JUNE 2024 VOLUME 9

# **MESSAGE FROM THE CEO**

Greetings to all members.

SARAWAK DEVELOPMENT INSTITU

We are happy to share some updates on the recent activities and programmes undertaken. First and foremost, our research proposal on "Greater Together: Mapping of Paddy Production Ecosystem in Batang Lupar Granary Area, Sri Aman" has been accepted and approved by the Sri Aman Development Authority (SADA) Steering Committee. Further details on the study are available under Upcoming Research Project.

"The Persistent Puzzle: Understanding Waste Management Challenges in Sarawak's Path to Sustainability" by Dr. Nor Diana Abdul Halim, Senior Lecturer at the Faculty of Applied Science, UiTM Kota Samarahan and a member of SDI, is our feature for this volume. Waste management is an age-old issue faced by the local authorities and this feature takes a look at the challenges faced. Under the "Do you know" column, we are sharing on some of the paddy varieties available in Sarawak in view of the State's push for self-sufficiency in rice production. We welcome feedback, if any, from members on these two subject matters.

Under research, we are pleased to share updates on the on-going projects that were reported in the previous volume of the newsletter. We also included reports on several talks and activities for members' information and reference. Lastly, we are happy to inform that members' visit to two organisations have been scheduled: *Sarawak Metro on 6<sup>th</sup> August 2024 at 10 am, and CENTEXS on 20<sup>th</sup> August 2024 at 9.30 am*. Participation is based on a first come first serve basis for the visit to Sarawak Metro as seats are limited. We look forward to members' participation and support.

Thank you.

Lelia Sim CEO



Feature - The Persistent Puzzle: Understanding Waste Management Challenges in Sarawak's Path to Sustainability

HIGHLIGHTS

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EW

Do You Know -Paddy Varieties in Sarawak

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### **FEATURE -** The Persistent Puzzle: Understanding Waste Management Challenges in Sarawak's Path to Sustainability

by Dr. Nor Diana Abdul Halim, Senior Lecturer, Faculty of Applied Science UiTM, Kota Samarahan, Sarawak and Member of SDI

Sarawak, the Land of the Hornbill, is renowned for its stunning natural beauty and rich biodiversity. However, this very environment faces a persistent hurdle from waste management. Waste management in Sarawak, like many regions across the globe, presents a multifaceted challenge despite ongoing efforts that require comprehensive solutions. Previous practices are not being sustained, leading to a regression in waste management status due to insufficient participation from related stakeholders, particularly from the local community. While these initiatives are crucial, addressing deeper gaps is essential for long-term success. The waste management issue in Sarawak seems to be more complex than perceived; there are other missing pieces to the picture.



### Infrastructure Limitation

Sarawak faces a particular problem due to limited infrastructure to cater to the rising volume of waste generation. With its enormous geographical breadth and varied topography, especially in rural regions, Sarawak faces challenges in building a comprehensive waste collection and disposal system. To date, Sarawak only has 46 landfills, of which 5 are sanitary landfills<sup>1</sup>, Kemuyang Sanitary Landfill in Sibu (leachate treatment facilities), Sibuti Sanitary Landfill in Miri (leachate treatment facilities), Kuching Integrated Waste Management Park (KIWMP) in Kuching (leachate treatment facilities), Maradong Sanitary Landfill in Sarikei, and Rural Rubbish Disposal Facility, Kampung Sadir in Kuching. The limited access to rural areas due to infrastructure limitations poses a major challenge for establishing more sanitary landfills. The sanitary landfills are concentrated in more urban areas like Kuching, Sibu, Miri, and Sarikei. The existing reliance on landfills, while a necessary temporary solution, raises worries about availability of land and environmental effects/impacts. The lack of advanced waste treatment facilities, including composting plants and incineration with energy recovery, further limits the State's capacity to embrace more sustainable methods.

#### **Inadequate Enforcement Mechanism**

Another gap in waste management in Sarawak is related to the policy and regulation that lie in the lack of cohesive Federal government oversight and support. While the State has its own regulations, such as the Sarawak Natural Resources and Environment Ordinance (CAP 84) 1958 Edition, the Street, Drainage and Building ACT 1974, and the Local Authorities Ordinance 1996<sup>1</sup>, they are often fragmented and fail to provide clear guidance on waste management practices. Policy and regulation for waste management responsibilities in Sarawak are split between various entities, leading to potential inconsistencies and inefficiencies in the waste handling and disposal system. Streamlining responsibilities and fostering stronger collaboration between stakeholders are crucial. Furthermore, enforcement mechanisms currently in place lack the necessary teeth to deter improper waste disposal practices.

individuals are hesitant to comply with regulations or invest in proper waste management practices. This lack of accountability hinders the collective effort towards achieving a sustainable waste management system.





### **Disparate Community Needs**

Local communities' demands should be given first priority while developing waste management efforts. Rural areas, in particular, face unique challenges due to limited infrastructure and resources. Insufficient budget allocations for local authorities in these regions further compound the problem, hindering their ability to implement effective waste management programs. To address this disparity, increased funding and support from both State and Federal governments are essential to improve waste collection, recycling facilities, and education initiatives in rural communities. With limited waste facilities in rural regions, Sarawak is experiencing different community demands compared to the urban areas. Urban areas are dealing with enormous amounts of garbage generation, resulting in the current landfills reaching maximum capacity. Despite the implementation of recycling programs, particularly in urban areas, the lack of participation has resulted in an excessive volume of waste in landfills. Thus, various community needs in various state regions have a complex influence on waste management in Sarawak.

### **Necessity for Innovative Technologