place with the aim of guiding and stimulating research in this neglected group.

Keywords: ageing theories; active ageing; ageing in place

ICSDG2023-0129

COLLABORATION BETWEEN STAKEHOLDERS TO REDESIGN MALAYSIAN PUBLIC SCHOOLS: THE MOTIVATION AND CHALLENGES

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ABSTRACT

This paper aims to analyze the motivation and challenges of different stakeholders to redesign learning spaces in Malaysian public schools. This paper presents an analysis of learning spaces redesign projects in five Malaysian public schools which involves the school community and external organizations. Apart from conducting an online survey for students (n=196), interviewing the teachers and school leaders (n=5), documentation reviews are done to explore government circulars, the design project proposals and Corporate Social Responsibilities (CSR) policies of participating parties (n=5). Findings show that redesigning of learning spaces in Malaysian public schools is effective when school leaders and teachers with a high sense of ownership over their teaching and learning spaces collaborate with community members with high sense of responsibility for education betterment. However, these admirable actions taken by both internal and external stakeholders are not without their challenges. Main challenges that emerged are issues related to resources such as time, energy and financial constraints, as well as meticulous processes to sustain the transformation. With the National Budget allocated mainly to repair dilapidated schools, this analysis is intended to provide multiple ideas and inspiration for other schools to redesign their learning spaces despite budgetary restraint.

Keywords: stakeholders' engagement; learning spaces; public schools; sense of responsibility; sense of ownership

ICSDG2023-0132

IMPACT OF ORAL HEALTH COMMUNITY MOBILIZATION IN THE CORDILLERA ADMINISTRATIVE REGION

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ABSTRACT

Considering the Universal Health Care Act and the 2030 Agenda for Sustainable Development, the Oral Health Program evolves its efforts to contribute to Sustainable Development Goal 3 by mobilizing support for preventive, atraumatic, curative treatments in order to meet and sustain the requirements, aspirations, and expectations of many stakeholders. The study sought to determine the difference in the provision of oral health services before and after community mobilization intervention. This work used a quantitative research design, and the data was gathered through reports from different oral health coordinators in different provinces from 2021 to 2022. The participants were Cordillera residents who have availed of oral health services coming from all life stages. The t-test was used to draw comparisons between the baseline accomplishment of oral health services in 2021 to the accomplishment of oral health services in 2022 after the intervention of community mobilization. The results revealed that accomplishments in 2021 had a mean of 9.10, while accomplishments in 2022 had a mean of 24.63. The result indicates that there is a very significant increase in accomplishment with the intervention of oral health community mobilization, as evidenced by the computed P value of 0.0001, which is less than 0.05. As a result, the oral health community mobilization appears to be very promising, as it has already had an impact in its first year. However, it is recommended that a follow-up study be conducted for qualitative research.

Keywords: Community mobilization; Oral health; Oral health services

ICSDG2023-0137

IP EDUCATION AS A CATALYST FOR SOCIAL TRANSFORMATION: IMPACT ASSESSMENT OF LPU'S INTERVENTION WITH THE DUMAGAT IN MASLA, GEN. NAKAR, QUEZON

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ABSTRACT

This study explored the impact of TAYAN -IPEd program of the Lyceum of the Philippines University spearheaded by the and Community Outreach and Service Learning (COSeL) and the College of Arts and Sciences together with the Dumagat in Sitio Masla, General Nakar, Quezon Province. Qualitative methods through in-depth interviews, community mapping and FGDs were used to gather and analyze data which later on were categorized into themes and patterns. The Organization for Economic Cooperation and Development (OECD) framework was also used to get the overall assessment of the program. Results showed that the TAYAN-IPEd program has achieved its goal of providing access and equity to its target beneficiaries through collaboration, community participation, ancestral domain as learning spaces, and support from all the stakeholders. The COVID-19 pandemic, fast turnover of teachers, and lack of Dumagat-speaking teachers affected the implementation of the program. The researchers recommend a comprehensive capacity-building program for the community and teachers, establishment of Dumagat Masla Integrated School to provide guarantees of security for the teachers and students, and language revitalization program using CBILD to address the gaps and sustain the gains of the program.

Keywords: Dumagat; IP education; impact assessment; accessibility; collaboration

ICSDG2023-0144

THE INEQUALITY OF 'GENDER' EQUALITY WITHIN SDG 5: THE MALAYSIAN CONTEXT

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ABSTRACT

Sustainable Development Goal (SDG) 5 on achieving Gender Equality and the empowerment of all women and girls emphasises the importance of closing the gender gap. The purpose of this paper is to highlight the importance of defining 'gender' within SDG 5 and to draw attention to the Malaysian position in relation to the rights of transsexuals to be recognised in their new gender. The definition of 'gender' is often said to mean the sex of an individual - man, woman, girl, boy. The findings in this study conclude that gender is a fluid concept of which sex is a sub-set, that transsexuals in Malaysia are not, generally ascribed legal recognition of their sex and will accordingly be outsiders looking in. Transwomen would not be legally considered as women or girls who need to be empowered (SDG 5). Where transsexuals are denied legal recognition of their 'new' gender, this goes against the objectives of the SDGs which centre on inclusivity and no one being left behind. This study adopts a legal research methodology by utilizing a doctrinal approach to research. This involved a systematic analysis of legal texts, legislative provisions, judicial decisions, treaties and conventions, domestic and international documents and reports. This study contributes towards the understanding of 'gender' and 'sex' and the continued discourse on the rights of transsexuals in Malaysia.

Keywords: gender inequality; transsexuals; SDG 5; gender recognition; inclusivity

ICSDG2023-0146

Quantum Science and Technology (QST) Education-A Bibliometric Analysis

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ABSTRACT

Quantum Science and Technology (QST) has rapidly advanced in the past two decades, revolutionizing various aspects of our lives. As the future becomes increasingly quantum-focused, industries need skilled professionals with competent knowledge and expertise. Numerous studies have explored quantum education to meet the growing demand for a skilled workforce in quantum industries, covering learning difficulties, teaching content, strategies, and tools. However, a comprehensive bibliometric analysis encompassing the entire spectrum of QST education at all educational levels is still lacking. Thus, this study applied bibliometric analysis to address two objectives: a) provide systematic insights into QST education quantitatively, and b) outline the evolving conceptual structure of this field. Specifically, it addressed the following questions: a) publication and citation trends, b) most productive authors and countries, c) key research themes and publications, and d) the temporal shift of research focus. The findings highlighted significant publication growth over the last two decades, indicating the increasing importance of QST education. Prolific authors like Singh C. and countries like the U.S. emerged as leading contributors. Prominent publishing venues, including the European Journal of Physics, were identified as influential publication avenues. In addition, collaborative efforts between institutions, particularly between the U.S. and U.K., emphasized their dominating role in fostering international collaborations. Finally, the recent shift in research attention towards quantum computing and communication education, aligning with its growing significance and the escalating industry demand for skilled professionals, suggests a promising avenue for future research exploration.

Keywords: Quantum Science and Technology (QST); education; Bibliometric Analysis

ICSDG2023-0163

A CONCEPTUAL APPLICATION OF THE EMOTIONAL-CULTURAL DESIGN FRAMEWORK (ECDF) IN DESIGNING PLEASURABLE CHINESE INTERIOR SPACES

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ABSTRACT

Emotions are guided by individuals' interactions with their surroundings. Therefore, interior designers commit additional effort to beautifying places which individuals loiter frequently, including houses, offices, and schools. Accordingly, the designers are required to collect valuable information about users' preferences before designing the interior spaces with elements reflecting cultural preferences, user needs, and other factors. The current study recognized the importance of incorporating emotional elements in interior space design by developing a conceptual framework to integrate sentimental satisfaction in achieving a pleasurable and delightful interior design. Specifically, the design environment and strategies (including Chinese interior design features and characteristics) were employed to ensure that the interior design encompassed visceral, behavioral, and reflective attributes to create congenial interior spaces. The study also presented future research directions to expand the present conceptual framework.

Keywords: Emotional-Cultural design framework; emotional design; new Chinese decorative style design; interior spaces.

ICSDG2023-0182

STUDY ON CHILD-CENTERED INTERVIEW FACILITY IN SOCIAL WELFARE AND DEVELOPMENT AGENCY

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ABSTRACT

The Council for the Welfare of Children (*Data on Children*, n.d.) reports that three in every ten children belong to identified poor families in 2015. Children in need of special protection and children at risk are prevailing despite the government and non-government institutions' effort to eliminate any form of abuse of children. According to UNICEF's Report (*Child Protection*, n.d.), 80% of Filipino children have experienced some form of violence at home, school, community and even through online. Given this social reality, children are becoming more vulnerable and our efforts to protect children must also cope to prevent them from re-traumatization. Being abused can increase risks of various physical and emotional conditions in the life of a child (*The Mental Health Impact of Child Abuse*, 2023). It is imperative to have a conducive facility for interviewing children as part of the primary procedures in case management particularly for newly rescued children. This study will support the need for an interviewing facility that is anchored on child protection and safe space law which fosters preservation and protection of children's rights. This practice is seen as enabling mechanism that ensures children's best interest and protection to their rights. The study is done through focus group discussion among victim survivors who underwent the process during the case management as well as interviewing practitioners using the same facility in managing cases.

Keywords: social entrepreneurship; SWOT analysis; poverty (three to five keywords).

ICSDG2023-0204

EARLY INSIGHTS INTO PATIENT-CENTRIC WEARABLE HEALTHCARE TECHNOLOGY: A PRELIMINARY STUDY

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ABSTRACT

Wearable technologies have emerged as formidable tools with the potential to improve patient care in the ever-changing healthcare technology environment of healthcare technology. The study aims to provide early insights into the field of patient-centric wearable healthcare technologies. The quantitative data gathered are subsequently analysed to offer a comprehensive understanding of the current state of patient-centric wearable healthcare technology and its impact on healthcare delivery and patient outcomes. These findings contribute to the advancement of SDG 3 (Good Health and Well-being) by providing valuable insights into the field of healthcare technology and its potential to enhance patient well-being. This initial investigation highlights the potential of patient-centric wearable healthcare technology to significantly transform patient care while also contributing to achieving important Sustainable Development Goals (SDGs). Although the preliminary findings show promise, additional research is required to effectively tackle the obstacles and fully use the capabilities of these devices. The ongoing advancement of technology is expected to contribute significantly to the future of healthcare, with a growing emphasis on a patient-centric approach. This strategy is anticipated to substantially impact the healthcare sector, aligning with the broader global sustainability agenda.

Keywords: wearable healthcare technology; patient-centric; healthcare delivery; Sustainable Development Goals (SDGs)

ICSDG2023-0207

DIGITAL MARKETING DYNAMICS: INVESTIGATING INFLUENTIAL FACTORS IN CONSUMER PURCHASE BEHAVIOUR

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ABSTRACT

In today's digital age, digital marketing has become an integral part of our daily lives. The internet, mobile applications, social media, and other digital communication tools have become ubiquitous and are used by billions of people worldwide. This study aimed to investigate the factors that affects consumer purchase decision in digital marketing. A set of self-administered questionnaires has been distributed to 166 respondents in Malaysia. The collected data was entered to SPSS software and further analyzed by using SmartPLS software. The stimulus-organism-response (S-O-R) theory was employed in this study. The independent variables including in this study are email marketing, social media marketing, mobile marketing, online advertising, influencer marketing and trust plays as a moderating variable in the study. The findings of this study revealed that five out of eleven hypotheses were supported. Trust significantly showed mediation effect on the relationship between mobile advertising and online advertising on purchase decision. These findings contribute to Sustainable Development Goal 9 (Industry, Innovation, and Infrastructure) by providing inputs of digital marketing's effects which can relate to the advancements in technology and innovation within the marketing sector. The results of this study also have significant implications for marketing managers who wish to increase the sustainability of their company.

Keywords: digital marketing; trust; purchase decision; mobile marketing; online advertising

ICSDG2023-0218

POST-PANDEMIC RESILIENCE: ASSESSING THE ROLE OF CORPORATE SOCIAL RESPONSIBILITY (CSR) PRACTICES IN THE HOTEL SECTOR IN FULFILLING SUSTAINABLE DEVELOPMENT GOALS (SDGs)

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ABSTRACT

This study explores the sustainable development goals (SDGs) initiatives of eight international hotels in Penang, Malaysia. The objective is to show how the hoteliers have adapted and refocused their corporate social responsibility (CSR) efforts in response to the unique challenges posed by the COVID-19 pandemic and how those measures affect SDGs fulfillment. The study looks on a current phenomenon considered multi-items as data sources collection including press release, annual report, magazines, and newsletters which were culled from their respective websites on the internet. The findings of this exploratory and descriptive analysis reveal that the hotel sector exhibits a commitment to the SDGs, but with varying approaches. This appears that the hotels under study contribute to all three key areas of sustainability (economic, social, and environmental) and thus cover most of the SDGs. The eight hotels profiled are actively involved in both responsible and sustainable behavior to help lessen their impact on the environment. The findings may be used as valuable guidance to hotels that have not yet committed to putting the SDGs into action.

Keywords: post-pandemic; corporate social responsibility; hotel; sustainable development goals

ICSDG2023-0226

MALAYSIAN LOCALIZATION OF A MODIFIED FEAR-AVOIDANCE BELIEF QUESTIONNAIRE

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ABSTRACT

The Fear-Avoidance Belief Questionnaire (FABQ) is extensively used to identify how a patient's fear avoidance beliefs may prolong a patient's lower back pain. Seeing how the original FABQ is a reliable and valid screening tool to measure a patient's fear of pain leading to avoidance of physical activity, in general, or work, it was quite natural to apply it in the context of musculoskeletal conditions as well. One such condition that afflicts most of the population, in some point of their life, is adhesive capsulitis, also known as frozen shoulders. A modified FABQ was created to focus on frozen shoulder instead of lower back pain but to deploy this questionnaire in a multi racial country like Malaysia, it was best to develop a questionnaire based on the national language which is Bahasa Malaysia (BM). A BM version of the modified FABQ was translated by two people who were proficient in BM and English. A cross-sectional study was conducted in General Hospital of Melaka involving 156 respondents via convenience sampling. Construct validity was tested using exploratory factor analysis while convergent validity was tested using average variance extracted and composite reliability. Reliability was then tested using Cronbach's Alpha. The BM version of the modified FABQ proved valid and reliable.

Keywords: FABQ; frozen shoulder; questionnaire; validity; reliability

ICSDG2023-0227

PROBLEMATICS WITH LOCAL SALT PRODUCTION IN THE EASTERN COASTAL REGION OF KARAWANG REGENCY, INDONESIA

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ABSTRACT

The coastal area of Karawang Regency has prosperous natural resources, one of which is salt resources. Socioeconomically, many people in coastal areas, especially on the east coast, depend on their income and work as salt farmers. However, their profession cannot improve their welfare. Besides, salt commodities can be marketed to meet consumer needs, including the manufacturing industry as a raw material for production and waste processing, where many manufacturing industrial areas are located in the Karawang Regency area. This paper aims to define the problems faced by the farmers in producing salt in a case study in the eastern coastal area of Karawang Regency. The analysis method employs a descriptive approach based on the Drivers, Pressures, State, Impact, and Response (DPSIR) framework, using primary data from observation activities and in-depth interviews. Determining sources to collect data and information is based on convenience and judgment sampling. The research results show that the low quality of salt cannot meet the salt quality qualifications determined by the manufacturing industry, a significant problem that must be resolved. Therefore, it is necessary to downstream salt commodities to increase the added value of these commodities, to expand employment opportunities for local communities, and to improve the welfare of salt farmers and local communities in general.

Keywords: natural resources; socioeconomic; coastal; downstream; welfare improvement.

ICSDG2023-0257

ASSESSING GREENWASHING RISKS FROM A SUSTAINABILITY REPORTING PERSPECTIVE

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ABSTRACT

Sustainability reporting is a mandatory requirement for publicly listed companies in Malaysia. However, the assessment of the quality of sustainability reporting raises questions, particularly regarding the potential practice of greenwashing during the preparation of these reports. Greenwashing, if present, can undermine the long-term achievement of Sustainable Development Goals (SDGs) and subsequently lead to subpar environmental performance. Climate change, also known as the thirteenth goal within the SDGs, is among the most prevalent environmental consequences of human activities. As such, this research aims to investigate the disclosures of Malaysian listed companies on addressing the SDG thirteenth goal in their sustainability reports. This study will employ the content analysis method to examine the extent to which listed companies in the energy sectors have attained the climate change goal as outlined in the SDGs. The energy industry was selected for investigation due to its substantial impact on climate change. The anticipated results of this research will offer insights into the percentage of climate change targets achieved by these listed companies in their sustainability reporting. The contribution from the current study may enhance the quality of sustainability reporting, especially given the dynamic evolution of sustainability reporting practices. Further, this paper puts forward additional instruments for investigating and combating greenwashing within the context of sustainability accounting.

Keywords: Greenwashing; Sustainability reporting; Sustainability Development Goals (SDGs).

ICSDG2023-0248

RELIGIOSITY, FAMILY-OF-ORIGIN AND THE MARITAL SATISFACTION OF MALAYSIAN CHRISTIANS: A PILOT STUDY

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ABSTRACT

Amid the challenges experienced by married couples and families, the need to examine the factors contributing to marital satisfaction is recognised across various communities and backgrounds. Nevertheless, research on Malaysian Christians remains limited. Therefore, this study sought to provide a deeper understanding of marital satisfaction among Malaysian Christians and its association with factors such as the level of religiosity, the impact of the family-of-origin and interactions between spouses (i.e., displays of generosity, altruism, and forgiveness). 62 participants responded to self-report scales (i.e., Kansas Marital Satisfaction Scale, Religious Commitment Inventory-10, Interpersonal Generosity Scale, Compassionate Love of Close Others Scale and Marital Forgiveness Scale) and open-ended questions on marital satisfaction experience and marital views, values, and attitudes development. A one-sample *t*-test analysed the marital satisfaction level of Malaysian Christians and some amount of marital distress was indicated. A hierarchical multiple regression analysis established that religiosity, the impact of the family-of-origin and the negative dimension of forgiveness significantly predicted marital satisfaction. The open-ended responses were analysed thematically and the identified themes pertaining to how married Malaysian Christians experience marital satisfaction and develop views, values and attitudes within marriage complemented the quantitative findings. These findings could inform the development of programmes on marriage and family life and assist marriage counsellors, family therapists and other mental health professionals to work more effectively with the Malaysian community. Couples and families may also gain awareness, insights, and inspiration towards enriching their experiences within marriage and family life.

Keywords: marital satisfaction; Malaysian Christians; religiosity; impact of the family-of-origin; marital interactions

ICSDG2023-0121

PRISON CLIMATE AND LIFE SATISFACTION AMONG INMATES IN SATELLITE PRISON: MEDIATION EFFECTS OF SOCIAL SUPPORT

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ABSTRACT

The Civilized Humane Culture Development Centre (CHCDC) implemented in the Malaysian Prison Department will embody the essence of the Malaysia Madani concept. The CHCDC's aim is to develop inmates' self-management and eliminate criminal thinking that enhances life satisfaction. Previous studies stressed that social support is essential to the prison climate and inmates' life satisfaction. Therefore, this study is to determine the importance of social support in the relationship between prison climate and life satisfaction. This study applied a quantitative research design, collecting data in a cross-sectional survey of 370 Malaysian satellite prison inmates. Respondents are selected based on a simple random sampling technique using a sampling framework. Structural equation modelling (SEM) tests the proposed model and research hypotheses by applying IBM SPSS AMOS 25. The findings prove that social support plays a full mediator role in the relationship between prison climate and life satisfaction. Based on the study's results, it is suggested that the Malaysian Prisons Department formulate appropriate policies and strategies to improve prison climate and social support to meet the inmates' life satisfaction. This situation is in line with the government's Malaysia Madani aspiration to solve the problems faced by the people and create a better nation.

Keywords: civilised humane culture development centre; social support; prison climate; life satisfaction; satellite prison

ICSDG2023-0032

THE QUALITY OF CLASSROOM INFRASTRUCTURE AND SUSTAINABILITY IN EDUCATION: A CASE STUDY IN CAMBODIA

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ABSTRACT

One of the important aspects to assess the sustainability of the United Nations' Sustainable Development Goals (SDGs) is the quality of education. To deeply understand this definition, apart from curriculum, learning environment, and teacher-student relationships, providing a conducive learning environment is also a prerequisite for evaluating and improving the sustainability of education, along with infrastructure and health factors. The United Nations Convention on the Rights of the Child, accepted in 1989, has played a significant role in promoting the rights of children worldwide. However, surveys conducted in 1995 and 2006 revealed that opportunities for children to play at school were decreasing, with "playtime" being gradually replaced by additional time devoted to national educational programs. This emphasizes the importance of children being exposed to an environment (assessed for its quality of spatial location) to ensure their holistic development. In this study, we focus on case studies in Cambodia, which allows us to assess how well the learning environment meets the educational and developmental needs of children there.

Keywords: classroom; learning environment; well-being; children right; sustainability

ICSDG2023-0224

BRIDGING THE GAP: SUSTAINABLE DEVELOPMENT GOALS AND PERSONALISED DISTANCE LEARNING FOR WORKING ADULTS

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ABSTRACT

The swift emergence of the COVID-19 pandemic has sparked an unprecedented surge in the demand for distance learning, which in turn, has reshaped the existing education framework. The adoption of blended learning and fully online courses has opened doors for individuals to pursue education while effectively managing their professional commitments and family responsibilities. In line with the global Sustainable Development Goals (SDGs), policymakers have initiated the integration of sustainability aspects into higher education. However, it is SDG 4, which focuses on Quality Education, that is primarily associated with extending educational access to individuals in the workforce to further their studies through flexible educational options. Hence, this paper explores the complex interrelationship between SDG 4 and several other SDGs, including SDG 3 (Good Health and Well-being), SDG 8 (Decent Work and Economic Growth), and SDG 10 (Reduced Inequalities). This study conducted a case study at Universiti Sains Malaysia, with data collection occurred in three stages. The first stage involved retrieving background information by accessing student data from the faculty's database. In the second stage, informal interviews with students were conducted, while the third stage encompassed the analysis of data gathered from a survey involving 263 students, utilizing PLS-SEM methodology. The findings of this study robustly advocate for a comprehensive analysis. This analysis is designed to elucidate how the collective impact of SDGs 3, 4, 8, and 10 can be harnessed. This harnessing is intended to establish an ecosystem in which distance learning empowers working adults, promotes good health, alleviates inequalities, and stimulates economic growth. Therefore, this paper concludes with recommendations of developing a holistic educational approach that not only impeccably aligns with the global sustainability agenda but also adeptly addresses the needs of the working adult population.

Keywords: SDG; distance learning; working adults; higher education; university students; Malaysia

ICSDG2023-0159

SUSTAINABLE AND NOVEL DEVELOPMENT OF METAL MATRIX COMPOSITE USING SCRAP ALUMINIUM ALLOY REINFORCED WITH SCRAP BOROSILICATE GLASS PARTICLES BY STIR CASTING TECHNIQUE

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ABSTRACT

This study aims to achieve a sustainable and environmentally friendly approach to the development of metal matrix composites (MMCs) by utilizing locally available Scrap Aluminium Engine Heads (SAEH) as the matrix material and powdered Scrap Borosilicate Glassware (SBG) as reinforcement. The stir casting technique was employed for composite fabrication, combining the benefits of cost-effectiveness and ease of processing. The research evaluates the mechanical properties of the developed MMC, including tensile strength, compressive strength, hardness, and impact resistance. Physical properties such as density and porosity were also investigated, alongside microstructural analysis using optical microscopy, scanning electron microscopy (SEM), SEM energy-dispersive X-ray analysis (EDAX), and X-ray diffraction (XRD). The results demonstrate a significant improvement in the mechanical properties of the composite compared to the as-cast SAEH material. The ultimate tensile strength increased from 70.3 MPa for as-cast SAEH to 117.3 MPa for SAEH reinforced with SBG. Similarly, ultimate compressive strength improved from 513.7 MPa to 700.67 MPa, and hardness increased from 32.56 HRB to 43.33 HRB. Furthermore, the impact strength showed a notable enhancement, increasing from 1.4 Joules to 1.8 Joules. Importantly, the porosity percentage decreased from 14.28% in as-cast SAEH to 9.97% in SAEH+BS composites, indicating improved material density. This research contributes to the development of sustainable MMCs using recycled materials, offering enhanced mechanical properties and reduced environmental impact, making it valuable for various engineering applications.

Keywords: metal matrix composite; sustainable development; stir casting technique; scrap aluminum alloy; borosilicate glass reinforcement

ICSDG2023-0156

LEGAL NARRATIVES OF THE EFFECTS OF SURROGACY AGREEMENTS UNDER A CHILD'S RIGHTS LENS

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ABSTRACT

The current legal landscape in the Philippines leaves surrogacy unregulated as there are neither laws nor jurisprudence on the validity of these agreements. As a consequence, it is unclear which rights and obligations arise from a surrogacy agreement. Using the Philippine legal system as a case, the study aimed at examining the validity of different surrogacy arrangements and provided contextual analysis on the status of children under surrogacy agreements and its legal effects, in light of the state obligation of the Philippines under the United Nations Convention on the Rights of the Child, in relation to the Best Interest of the Child principle. The study used legal narratives pertaining to cases of surrogacy using the child's rights lens. Analyzing said agreements would aid not only legislators in filling legal gaps, but also those that are interested in entering such contracts in protecting the child that they have longed to have. It also examined critical perspectives on the possibility of surrogacy arrangements as potential illegal cases of human trafficking attached to circumvent Philippines laws. This study calls for a proper legal framework to recognize children, surrogate mothers and parents who enter into such arrangements legitimizing their rights to be protected.

Keywords: surrogacy arrangement; family code; women's right; rights of the child; filiation.

ICSDG2023-0265

EDUCATION AND AWARENESS PROGRAM IN MANAGING HUMAN-WILDLIFE CONFLICT IN HYDROELECTRIC DEVELOPMENT PROJECT: A CASE STUDY

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ABSTRACT

Hydroelectric is a renewable energy source that has potential to provide a pathway to a sustainable future. Among other common impacts due to hydroelectric development are loss of terrestrial habitats either forest areas or human settlements, due to land clearing and new reservoir generation. Consequently, increase in human-wildlife conflict cases are substantial. Education and awareness programs are identified as platforms to manage human-wildlife conflicts, as human perception oftentimes triggers conflict. In a case for an on-going development of a hydroelectric project in Malaysia, three mitigation approaches are undertaken namely i) awareness for site workers and communities surrounding the project area; ii) environmental education for young generations; and iii) establishment of Wildlife Ranger as community patrol. With exposure and engagement from the programs, a standard operating procedure in human-wildlife conflict investigation and reporting has been established and practiced. Besides, the community understands their role and responsibility in managing human-wildlife conflict. Such mitigation actions are important to ensure the hydroelectric project is developed in a sustainable and responsible manner, providing insights to coexistence concept. This has contributed to the achievement of the SDGs and ESG principles.

Keywords: education and awareness, human-wildlife conflict management, hydroelectric development, coexistence, SDGs and ESG principal, community empowerment

ICSDG2023-0041

THE CO-LIVING CONCEPT ON HIGH RISE BUILDING FOR URBAN AREAS IN MALAYSIA

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ABSTRACT

Rapid urbanization drives various concepts in housing development in line with lifestyle changes, demographic changes, and the desire for a more sustainable and efficient living environment. One of these housing concepts is co-living where this is a trendy housing concept that is making its way into the real estate business. This housing concept is an approach to living in urban areas that emphasizes community and convenience. Therefore, this study focuses on the level of awareness among Malaysian property developers on co-living concepts in housing development and identifying the benefits of applying the co-living concept to individuals working in urban areas particularly in Kuala Lumpur, Malaysia. This study employed a mixed-methods approach, utilizing both quantitative methods including online survey of co-living residents and qualitative method which is an interview with Malaysian property developers. The data collected from the interviews were then analysed using narrative analysis, whereas the data obtained from the online survey method were then analysed using descriptive and cross-tabulation analysis. The results showed that majority property developers were familiar with co-living concepts, and they are motivated to implement this concept for future development. On the other hand, majority respondents or residents agreed that the co-living concept was the good initiative to provide affordable housing options through co-living concept implementations which are safe, comfortable, and accessible for those who live in the urban areas. Hence, implementing co-living concepts into new development is an environmental solution that addresses both the affordable housing crisis and environmental sustainability.

Keywords: Co-living, Community, Housing development, Sustainable

ICSDG2023-0260

EXPLORING THE DETERMINANTS OF CASHLESS TRANSACTIONS WITHIN RURAL NORTHERN MALAYSIAN COMMUNITIES

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ABSTRACT

The increasing global trend towards a cashless society, driven by advancements in technology, has garnered significant interest in recent years. Malaysia, along with other developing economies, is on the cusp of a transformative digital financial revolution, transitioning from conventional cash-based transactions to the use of cashless technologies. This research focuses on the obstacles that hinder the widespread adoption of cashless transactions in rural areas of Malaysia and lead to a significant challenge to the government's goal of achieving a cashless society by 2030. This research investigates the factors influencing the adoption of cashless transactions in rural areas of Malaysia. The study collected 258 responses through a survey in a northern rural region of Malaysia, revealing that infrastructure and connectivity, digital literacy, and user-friendly interfaces positively influence cashless adoption. Nevertheless, the acceptance of local merchants did not have a substantial impact on the rate of adoption. This study offers significant findings that are of great importance to policymakers, emphasizing the pressing need for digital literacy initiatives, investments in digital infrastructure in rural areas, and the development of user-friendly interfaces. Although the acceptability of local merchants is undoubtedly a significant factor, it may not necessarily be the predominant catalyst for the adoption of a particular phenomenon. However, it is important to acknowledge that this study does have certain limitations. These limitations encompass the possibility of response bias, the extent to which the findings may be generalised to different regions, and the lack of comprehensive qualitative insights type.

Keywords: Rural area; Cashless transactions; Malaysia

ICSDG2023-0253

WAYS TO ENCOURAGE PERSONAL SAVINGS FOR ADULTHOOD AMONG STUDENTS IN MALAYSIA

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ABSTRACT

The purpose of this paper is to study and better understand a student's perception towards personal savings and to bring up ways to encourage more students to take personal savings more seriously among students in Malaysia. This study is done based on studying students in Malaysia to find ways to encourage students in Malaysia to take more interest in personal savings for their own benefits when they reach adulthood. This study was carried out using quantitative approach. A focus group was used to gain data to be used for the study. Data was collected online, using Google Forms, and the participants were 150 randomly selected students in Malaysia. This research consists of finding out personal savings of students throughout Malaysia of different age, race, and field of study. Factors that focused on this study were financial literacy, buying effect, and income level effect. This study did not aim to show a comparison between the choices to carry out personal savings from different students but sees everyone as just students in Malaysia. This research is one of the first research in this topic criteria to be carried out with random Malaysian students, not taking into account their backgrounds.

Keywords: Financial literacy, buying effect, income level effect

ICSDG2023-0053

LOST IN EXCLUSION: REDEFINING THE NEXUS OF PEDAGOGY AND DIGITIZATION TO OVERCOME DIGITAL EXCLUSION

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ABSTRACT

During COVID-19, online learning was able to successfully compensate for the learning deficits caused by the closure of institutions. Distance learning has mitigated the learning gap in communities with strong infrastructure and competent human capital, while others have struggled and been driven further into digital exclusion and division. Even communities that provided access to high-speed broadband, ensured affordability, and empowered users to surmount adoption barriers and fully benefit from digital engagement felt deficient and remained digitally excluded in terms of pedagogical integration of digital resources. This further led to a digital divide, with severe consequences for SDG-4 and SDG-9. Excluded from learning amid the school closure hindered the progress towards inclusive and equitable quality education and lifelong learning opportunities for all (SDG-4). Such digital exclusion has severe consequences for SDG-9, aiming to build resilient infrastructure, promote inclusive and sustainable industrialisation, and foster innovation, as innovation in the digital sphere remains apart due to digital exclusion. This is because higher education institutes, as incubators of innovations and industrialisation, would remain apart if confronted with digital exclusion in learning in the age of digital transformation. We adopt the position of redefining digital inclusion in the context of pedagogies and introduce a new model of pedagogical digital inclusion (PDI) to overcome digital exclusion.

Keyword:

ICSDG2023-0090

WATER SHORTAGE IN BITOON, DUMANJUG, CEBU, AND ITS EFFECTS ON DOMESTIC ACTIVITIES: PROPOSED ACTION PLAN

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ABSTRACT

Water shortage is a common problem in the Philippines due to poor water management. This study aimed to assess the water shortage in Bitoon, Dumanjug, Cebu and its effects on domestic activities. The demographic profile of respondents to the BIRWASA Waterworks and Tubod, Bitoon Waterworks shows that most people using the waterworks for domestic activities are middle-aged people, with the highest percentage being 31 to 40 years old. The majority of respondents to the water shortage in Bitoon were housewives, with 96% overall and 4% unemployed. BIRWASA Waterworks had 43% of its respondents being mothers, 26% being fathers, 15% being housewives, and the rest being single, breadwinners, or housekeepers. BIRWASA and Tubod, Bitoon Waterworks have schedules for when there is water, but this has created a water shortage that has negatively affected their daily lives. 98% of respondents have said that the water shortage delays their work and chores and burdens them since they have to save up on water at specific times of the day. Residents have come up with ways to handle the water shortage, such as saving water in containers, deep wells, and rainwater. A Proposed Action Plan was based on the findings of this study.

Keywords: domestic activities; water shortage; water management

ICSDG2023-0219

POVERTY AND HEALTH RESEARCH FROM 2010-2023: BIBLIOMETRIC INVESTIGATION VIA MACHINE LEARNING FOR UNLABELED BIG DATA

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ABSTRACT

In 2012, the United Nations established a unified agenda called Sustainable Development Goals (SDGs) with a primary purpose to provide solutions to urgent environmental, political, and economic challenges facing our world. Two of the SDGs were SDG1: "No Poverty" and SDG3: "Good Health and Well Being," as the primary focus of this study to unfold trends and latent themes of published research such as niche themes, emerging themes, basic themes, and motor themes. These were achieved through various algorithms used for bibliometric studies and content analysis following Bibliometric methods, with primarily 20,648 articles that were retrieved from 2010-2023. These articles were screened and filtered, reducing to 9,709 articles, 2265 scientific journals, and 39,819 authors. This paper discusses the most prevalent keywords, terms in the titles, and terms in the abstract, including associated terms through co-occurrence network, treemap, thematic evolution, and finally, thematic maps of keywords, titles, and abstract. This paper mainly argues the importance of unfolding hidden topics or research areas in SDG1 "No Poverty" and SDG3 "Health and Well Being" that will guide interdisciplinary and multidisciplinary research to attain a common goal by the United Nations by 2030.

Keywords: bibliometric, health policy, public health, food insecurity, food security, data mining, walktrap algorithm, SDG1, SDG3.

ICSDG2023-0259

UNLOCKING THE SECRETS OF FINANCIAL FREEDOM: EXPLORING THE SYNERGISTIC EFFECTS OF CONTENTMENT, SELF-CONTROL, FINANCIAL KNOWLEDGE AND FINANCIAL BEHAVIOR ON EMERGING ADULT FINANCIAL WELL-BEING

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ABSTRACT

As the key building blocks to overall sustainability, poor financial well-being issues have become a major concern throughout the world and in many countries, including Malaysia, towards establishing national strategies for improving the financial well-being (FWB) of the people. However, research on this topic remains scarce and scattered across disciplines. Although the bulk of the research has been conducted on different groups and populations, the focus on emerging adults aged between 19 and 29, especially among non-students, remains scarce. This pioneering study delves into the complex interplay between subjective determinants and their combined influence on emerging adult financial well-being, guided by the Family Resource Management Theory (FRMT). Employing a multidimensional framework that encompasses contentment, self-control, and financial knowledge, we explore their collective impact on responsible financial behavior and its repercussions on financial well-being. Quantitative data was collected through structured questionnaires distributed to emerging adults in five Malaysian states: Pahang, Perak, Selangor, Melaka, and Sabah. Partial least squares structural equation modelling (PLS-SEM) facilitated comprehensive model analysis. This study not only offers a predictive framework for understanding financial well-being among emerging adults in Malaysia but also carries substantial policy implications. Policymakers and governments are encouraged to consider the research framework to formulate comprehensive guidelines aimed at improving the financial behavior of emerging adults, ultimately enhancing their financial well-being. Furthermore, the research contributes to the evolving understanding of the intricate relationship between psychology, behavior, and finance, paving the way for transformative approaches to empower emerging adults on their path to financial independence.

Keywords: financial well-being; emerging adults; contentment; self-control; financial behavior

ICSDG2023-0273

RESEARCH ON THE IMPACT OF AGILE SUPPLY CHAIN MANAGEMENT ON THE SUSTAINABLE DEVELOPMENT OF ENTERPRISES

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ABSTRACT

In the modern age, the field of information technology has experienced rapid advancements, with constant product innovation and a shortened product life cycle. Consequently, business competition has intensified significantly, creating an environment of fierce rivalry. In the current business environment, in order to sustain their competitive edge, companies must possess the capacity to promptly adapt to market changes and swiftly respond to evolving customer demands. Consequently, expanding numbers of companies have begun to implement agile supply chain management to enhance their market competitive advantages. Nonetheless, as the ecological environment continues to degrade and natural resources become scarce, enterprises are confronted with mounting challenges in the business environment. They must navigate increasingly grave sustainability challenges, constrained by both limited resources and environmental factors. While the enterprise implements agile supply chain management, it becomes imperative for companies to effectively pursue sustainable development. Consequently, it is crucial to clarify the relationship between agile supply chain management and the sustainable development of enterprises. In light of the aforementioned background analysis, this paper undertakes a research endeavor to investigate the impact mechanism of agile supply chain management on the sustainable development of enterprises.

Keywords: Agile Supply Chain Management, Agile Practices, Corporate Sustainability Performance, IT Capabilities

ICSDG2023-0269

RESEARCH ON THE IMPACT OF SUSTAINABLE DEVELOPMENT AWARENESS AND KNOWLEDGE LEVEL ON INDIVIDUAL ATTITUDES TOWARDS ELECTRICITY CONSUMPTION: A CASE STUDY OF XINXIANG, HENAN PROVINCE, CHINA RESIDENTS

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ABSTRACT

The global pursuit of Sustainable Development Goals (SDGs) acts as a guiding light towards a more equitable and sustainable future. This study investigates the impact of sustainable development awareness on individual attitudes towards electricity consumption. By analyzing the monthly electricity usage of Xinxiang City residents in Henan Province, we aim to discern the link between awareness, knowledge levels, and energy consumption behaviors. Employing a quantitative research approach, the study involves surveying residents to evaluate their understanding of sustainable development and their attitudes towards electricity consumption. Statistical analysis and correlation assessments will determine the relationship between awareness levels and energy usage patterns. Preliminary findings demonstrate a significant correlation between sustainable development awareness and individual electricity consumption behaviors. Higher awareness levels tend to align with more conscientious and responsible energy usage. This research contributes to understanding how sustainable development awareness influences individual electricity consumption behaviors, advocating for sustainable lifestyles that contribute to climate change mitigation and environmental protection. The insights gathered will aid policymakers and stakeholders in formulating effective strategies promoting sustainable development. In summary, this study provides a comprehensive analysis of the relationship between sustainable development awareness and individual electricity consumption attitudes, offering pathways to encourage environmentally conscious behaviors and lifestyles.

Keywords: Sustainable development awareness; electricity consumption; attitudes and behaviors.

ICSDG2023-0234

STRENGTHENING THE SOCIAL INNOVATION ECOSYSTEM IN MALAYSIA: ASSESSING ACADEMIC'S ABILITY FOR ADVANCING RESEARCH AND INNOVATION EXCELLENCE IN HIGHER EDUCATION INSTITUTES

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ABSTRACT

The Malaysian government has recognized the importance of social innovation ecosystem in addressing social and economic challenges. This study focuses on the contribution that HEIs provide to societal progress through the advancement of research and innovation. To achieve this goal, HEIs, the government, NGOs, and the community must work together holistically. Effective innovation is influenced by the degree to which HEIs develop collaboration in research production. This study makes use of the ideas of social innovation and absorptive capacity. The purpose of this study is to assess the ability of academics to incorporate social innovation into their research. Using a quantitative approach, surveys were distributed, and SPSS 25 and PLS-SEM 3.0 were used to evaluate the data. Results showed that potential absorptive capacity academics is significantly related to realized absorptive capacity of social innovation, and both have a significant relationship with innovation achievement. This study makes valuable contributions regarding understanding abilities academic to develop innovative solutions that address social challenges and improve the well-being of Malaysians.

Keywords: Higher Education, Absorptive Capacity, Social Innovation Ecosystem, Social Innovation

ICSDG2023-0267

INTEGRATING ENVIRONMENTAL, SOCIAL, AND ENTREPRENEURIAL SDG-VALUES IN AKADEMI BAKAT ABS: THE CHALLENGES AND PROSPECTS

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ABSTRACT

There is a need for a holistic and innovative learning platform that integrates STEM education, entrepreneurship, and sustainability to empower students to address the environmental and social challenges effectively. Akademi Bakat ABS aims to fill this gap through its unique SDG-based business model and create a positive impact on students and communities. In terms of environmental sustainability view, the academy instills eco-consciousness hands-on projects and real-world problem-solving, such as Lestari Alam, ABTOPIA, and Waste to Wealth modules. From an SDG-social perspective, the academy's commitment to inclusive education ensures that students from diverse backgrounds have access to quality education and skill development opportunities. As such, mixing typically developing children and those with learning disabilities fosters empathy, inclusivity, and improved academic progress in an inclusive environment. Inculcating the entrepreneurial empowerment in its curriculum enables the students with experiential learning opportunities, mentorship, and practical experiences in managing micro-scale projects, inventing, and administering community or social organizations. By nurturing young talents who are not only academically proficient but also equipped with the values of social and environmental stewardship, Akademi Bakat ABS can positively contribute to the betterment of society and the planet. The challenges and prospects are addressed comprehensively in this paper.

Keywords: social enterprise; environmental sustainability; entrepreneurial empowerment; SDG-based business model

ICSDG2023-0245

LINKING EARLY CHILDHOOD EDUCATION AND SUSTAINABILITY: INSIGHTS FROM A GLOBALCHALLENGES RESEARCH-FUNDED (GCRF) STUDY ON MALAYSIA'S REFUGEE COMMUNITY

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ABSTRACT

The pivotal role of Early Childhood Education (ECE) in shaping a child's development and life trajectory becomes evident when observing the outcomes of children deprived of such access. For Malaysia's refugee children, the lack of access to ECE has manifested in alarmingly lower levels of school readiness skills, hindering their potential and jeopardizing their futures.

A recent study funded by the Global Challenges Research Fund (GCRF) and collaboratively undertaken by Universiti Sains Malaysia and University of Oxford offers a detailed examination of this critical issue. In this mixed method study, we recruited and trained 15 members from the refugee community as data collectors. Their linguistic competencies and community affiliations were harnessed, facilitating genuine interactions and bolstering trust within the refugee community. The collaborative partnership resulted in direct assessments of 1,051 refugee children, aged 4-6 in four critical domains of school readiness. The study took place during the pandemic between March 2021 and March 2022 and found significant differences in school readiness skills for those with and without ECE access. Family background data was also collected through interviews with primary caregivers. The results of this study shed light on both educational challenges and wider sustainability implications. A sustainable society must harness the potential of all members. The evident educational gaps among refugee children impact both individual development and collective sustainable advancement. Our findings highlight the need for inclusive solutions, championing a future where every child thrives, ensuring a more inclusive and sustainable future for all.

Keywords: Early Childhood Education, refugee children, school readiness skills, sustainability, inclusivity

ICSDG2023-0086

DESIGN AND DEVELOPMENT OF ENGLISH SPEAKING SKILL FORMATIVE ASSESSMENT FOR STUDENTS WITH AUTISM SPECTRUM DISORDER (ASD) THROUGH PROJECT BASED LEARNING: A NEEDS ANALYSIS

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ABSTRACT

Project Based Learning (PBL) is an educational approach that highlights student-centered learning by acknowledging and valuing students' abilities, tendencies, cognitive skills, and talents. As a form of formative assessment, PBL facilitates a comprehensive learning experience by offering students the chance to investigate and explore knowledge while also engaging in self-evaluation and reflection. The significance of this learning process is in its ability to enable students to articulate novel findings, transformations, and emotions encountered during the execution of a project. This paper reports on the first phase of the study which aims to probe into the needs of having English speaking skill formative assessment through PBL that consists of rubrics and performance descriptors in assessing students with Autism Spectrum Disorder (ASD) in primary school. Data accumulated from responses on survey questionnaires based on 5 Likert-point scale were analyzed statistically.

Keywords: Project Based Learning, formative assessment, needs analysis, English speaking skill, Autism Spectrum Disorder (ASD).

ICSDG2023-0250

MONEY MULE AWARENESS FRAMEWORK: CONTENT ANALYSIS OF MALAYSIA'S BANK MONEY MULE ALERTS

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ABSTRACT

In recent years, there has been a growing level of concern in Malaysia about the activity of financial fraud that involves recruiting money mules. The purpose of this study is to explore the information that was made public by the central bank of Malaysia in relation to money mules. A comprehensive review of the information and alerts posted on the website of a Malaysian financial institution was subjected to a content analysis. The research results disclose information and initiatives intended to educate and help the public become more knowledgeable of the strategies employed by fraudsters to attract innocent individuals. This study developed a framework in terms of strategy for raising public awareness of money mules. Aside from that, this study also provides recommendations for Malaysian banks, law enforcement agencies, and policymakers to work on the development of proactive measures to address the risk of money mules in the country. This study contributes to continuing efforts to protect the financial interests and security of Malaysians.

Keywords: Content Analysis, Malaysia's Bank, Money mule, Public awareness

ICSDG2023-0161

AYO BALAY, AYO PANIMALAY (REBUILDING HOUSE, RESTORING HOME): A COMMUNITY-BASED COPING STRATEGY IN RESPONSE TO A DISASTER

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ABSTRACT

Barangay Sapangdaku is one of the most disaster-prone barangays in Cebu City, Philippines. Consequently, efficient strategies at the local and household level that cope with, adapt, and enable recovery from such events are constantly in demand. This study presents an effort to meet this demand by means of empowering its locals through a holistic approach to the kids and their families, enabling them to participate in developmental and capacity-building activities. On December 16, 2021, Super Typhoon Odette brought heavy rains, violent winds, and landslides to Central Visayas raging Php1.7-2 billion in damages. Onechild Hope Center, 100 registered kids, and their families were not spared in Odette's fury. This study employed a retrospective analysis of the impact of the strategy used to help the community cope physically, socio-emotionally, mentally, and spiritually. A descriptive-qualitative approach was applied to gather information and analyze the data. The result showed that the households had been influenced by the coping strategy and obtained knowledge, skills, and a sense of belongingness that helped them stand and continue with their lives through different interventions.

Keywords: disaster; community; holistic approach; coping mechanism

ICSDG2023-0097

LESTARI CANVAS: A SUSTAINABLE SOCIO-ECONOMIC DEVELOPMENT ECOSYSTEM

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ABSTRACT

Socio-economic development is a process that aims at optimising various aspects of social and economic status within a community. The momentum of development is determined by the quality of social aspects and the economic sector of the community. Lestari Canvas developed herewith illustrates the sustainable socio-economic development ecosystem that encompasses the five phases of project management. Community-based participatory approach is adopted in identifying the needs of a community at the initiation stage followed by a penta-helix collaboration among the academia, community, government, industry at the planning stage that includes impact towards environment. Community participation and inclusivity ensures that all community groups in the regional development areas take advantage of sustainable socio-economic development opportunities. Innovation plays a vital role at the implementation stage to drive a competitive and progressive sustainable community transformation. The project monitoring phase will oversee the impacts the project brings to the community in terms of income generation, improvement of community livelihood and other positive spill-over effects. Audit and exit policy are embedded in the closing stage to ensure the deliverables and indicators set are met. Therefore, Lestari Canvas provides the Sustainability Key diagram and framework for an inclusive socio-economic development for a unity and resilient community.

Keywords: Socio-economic, lestari canvas, community-based participatory, penta-helix, community livelihood

ICSDG2023-0229

LESTARI CANVAS: A SUSTAINABLE SOCIO-ECONOMIC DEVELOPMENT ECOSYSTEM

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ABSTRACT

Recent evidence indicated that countries led by female leaders performed better in coping with Covid-19 pandemic challenges. The relatively successful stories by the leaders including Germany's Angela Merkel, New Zealand's Jacinda Ardern, Denmark's Mette Frederiksen have attracted many headlines. The emergence of female leaders has become a centrifugal force for good in the world and diversity in leadership is crucial for sustainable business success. Gender equality (SDG 5) is an important goal adopted by the United Nations. The emergence of women leadership roles would lead to an increase of SDGs supported, nonetheless, the issue of women leaders making a difference in implementing sustainability framework in corporations has so far attracted little academic attention. "Accelerating human capital development for an advanced nation" in the 12th Malaysian Plan is one of the crucial goals in Malaysia for driving robust economic sustainable growth. Hence, how is the relationship between the human capital characteristics of C-Suite executives and the corporate sustainable performance of publicly listed companies in Malaysia, and how the better quality of the human capital and workplace well-being may bring superior firm performance are interesting to explore on. This study highlights the gender and well-being impact of C-suite executives' human capital characteristics and the firm sustainable performance in post Covid-19 pandemic period. This study will propose an enhanced human capital model that may improve corporate performance for Malaysia not only to sustain and growth but also, to attract more investments for greater societal well-being and a better Malaysia in the near future.

ICSDG2023-0258

REVOLUTIONIZING ATM SECURITY: THE INTEGRATION OF ADVANCED BIOMETRIC BANKING THROUGH FINGERPRINT RECOGNITION SYSTEMS IN THE AGE OF ARTIFICIAL INTELLIGENCE

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ABSTRACT

The emergence of advanced biometric banking through fingerprint recognition technologies, complemented by the incorporation of Artificial Intelligence (AI), has laid the groundwork for a paradigm shift in Automated Teller Machines (ATM) security. The adoption of biometric ATMs has been increasing globally, primarily in developed markets such as Brazil, India, and Japan. This trend is gradually spreading to other regions due to the incorporation of biometric authentication in mobile banking applications, utilization of blockchain technology, and the implementation of software that enables ATM security cameras for authentication. Nevertheless, it is crucial to acknowledge that the absence of a universally accepted biometric identification standard and the possibility of security breaches perpetrated by highly organized criminal networks highlight the urgent need for continuous progress in biometric technology and international standardization efforts. In recent years, substantial breakthroughs in biometrics and artificial intelligence (AI) have revolutionized the landscape of safe and user-friendly banking services. The year 2022 has been identified as a pivotal period for further progress in biometric technologies. The integration of fingerprint recognition technology into ATMs has been recognized as a reliable method for verifying human identity, resulting in substantial improvements in ATM security and fostering increased user confidence. The utilization of artificial intelligence enhances the precision and effectiveness of biometric systems, even when faced with difficult circumstances. The objective of this study was to investigate the extent to which users in the Malaysian banking industry have adopted fingerprint biometric authentication to increase the security measures of ATMs. The study examined the independent variables which are reliability, perceived ease of use, social influence, facilitating condition, and user privacy. In contrast, the variable that was subject to change based on the independent variable was the level of acceptance and utilization of fingerprint biometric authentication by users. A quantitative research approach was utilized, wherein questionnaires were distributed to ATM users in Malaysia to gather data. The research is expected to yield a thorough comprehension of the factors that impact user adoption of fingerprint biometric authentication in ATMs. Consequently, this will contribute to the broader objective of enhancing ATM security by implementing advanced biometric banking in the era of Artificial Intelligence.

Keywords: biometric; fingerprint; Automated Teller Machines (ATM)

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ICSDG2023-0017

ANALYSIS OF MALAYSIA'S EXPORT POTENTIAL OF PALM OIL AND ITS PRODUCTS TO RCEP MEMBER COUNTRIES

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ABSTRACT

Objective: Malaysia is a major producer and exporter of palm oil. The Regional Comprehensive Economic Partnership (RCEP) is a free trade agreement between 15 countries in Asia. This study analyzes the export potential of Malaysia's palm oil and its products to RCEP member countries. Methodology : Relevant data of Malaysia and RCEP member countries from 2012-2022 are selected. The trade potential of Malaysia's exports of palm oil and its products to the member countries is measured using the extended trade gravity model based on the measurement of trade complementarity index and the regression equation. Findings: There is a significant positive correlation between the trade dependence of RCEP member countries and the export scale of Malaysian palm oil and its products. Originality / Value: Studying the export potential of palm oil and palm products in Malaysia in the context of RCEP will contribute to achieving a sustainable economy and is important for macroeconomic policies.

Keywords: trade potential; VAR model; Gravity Model of Trade.

ICSDG2023-0047

RESEARCH ON THE INFLUENCING FACTORS OF SUSTAINABLE DEVELOPMENT OF E-COMMERCE IN SMALL AND MEDIUM-SIZED ENTERPRISES

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ABSTRACT

The influence of COVID-19 not only affects the economy but also changes marketing channels. E-commerce has become a new platform for small and medium-sized enterprises (SMEs) to develop their businesses; however, there are still some new problems faced by SMEs in E-commerce because of limited scales. This paper may try to use SWOT analysis to show the status quo of SMEs in e-commerce and establish the AHP evaluation index system. The system first uses questionnaires to score the internal and external factors that affect the sustainable development of e-commerce for SMEs and constructs a judgment matrix to be compared. The result shows that SMEs should adopt the WO striving strategy and expand market share to promote the transformation of their own disadvantages and society's environment. The paper will try to help SMEs find sustainable development in e-commerce after being influenced by COVID-19.

Keywords: Small and medium-sized enterprises; SWOT analysis; E-Commerce; Sustainable development.

ICSDG2023-0073

SHARED LEADERSHIP AND KNOWLEDGE SHARING ON EMPLOYEE INNOVATION IN THE CHINESE TELECOMMUNICATION INDUSTRY: ROLE OF OPEN INNOVATION

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ABSTRACT

The telecommunications industry in China has experienced several waves of reforms in the last few decades, generating monthly revenue of more than 130 billion yuan. Innovation is essential for gaining a competitive edge in the communication industry. Despite China's economic prominence and its telecommunications sector playing a significant role in the economy, the industry faces challenges in innovation due to limited communication skills, teamwork abilities, and unified objectives. This study aimed to investigate the impact of shared leadership and knowledge sharing on employee innovation, focusing on the role of open innovation. The study utilized a quantitative and deductive cross-sectional design using previously validated questionnaires to survey 385 all-rank staff from China Mobile, China Telecom, and China Unicom because of their dominance and state-run entities in the industry. Data were analyzed using descriptive and inferential statistics in IBM SPSS 28 and Smart PLS 4 software. The study findings revealed a positive and significant effect of shared leadership and knowledge sharing on employee innovation and that open innovation mediates the relationship between shared leadership and knowledge sharing. The study promotes continuous best practices to ensure employee innovation within the telecommunications industry and recommends fostering shared leadership, knowledge sharing, and open innovation as essential strategies.

Keywords: China; employee innovation; open innovation; shared leadership; telecommunication.

ICSDG2023-0110

THE HYDROGEN ECONOMY AND ENERGY TRANSITIONS IN EAST AND SOUTHEAST ASIA: A GLOBAL PRODUCTION NETWORK APPROACH

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ABSTRACT

As economies transition towards low-carbon, upstream oil and gas firms are attempting to reduce the climate impact of their activities and diversify into alternative energy sources and carriers and exploit the potential of Carbon Capture Utilisation and Storage (CCUS). Based on an analysis of upstream oil and gas and other energy global production network (GPN) actors operating in East and Southeast Asia, this paper maps the evolving actor strategies and consequent (re-)configuration of energy GPNs - specifically focusing on the role of hydrogen in ongoing energy transitions in the region. We find that, while key energy actors highlight the importance of hydrogen in their transition strategies, this is only part of a transition towards a mix of lower-carbon energy and CCUS solutions. Evidence on the current pace of transition in upstream oil and gas GPNs indicates that, while hydrogen production methods differ across actors, there is a tendency to focus on blue hydrogen in the short-term - with plans to switch to green hydrogen production in the longer term. A number of factors have hindered the pace of transition - resulting in a failure to identify specific hydrogen targets and under-investment in (green) hydrogen projects. Our analysis suggests coordinated policy solutions are needed to address the critical transition risks (stranded-assets, demand complexity e.g. market-making and product labelling, access to finance, levelized cost of technological solutions and regulatory clarity - in order to achieve the pace of transition required to effectively promote the Sustainable Development Goals and meet global climate change targets.

Keywords: energy transitions; oil and gas production networks; hydrogen; SDGs

ICSDG2023-0125

AN ECOLOGICAL-ECONOMIC APPROACH IN DEVELOPING SUSTAINABLE MANAGEMENT OPTIONS FOR BEACH FORESTS IN ILIGAN BAY, MINDANAO, PHILIPPINES

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ABSTRACT

This study used the ecological and economic attributes of two beach forests in Iligan Bay to estimate the benefits of its ecosystem services (provisioning and regulating) and, in turn, provide options for coastal stakeholders to sustain their beach forests. The beach forests studied, which is composed of moderately diverse plant communities, were found important to coastal settlers. Their utilization practices includes collection of fuelwood, food and medicinal products, and commercial goods. As estimated, the beach forests provided products to the community valued at ~Php2,623,137 (Bacolod), and ~Php1,422,320 (Naawan) for the year 2023. The regulating service benefits (total C sequestered and stored) had economic values estimated at ~Php570,489 (Bacolod) and Php140,308 (Naawan). The subsequent trade-off analysis of three management options – development, conservation, and business-as-usual options, at a discount rate of 10% for a 15-year period, revealed that the option to conserve beach forests could return higher net present value (NPV) estimates of Php19.46 M (Naawan) and Php35.17 M (Bacolod). Therefore, based on NPV alone, this study proposes the conservation option over the development and business-as-usual, as this management alternative assures the sustainable delivery of the beach forests' provisioning and regulating services.

Keywords: economic valuation; provisioning services; regulating service; trade-off analysis; benefit-cost analysis.

ICSDG2023-0138

THE DETERMINANTS OF EMPLOYEE DEVELOPMENT IN FAMILY BUSINESS ORGANIZATION IN HOUSING DEVELOPMENT INDUSTRY IN YUNNAN PROVINCE, CHINA

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ABSTRACT

The development and contribution of family business to economy in advanced economies have attracted high interests on their performance and management (Botero et al., 2015). Under the background of China, mentoring problem obviously reflected in many family business organizations that often neglect to continuous provide mentoring to their mentees but only provide mentoring to new employees who newly join the family business organizations. It is because the mentors aim to prevent the mentees from surpassing them through discontinue provide mentoring to them. In many situations, senior employees or mentors often do not provide full skills to their mentees during the mentoring (Gadomska-Lila, 2020) due to concern the work competences of mentees in organization supersedes the mentor. Krishnan (2020) added that corporate culture under the domination of family ownership not only cannot accept non-family members development of work competences grow beyond the family members but including cannot accept non-family members who are recognized as potential talented employees to join the family business organization. Based on the above considerations, this research investigates family business organizations in housing developer industry in Yunnan Province, China as the research setting that understanding about employee development as the dependent variable with selected two independent variables, known as mentoring and corporate culture.

Keywords: Family Business Organization; China; employee development; mentoring; corporate culture.

ICSDG2023-0246

WASTE TO WEALTH – GREEN GRAPHENE FROM BIOMASS FOR SUSTAINABLE ECOSYSTEM DEVELOPMENT

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ABSTRACT

Graphene, a single layer of carbon atoms arranged in a hexagonal lattice, possesses remarkable properties that have led to its exploration for various applications. This research focuses on green graphene, an innovative derivative of graphene produced from sustainable biomass sources. Beginning with the functionality of graphene, it exhibits exceptional strength, conductivity, and flexibility; hence, the ability to produce green graphene from biomass waste especially from the oil palm industry leads to the potential to reduce reliance on intensive materials and contribute to sustainable resource management, emphasizing sustainability in the materials life cycle. The advantage of green graphene in Environmental, Social and Governance (ESG) criteria is elucidated, emphasizing its eco-friendly production processes (waste to wealth), reduced environmental impact, and adherence to ethical and governance standards. The study showcases how the adoption of green graphene contributes positively to ESG criteria, aligning industrial practices with responsible and sustainable principles. This paper also explores the pivotal role of green graphene in contributing to the attainment of the Sustainable Development Goals (SDGs) outlined by the United Nations focusing on the broader impact and its role in addressing specific goals such as affordable and clean energy, responsible consumption and production, climate action and creating an ecosystem based on partnerships that enables the use of biomass based graphene as a catalyst in product development for economic growth, promoting environmentally friendly processes and contributing to global efforts for a more sustainable future.

Keywords: biomass; graphene; sustainable development goals; environmental impact; social responsibility; governance; ESG; sustainability.

ICSDG2023-0211

THE ROLE OF THE CENTRAL BANK OF INDONESIA IN EMPOWERING MICRO, SMALL, AND MEDIUM ENTERPRISES (MSMEs) THROUGH FINANCIAL INCLUSION : A CASE STUDY IN "PERKUMPULAN TENAGA KERJA PURNA & KELUARGA (PERTAKINA)"

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ABSTRACT

National development is characterized by the creation of a stable financial system that provides benefits to all levels of society, one of which is MSMEs. Therefore, the Central Bank of Indonesia has a financial inclusion program for MSMEs, one of which is "Pekerja Tenaga Kerja Purna dan Kelurga (PERTAKINA)" in Blitar East Java, Indonesia. The focus of this research includes the role of The Central Bank of Indonesia in providing socialization, education, and monitoring to MSMEs and business actors. Apart from that, the method used in this research uses field research and qualitative descriptive methods, including interviews, observation, and documentation. The research results show 1) the role of The Central Bank of Indonesia Bank in socializing financial inclusion for MSMEs as a facilitator and catalyst; b) the role of The Central Bank of Indonesia Bank in providing education as an educator in socialization activities through inclusive financial learning and encouraging those who are still unbankable to become bankable; c) the role of The Central Bank of Indonesia in carrying out monitoring and evaluation by providing regular assistance to build business networks in the field with relevant stakeholders.

Keywords: The Central Bank of Indonesia; Empowerment; MSMEs; Financial Inclusion.

ICSDG2023-0180

CORPORATE FINANCING COSTS AND ESG DISCLOSURE: CHINESE A-SHARE LISTED COMPANIES' EVIDENCE

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ABSTRACT

The management of environmental, social, and governance (ESG) challenges by firms, which have an impact on their ability to create long-term value, is of increasing importance to investors. To inform stakeholders about their ESG performance and strategies, companies frequently disclose ESG data. Using data from China's A-share listed companies from 2013 to 2022, this study uses a fixed effect model to assess how ESG information disclosure effects corporate financing costs. The research results show that the company's ESG disclosure, in particular equity funding, is related to the reduction in financing costs, and the 2018 update to the "Guidelines for Corporate Governance of Listed Companies" significantly contributes to this relationship. The study also examines the mechanism by which the publication of ESG information impacts financing costs and discovers that it decreases information asymmetry and enhances stakeholder perception of the company. The study also demonstrates that businesses in high-profit, polluting industries have greater financing costs than those in low-pollution industries. This study emphasizes the importance of incorporating ESG principles into current financial decision-making and sustainable corporate practices, as well as the value of doing so to boost social responsibility while decreasing spending.

Keywords: ESG disclosure; corporate financing costs; equity financing; debit financing; fixed-effects model.

ICSDG2023-0208

DRIVER OF SUSTAINABILITY: EVALUATION AND COMPARISON OF COLLABORATIVE INNOVATION EFFICIENCY IN CHINA'S CHENGDU-CHONGQING URBAN AGGLOMERATION

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ABSTRACT

Along with the evolving international pattern, collaborative innovation becomes a tool for environmental, economic, and social sustainability in regional governance. This paper uses panel data from 16 cities in the Chengdu-Chongqing urban agglomeration in China from 2011 to 2021. First, this paper adopts the two-stage dynamic DEA model to evaluate the collaborative innovation efficiency decomposed into two stages: knowledge contribution efficiency and technology contribution efficiency. Then, inter-city comparisons are made from the temporal-spatial perspective using the natural breaks method of ArcGIS 10.8 software. The results show that most cities' collaborative innovation efficiency is between 0.5 and 0.8, and the knowledge contribution efficiency and technology contribution efficiency are between 0.7 and 1, both of which have sufficient room for growth. Temporally, most cities' collaborative innovation efficiency and technology contribution efficiency increase yearly, but their knowledge contribution efficiency decreases yearly. Spatially, Chengdu, Chongqing, and their intermediate cities have higher collaborative innovation efficiency, while the marginal cities have lower collaborative innovation efficiency. Knowledge contribution has a minor impact on collaborative innovation, but technology contribution significantly impacts collaborative innovation. The results provide an initial basis for developing collaborative innovation policies for urban agglomerations in underdeveloped regions to achieve economic and social sustainability.

Keywords: collaborative innovation; the two-stage dynamic DEA; knowledge contribution efficiency; technology contribution efficiency; temporal-spatial comparison.

ICSDG2023-0152

EFFECT OF PURPLE NONSULFUR BACTERIA (*Rhodopseudomonas palustris* IMB3) FEED ON ARTEMIA FITNESS AND NUTRITIONAL VALUES

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ABSTRACT

Artemia plays a vital role as a primary food source for many aquatic species in aquaculture. However, it has its share of drawbacks, such as the potential transmission of diseases like Vibriosis, caused by *Vibrios*. Additionally, *Artemia* lacks essential nutrients like fatty acids, vitamins, and minerals. To address these limitations, various strategies are employed, including the use of nutrient-rich feed additives, algal enrichment, and probiotics in *Artemia* diets. One promising candidate for enhancing *Artemia*'s nutrition, health, and aquatic environment is Purple Non-Sulphur Bacteria (PNSB). PNSB is known for its Essential Amino Acids (EAA), vitamins, bacteriochlorophyll pigments, and its ability to metabolize waste. This study aims to evaluate the effectiveness of live PNSB as a multifaceted component in the *Artemia* diet. Specifically, its roles as a feed additive, color enhancer, probiotic, and water quality regulator were investigated. Local isolated species of PNSB were identified, and their impact on *Artemia* as a food source and immunostimulant was examined. The study monitored *Artemia* growth, water quality, pathogen resistance, and nutritional value. *Rhodopseudomonas palustris* UMT3, isolated from a fish pond at hatchery UMT, was cultivated under anaerobic light conditions. *Artemia* were fed with *R. palustris* at a concentration of 108 cells/ml twice daily. The results showed that *R. palustris* positively influenced *Artemia*, promoting faster growth while maintaining stable water quality parameters, including pH and dissolved oxygen levels. Notably, *Artemia* fed with *R. palustris*-enriched diets exhibited a robust survival rate 48 hours after being challenged with *Vibrio parahaemolyticus* (at a concentration of 107 cells/ml), outperforming those fed with algae and yeast. In comparison, *Artemia* fed with *R. palustris* had a 70% survival rate, demonstrating its ability to enhance *Artemia*'s immune defenses and reduce pathogenic pressures during cultivation.

Keywords: *Artemia*; PNSB; *R. Palustris*; *Vibrio*; live-feed enrichment.



ABSTRACTS:
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PROGRAMME & ABSTRACT BOOK

FOCUS AREA

ENVIRONMENT



ICSDG2023-0013

SUSTAINABLE ANALYSIS OF CONFUCIAN NARRATIVES IN COURTYARD ARCHITECTURE AND HUTONGS IN JINAN, CHINA

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ABSTRACT

In the context of urban layout and house construction in China, this study explores the significant role of Confucianism, particularly in shaping cultural and stylistic aspects. Previous studies have focused on street management, building restoration, and the application of new materials; however, there has been limited discussion on the sustainability of culture in the built landscape. In this study, the city of Jinan in Shandong Province was chosen to analyze the influence of Confucianism on streets (hutongs) as well as courtyard houses in the ancient town. Employing a qualitative research methodology, which included extensive observations, field investigations, and interviews within traditional communities, this research sought to understand how the connotations of Confucianism directly impact people's lives and the environment. The findings reveal that Confucianism plays a pivotal role in shaping the urban environment, and common challenges in the current urbanization process in China were identified. To address these issues, recommendations for sustainable development are provided, offering a new research perspective for the industry. This study contributes to a deeper understanding of the intricate relationship between Confucianism and urban development in China, offering valuable insights for future planning and design efforts.

Keywords: sustainable environment; Confucianism; courtyard; hutongs; architectural culture.

ICSDG2023-0019

HYBRID ENERGY SYSTEMS: A PATHWAY FROM CONVENTIONAL TO SUSTAINABLE POWER GENERATION

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ABSTRACT

As the demand for global energy and concerns for environmental sustainability increase, the need for innovative solutions delivering reliable and clean power has become paramount. Conventional energy sources have been the backbone of power generation for decades, but their associated environmental impacts and finite nature have brought their long-term viability into question. Simultaneously, renewable energy sources (RES), such as solar photovoltaic (PV) and wind turbines, hold potential for addressing these issues, yet they face challenges of intermittency and variability when utilized as standalone. This paper underscores the critical significance of adopting hybrid renewable energy systems (HRES) as a robust pathway to sustainable power generation. Acknowledging limitations of both conventional and renewable energy systems, it emphasizes combining energy sources to forge a resilient and balanced infrastructure. A hybrid system, integrating solar PV, wind turbine, battery storage, diesel generators, and conventional grid electricity at the distribution feeder level is proposed, to leverage synergies of the sources to overcome individual drawbacks. For a sustainable energy infrastructure, meticulous planning during both design and operation phases is paramount. This paper identifies and delves into crucial research areas that require focused attention for the seamless and efficient operation of HRES. Some important areas include energy management strategies, optimal system design methodologies, power balance management techniques, and power quality assurance etc. By addressing these aspects, stakeholders can ensure the smooth operation and long-term viability of hybrid systems in diverse settings. The findings of this study provide valuable insights for policymakers, researchers, and industry professionals, guiding them towards the realization of efficient and eco-friendly power generation systems.

Keywords: social entrepreneurship; SWOT analysis; poverty (three to five keywords).

ICSDG2023-0035

ENVIRONMENTAL IMPLICATIONS OF BREASTFEEDING AND ITS ROLE IN ATTAINING THE UNITED NATIONS SDGS

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ABSTRACT

Breastfeeding has been predominantly recognized for various health benefits for both infants and mothers. It is remarkable that scaling up breastfeeding at the universal level can help save the lives of up to 823,000 babies as well preventing breast cancer among 20,000 mothers annually. However, breastfeeding was not emphasised as a target in the Sustainable Development Goals (SDG). Especially, its potential role in promoting environmental sustainability has been overlooked. This paper aims to explore the environmental impact of breastfeeding in achieving the SDG. Hence this study will highlight the often-unexplored connections between breastfeeding and environmental impact. When breastfeeding is scarce, infant formula comes in as a substitute and there are various environmental burdens associated with the production, packaging, distribution and consumption of these products. Further, this paper will discuss protecting breastfeeding practices by strengthening the implementation of the International Code of Marketing of Breastmilk Substitutes and the importance of funding breastfeeding promotions at the global level. This paper will conclude that by collectively working on achieving the 70% exclusive breastfeeding rate by 2023 set by Global Breastfeeding Collective, we can achieve the broader agenda of sustainable development.

Keywords: breastfeeding; environment; sustainable development goals; infant formula.

ICSDG2023-0044

ENVIRONMENTAL ASPECTS OF DIGITAL MEDIA PRODUCTION TO CONSUMPTION: A SUSTAINABILITY PERSPECTIVE

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ABSTRACT

Digital media consumption is growing at amazing pace as the world is becoming more connected. Consequently, the environmental impacts associated are also increasing at alarming rate. This study aims to assess the environmental impacts of digital media consumption and production, which is a major source of greenhouse gas (GHG) emissions and energy demand. Using the ISO 14001:2015 framework, the study identifies the environmental aspects, risks, and opportunities of the digital media processes, highlighting the potential risks. The study would be analysing reports from The Shift project, <https://www.greenit.fr/> and Netflix ESG report. The study would be using inferential statistics keeping Netflix's ESG report as a baseline to determine ecosystems at higher risk, potential areas for improvements and initiate discussions. This study has its inherent limitations in terms of the scope of data used. It is hoped that this study will achieve its aim of generating awareness for the industry to proactively plan and mitigate the environmental impacts.

Keywords: social entrepreneurship; SWOT analysis; poverty (three to five keywords).

ICSDG2023-0054

THE PROGRESSION OF SUSTAINABLE DEVELOPMENT FROM URBAN SATURATION IN KUALA LUMPUR AND PENANG CITY CENTRE

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ABSTRACT

In recent years, the local authorities suggested many solutions to achieve Kuala Lumpur and Penang City Centre into sustainable cities. Kuala Lumpur and Penang have been known to have undergone significant expansion and development since their independence. Both cities have experienced substantial development, even though their identity has changed in urban saturation from bungalow and mansion neighbourhoods caused by getting tin from the mining area (Kuala Lumpur City Centre) into the golden triangle of Klang Valley; colonial areas and old establishments because of resource transportation to the harbour (Georgetown) into UNESCO World Heritage Sites. It shows the way these two major cities have mostly focused construction on Kuala Lumpur, whereas Penang has maintained its conservation plans. The study was carried out to monitor the progression in sustainable development for both cities (1km radius) from 2015 to 2023 utilising the technique of overlay analysis combining image processing, remote sensing data, and the USGS Earth Explorer. It is critical in defining the saturated location, the sequence of urbanised development, and the growth force element.

Keywords: sustainable cities; landsat image; city development; urban saturation.

ICSDG2023-0062

ADOPTION OF HOUSEHOLD BIODIGESTER TECHNOLOGY FOR SANITATION PURPOSES IN THE PHILIPPINES

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ABSTRACT

Biodigester tanks have long been utilized around the world with great advantage in industry particularly in agriculture using animal manure and human feces for biogas production as source of electricity and in waste management. In the current 5-year study, the said technology will be used as a replacement of the septic tanks in 5-membered households installed in selected urban and rural settings in the Philippines which are Tacloban City in Leyte and San Remigio in Cebu, respectively. These modified three-chamber design biodigester tanks have the advantage of reducing the harmful effects of the microbes due to anaerobic microbial inoculum (AMI) with psychrophilic bacteria that converts all fecal matter into soluble products such as water, carbon dioxide and methane. The study uses descriptive analyses of microbiological and chemical data of the influent and effluent samples collected from the tanks situated in two Philippine towns that are flood-prone and located along the coastline which are prone to transmission of waterborne diseases. Chemical analysis results suggests that most of the pH level of the influent samples is alkaline that is due to the high ammonia level produced by the AMI reacting with the human feces. The influent BOD and COD levels maintain the environment favorable for AMI growth. Generally, the technology is worth considering for wastewater treatment leaving a positive impact to public health and environment.

Keywords: Biodigester, Anaerobic Microbial Inoculum, Sustainable technology, Human waste, Septic tanks, NAG Magic Tank, Waste management

ICSDG2023-0075

NON-MARKET VALUATION OF ECOSYSTEM SERVICES AT THE URBAN GREEN SPACES IN PENANG, MALAYSIA

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ABSTRACT

Urban green spaces (UGS) are the main provider of various ecosystem services in urban areas, including air filtration service, noise reduction service, and habitat maintenance. These services include a wide range of ecological functions that contribute to the well-being of urban dwellers. It is therefore assumed that residents of Penang hold positive willingness-to-pay (WTP) for these services. This study empirically investigates the non-market values of ecosystem services generated by UGS in Penang, Malaysia. To calculate the value of these services and other important attributes, we conducted a distance-based discrete choice experiment in Penang, Malaysia to elicit the residents' WTP for the improvements in air quality, noise level, nursery habitat maintenance, tree species, and facilities in UGS. Data from a discrete choice experiment were collected through an online survey of 404 respondents and included socio-demographics. Results suggest that the highest WTP is assigned to the improvement of air quality, followed by noise levels, recreational onsite facilities, tree species, and nursery habitat maintenance. The findings of this research have significant policy implications for UGS planning and management. By understanding the values of ecosystem services of UGS, policymakers can prioritize policies that enhance the provision of the most valuable characteristics.

Keywords: non-market valuation; discrete choice experiment; urban green spaces; ecosystem services; George Town.

ICSDG2023-0077

DESIGN AND RESEARCH ON FLOOD MANAGEMENT SYSTEM BASED ON SUSTAINABLE DEVELOPMENT CONCEPT AND ARTIFICIAL INTELLIGENCE TECHNOLOGY

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ABSTRACT

As global climate change continues to intensify, flooding has become one of the increasingly serious natural disasters around the world. Strengthening urban flood risk management and improving disaster prevention, mitigation and relief capabilities can effectively reduce disaster losses and promote sustainable urban development. The development of artificial intelligence technology has brought new opportunities and technical support to the field of flood management. In order to cope with flood risk more effectively, this paper designs and researches an innovative flood management system based on the concept of sustainable development, combined with advanced artificial intelligence technology. The flood management system realizes the informationized management of flood management in three stages, from early warning and analysis before disaster, emergency rescue during disaster and recovery and reconstruction after disaster. It aims to improve the accuracy and efficiency of flood management, increase the efficiency of flood management, strengthen the prediction and response capability, and reduce the impact of disasters on the socio-economy and environment, thus promoting the sustainable development of flood management.

Keywords: sustainable development, artificial intelligence, flood management, informational systems.

ICSDG2023-0091

PREDICTIVE ANALYSIS OF OIL PALM YIELD: COMPARISON OF LINEAR AND NON-LINEAR MODELING WITH MULTIVARIATE TIME SERIES DATA

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ABSTRACT

The accurate prediction of oil palm fresh fruit bunch (FFB) yield plays a crucial role in optimizing agricultural production and resource allocation. The study aims to investigate whether non-linear machine learning models can outperform traditional linear regression methods in capturing the complex relationships among multiple variables. The predictive capability of both methods is investigated by utilizing historical weather, soil, and agricultural data spanning 1986-2020 from Pahang state, Malaysia. The results of the study revealed that linear regression yielded an R² score of 0.63, suggesting a moderate level of predictive capability. However, the non-linear tree-based model, light gradient boosting regression, exhibited significantly superior performance with an R² score of 0.89. This substantial improvement in predictive accuracy suggests that the non-linear model is better equipped to capture the complex interactions among weather, soil, and agricultural variables, thereby leading to more accurate oil palm FFB yield predictions. The findings underscore the importance of utilizing advanced non-linear regression techniques, particularly tree-based models, when dealing with complex agricultural prediction tasks. This research contributes to the growing body of knowledge surrounding predictive modeling in agriculture and highlights the potential benefits of adopting non-linear approaches for improving yield forecasts.

Keywords: oil palm; yield prediction; machine learning; linear regression; non linear regression.

ICSDG2023-0096

CONSERVATION GENETICS OF THE SPOTTED SARDINELLA (AMBLYGASTER SIRM) IN MALAYSIAN WATERS: A MOLECULAR APPROACH WITH MICROSATELLITE MARKERS

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ABSTRACT

The spotted sardinella (*Amblygaster sirm*) is a marine fish species found in Malaysian waters. It is one of the commonly caught pelagic fish in the South China Sea. Therefore, proper management practices should be applied to protect the survival of this species. Approaching the issue from a molecular perspective is possible with the development of microsatellite markers which can be utilised to generate vital information analysed to determine the stock structure of the spotted sardinella. In this study, total genomic DNA of the spotted sardinella was extracted using a protocol based on the cetyl trimethylammonium bromide (CTAB) method with modifications. Microsatellite loci were genotyped, and eight potential microsatellite primer pairs were chosen to be fluorescently labelled with either 6-FAM (6-carboxyfluorescein) or HEX (hexachloro-fluorescein).

Keywords: spotted sardinella; fisheries management; microsatellite markers.

ICSDG2023-0115

ASSESSING THE HISTORIC URBAN LANDSCAPE OF WATER TRANSPORTATION DISTRICT ALONG THE SEAFRONT IN GEORGE TOWN CORE HERITAGE ZONE, PENANG

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ABSTRACT

In 2008, George Town, a British trading port city in Penang, was officially designated as a UNESCO World Heritage Site (WHS). Over time, the seafront area of George Town underwent significant transformations and geographical shifts, impacting the Historic Urban Landscape (HUL) of these vital WHS areas and eroding their distinctive character and identity. This paper examines the significant changes and value of each HUL component of the water transportation district along the seafront in George Town Core Heritage Zone, Penang, from the experience of heritage practitioners as well as to understand the challenges that these practitioners face to conserve the HUL ultimately

fortifying the landscape conservation strategy. This research utilized four qualitative methodologies: semi-structured interviews with significant heritage practitioners, site observations, content analysis, and thematic analysis. In general, some of the HUL components in the studied area were not valued until the area lost its identity as a well-known trading port along the Malacca Strait. The results from various heritage experts emphasized the significance of conserving the values of every HUL in George Town WHS. Understanding their challenges in conserving these HUL's is expected to strengthen and improve the conservation strategy of the George Town WHS area so that we can protect its culture and the value of each HUL component and make George Town a more sustainable, inclusive, and resilient WHS, which aligns with the SDG agenda.

Keywords: historic urban landscape; trading port; UNESCO heritage site; George Town World Heritage Site.

ICSDG2023-0130

INFLUENCE OF INNOVATION CHARACTERISTICS AND ORGANIZATIONAL FACTOR ON ISO14001 ENVIRONMENTAL MANAGEMENT SYSTEM ADOPTION AMONG HIGHER EDUCATION INSTITUTIONS

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ABSTRACT

The role of Higher Education Institutions (HEIs) as a learning institution in promoting Education Sustainable Development (ESD) has become more crucial with the increasing enrolment. Besides cultivating useful knowledge for future generations, HEIs need to manage its campus operation in a more sustainable manner to cope with increasing environmental issues and competitive world ranking. ISO 14001 EMS present as a sustainability tools that could help HEIs to manage these challenges. Despite its advantages and widely recognized international standard, adoption in the education sector is significantly low compared to other sectors. Existing empirical studies on adoption of EMS are scarce, especially in HEI context. ISO14001 is often conceived as business practice with limited theoretical implications. This study intends to bridge these gaps by examining the influence of relative advantage, compatibility, adaptability, complexity and perceived cost on ISO 14001 adoption among HEIs through quantitative approach. This study adds to the existing literature of ISO 14001 adoption by Integrating Diffusion of Innovation and Resource Based View Theory. Practically, this study is expected to provide insights to management on the pre-requisite that required for a successful adoption, inspire other HEIs to benchmark, foster knowledge sharing and accelerate the implementation of ESD.

Keywords: ISO 14001, Environmental Management System (EMS), Innovation Adoption, Higher Education Institution (HEI), Education Sustainable Development (ESD).

ICSDG2023-0133

SPATIOTEMPORAL ANALYSIS OF PLASMODIUM KNOWLESI INFECTION IN PAHANG, 2011-2022: ALIGNING WITH SUSTAINABLE DEVELOPMENT GOAL TARGET 3.3 FOR ENDING MALARIA EPIDEMIC

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ABSTRACT

Plasmodium knowlesi, a zoonotic disease prevalent in Southeast Asia. Malaysia shows the highest incidence, with 88.9% of cases from 2004 to 2016. This poses a major public health challenge towards malaria elimination and the achievement of Target 3.3 of the SDG. This study aims to describe the trend, map the spatial pattern, and identify hotspots of *P. knowlesi* cases in Pahang for 2011-2022. A cross-sectional study was conducted using retrospective secondary data from reported *P. knowlesi* cases within the Pahang e-Vekpro system. Using R software version 4.2.3, density analysis was conducted using Kernel Density Estimation (KDE). Spatial autocorrelation was assessed from a general and localized perspective using Global Moran's I and Local Indicators of Spatial Association (LISA) statistics, respectively. A total of 967 *P. knowlesi* cases were registered in Pahang from 2011 to 2022. A serial analysis shows the distinct patterns of *P. knowlesi* density. In the initial years (2011, 2012, and 2013), case density was predominantly concentrated in the Lipis and Jerantut districts. However, in the later years (2021 and 2022), the distribution of cases became evenly spread across various districts in Pahang. Spatial autocorrelation was demonstrated for 2012 and 2013 and identified hotspots within the Tembeling, Cheka, Kechau, Telang, and Gua subdistricts, all within the Lipis district. The spatiotemporal distribution of *P. knowlesi* malaria exhibited dynamic changes, suggesting the evolving nature of the disease's spatial pattern. Targeted prevention should be prioritized in high-risk areas, including surveillance activities, vector control measures, and community education.

Keywords: *P. knowlesi*; malaria; SDG 3.3; spatiotemporal analysis.

ICSDG2023-0147

NATURE'S SUSTAINABLE STRAW: LEPIRONIA ARTICULATA STEM MORPHOLOGY STUDY

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ABSTRACT

Lepironia articulata is an emergent aquatic plant that can be found in swamps and at the fringe of lakes in Southeast Asia and Australia. This species is used locally as a woven material and has also been successfully used in wastewater treatments. Interestingly, due to its stem morphology, *L. articulata* can be used as a drinking straw, which has a great potential to substitute the plastic drinking straw. This study aimed to investigate the stem morphology of this species in relation to its habitat. A total of 620 specimens from 3 populations were collected from Setiu, Kuala Nerus, and Dungun, Terengganu, and tested by statistical tests. A one-way ANOVA was conducted to compare the mean length (CL) and width (CW) of the culm between the three populations. There was a significant difference between mean CL and CW at the $p < 0.5$ level for the three populations. However, no relationship was found between CL and CW, suggesting that the length of the culm does not determine the width of the culm. In addition, populations from Kuala Nerus and Dungun have a bigger stem than the population from Setiu. The mean diameters for these two populations were 6.4 mm (Kuala Nerus) and 6.5 mm (Dungun), which is the size of a standard plastic straw. This study contributes to our understanding of the biological aspect of *Lepironia articulata* and potential applications, promoting both environmental conservation and sustainable resource utilization.

Keywords: aquatic plant; conservation, eco-friendly; sustainable harvesting.

ICSDG2023-0157

MICROPLASTICS OCCURRENCE IN RHIZOPHORA APICULATA ROOTS IN SETIU LAGOON, TERENGGANU

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ABSTRACT

Microplastics are a rising concern due to their pervasiveness, tenacity, potential to distribute environmental pollutants, and potential for bioaccumulation across food chains. Mangrove plants play a significant role in mitigating microplastic pollution in coastal ecosystems. The complex root system acts like a natural filter, preventing microplastics from entering deeper water and becoming further distributed in the ecosystem. This study aims to investigate the occurrence of microplastics in the roots of a mangrove species, *Rhizophora apiculata* from three stations in Setiu Lagoon, Terengganu. A total of 90 root samples, of which 30 roots were in each station, were collected. The roots were digested using the modified WESTPAC method before being manually sorted under a microscope and categorized into shapes and colours. Results showed that the abundance of microplastics ranged from 61800 to 42200 items/kg dry weight. The most common form was fibre, and black was prevalent in these three stations. The dominant size of microplastics found in the roots of *R. apiculata* is 1.00-5.00 mm, which shows >45% for all 3 stations. Results from this study give baseline information on microplastics discovered in mangrove plants, which may assist in the development of strategies for reducing microplastic pollution protecting mangrove ecosystems, and ensuring the sustainability of coastal areas.

Keywords: mangrove; microplastics; occurrence; rhizophora apiculata; Setiu Lagoon.

ICSDG2023-0171

PUBLIC WILLINGNESS TO PAY FOR AN ENTRANCE FEE AT THE NEWLY PROPOSED MARINE PARK PROTECTED AREA IN MALACCA

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ABSTRACT

Pulau Undan, Pulau Nangka, and Pulau Dodol have been selected to be gazetted as the newly proposed marine park in Malacca. However, these islands faced issues such as overfishing and land reclamation. Furthermore, appropriate entrance fee has yet to be determined for the newly proposed marine park. The aim of this study is to ascertain the public's perception and identify the factors influencing their willingness to pay (WTP) for the newly proposed marine park. We also seek to estimate the public's willingness to pay for the entrance fee to the proposed marine park in Malacca using Contingent Valuation Method (CVM). Questionnaires were used to obtain responses from 405 participants via convenience sampling at Restoran Ikan Bakar Parameswara, Umbai. Findings of this study indicate that the overall perception of the proposed area is at a high level. The factors influencing WTP include age, income, and perception, with an average willingness to pay of RM14.38 (based on the double-bound CVM). The Department of Fisheries can benefit from this study to justify the entrance fee for the park. Additionally, the knowledge about the factors determining WTP can be used to design an effective strategy for maintaining the sustainability of the marine park.

Keywords: marine park; entrance fee; willingness to pay; contingent valuation method; resource management.

ICSDG2023-0179

HOW CAN META-KNOWLEDGE FACILITATE DISRUPTIVE INNOVATION FOR CORPORATE SUSTAINABILITY: A RESOURCES-TO-CAPABILITY PERSPECTIVE

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ABSTRACT

Purpose – Enhancing disruptive Innovation for corporate sustainability is one of the recent issues globally. The relationship between Meta-knowledge development capability (MDC) and disruptive innovation (DI) in the high-tech enterprise context remains a deeply under-explored research frontier. Drawing on the social capital, knowledge management and dynamic capability theories, this study constructs a multi-stage theoretical model of the impact of MDC on DI and investigates how a high-tech enterprise's MDC practices are linked to DI through the single and sequential mediating roles of organizational social capital (OSC), knowledge creation (KC) and dynamic capability (DC). Design/methodology/approach – Cross-sectional design was used in this study. Data were gathered through purposive sampling from 451 respondents of high-tech enterprises in China, and analyzed by using structural equation modeling. Findings – first, OSC has a significant role in promoting both MDC and KC; Second, MDC has a positive and significant impact on the DI of enterprises, and this effect is realized through the sequential mediation of KC and DC. Third, OSC positively affects the DI of an enterprise through the sequential mediation effect of MDC, KC, and DC. Originality/value – The research enriches the relevant knowledge and innovation management theories and enlightens high-tech enterprises to achieve DI and sustainable development. The theoretical contributions, practical implications, limitations, and future research directions are included.

Keywords: Meta-knowledge development, Organizational Social Capital, Dynamic Capability, Disruptive Innovation, Sustainable Development

ICSDG2023-0184

COASTAL MEDICINAL PLANTS IN TERENGGANU: A TREASURE TO PRESERVE AND SUSTAIN AS POTENTIAL NATURAL ANTIOXIDANTS AND ANTIBACTERIAL

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ABSTRACT

Global climate change and the rise of sea level have threatened the survival of some high value coastal plants along the Terengganu coastline due to the beach corrosion. The purpose of this study was to investigate the bioactivities of some selected coastal plants from Terengganu such as *Vitex rotundifolia*, *Ipomoea pes caprea*, and *Talipariti tiliaceum* as a natural antioxidant, antibacterial and their safety to be utilised. All plants were collected, dried, and grounded prior to extraction by using hexane, ethyl acetate, and methanol. All extracts obtained from different plant parts were determined their antioxidant and antibacterial activity. In addition, their toxicity was also evaluated. Antioxidant results showed *T. tiliaceum* stem, *I. pes caprea* stem, *V. rotundifolia* fruits, and stem had strong antioxidant activities (IC₅₀: 0.01 – 0.09 mg/mL) which is comparable to Gallic acid (IC₅₀: 0.03 mg/mL). Meanwhile, all plant extracts were evaluated to have differential antibacterial activities against selected pathogenic bacteria. For toxicity, hexane plant extracts demonstrated low toxicity compared to other extracts. This study further justifies the high value of these medicinal coastal plants that need further attention to preserve and sustain for future generations, particularly for the coastal communities and their natural functions in the coastal ecosystem.

Keywords: coastal plants; natural products; antioxidant; antibacterial.

ICSDG2023-0186

CHARTERING EDUCATION FOR SUSTAINABLE DEVELOPMENT THROUGH CLICK GREEN PROJECTS

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ABSTRACT

Achieving long-term change to address issues that are related to high-quality education, diminished inequalities, climate action, peace, justice, and strong institutions, as well as partnerships for the goals is the aim of any higher education institution. Identifying current Education for Sustainable Development (ESD)-relevant activities in a higher education institution not only promotes integration of ESD in the educational systems at all levels but also supports ongoing initiatives to enhance the quality and delivery of formal education in different programs namely teacher education, hospitality management, and industrial technology programs. The researchers created a comprehensive review of the school's click green program which drew data from a survey that the team conducted. It was found out that the click green program supports other national and international programs for sustainable development. The researchers proposed the expansion of the program. With a focus on non-teaching staff, school administrators, and, most importantly, teachers and students, the expansion of the program aims to lay out a set of steps to direct the higher education institution and the Local Government in creating suitable responses for ESD in the school.

Keywords: chartering education; sustainable development; click green projects; higher education institution.

ICSDG2023-0199

CLOSED CAVITY FAÇADES WITH TGU INNER SKIN REDUCE PEAK OPERATING TEMPERATURES FOR THERMAL COMFORT IN HOT, HUMID CLIMATES

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ABSTRACT

A closed cavity facade (CCF) is "a sealed, non-ventilated cavity with an automated shading device that, at its simplest, consists of double or triple glazing on the inside and single glazing on the outside". The dynamic properties of this technology enable the fluid control of solar energy and daylight entering the structure. Several CCF designs were investigated in EnergyPlus and DesignBuilder, and the outcomes were compared to the present state (a single – glazing unite (SGU) with gray coating). The investigation was founded on a case study of a Penang Island, Malaysia, condominium. Comparing CCFs with traditional SGU systems reveals significant thermal performance and occupant comfort enhancements. CCF configurations performed well throughout the year, with maximum operational temperature reductions 40–91% better than traditional SGUs in Malaysia's humid tropical climate. Further investigation revealed that the glass coating and sun shading capabilities substantially contribute to reducing the interior temperature and enhancing the comfort of the building's occupants. The greatest performance was achieved by combining a nanocoating (83/58) and an E-low coating (83/23) (Tvis/Tsol) with a Venetian blind. In light of this, it is essential to carefully consider which coatings to use when installing CCF in such conditions. In all of these regards, the study concentrates on the fact that developing and implementing suitable combinations of a new closed cavity facade for Malaysia's climate can result in substantial gains. The results demonstrate that building operational temperatures and comfort can be enhanced, highlighting the need for innovative glazing technology.

Keywords: closed cavity; triple-skin; adaptive; façade; energy efficiency; thermal comfort; hot-humid climate.

ICSDG2023-0217

EMISSION FACTOR DEVELOPMENT FOR LIQUID FUEL USED IN ROAD TRANSPORTATION SECTOR FOR MALAYSIA'S NATIONAL GREENHOUSE GAS INVENTORY

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ABSTRACT

The transportation sector plays a vital role in the economy, contributing significantly to the country's socio-economic development. Indeed, conflicts often arise when attempting to balance mobility desire by society with the needs to improve the environmental quality. While the transportation sector is crucial for meeting the demand for mobility, it also has a significant impact on the environment. Malaysia in their recent submission of Fourth Biennial Update Report to the United Nations Framework Convention on Climate Change (UNFCCC) has reported that the energy sector's greenhouse gas (GHG) emissions increased by 27.95% in 2019 compared to the 2005 base year emissions with an important indicator that road transportation is the second sector of the vital source categories of GHG emissions among other sectors. From this perspective, continuous efforts should be made to improve the estimation of GHG emissions in the road transport sector by applying a country-specific emission factor. To date, there is limited study being conducted in Malaysia related to the development of emission factor for road transport. Therefore, this paper described the development of emission factor for road transportation in Malaysia which resulted in the value of 70,408.84 kg CO₂/TJ and 73,715.19 kg CO₂/TJ for petrol and diesel respectively. This study is expected to strengthen the GHG inventory reporting for Malaysia through a more accurate methodological shift for energy sector and contribute to more effective policymaking in addressing climate change and promoting sustainable development.

Keywords: Greenhouse gas, Transportation, Liquid Fuel, Emission Factor, Sustainable.

ICSDG2023-0225

PHYSICAL CHARACTERIZATION OF MICROPLASTIC POLLUTANTS IN GROUNDWATER

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ABSTRACT

The rapid urbanization and growth of the population has led to both the ever-increasing demand for water consumption and in tandem the levels of water pollution in Malaysia. Rapid development has produced great amounts of human waste including domestic and industrial which inevitably ends up in the water resources. Contamination of microplastic (MP) pollutants in groundwater has been a huge concern nowadays since groundwater often becomes a source of drinking water. Therefore, these MP (plastic particles < 5 mm) are concerned to have a negative health impact to human health through consuming of drinking water that has been contaminated. While MPs in groundwater likely affect human health, only a handful of studies have examined the abundance and movement of MPs in groundwater. Because of that, this study has been done in two difference sampling sites of groundwater that have been a source of drinking water. This study indicates a total of 182 of microplastics found in the sampled groundwater. Physical characterization has been done and they were divided into four categories according to their shapes. Fibers clearly prevailed at all water samples. Despite 10 different colors of the microplastics being identified, most of the MPs comprised of transparent plastics color. Moreover, polypropylene (PP) and polyethylene (PE) were found to be predominant in the water samples. This study contributes to filling the knowledge gap in the field of emerging microplastic pollution in drinking water sources specifically groundwater, which is of concern due to the potential exposure of MPs to humans.

Keywords: microplastics; groundwater; human health; physical characterization.

ICSDG2023-0235

IMBIBING SUSTAINABLE DEVELOPMENT GOALS THROUGH ACTIVE STUDENT ENGAGEMENT: A WOU EXPERIENCE

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ABSTRACT

The United Nations Educational, Scientific and Cultural Organization (UNESCO), Education for Sustainable Development (ESD), has become crucial in the education and empowerment of students in choices aligned with sustainable development due to the current social and environmental contexts that have worsened over time and are reflected in the degradation of the natural environment, the unsustainable use of non-renewable resources and its subsequent effects on climate conditions, as well as the aggravation of already existing inequalities. One of the courses at Wawasan Open University that uses a case-based group project utilising SDGs as a methodology to help students build the capacity to recognise patterns and improve problem-solving skills through a real-life scenario is the compulsory Co-curriculum course offered by the Centre for Foundation Studies, A mangrove sapling planting project at Malindo Beach in Balik Pulau was organised in collaboration with the Penang State Government, Penang City Council, and the Forestry Department. This initiative which is connected to SDG 14 and its results are discussed in this paper. Qualitative analysis shows that students had a favourable experience with the sustainability project, and an examination of their responses, which were provided before and after the project, reveals that they understood the significance of sustainability better and were more likely to apply sustainable design principles to other aspects of their lives. Additionally, the outcomes demonstrated an improvement in students' ability to work collaboratively, make team decisions, and form connections successfully, in addition to their capacity to handle projects with creativity and insight.

Keywords: education for sustainable development; SDG14; case-based methodology; student engagement.

ICSDG2023-0236

OPTIMAL ENGINE OPERATING CONDITION FOR SHELL ECO-MARATHON (SEM) GASOLINE VEHICLE

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ABSTRACT

The Shell Eco-Marathon (SEM) is a renowned global eco-racing competition that challenges university students to design, build, and race vehicles with a focus on achieving the best fuel economy. To minimize the vehicle fuel consumption, the engine must be operated mostly at its optimal engine conditions (engine speed and load). Thus, the brake-specific fuel consumption (BSFC) map and the brake thermal efficiency map for the 110cc engine used in the competition needed to be determined via dynamometer test. The test result shows that the engine produces a maximum torque of 7.31 Nm at 5500 RPM and maximum brake power of 5.33 kW at 7500 RPM. The optimal operating condition of the engine occurs at the lowest BSFC, which is 347.3 g/kWh with the operating engine speed of 5000 RPM and the operating engine load of 5.42 Nm. The highest thermal efficiency achieved by the engine is 23.87%. The optimal operating condition gathered from this study will be used in the development of the gear ratio and control strategy during the race.

Keywords: social entrepreneurship; SWOT analysis; poverty (three to five keywords).

ICSDG2023-0239

FROM GREEN TO NET ZERO CARBON UNIVERSITY: KHON KAEN UNIVERSITY, THAILAND

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ABSTRACT

Khon Kaen University is located on the Northeastern of Thailand. It is the largest university in the region with the area of 22,000 acre and about 40,000 students and about 12,000 university staffs. BY awareness of the global warming, the university conducted the net zero carbon campus project. The project followed the country policy on Sustainable Development Goals (SDGs) 13 target: Climate action by 2030. In the past, Khon Kaen University developed the green university for some time. This article reviews the development of university project from 2011 on green campus to net zero carbon project, recently. The U-Save project started in 2011 focused on energy saving within the KKU campus. The project concept is "to save energy for your university by your hand". There were a number of campaigns including poster campaigns and activities campaigns. During the period, there were also the PV installations for street and public space lights and solar roof for the Net Zero Energy building. The KKU net zero energy building was officially the first net zero energy in public building in Thailand. The Green and Smart Campus was presented in 2015. Beside energy saving, the university added the idea of good environment in the campus. The NGV bus is used as a free public transportation for students and staffs. Along of the NGV bus, the university set up the Compressed Biomethane Gas (CBG) station. In 2017, the university started Greenhouse Gas Inventory project. The KKU Smart Solar Farm project was also set up in this time. The project can add 1 megawatts of electricity for the university. Recently, the net zero carbon emission is the main focus of the university. Khon Kaen university set up the goal to be the net zero carbon emissions campus within the year 2040. The strategies to reach the goal including energy saving, renewable energy, traffic management, waste management and carbon sink by forestation. The KKU Committee of Zero Carbon Emission reported that KKU emit approximately 88,000 MT of CO² equivalent greenhouse gas (GHG) annually by 2040. Recent study found that by implementing the strategies approximately 54,000 MT of GHG can be reduced. However, for the remaining 34,000 MT of GHG, additional countermeasures need to be considered.

Keywords: zero carbon emission; green university; sustainable development.

ICSDG2023-0232

RELATIONSHIP EATING PATTERN, HOME SANITATION AND PARENTING MOTHER WITH STUNTING EVENTS IN CHILDREN UNDER TWO YEARS 6-23 MONTHS IN THE WORKING AREA OF PUSKESMAS PUUWATU KENDARI CITY

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ABSTRACT

Background: Stunting is one of the nutritional problems that adversely affects the quality of life of children in achieving optimal growth and development points according to their genetic potential. Stunting is more dangerous for baduta, because it is more likely to inhibit the growth process. The 2018 of Indonesia resistance increased to 36.4%. **Method:** This research was an observational analytic study with a cross sectional approach and was conducted in March at the Posyandu Dian Palupi and Posyandu Membiri in Puuwatu Village. The sample used in this study was 58 baduta. The sampling technique is a random sampling. **Results:** This study showed no significant relationship ($p = 0.095$) between diet and child nutritional status, no significant relationship ($p = 0.265$) between parenting and child nutritional status and no significant relationship ($p = 0.620$) between sanitation home with the nutritional status of children

Keywords: Nutrition Status; Diet; Parenting; Sanitation.

ICSDG2023-0192

TEMPERATURE PROFILES OF HEAT-NOT BURN PRODUCTS IN RESPONSE TO ENVIRONMENTAL CONDITIONS IN MALAYSIA

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ABSTRACT

Heat-not-burn (HNB) devices are an alternative to conventional tobacco products. HNB works by heating the tobacco rather than burning it, like in a cigarette. In this work, we evaluated the fire risk associated with the operation of HNB products under Malaysian environmental conditions. The experiments were carried out in a human climatic chamber at 31 °C and 53% relative humidity. The temperature profiles of three different HNB devices and cigarettes were recorded using a thermographic camera. In general, the operation of the HNBs took no more than 6 minutes, which is less than twice the time it takes for a cigarette to burn out. It was also discovered that HNB-B cannot be activated without a stick, demonstrating its safety feature. The results showed that the temperature of HNBs increased over time, peaking at the front end and decreasing toward the back of the devices. Puffing increased the temperature of HNB devices and cigarettes by up to 5% and 34%, respectively. During puffs, the highest temperature of HNB sticks was 56 °C, which was more than 93% lower than the highest temperature of cigarettes (901 °C). Therefore, it can be stated that the risk of HNB devices inducing a fire during normal operation is practically negligible. On the other hand, combusted cigarettes present a significant fire risk due to their ability to reach temperatures significantly above the ignition temperature of most combustible materials.

Keywords: heat-not-burn devices; cigarettes; fire risk; temperature; thermography

ICSDG2023-0191

THERMAL DISTRIBUTION OF HEAT-NOT BURN PRODUCTS UNDER AMBIENT ENVIRONMENTAL CONDITIONS

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ABSTRACT

Smoking materials and cigarettes have been linked to numerous residential fire cases. The transition in society toward alternative tobacco products such as heat-not-burn (HNB) requires research to evaluate whether these products can contribute to minimizing potential fire incidents. In this preliminary study, we evaluated the fire risk associated with the operation of HNB products under local environmental conditions. The experiments were carried out under ambient conditions in Arau, Perlis, with 26.0 ± 0.8 °C and $67 \pm 4\%$ relative humidity, respectively. A thermographic camera was used to record the temperature profiles of three different HNB devices and cigarettes. Only HNB-A and HNB-C devices could be activated without the use of sticks where the operation of the HNB (heating time) was less than 6 minutes. The maximum temperature of all HNB devices and sticks consistently remained below 56 °C. Cigarettes, on the other hand, were burned at temperatures ranging from 572 °C to 692 °C, peaking at 844 °C when smoked. In conclusion, there is minimal to no risk of igniting materials and inducing fires due to the temperature of HNB devices during normal operation, whereas combusted cigarettes reach temperatures significantly above the ignition temperature of most combustible materials and, therefore, present a significant fire risk.

Keywords: heat-not-burn devices; cigarettes; fire risk; ambient temperature; thermography

ICSDG2023-0193

EFFECTS OF RELATIVE HUMIDITY AND AIRFLOW ON THE TEMPERATURE OF DISCARDED HEAT-NOT-BURN STICKS AND CIGARETTES

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ABSTRACT

Discarded cigarettes pose a significant fire hazard, especially when they come into contact with flammable surfaces such as grass, leaves, or wood. Consistent with the growing global demand for heat-not-burn (HNB) as an alternative to combusted tobacco products, it is essential to understand the possible risk posed by discarded HNB sticks in addition to cigarette butts. Our research objective was to study the impact of environmental factors on the temperature of HNB sticks and cigarettes when placed on dry leaves. Experiments were carried out in a climatic chamber at 35 °C with 31% relative humidity (RH) and 60% RH at various airflow rates. After simulated puffing, HNB sticks and cigarettes were placed immediately on dry leaves, and their temperature profiles were captured using a thermographic camera. Results have shown that the key distinction between HNB sticks and cigarettes was that the temperature of the HNB sticks started to drop instantly from a maximum of 134 °C to a near ambient level in less than three minutes, compared to the temperature of cigarettes, which fluctuated between 500 °C and 700 °C for at least four minutes before declining. The higher humidity seems to have an effect, resulting in reduced temperature of HNB sticks and cigarettes, particularly under normal chamber conditions (no additional fan). Although an increase in airflow rates did not considerably raise the temperature of HNB sticks and cigarettes, it notably accelerated the combustion of cigarettes. Cigarettes also left noticeable traces on leaves, but HNB sticks did not. Therefore, it can be concluded that discarded HNB sticks pose no risk of igniting items or starting fires. On the other hand, discarded cigarettes, with temperatures exceeding the ignition point of many flammable materials, present a significant risk of fire.

Keywords: heat-not-burn devices; cigarettes; fire risk; dry leaves; thermography

ICSDG2023-0105

ENRICHING ECOSYSTEMS, EMPOWERING WOMEN: LESSONS FROM BOJO RIVER'S ECOTOURISM

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ABSTRACT

The Philippines has experienced tourism cases which resulted in spikes in economic growth, but compromise on the quality of life for locals and life below water. However, a particularly unsung wonder called the Bojo river is a testament that tourism can be a source of income, where flora and fauna may likewise prosper. The river Bojo is located in Aloguinsan, Cebu, which has been recognized both nationally and internationally by institutions for its remarkable ecotourism management – achieved by a series of tourist activities through sustainable development and women empowerment. It has been run by an established group of locals called the Bojo Aloguinsan Ecotourism Association (BAETAS), which protects and preserves the area. In this study, a key informant interview with a BAETAS representative was conducted, which looked into the driving forces of their success. This study delves into and discusses the (1) history of the area and its people, (2) how the BAETAS organization came to be, (3) cultural beliefs systems on traditional medicine and folklore, (4) their experience when encountering the climate-induced typhoon Odette and how they coped with the devastation, which ultimately led to today's success in ecotourism. By looking-into these key areas, the elements involved in the success of Bojo can prove to be an ideal one, which may be applied to other renowned tourist spots, such as Boracay island, Oslob's whale shark watching, among others.

Keywords: Ecotourism, sustainable development, women empowerment

ICSDG2023-0233

THE RISK FACTORS STUNTING IN TODDLERS AGES 6-36 MONTHS AT THE COASTAL AREA AT SOROPIA, INDONESIA.

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ABSTRACT

Background and aims: Stunting is a chronic condition poor linier growth of a child which is accumulating impact of various such as poor nutrition and health before and after birth. This researches to determine the risk factors of Stunting in Coastal areas. Stunting that occurs during childhood affects cognitive abilities and reduces the potential for access to higher incomes, the risk of low birth weight, and a shorter life span. Methods: This type of researches is Observational with case control approach, with matching procedure where the number of Samples of 14 cases and 14 controls. to analyze risk factors using the chi-square test and Odds Ratio. Results: This study indicate that exclusive breastfeeding history (p=0.0054, OR= 6.6., CI;1.229 -35.438), history first breastfeeding (p=0.449, OR = 2.4 , CI: 0.524-10.992) . Birth weight (1.000, OR=2.0 , CI ;1404 – 3.072). Long birth weight (p=1.000 , OR = 1.0 , CI 0,224 – 4,468). Conclusion: Exclusive breastfeeding history are risk factors for Stunting, meanwhile history first breastfeeding, birth weight , birth body length , mother's height is not a risk factor for Stunting.

Keywords: Stunting, exclusive breastfeeding, birth weight, body length of birth, mothers height.

ICSDG2023-0241

DEVELOPMENT OF COBALT PROMOTED NICKEL-BASED CATALYST FOR CO₂ UTILIZATION TO SYNGAS IN DRY REFORMING METHANE

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ABSTRACT

Syngas production via dry reforming methane (DRM) has been considered as an attractive route for CO₂ utilization into valuable chemical products. However, its industrial implementation is still subjected to the development of active catalyst and advanced reactor technology. Most of the catalyst used in the DMR develops formations of coke or carbon. Therefore, this study aims to develop a highly efficient and coke-resistant, nickel-based catalyst by using cobalt (Co) as a dopant. The magnesium aluminate spinel (MgAl₂O₄) catalyst support was first prepared using a simple modified sol-gel technique and calcined at different temperatures. Then, the ratio of Ni:Co was varied to investigate the effects of Co on the properties and catalytic activities of Ni-Co/MgAl₂O₄ catalyst. All the prepared samples were characterized using XRD, BET, FTIR and TPR-H₂ to evaluate its physicochemical and surface properties before DRM testing. The results showed that the increase in calcination temperature of support led to bigger crystallite size and lower surface area due to higher rates of particles diffusion and thermal sintering. Based on the physicochemical properties of Ni-Co/ MgAl₂O₄ catalyst, the 12Ni-12Co/ MgAl₂O₄ catalyst was subjected to DRM testing. It was found that the performances of DRM in terms of CH₄ and CO₂ conversions were at par with other expensive catalyst and H₂ selectivity up to 62.8 % can be obtained at 850 °C.

Keywords: CO₂ utilization; dry reforming methane; syngas; cobalt; Ni/MgAl₂O₄ catalyst

ICSDG2023-0255

THE EFFECT OF NUTRITION COUNSELING USING AUDIOVISUAL MEDIA ON KNOWLEDGE AND ATTITUDE ABOUT BALANCED NUTRITION FOR STUNTING MOTHERS IN THE WORK AREA OF UPTD PUSKESMAS EAST MAWASANGKA, CENTRAL BUTON REGENCY

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Affiliation

ABSTRACT

Background: Stunting is a chronic nutritional problem or failure of growth and development since early life. where the main cause is the first 1000 days of life, experienced by toddlers who are characterized by a shorter height compared to children their age. Stunting is defined as a height for age index (TB/U) less than minus two standard deviations (<-2 SD) or a toddler's height is shorter than what should be achieved at a certain age. According to UNICEF (2013), around 165 million (26%) children under five are stunted worldwide. Indonesia is included in the 5 countries with the highest stunting rate of children under five, namely there are 7.5 million children under five. General Objectives: To determine the effect of nutrition education on knowledge and attitudes of mothers who have about balanced nutrition for stunted toddlers at the UPTD Puskesmas Mawasangka Timur, Buton Tengah Regency in 2021. Research method: This type of research is a quasi-experimental (quasi-experimental design) with a one group pre and post test design, where in this design an initial measurement (Pretest) is carried out before being given nutrition counseling with audiovisual media then after being given treatment or intervention and Measurements (Posttest) were carried out after being given treatment. The sampling technique is the total sampling of the sample, which is 40 people. This sample instrument uses a questionnaire and data analysis using a statistical test, namely the paired sample t-test to see the difference before and after treatment. Results: The results of this study indicate that there are differences in the level of knowledge about balanced nutrition in mothers of stunting toddlers in Wambuloli and Bungi villages before and after being given nutrition counseling using audiovisual media with (P Value) 0.037 or ($p < 0.05$) there is a difference attitudes to mothers of stunting toddlers in Wambuloli and Bungi villages before and after being given nutrition counseling using audiovisual media with (p value) 0.000 or ($p < 0.05$)

Keywords: Stunting, Knowledge Level, Attitude, Nutrition Counseling with Audiovisual Media.

ICSDG2023-0249

RISK FACTORS ASSOCIATED WITH INCIDENTS OF STUNTING IN TODDLER AGES 24-59 MONTHS IN THE WORKING AREA OF THE UPTD PUSKESMAS BATARAGURU

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ABSTRACT

The incidence of stunting in toddlers is a major nutritional problem facing Indonesia. Based on Nutritional Status Monitoring (PSG) data for the last three years, stunted children have the highest prevalence compared to other nutritional problems such as malnutrition, thinness and obesity. In the UPTD working area of Bataraguru Community Health Center, in 2020 the prevalence of stunting cases in toddlers aged 0-60 months was 11.4% with the number of toddlers being 142 out of the target of 1,245 toddlers. Meanwhile, in 2021 the prevalence of stunting cases in toddlers aged 0-60 months will increase to 22.5% with a total of 232 toddlers from the target of 1,027 toddlers and in 2022 there will be 27% with a total of 230 toddlers who are stunted with a target number of 1,024 toddlers.

Keywords: Stunting and parenting patterns.

ICSDG2023-0231

REPELLANT ACTIVITY of ESSENTIAL OIL Pogestemon cablin AMONG 3 MONTHS STORAGE AGAINST Aedes aegypti

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ABSTRACT

Dengue Hemorrhagic Fever cases due to dengue virus which is transmitted by *Aedes aegypti*. The action to prevent dengue transmission by avoiding vector mosquito bites using repellent. Synthetic repellents lead many negative effects, therefore alternative repellent was required as replacements. One plant that has potential insecticide is the patchouli plant (*Pogestemon cablin*). This study aims to determine the repellent activity (protective power) of *Pogestemon cablin* pattern essential oil formulation which is stored for 3 months, at the concentrations 20%, 40%, 60 %, 80 %, 100 % against *Aedes aegypti*. The method of research was a qualitative research with quasi observational using post test only control group design. In the terminate stage, a statistical test was carried out using the Spearman correlation test. The research results showed that the highest protective power of the concentration tested was at a concentration of 100% with a protective power of 79.55%. The lowest protection power was 62%, which was obtained from testing at a concentration of 60%. However, this research shows that all concentrations showed the ability to protect > 50% against *Aedes aegypti*. Funding for this research was obtained from the Politeknik Kesehatan Kemenkes Kendari institute.

Keywords: *Pogestemon cablin*, repellent, *Aedes aegypti*.

ICSDG2023-0099

THE EFFECT OF PULANG-BATO SPRING ON THE COPPER AND ZINC CONTENT AT THE ZONE OF IMPACT OF THE SPRING AND A SECTION OF BUTUANON RIVER

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ABSTRACT

Butuanon River, one of the geographically important rivers in Cebu province is highly contaminated with copper and zinc metals. Different environmental samples have been collected over the years and have been found to be contaminated with these metals. A possible tributary that may contribute to the river's contamination is the spring in Brgy. Pulang-Bato, Cebu City which is suspected to feed the river with copper and possibly zinc which usually co-exist in copper ores. Thus, it is the aim of the study to document the effect of the spring to the copper and zinc contents at the zone of impact of the spring and the river. Sediments and suspended solids were sampled at the spring and the other two sites at a section of Butuanon River. Composite samples from each site were taken for six months representing dry and wet seasons and analyzed for copper and zinc by Flame Atomic Absorption Spectroscopy (FAAS). Contamination factor, pollution load index, and geoaccumulation index were determined to assess the metal contamination in sediments. All the three sites exhibited relatively high levels of copper and zinc in sediments and suspended solids. Concentrations of copper and zinc present in suspended solids range from 0.02 to 0.67 % and 2.79 to 23.52 % respectively while in sediments, copper and zinc levels range from 83.88 ppm to 242.18-ppm and 55.24 to 174.82-ppm respectively for the six-month sampling duration. Generally, higher concentrations of these heavy metals were recorded during the dry season compared to wet season. Correlations and relationships were found between the concentrations of copper and zinc in sediments and suspended solids and among the stations. Cf, PLI, and Igeo reveal that the sediments are more heavily contaminated with copper than zinc.

Keywords: Copper, Zinc, Sediments, Suspended Solids, Contamination factor, Pollution Load Index, Geoaccumulation Index

ICSDG2023-0139

EFFECTIVENESS OF RICE (ORYZA SATIVA) HULL ASH (RHA) AS PARTIAL REPLACEMENT OF CEMENT IN CONCRETE EXPOSED IN COASTAL CONDITIONS

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ABSTRACT

Cement use and production is one of the largest contributors of greenhouse gases. Thus, we endeavor to utilize agricultural wastes to reduce the consumption of cement while improving the properties of the concrete. This study aimed to determine the effect of RHA, as partial cement replacement, on concrete's workability, permeability, and compressive strength. Also, it aimed to compare the changes in compressive strength before and after exposure to coastal conditions and perform a cost analysis of concrete mixtures. This experiment used three treatments (5%, 10%, 15%) level of RHA, a partial replacement to cement. This study concludes that replacing cement with RHA resulted in low workability and lower chloride penetration. Also, replacing cement of up to 10% RHA has comparable compressive strength with pure concrete before exposure to coastal conditions. Replacing up to 15% of RHA has comparable compressive strength with pure concrete after exposure to coastal conditions. Using RHA replacement has a lower production cost than pure concrete.

Keywords: rice hull ash, concrete, compressive strength, workability, permeability.

ICSDG2023-0242

MOBILE POWER GENERATOR BASED ON HYDROGEN TECHNOLOGY: POTENTIAL DESIGN AND CHALLENGES

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ABSTRACT

Access to electricity has always been important in advancing societal sectors and well-being. Despite globalization and technological advancements, many regions around the world continue to have unreliable and inconsistent energy supplies. This paper discusses the potential design and challenges of green mobile power generation as an alternative to traditional diesel generators for disaster relief, off-grid solutions, domestic cold storage, and civil works. It is a concept that uses renewable energy as a power source, hydrogen as energy storage, and a fuel cell to generate electricity. The brief review can be used as a reference and guide to help advance the development of green power generation for off-grid applications.

Keywords: renewable energy; electricity; off-grid; electrolyzer; fuel cell.

ICSDG2023-0154

ESTIMATION OF THE ACHIEVEMENT OF SDGs ON POPULATION-BASED ENVIRONMENTAL PILLAR INDICATORS IN BANDAR LAMPUNG CITY

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ABSTRACT

Sustainable Development Goals (SDGs) achievements need to be regularly monitored to ensure that targets are met by 2030. Efficient and representative assessments of population scale in a region are important for obtaining scientific and credible data. The research was conducted in August 2023 in Bandar Lampung City using the Stratified Random Sampling method, with the sample size determined based on the Krejcie & Morgan formula. The research included 420 respondents at a confidence level of 95% and an error tolerance of $\pm 5\%$. There are five SDG indicators in the environmental pillar that are related to the population and are measured: drinking water services, sanitation services, adequate and affordable housing, access to public transportation, and public transportation services. The research results show that the achievements of the environmental pillar SDGs in Bandar Lampung City are as follows: (1) 95% of the population uses drinking water services that are managed safely, (2) 94% of the population uses sanitation services that are managed safely and appropriately, (3) 98% of the population has access to adequate and affordable housing, (4) 16% of the population has comfortable access to public transportation, and (5) 10% of the population is served by public transportation. The assessment of SDG achievements mentioned above can serve as a strong reference and the measurement procedure is more efficient (in terms of the use of surveyor resources, time, and costs), representative, and credible for the population.

Keywords: SDG achievements, environmental pillars, Krejcie and Morgan, stratified random sampling, Bandar Lampung.

ICSDG2023-0116

OPTICAL SPECTROSCOPY IN SUSTAINING QUALITY OF LIFE

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ABSTRACT

Metrology is an essential branch of science that serves sustainable and absolute meaning to the concept of measurement through the identification of important variables in the samples of interest, devices for measurement, and units for standardization among others. Metrology defines and sets a safe threshold, subsequently ensuring effort of sustainability can scientifically be executed and delivered. Optical spectroscopy has continuously emerged as an alternative measurement technology for various applications. The interaction between electromagnetic spectra within ultraviolet, visible, and near-infrared wavelengths with matters may result in a fingerprint explanation on the properties of the measured sample. Optical spectroscopy is gaining popularity in sustainable analytical science due to its ability to perform the measurement in real-time, non-invasive with no or less sample preparation, requires no or minimal reagents, thus, eliminating the routine use of toxic chemicals and minimizing labor and measurement time with the use of simple and portable spectrometers. Optical spectroscopy which carries an open-ended application has been intensively used in detecting abnormalities and in quantifying quality variables with the intention to preserve the natural ecosystem. In this presentation, we will share our existing efforts in integrating the application of optical spectroscopy for the measurement of essential parameters associated with quality of life such in environmental monitoring, food quality and authenticity measurement, plant health monitoring, and medical diagnosis.

Keywords: Metrology, Optical Spectroscopy, Sustainability.

ICSDG2023-0031

PRO-ENVIRONMENTAL CONSERVATION BEHAVIOR THROUGH THE LENS OF NORM ACTIVATION MODEL: A SYSTEMATIC REVIEW (2018–2023)

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ABSTRACT

The field of environmental psychology has demonstrated a greater inclination towards advocating for pro-environmental behavior as a viable approach to addressing environmental challenges and sustainable development. The norm activation model (NAM) has emerged as a prominent theoretical framework in recent years, with its application extending to a multitude of studies examining pro-environmental conservation behaviors from both organizational and individual perspectives. This literature review was conducted with the objectives of 1) examining the pro-environmental behaviors that have been previously investigated using the NAM framework, 2) analyzing the constructs that have been incorporated in the extended version of NAM. 3) How constructs are framed to NAM. 4) Which theories are integrated into the NAM model in environmental investigations and, 5) analyzing the significance and relationship of variables including mediating variables. The analysis of 53 publications within the past five years revealed that the bulk of the studies (98.11%) have augmented the NAM model by incorporating supplementary constructs with the aim of enhancing its predictive capabilities in relation to individuals' pro-environmental behaviors. Approximately 39.62% of the studies incorporated constructs derived from additional theories to enhance the predictive capacity of the main theory. This article highlights a notable deficit in the existing body of literature and provides valuable suggestions for potential areas of inquiry in future research.

Keywords: Environment, Behavior, Conservation, Norm Activation Model, Systematic Review.

ICSDG2023-0189

THE FUTURE LANDSCAPE OF SUSTAINABLE MANUFACTURING

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ABSTRACT

Sustainability aspects are becoming the most prominent for preserving natural resources. In the manufacturing industries, sustainability receiving significant attention to make sure all production activities are creating less impacts and wastage to the environment. This conception led to a term called 'sustainable manufacturing'. Sustainable manufacturing defined as the creation of manufactured products that use processes that minimize negative environmental impacts, conserve energy and natural resources, are safe for employees, communities, and consumers and are economically sound. With the coming new manufacturing paradigm of smart factories, the landscape of sustainable manufacturing is shifted to create environment impacts control that can adapt processes in real time to current needs through the elaboration of information based on the digital technologies of the Internet of Things. Industry 4.0 pushes manufacturing industries to make manufacturing processes more efficient but also minimize environmental impacts. Currently, the new framework of Sustainability 4.0 is introduced with the embedded of Industry 4.0 elements, which characterized by new technologies that fuse the physical and digital worlds, such as the internet of things, advanced manufacturing, and a smart digital environment. Manufacturers can address various sustainability needs while maintaining a competitive edge by using more advanced technology. This study will identify the new landscape of sustainable manufacturing by understanding what barriers, enablers, and fundamental technology are available in the manufacturing industries that can support the implementation of Sustainability 4.0.

Keywords: sustainability 4.0, sustainable manufacturing, smart factory, digitalization

ICSDG2023-0098

EFFECT OF PULSED LASER ON GRAPHENE OXIDE SHEET FOR REDUCTION PROCESS

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ABSTRACT

Graphene Oxide (GO) was synthesized using the Modified Hummers method from activated carbon (AC) derived from oil palm mesocarp fibres. GO reduction was irradiated with a pulsed laser at wavelengths of 257 nm and 1062 nm at varying energy levels. The samples were characterised using Field Emission Scanning Electron Microscopy (FESEM), Energy Dispersive X-ray (EDX), Ultraviolet-Visible-Near Infrared Radiation Spectroscopy (UV-Vis-NIR), and Atomic Force Microscopy (AFM) analysis. The results of the study revealed that reduced Graphene Oxide (rGO) had a smoother and greater surface area than GO. As the laser energy increased, the proportion of C/O of the samples increased. To fulfil this study, Two Probe I-V measurements are done to measure the electrical properties of the samples. A combination of 257 nm and 1062 nm yielded the lowest resistance value of $1.759 \times 10^8 \Omega$. Therefore, the optimal configuration for this study was irradiated with the combination of the 257 nm and 1062 nm laser at a power of 2000 mJ, resulting in a resistance of $1.363 \times 10^{-1} \Omega$.

Keywords: mesocarp fibres; modified hummers method; graphene oxide; reduction; reduced graphene oxide.

ICSDG2023-0261

PRELIMINARY ASSESSMENT OF PLANT DIVERSITY ALONG NENGGIRI RIVER AND KARST LIMESTONE HILLS IN NENGGIRI, GUA MUSANG, KELANTAN

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ABSTRACT

Gua Musang, Kelantan is predominantly consisting of karst limestone hill which represent ecologically significant areas characterized by unique plant diversity and paramount importance for biodiversity conservation. The objective of this study is to determine tree species composition along Nenggiri river and karst limestone hills in Nenggiri, Gua Musang. The flora survey covered 12 plots of sampling area along Nenggiri river and three limestone hill areas. A total of 1,024 trees were identified representing 191 families. The most dominant families were Anacardiaceae, Annonaceae, Euphorbiaceae, Fabaceae, Moraceae, Orchidaceae and Rubiaceae. 23 of tree species were identified as endemic to Peninsular Malaysia. However, two hyper-endemic plant species were discovered in Gua Musang namely *Schefflera calcicola* (Balai) and *Scolopia steenisiana* (Rukan). Six species were identified to be in threatened categories (Critically Endangered (CR), Endangered (EN), Vulnerable (VU)) under International Union for Conservation of Nature (IUCN) Red List are *Ilex maingayi* (VU), *Hopea nervosa* (CR), *Vatica nitens* (EN), *Syzygium scortechinii* (EN), *Cleistanthus bracteosus* (VU), and *Scaphium longiflorum* (VU). This preliminary assessment serves as a foundation for biodiversity studies and environmental impact assessments in the region contributing to informed decision-making and conservation efforts in the face of upcoming development. Conservation efforts such as plant rescue of threatened categories in Gua Musang should be prioritized in the future to protect the rich and unique biodiversity, including the preservation of endemic and threatened species.

Keywords: limestone hill, Gua Musang, flora survey, biodiversity, conservation

ICSDG2023-0240

FACTORS RELATED TO THE INCIDENCE OF STUNTING IN INFANTS UNDER TWO YEARS IN AREA OF THE KEMARAYA PUBLIC HEALTH CENTER, KENDARI CITY, SULAWESI TENGGARA

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ABSTRACT

Background: Toddlerhood is an important period in the process of human growth and development. The incidence of stunting or low height is a nutritional problem that has been experienced by toddlers in the world today. Method: This study was an analytic observational study with a cross sectional study approach in the working area of the kemaraya public health center. The number of sample used are 33 toddlers. This sample taken by total sampling technique. Result: This research shows there was a significant relationship ($p = 0,000$) between length of birth and the incidence of stunting, no significant relationship ($p = 0,805$) between the use of exclusive breastfeeding and the incidence of stunting, there was a significant relationship ($p = 0,001$) between infectious diseases and the incidence of stunting and there was a significant relationship ($p = 0,000$) between maternal height and the incidence of stunting.

Keyword: Stunting, Birth Body Length, Exclusive ASI, Infections Disease, and Mother's Body Height

ICSDG2023-0049

UNIVERSITI SAINS MALAYSIA CAMPUS NATURE CHALLENGE: A COLLABORATIVE CITIZEN SCIENCE INITIATIVE FOR BIODIVERSITY CONSERVATION AND ENVIRONMENTAL AWARENESS

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ABSTRACT

Considering the growing global biodiversity crisis, citizen science initiatives have emerged as powerful tools for long-term ecological data collection involving non-experts in research. Universiti Sains Malaysia's "USM Campus Nature Challenge", a collaborative effort led by the USM Library in partnership with the School of Biological Sciences and the Centre for Global Sustainability Studies, aimed to create awareness about ecological concerns and biodiversity conservation within the university community by documenting biodiversity at USM's main campus. Methodologically, the project organized a 6-week 'bioblitz' event open to citizen scientists to explore the flora and fauna of USM diverse campus habitats while cataloguing species through the iNaturalist app. The results revealed that plant species dominated the observations, constituting 64.9% of recorded biodiversity and reflecting the rich botanical diversity on the USM campus. Further observations included insects (10.4%), fungi (7.6%), birds (6.3%), and various other species, underscoring the complexity of the ecological web of the campus. An evaluation of data quality revealed that 36.6% of the species identifications were categorized as Research Grade, 47.8% were designated as needing further identification, and 15.7% were graded as "casual". In conclusion, the project leverages the approach to create more public awareness about local ecological concerns and to strengthen the University community's connection to nature. This USM Library's pilot initiative closely aligns with the Open Science movement related to citizen science in Malaysia.

Keywords: Citizen Science; Open Science; Academic Library; Sustainable Development Goals; SDG15; Environmental Conservation

ICSDG2023-0212

A PATHWAY TO GREEN LNG

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ABSTRACT

A natural gas liquefaction facility having an internal electrical power generation is embarking on its journey to make its LNG greener and reduce carbon emissions. This paper presents conceptual design and value creation from the project undertaken by the facility. The facility has 4 steam turbine generators and 15 gas turbine generators producing a total of 350MW. 88% of the liquefaction facility power demand is generated from open cycle gas turbine generators. To achieve Net Zero Carbon Emissions (NZCE) 2050, a project was envisaged to import renewable hydro electricity from the grid and decommissioning some of its gas turbine generators. In terms of distance to access the renewable energy, the 275kV transmission grid is located within 1km from the facility. This proximity to renewable energy source unleashes the potential for GHG reduction and further value creation in LNG. A new 275kV power system backbone on top of existing 33kV distribution network is envisage for facility to connect to the 275kV transmission grid and distribute power via the facility's 33kV network.

Keywords: green LNG; Net Zero Carbon Emissions.

ICSDG2023-0263

MANAGING ENVIRONMENTAL SUSTAINABILITY THROUGH CENTRALIZED LEGISLATIVE APPROACH IN MALAYSIA

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ABSTRACT

Laws and regulations have been formulated to promote and manage environmental protection. However, it is of the view that the environmental problems faced and overcome by the government in Malaysia arose from poorly planned development activities. The commitment to integrate environmental and economic policies is slightly hesitant owing to a misunderstood concept that the preservation of the environment means limited development. It is often pointed out that the actual problem lies in implementing and enforcing the law. The effectiveness of the legal mechanism used is dampened by the constraints that exist within the legal and institutional framework. This research will examine and propose measures to improve the implementation and enforcement of environmental protection to achieve sustainable development through a centralized legislative approach. In this research, the focus will also be on the relationship between the implementation of the existing laws and regulations, citizens' general views, and government responsibility and support to protect the environment.

Keywords: environment; sustainability; laws, enforcement

ICSDG2023-0181

A STUDY ON VULNERABILITY AND DISASTER MANAGEMENT IN COASTAL COMMUNITIES

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ABSTRACT

Vulnerability is a multifaceted condition shaped by social, physical, economic, and environmental dynamics. It heightens the susceptibility of individuals, communities, assets, or systems to the adverse impacts of hazards, leading to structural damage, environmental degradation, extreme poverty, increased mortality, and a decline in the quality of life. The Philippines is a vulnerable country facing elevated risks of mortality, impacted populations, and economic losses. This vulnerability is exacerbated by climate change and land-use changes, such as urbanization and logging, which elevate the likelihood of recurrent flooding and landslides. This study focused on assessing the vulnerability of coastal communities in two specific barangays: Cuaming in Tubigon, Bohol, and Lipat-On in Calatrava, Negros Occidental, Philippines. Coastal communities, by nature, are among the most vulnerable populations to the impacts of climate change. Key indicators of heightened vulnerability in these settings encompass economic reliance on coastal resources, governance and institutional capacity, socioeconomic conditions, and exposure to sea-level rise. These vulnerability markers were unveiled through a combination of structured and unstructured interviews with community leaders and members. Additionally, the study employed the Integrated Coastal Sensitivity, Exposure, Adaptive Capacity to Climate Change (ICSEA Change) toolkit as a guiding framework for vulnerability assessment. The research highlighted significant challenges, including the absence of a Barangay Development Plan in both communities, limited awareness, and a lack of comprehensive disaster management education at the micro-level. Finally, the study formulated a proposed action plan based on its findings to enhance resilience and reduce vulnerability in these coastal communities.

Keywords: Coastal Community, Vulnerability, Disaster Management, Climate Change, Governance

ICSDG2023-0270

JAWI RIVER WATER QUALITY INDEX MODELING THROUGH NEW STANDARDIZATION APPROACH AND PCA INTERRELATIONS

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ABSTRACT

The water quality has been degraded lately due enormous modernization and urbanization. Water Quality Index (WQI) is the representation of water quality with a single dimensionless number as complex water quality data turned into an understandable unit that can be presumed easily by authorities and publics. It is essential know the quality of water as water is important in everyone's daily lives to maintain a healthy and hygienic lifestyle. In river water quality model development multivariate analysis being used commonly especially Principal Component Analysis (PCA). In this study, PCA interrelations using different standardization methods knowingly raw dataset, log transformed dataset, standardized to mean 0 and standard deviation 1 dataset and new standardization dataset for six main water quality parameters as prescribed by Department of Environment, Malaysia (DOE) for Jawi River from year 2017-2021 were determined. Later, selected principal components combined to obtain WQI. PCA-WQI and DOE-WQI were analyzed using correlation, crosstab, biplot and regression analysis and it is validated PCA interrelations using new standardization method is the most reliable and consistent with DOE-WQI. Thus, this proposed new method can be used in future river quality assessments for its persistency and steadiness with existing DOE-WQI.

Keywords: standardization; Principal Component Analysis (PCA); Water Quality Index (WQI)

ICSDG2023-0164

MITIGATING CONSUMPTION-BASED CARBON EMISSIONS OF UNIVERSITY STUDENTS IN TACLOBAN CITY, PHILIPPINES

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ABSTRACT

Participation of educational institutions in climate change mitigation and adaptation is highly encouraged. With their centralized organizations and high population density, they offer an ideal environment for examining carbon mitigation strategies. This study aimed to propose relevant mitigation and adaptation strategies based on the results of students' carbon emissions. A survey was conducted among University students on their activities contributing to their carbon footprint. Moreover, students were randomly selected. The students' carbon footprints were calculated by multiplying the emission factors and the intensity of their activity as determined by their survey responses. Then, after calculating the average carbon footprint, the results were statistically analyzed and interpreted. Results revealed that the students' carbon footprint is lower than those of other countries; however, mitigating and adaptation strategies are still needed since the city is situated in the most vulnerable region of the Philippines to typhoons and other calamities. Moreover, 68.2% of the respondents are unfamiliar with the term "carbon footprint," what activities contribute to it, and how to reduce it. Raising awareness through introducing carbon footprint to University students and the ways to reduce it in Science, Technology, and Society subject is highly recommended. In addition, students who vacation travel by airplane 1-4 times a year have the highest individual carbon footprint, followed by those who ride in their personal cars going to school. Limiting the frequency of air travel, including utilizing public transport, and walking if short distances, can be done to reduce carbon footprint.

Keywords: awareness, carbon footprint, educational institutions, transportation

ICSDG2023-0145

ABILITY OF *Caulerpa lentillifera* AS PLANT BIOSTIMULANT ON PROMOTING GROWTH OF SWEET CORN

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ABSTRACT

This study determined the effect of *Caulerpa lentillifera* as a biostimulant for the growth of sweet corn. The number of leaves, length of leaves, and the height of the sweet corn were considered as growth parameters and were measured every week. Three concentrations (v/v) of *C. lentillifera* extract were made (10%, 20%, and 30%) and were applied to four different plots, with the first plot being the controlled set-up. Each plot had 12 pots planted with six (6) seeds, where it was observed that seed germination was varied among the four plots. Descriptive statistics showed that Set-up B had sweet corns with the tallest and with the most number of leaves among the four set-ups with means of $M = 28.209$ cm and $M = 3.639$ respectively. Moreover, using One-way Analysis of Variance (ANOVA), this study sought to find if there is a statistical difference between the different growth parameters mentioned in different concentrations. The findings revealed that there is a significant difference on the growth of sweet corn in terms of the number of leaves and height of the plant. However, the different applications of *C. lentillifera* extract as a biostimulant may not be effective when utilized in bigger concentrations. As such, this study recommends that farmers may apply 10% *C. lentillifera* extract or less, to have more leaves and taller sweet corn.

Keywords: seaweed extract; crop production ; sustainable farming

ICSDG2023-0277

STUDY THE FACTORS AND MITIGATION FLASH FLOODS IN BANDAR KUCHING, SARAWAK: EXPERIENCED BY MALAYSIANS

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ABSTRACT

Flash floods is frequently experienced by Malaysians every single year, normally happening in a city such as Kuala Lumpur and Bandar Kuching. The problem statement of the research is the impacts of a failure of the drainage system to support the amount of rainwater during heavy rainfall to the residents of Bandar Kuching. The objectives of this research are to study the factors of flash floods in Bandar Kuching and to recommend the mitigations to minimize any flash floods incident in Bandar Kuching. For research methodology, the research adopted mixed methods. For the quantitative method, the questionnaires (Google Forms) are distributed to the residents of Bandar Kuching who have been affected by flash floods in the past, while the results are analysed via Statistical Package for Social Sciences (SPSS). For the qualitative method, the top managers of the Department of Irrigation and Drainage (DID) and Local Authority (PBT) are interviewed, and the script of an interview is analysed by using Content Analysis Using Matrix Table. For Objective 1, the Factor of Flora Cover Interception of Rainwater by Trees is the highest (mean 4.5357) and the lowest (standard deviation 0.59001). For Objective 2, some recommendations are suggested such as Return on Investment (ROI) and town planning and development. This research, it could maximize the efficiency of a drainage system and minimize the flash floods in Bandar Kuching.

Keywords: Flash floods, drainage system, factors, mitigations, Bandar Kuching, Sarawak.

ICSDG2023-0162

BREATHING PLASTIC: STUDYING THE SUSPENDED ATMOSPHERIC MICROPLASTICS IN METRO MANILA, PHILIPPINES

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ABSTRACT

The detection of microplastics measuring less than 5mm in the atmosphere has emerged as a concerning issue, with their presence extending to urban, suburban, and even remote locations far from plastic particle sources. This suggests the potential for long-range atmospheric transportation of these minute plastic particles. However, the occurrence, behavior, propagation, and implications of these suspended atmospheric microplastics (SAMPs) remain largely unexplored within the context of the Philippines. The present research aimed to investigate the presence of suspected microplastics in the air across sixteen cities and one municipality within Metro Manila, Philippines. Sampling was conducted utilizing a respirable dust sampler with a Whatman GF/C filter paper, operating at an intake flow rate of 1.4 liters per minute using the same filter paper. The findings demonstrate the presence of SAMPs in all seventeen sampled areas. Across Metro Manila, a total of 155 SAMPs were identified and confirmed, with the highest concentration recorded in Muntinlupa City and Mandaluyong City (0.023 SAMPs per cubic meter). These SAMPs encompassed fourteen distinct types, of which approximately 74% were identified as polyester. Notably, this study represents the first documentation of microplastics suspended within the ambient air of the Philippines. It is estimated that an adult residing in Metro Manila could potentially inhale around 1 SAMP during normal ventilation (5-8 breaths per minute) over approximately 99.0 to 131.57 hours of exposure.

Keywords: Air quality, suspended atmospheric microplastics, Metro Manila, air pollution, microplastics.

ICSDG2023-0170

COVID-19, NIGHTTIME LIGHT EMISSIONS, AND AIR QUALITY IMPROVEMENTS IN SELANGOR, MALAYSIA

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ABSTRACT

Artificial night-time light (NTL) provides a unique perspective for observing human activity from space. In 2020, Malaysia issued a Movement Control Order (MCO) because of the global COVID-19 pandemic, affecting the economy, businesses, and services like tourism, creative industries, manufacturing, and healthcare. Nighttime artificial light emissions may have decreased due to this condition. Interestingly, despite the adverse economic and health repercussions of COVID-19, air quality exhibited improvement during the various phases of the Malaysian Government's Movement Control Order, spanning the MCO, Conditional Movement Control Order (CMCO), Recovery Movement Control Order (RMCO), Total Lockdown, and National Recovery Plan (NRP). The relationship between nocturnal light emissions and air quality is particularly interesting in Selangor, a developing state. This study examines NO₂ and SO₂ levels in Selangor, Malaysia, from 2019 to 2021. Using VIIRS-DNB and Sentinel-5P images on Google Earth Engine, the amount of radiation in NTL, NO₂, and SO₂ column density measurements were measured. The findings show NTL's correlation with NO₂ ranged from 0.154 to 0.705, while its correlation with SO₂ was -0.235 to 0.2. These findings indicate that NTL can be used as an indicator to assess changes in air quality associated with human activities.

Keywords: Night-time Light (NTL), Nitrogen Dioxide (NO₂), Sulphur Dioxide (SO₂), COVID-19

ICSDG2023-0153

STRENGTH AND SUSTAINABILITY IN CONCRETE: A COMPARATIVE STUDY OF GREEN MATERIALS

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ABSTRACT

Concrete stands as the world's second most utilized material, its demand propelled by the swift tide of urbanization sweeping across the globe. This surge in urban development, however, has brought into environmental concerns associated with concrete production, chief among them being its substantial carbon footprint. With concrete contributing to 8% of the world's carbon emissions, addressing this challenge has become imperative in achieving Sustainable Development Goals 11 and 13 for sustainable cities and combating climate change. In pursuit of sustainability, the adoption of alternatives that curtail carbon emissions has gained paramount importance. Green concrete, formulated using industrial by-products and waste materials, emerges as a solution to this intricate challenge. This paper provides a comparison between conventional Portland concrete and three types of green concrete, each utilizing different proportions of easily accessible materials such as quarry dust, seashells, fly ash, and GGBS. The pivotal discovery of this study reveals that through the incorporation of up to 50% of industrial by-products and waste materials, one variant of green concrete achieves comparable strength to Portland concrete while simultaneously reducing carbon emissions by at least 40%. Moreover, there is potential net carbon storage (a negative carbon footprint) with higher levels of by-products incorporation, albeit with some compromise in strength, which can be up to 50% lower than traditional concrete. This study highlights the potential of green concrete as a sustainable substitute that can transform construction practices, promoting both sustainability and environmental preservation.

Keywords: Green concrete, carbon footprint, by-products, sustainability.

ICSDG2023-0214

COLONIZATION OF MARINE GASTROPODS SPECIES ON ARTIFICIAL COASTAL STRUCTURES IN PENANG ISLAND, MALAYSIA

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ABSTRACT

Intertidal organisms, especially marine gastropods, endure harsh marine conditions daily. In tropical regions, monolithic artificial coastal structures devoid of complexities undermines biodiversity and exposes gastropods to thermal risks, despite having adaptive thermoregulating strategies. Hence, implementing ecological engineering solutions is imperative to address these challenges effectively. Several ecological engineering approaches mimicking natural habitat characteristics have been conducted, but studies in the tropical regions remains underexplored. To address this, we investigated the (i) performance of habitat panels with complexities mimicking natural habitats on whether they promoted gastropods diversity and (ii) whether they preferred panels that were constructed with eco-concrete. Twenty panels with five replicates per treatment: 1) complex Portland cement habitat panel, 2) blank Portland cement panel (control), 3) eco-concrete habitat panel, and 4) blank eco-concrete panels were installed onto a seawall at The Light Waterfront, Penang. The complex habitat panels indicated a significantly higher gastropod diversity compared to blank panels (Wilk's Lambda = 0.286, $F(3, 8) = 6$, $p = 0.014$), offering niche-spaces. The material difference comprising Portland cement concrete and eco-concrete did not significantly affect gastropod diversity. These findings suggested that the presence of complexities promoted colonization of marine gastropods and there were no preferences towards material composition type.

Keywords: Blue-green infrastructure; ecological engineering; marine gastropod species; structural complexity; sustainable development.

ICSDG2023-0119

ENVIRONMENTAL LANDSCAPE PLANNING OF URBAN FRINGE BASED ON THE CONCEPT OF SUSTAINABLE DEVELOPMENT: A CASE STUDY OF CHENGDU, CHINA

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ABSTRACT

The cost of global urbanization and economic integration is the deterioration of the natural environment, environmental pollution, resource consumption and other problems are becoming increasingly prominent, and the international community has shifted its focus to environmental sustainable development. The urban fringe, with both urban and rural attributes, is a zone where social and economic factors are transformed between urban and rural areas. This study takes the environmental landscape of urban fringe as the research object. Under the concept of sustainable development, this study uses case studies and other methods to analyze the current status studies and cases of domestic and foreign representative environmental landscape planning of urban fringe and summarizes and puts forward three ideal landscape models of urban fringe, namely "green spread", "organic concentration" and "cell growth". Combined with environmental psychology and other relevant theoretical studies, this paper presents the application of the concept of sustainable development research in the cognitive dimension, aesthetic dimension and visual dimension in the environmental landscape planning of sustainable urban fringe and studies the environmental landscape planning method of urban fringe that is symbiotic with the environment and harmonious with nature. It provides a theoretical reference for constructing a resource-saving and environment-friendly harmonious society.

Keywords: environmental sustainable development; urban fringe; landscape planning.

NOTES

ENVIRONMENT



ABSTRACTS:
ORAL / POSTER
PRESENTATION

PROGRAMME & ABSTRACT BOOK

FOCUS AREA

GOVERNANCE

ICSDG2023-0027

FORMULATING SUSTAINABLE PUBLIC ART FRAMEWORK & GUIDELINES (SPAFG) FOR MELAKA TOWN AREAS

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ABSTRACT

Public art has faced challenges in its impact on town areas in Melaka, as prior studies have revealed. These challenges may be attributed to inadequate planning and decision-making. Therefore, this research aims to address this issue by developing a comprehensive protocol called the Sustainable Public Art Framework & Guidelines (SPAFG) to assist municipal councils in Melaka states towards enhancing and improving urban ornamentation program. The SPAFG is aligned with three Sustainable Development Goals (SDGs), specifically SDG11, SDG15, and SDG17. The study employed a qualitative method known as the focus group by engaging experts in public art, landscape architecture, and environmental law. The process involved three stages: Discussion, Brainstorming, Describing, and Mapping. The resulting SPAFG consists of 5 categories that include Human & Environment, Creative Intervention, Culture & Heritage, Policy & Governance, Economic Drivers & Motivation. The significance and benefit of SPAFG lie in its potential to raise awareness, educate, and guide municipal councils in making informed decisions regarding public art in Melaka's town areas. By following SPAFG, local authorities can contribute to the fulfillment of sustainable development objectives and promote meaningful and impactful public art projects.

Keywords: sustainable public art framework & guidelines; public art; municipal council; SDG.

ICSDG2023-0063

THEORETICAL FRAMEWORK FOR NET ZERO IN HOSPITALITY INDUSTRY IN MALAYSIA

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ABSTRACT

Theoretical framework for achieving Net Zero in Malaysia's hospitality and tourism industry, addressing the pressing need to combat climate change and reduce environmental impact. The framework is anchored in the principles of sustainable development, systems thinking, corporate social responsibility, and global sustainability agendas by integrating strategies such as Net-Zero target, policy and regulations, energy efficiency, waste management, water conservation, sustainable procurement, green building standards, innovation, training, stakeholder engagement, circular economy, transparency, and financial incentives. By adopting sustainable practices and collaborating with stakeholders, the industry can significantly curtail its carbon footprint and contribute to global climate action. Emphasizing the importance of transparency and continuous engagement, the framework aligns with Malaysia's climate goals and enhances the industry's competitiveness by attracting eco-conscious travellers. Implementing this framework offers various benefits, including cost savings, improved operational efficiency, and positive brand reputation. Overall, the adoption of this theoretical framework paves the way for a greener and more resilient future for Malaysia's hospitality and tourism industry, demonstrating a collective commitment to sustainable practices and environmental stewardship.

Keywords: Net Zero; sustainable hospitality industry; carbon neutrality.

ICSDG2023-0084

BEYOND REPORTING: HOW EXTERNAL STAKEHOLDERS AND STRATEGIC POSTURE SHAPE ESG DISCLOSURE IN MALAYSIA

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ABSTRACT

Purpose: Based on stakeholder theory, legitimacy theory and resource-dependence theory, this study examines the extent to which external stakeholder power determines ESG disclosure and evaluate whether the company's strategic posture towards ESG affects such relationship. *Design/Methodology/Approach:* Secondary data were used to measure all variables of interest. The dataset combines ESG orientation scores from chairperson's letters published in annual reports, which are derived from computer-aided textual analysis, with ESG disclosure scores obtained from Bloomberg. The results are based on a panel dataset of 71 Malaysian companies observed from 2013 to 2022. *Findings:* The multiple regression analyses are consistent with the posited hypotheses, indicating that external stakeholder power (represented by independent directors, news media, and both foreign and domestic regulators) is a significant positive predictor of ESG. The results, which remain robust when using alternative estimators, also show that strategic posture positively affects ESG disclosure. In mediation analysis, strategic posture was found to exert a partial/complementary mediating effect in the external stakeholder-ESG relationship. *Originality/Value:* This study is among the first to introduce strategic posture as the mediator when reconceptualising the Ullmann model (1985) to illustrate the relationship between external stakeholder power and ESG disclosure.

Keywords: ESG, strategic posture, stakeholder power, disclosure, sustainability

ICSDG2023-0106

CHALLENGES AND LESSONS LEARNED IN THE IMPLEMENTATION OF GOVERNMENT POLICIES DURING COVID-19 PANDEMIC

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ABSTRACT

Subnational governments, such as Local Government Units (LGUs), are currently faced with a health crisis that entails significant economic, social, and budgetary ramifications. In order to address the consequences of the COVID-19 pandemic, the Local Government of Malita Davao Occidental has implemented various interventions through its Municipal Inter-Agency Task Force (MIATF) on Emerging Infectious Diseases. Results revealed emerging (8) themes as follows: limited access to healthcare services and medical providers; capacity and training needs; cultural and socio-economic gaps; poor communication and information dissemination; improve overall healthcare system; empower the Local Government Units; communication strategies; the holistic and sustainable development programs and needs. The purpose of this study was to identify the challenges and lessons learned of the MIATF in the implementation of government policies during COVID-19 pandemic using qualitative method.

Keywords: challenges; lessons learned; pandemic local government unit.

ICSDG2023-0114

ASSESSING URBAN CULTURAL ELEMENTS OF CORE HERITAGE ZONE ALONG WELD QUAY STREET, GEORGE TOWN, PENANG FOR URBAN CHARACTER CONSERVATION

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ABSTRACT

Historic landscape elements are an essential component in heritage and traditional cities. They are the extended images and a crucial supporting part of the leading heritage component that tells an important story within the heritage context and setting. It also documents the history and tradition of the city and ultimately becomes an intrinsic part of contemporary life. However, some of the historic landscape elements in the UNESCO World Heritage Sites were forgotten and ignored until they almost disappeared. Furthermore, not only were they not given good attention by the related parties, but they are also facing threats, problems, and challenges in conserving and maintaining them as not many agencies or other related parties know how to treat them appropriately. Thus, protecting historic landscape elements is also essential for strengthening the city's image, boosting its competitiveness, and showcasing its unique traits. Taking Weld Quay Street, Penang is the case study area. This paper assesses how to identify and determine historic landscape elements in an urban setting and the challenges heritage practitioners face in conserving and preserving historic landscape elements. Utilizing the primary issues and proposing realistic and focused improvement methods and ideas for Weld Quay Street, Penang. This paper serves as a tool and reference for related parties, such as the government, NGOs, and the professional heritage team, to have a complete understanding of how to be aware and protect the historic landscape elements context as well as their setting in the contemporary city full of heritage components.

Keywords: historic landscape elements; heritage conservation; urban heritage preservation; UNESCO world heritage sites; Weld Quay Street.

ICSDG2023-0166

ASSESSING SUSTAINABILITY REPORTING OF ASEAN UNIVERSITIES

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ABSTRACT

Universities can play a significant role in the advancement of the Sustainable Development Agenda. However, since sustainability report is a voluntary disclosure for universities and does not present a recognised sustainability report standard, universities have developed a multitude of different practices. On top of that, literature is still limited in terms of the quantity and quality of sustainability reporting. Our aim is conduct an analysis on the attributes of Sustainable Development Goals 2030 in sustainability reports by considering the use of Global Reporting Initiative (GRI) guidelines in universities' sustainability reports. This study is undertaken by considering ASEAN higher learning institutions. Our study contributes to the literature on sustainable development and sustainability reporting to address sustainability issues and reporting by identifying what determinants are contemporaries for fine sustainability reporting. Our findings could be useful for decision makers to develop institution-specific strategies to support the country in contributing to the SDG2030. Finally, potential future research themes are discussed by highlighting gaps in the area of reporting.

Keywords: sustainability reporting; universities; SDG reports.

ICSDG2023-0155

COMMUNICATION STRATEGY IN SMART GOVERNMENT AND SDG GOVERNANCE: THE EXPERIENCE OF YOGYAKARTA CITY GOVERNMENT, INDONESIA

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ABSTRACT

In the growing digital era and information technology, the Yogyakarta City Government faces challenges in adopting the SMART Government concept. These challenges include two aspects. The first is related to the lack of adequate digital infrastructure, limited accessibility of information for citizens, and technological gaps. The second aspect includes the lack of public understanding of SMART Government, the lack of transparency in government communication with the community which has an impact on the low participation of the community in supporting the SMART Government program. Based on the above phenomenon, this research question is formulated first, how is the concept of communication strategy used by the Yogyakarta City Government in implementing the SMART Government concept? Second, what is the conception of SMART Government governance that is understood by the community and its impact in increasing effective public participation? This research uses a qualitative approach with a phenomenographic method. Phenomenography focuses on three things. First, it focuses on interest. Second, it is content-oriented. And third, describing the conceptions of various aspects. Data collection through direct observation and interviews with bureaucratic officials, stakeholders, academics and online service users. Data were analyzed by thematically analysis with the NVIVO 14 application. The findings of this research are that the communication strategy of the Yogyakarta city government with its citizens relies on interactive dialog communication through the integrated digital channel Jogja Smart Service (JSS). Second, through the understanding of Smart Government governance, the public increasingly has an awareness of social responsibility and increases public participation.

Keywords: communication strategy; smart government; public participation; phenomemenography.

ICSDG2023-0201

MODELING SUSTAINABLE DEVELOPMENT SATISFACTION LEVEL FROM COMMUNITY PERSPECTIVE (SDSL-CP): COMBINING IMPORTANCE-PERFORMANCE ANALYSIS WITH SOCIAL PROGRESS INDEX

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ABSTRACT

In recent decades, various indices have emerged to assess human development in line with Sustainable Development Goals (SDGs). However, these indices, typically designed for national or international assessment, face scale differences, data limitations, and dimensional constraints in regional applications. To address this issue, our study presents a novel regional-scale approach that combines Importance-Performance Analysis (IPA) and the Social Progress Index (SPI) to measure the needs and performance of the SDGs from a more flexible local scale. We conducted a standard questionnaire survey and compared our approach with traditional development indices, Human Development Index (HDI), and Gender Development Index (GDI). In our research, we modified conventional methods to calculate SPI, allowing us to derive the indicator scores. The study revealed that while conventional indices have their limitations, our approach effectively identifies key factors and prioritizes dimensions for improvement. While our survey did not show significant differences across the primary dimensions, it did highlight a limited progress in the "Environment" dimension. In conclusion, our study underscores the need for further exploration of this methodology, yet indicates that this approach is a valuable tool for assessing regional-scale SDG performance.

Keywords: Human development; SDGs; IPA; SPI; HDI; GDI; regional-scale.

ICSDG2023-0185

EMPOWERING MALAYSIA'S ENERGY FUTURE: P2P ENERGY TRADING, RECS, AND VPPS FOR CLEAN ENERGY ACCESS

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ABSTRACT

This study examines Malaysia's effort to attain sustainable and cost-effective energy solutions in alignment with SDG 7 which promotes access to affordable, reliable, sustainable and modern energy for all. This study focuses on new business models in the electricity sector such as peer-to-peer (P2P) energy trading, renewable energy certificates (RECs) and virtual power plants (VPPs). These endeavours are anchored in pivotal policies, notably the National Energy Policy 2022-2040 and the Malaysia Renewable Energy Roadmap (MyRER). This study explores the nuances of Malaysia's energy landscape, with a specific focus on new business models, particularly in solar energy and energy trading. The study employs focus group discussions and interviews with key stakeholders from both industry and government. The data collected is subjected to thematic analysis to extract meaningful insights. The findings reveal various factors influencing the implementation of new business models in Malaysia's electricity sector. These encompass political will, regulatory frameworks, economic viability, social acceptance, technological readiness, environmental considerations and legal and policy support. Furthermore, the study highlights a diverse array of strategies and underscores the pivotal role of new business models in propelling Malaysia towards sustainable energy access. The integration of new business models along with strategic policy frameworks, will set Malaysia on a trajectory towards a sustainable, low-carbon future. By strengthening governance, it will drive Malaysia's sustainable development agenda and contributes significantly to the global pursuit of a greener, more inclusive future. This comprehensive study provides valuable insights for policymakers and stakeholders navigating the complexities of sustainable energy transitions.

Keywords: peer-to-peer energy trading; renewable energy certificates; virtual power plants; solar energy; energy transitions.

ICSDG2023-0169

IN THE DEANS' SHOES: A QUALITATIVE EXAMINATION OF ISSUES REQUIRING STRATEGIC DECISION-MAKING IN TEACHER EDUCATION INSTITUTIONS

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ABSTRACT

This qualitative study explores the decision-making processes of deans in teacher education in the Philippines, investigating challenges they encounter. The research employs a descriptive qualitative approach grounded in the interpretive paradigm, focusing on the experiences and perspectives of current and former deans. Data were collected through interviews, focus group discussions, and reflective essays, with thematic analysis used for data interpretation. Findings reveal key issues necessitating strategic decisions, including performance in licensure exams, introducing new programs, accreditation demands, inherent functions, and faculty development programs. These challenges impact institutional quality, accreditation, and faculty competence. The study underscores the significance of strategic decision-making in teacher education leadership and administration, offering insights for educational policymakers, administrators, and stakeholders. By shedding light on these aspects, the study contributes to continuous improvement in teacher education and the broader educational landscape, aligning with evolving societal needs.

Keywords: deans; strategic decisions; strategic decision-making; teacher education institutions

ICSDG2023-0222

EMPOWERING SUSTAINABLE DEVELOPMENT THROUGH NANOTECHNOLOGY PRODUCT CERTIFICATION

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ABSTRACT

NANOVerify certification programme is Malaysia's premier nanotechnology certification initiative. It provides a robust framework for alignment with key United Nations Sustainable Development Goals (SDGs). Endorsed by the Ministry of Science, Technology and Innovation, the programme is on track to become the first in the region to obtain ISO 17065 accreditation, thereby significantly bolstering SDG 9 by elevating industry standards and catalysing innovation. It addresses SDG 12 by setting rigorous criteria for responsible nanotechnology production, guiding consumers towards certified, reliable products. In alignment with SDG 16, the programme fosters a transparent, accountable, and regulated environment, ensuring products meet defined criteria, which is crucial for peace, justice, and strong institutions. Most notably, it propels SDG 17 by aiming to establish the NANOVerify Programme as the gold standard for nanotechnology certification in the ASEAN region through strategic partnerships. This regional endeavor not only enhances its universal recognition but also advances sustainable and inclusive development. This paper will explore how the programme's comprehensive approach, including its alignment with the National Nanotechnology Policy and Strategy 2021-2030, serves as a blueprint for reinforcing SDGs implementation, thereby contributing to a sustainable and inclusive future for all.

Keywords: Nanotechnology Product Certification; Nanomaterials; Accreditation

ICSDG2023-0011

SUSTAINABLE DEVELOPMENT MANAGEMENT AMONG PUBLIC COMPANIES IN MALAYSIA: EXPLORING THE IMPLICATIONS, CHALLENGES, AND OPPORTUNITIES ON ENVIRONMENTAL, SOCIAL AND GOVERNANCE INITIATIVE

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ABSTRACT

Public listed companies play significant sustainable development roles in a nation. There are limited studies on the impacts of environmental social governance initiatives on public companies in Malaysia. This paper aims to initiate a comprehensive review of sustainability management practices among public companies in Malaysia by looking at the implications, challenges, and opportunities for sustainability. A meta-analysis of secondary data collected from various sources is carried out to identify and report the significant trends. This study identified the top five environmental social governance initiatives for corporations to transform sustainability challenges into opportunities: 1) act now toward a positive paradigm shift in addressing climate change, 2) transition to products and services stewardship, 3) do not pollute the environment, 4) shared value with the community as well as care for the people, and 5) partnership for sustainability and building stakeholders' trust. Materiality issues, business risks, and stakeholder concerns may appear to be challenging for companies in the short term. This study provides essential insight into the continual improvement of environmental, social governance initiatives among stakeholders, public companies, and policymakers. A company that takes quick action toward positive transformation will help find long-term opportunities.

Keywords: sustainability management; public companies Malaysia; environmental, social and governance; sustainable development goals; responsible investment.

ICSDG2023-0188

A SYSTEMATIC LITERATURE REVIEW OF GAPS IN PRIMARY SCHOOL PHYSICAL LEARNING SPACE DESIGN

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ABSTRACT

The United Nations sustainable development goal (SDG) 4 aims to ensure inclusive and equitable quality education and promote lifelong learning opportunities for everyone. Considering SDG 4, many countries are keen to enhance existing learning spaces beyond the status quo, as non-traditional learning spaces can be leveraged to cultivate talent and ability in the 21st century. This systematic literature review examined the main considerations, challenges, and current design guidelines for primary school physical learning space design, specifically non-traditional learning spaces, to understand its development and state of the art. The Web of Science (WoS) and Scopus databases were intensively searched for research conducted in primary school settings from 2000 to 2022 in accordance with Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. The seminal literature reflected optimism regarding non-traditional learning spaces, which foster more flexible, innovative, and open learning environments. Both users and designers must overcome several challenges in creating new learning spaces to construct such learning environments. In conclusion, new learning spaces require governmental, policy-maker, and user support. There is an urgent need to design guidelines for promoting primary school learning efficiency and creating an environment that students and teachers like.

Keywords: educational building; learning spaces; physical design; primary schools; Systematic Literature Review (SLR)

ICSDG2023-0101

THE ROCKY CEMENT

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ABSTRACT

In a world dominated by advanced industrial countries, developing countries seek to increase their industrial bases to compete in global markets. Egypt is rich in minerals and able to provide high quality sand that make it special in its production and export. Concrete is the most used material as it makes up about 60% of building infrastructure. Cracking is one of the most common issues with concrete which in many cases leads to building collapses and bridge splits. The main idea of our project is based on the ability of Bacillus Subtilis bacteria to produce limestone under certain conditions, and these conditions will be maintained in concrete to introduce self-healing and glowing property. The design requirements we chose to solve this problem are Increasing the compressive strength, Sustainability, Reducing the budget and Reducing electricity consumption and contributing to the climate problem. The concept of the project is inspired by the granulation process used in the skin to deal with wounds, and the results indicate the success of our project and how it can significantly help in providing a solution to roads, bridges and building collapses and increase its compressive strength up to 14.92 N / mm² in 28 days.

Keywords: Bio-Concrete; Self-healing; Self-luminescence; Bacillus Subtilis; Sustainability

ICSDG2023-0213

SUSTAINABILITY-ORIENTED PUBLIC-PRIVATE PARTNERSHIPS: A CASE STUDY OF KUALA LUMPUR – SINGAPORE HIGH SPEED RAIL (HSR)

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ABSTRACT

Purpose: The aim of the article is to explore the Kuala Lumpur-Singapore High Speed Rail (HSR) achieving a better understanding on the project and identifying the best possible alternatives of the project development through the use of the current refined PPP framework in order to deliver the project in line with the UN's sustainability agenda. **Design/methodology/approach:** The Economic Commission for Europe (UNECE) advocates for the Public-Private Infrastructure Rating and Evaluation System (PIERS) methodology. PIERS assess and scores infrastructure and PPP projects for their adherence to PPP for the SDGs. **Findings:** Understanding the significance of SDGs can help determine if the PIERS method is the best approach to resolve on-going HSR project negotiations, leading to project completion and national sustainable development benefits. **Originality/value:** The research focuses on a specific and significant infrastructure of Kuala Lumpur – Singapore High-Speed Rail (HSR) project. By delving deep into this real-world case, it provides practical insights and lessons through the application of Public-Private Infrastructure Rating and Evaluation System (PIERS) which can be applied to similar large-scale projects worldwide. This linkage underlines the global relevance of the study moving towards demonstrating how such projects can contribute to achieving international sustainability objectives.

Keywords: Public-Private Partnerships (PPP); Sustainable Development Goals (SDGs); Public-Private Partnerships and Infrastructure Evaluation and Rating System (PIERS); Kuala Lumpur-Singapore High Speed Rail (HSR).

ICSDG2023-0272

RELATIONSHIP BETWEEN RECYCLING FACILITIES AND PROGRAMS BY THE LOCAL AUTHORITIES AND HOUSEHOLDS' PRACTICES ON SOLID WASTE SEPARATION AT SOURCE IN SELANGOR, MALAYSIA

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ABSTRACT

Recycling is a practical step in the waste hierarchy towards waste minimization. Waste separation is essential to effective recycling management, but a waste separation program cannot succeed without household participation. According to past studies, households' involvement in the recycling program is influenced by limited access to recycling facilities. The separation rates in Malaysia have remained low and have not improved. Due to the lack of knowledge in determining public involvement in waste separation at source, the government especially local authorities are not in the know of whether they have provided enough facilities and program or do they engage well with the public in such matter since domestic recycling and waste separation at source in Malaysia is not a regular practice. This study is conducted to find the relationship between recycling facilities and programs by local authorities with households' practices on solid waste separation at source in the most developed state in Malaysia, Selangor. The study is conducted using a quantitative research method to explain the causal relationship between the variables using the information and data gathered from household's perspectives. The questionnaire survey was distributed among the targeted respondents using a simple random sampling method. The study is still in the process of data analysis. The research findings and subsequent analysis will be shared with the local authority and hope to assist in the creation and implementation of stronger recycling and waste separation policies and programs in Selangor.

Keywords: solid waste; waste separation; recycling facilities; local authority

ICSDG2023-0012

IDENTIFICATION OF KEY STAKEHOLDERS' ENGAGEMENT FACTORS OF SUSTAINABILITY MANAGEMENT IN MALAYSIA WITH A MODIFIED MODEL ON STAKEHOLDER THEORIES

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ABSTRACT

This study conducted stakeholder analysis on public company sustainability reports and explored the application of stakeholder theories for sustainability management to Malaysian companies. The study's goal was to identify key stakeholders' engagement factors in organisational sustainability management. It covers the identification of the key stakeholder groups, the significance of power and interests in influencing stakeholders according to stakeholder theories, and the manner of stakeholder engagement in sustainability among Malaysian publicly listed companies. The methodology employs a quantitative and qualitative approach with data collected using primary and secondary data of the latest sustainability reports from Malaysia's companies by integrates with systematic descriptive, instrumental, and normative stakeholder analysis. This study identified five crucial stakeholders' engagement factors in organisational sustainability management: 1) Stakeholders' jurisprudence and legitimacy, 2) Bridging the gaps of vulnerability, 3) Stakeholder value creation and surplus to waste, 4) Invest in education to raise stakeholders' morale, and 5) Be the agent of positive change. A modification model of stakeholder theory improved with the dynamic intensity of the engagement bridge model, strengthening the interactive bridging of power-interest gaps between high and low power stakeholders established to explain the stakeholder analysis of public companies in the study.

Keywords: sustainability management; stakeholder theory; public companies Malaysia; environmental, social and governance; stakeholder engagement; stakeholder matrix.

ICSDG2023-0195

THE POWER OF FEEDBACK: AN INDUSTRY INTERNS' SUPERVISOR ASSESSMENT OF THE BS INFORMATION TECHNOLOGY STUDENT INTERNS IN A PHILIPPINE STATE UNIVERSITY

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ABSTRACT

Objectives: Internship programs are a vital component of the educational experience for many undergraduate students, particularly those studying information technology. Such programs provide students with hands-on experience in real-world settings, allowing them to apply theoretical knowledge to practical problems and develop professional skills. Industry partners, who host interns as part of these programs, play a critical role in the success of these programs. This research aimed to explore the feedback of industry intern supervisors on the internship program of BS Information Technology students. Methods: A mixed-methods approach was employed, including a survey and follow-up interviews. The survey was administered to industry intern supervisors, and interviews were conducted. Eighty-seven (87) respondents came from private and government agencies involved in the study. Findings: The survey results indicated that intern supervisors positively perceived the internship program with a general weighted mean of 4.32 or "Excellent" across all competencies of the student-trainee. It implies that interns have developed well-rounded skills and behaviors essential for success in their chosen profession that will contribute to the organization's success. Novelty: This study is novel to the University, as studies have yet to be conducted before to assess and understand the feedback from industry interns' supervisors. The results are vital in coming up with strategies and policies for the improvement of the delivery of IT education.

Keywords: Industry Partners Feedback, Assessment, Internship, On-the-Job Training, BS Information Technology.

ICSDG2023-0051

CONCEPT OF PUBLIC PRIVATE PARTNERSHIP IN HOUSING DEVELOPMENT TO ENCOURAGE EQUAL ACCESS TO AFFORDABLE HOUSING

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ABSTRACT

Malaysia Housing in Malaysia is mostly provided by the public sector. Johor Bahru is experiencing a mismatch in the supply and demand of houses for the M40 segment. This is apparent especially in prime urban areas. Government intervene through introduction of various affordable housing schemes targeted to the MM40 segment. These are housing schemes under federal policy and involve the concept of partnership between the public and private sector. Involvement of private sectors or developers is encouraged because their participation could potentially increase the provision of affordable housing for the M40 segment in prime urban areas thus achieving sustainability in access to housing for the mass population. In the context of this paper, the federal affordable housing scheme studied are those priced between RM150,000 –RM400,000 per unit. Therefore, the objective of this paper is to study the developers' understanding on the concept of public private partnership and to analyse the motivation factor for private sector's participation in federal affordable housing scheme. The study takes place in Johor Bahru that is prime city area with mismatch in housing provision especially for M40 segment. The study adopted a mixed method approach with quantitative and qualitative study. It used purposive sampling that targeted at main players from public and private sector and has been involved with the said federal affordable housing scheme in Johor Bahru. Findings indicated that , overall respondents agreed that public-private partnership concept is the sharing of risk and responsibilities between public and private sector with shared objectives and benefits. In terms of their motivation to participate in developing these housing schemes , because there is a reliable paymaster and the housing units developed are with a ready or a big available market. It can be concluded that the private sector agreed that the development of federal affordable housing scheme is a form of public-private partnership that both parties to share their objective and benefits in providing for affordable housing in prime urban areas. This partnership concept in affordable housing provision could contribute towards housing sustainable goal which is equal access to housing with participation of private sector in the said federal affordable housing schemes.

Keywords: Public Private Partnership, Affordable Housing, Motivation , Equal Access

ICSDG2023-0228

STRATEGIC ENVIRONMENTAL ASSESSMENT ON THE LONG-TERM LOCAL DEVELOPMENT PLANNING BASED ON THE SUSTAINABLE DEVELOPMENT GOALS. CASE STUDY OF JEMBER REGENCY, INDONESIA

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ABSTRACT

The Development Planning is an important part of realizing good governance. The Indonesian government is recently preparing a National Long-Term Development Plan to support the Golden Indonesia 2045. At the same time, the local governments must also require to prepare regional long-term development plans. The responsibility for preparing the plan in the regions is the authority of the regional development planning agency. However, to ensure that the plan has considered environmental and sustainability aspects, an assessment is carried out by the environmental agency. The assessment of the development plan is carried out through a strategic environmental assessment. The content of long-term development planning cannot be separated from achieving Sustainable Development Goals. In this regard, the achievement of sustainable development goals is a major concern in the long-term development plan. The study objective is to examine the synchronization between the long-term development plans with the sustainable development goals and outputs resulting from the strategic environmental assessment. The integration process between the SDGs and the regional long-term development planning is carried out through the following stages (1) identification of the achievement of SDGs targets in the previous period, (2) identification of strategic issues and their relation to SDGs, and (3) preparation of the long-term development scenarios that are integrated with the achievement of SDGs. This study also went through a public consultation process carried out 2 (two) times, following firstly, the identification of strategic issues of sustainable development, and secondly, the formulation of sustainable development scenarios. The gap analysis is conducted to compare the targets and achievements of sustainable development goals in the current and previous periods. The results of long-term development prioritization related to the achievement of SDGs in the future need to focus on goals no. 13 (climate action), No. 1 (no poverty), No. 6 (clean water and sanitation), No. 11 (sustainable cities and communities), and No. 8 (decent work and economic growth).

Keywords: development planning; sustainable development goals; strategic environment assessment; long-term development scenario.

NOTES

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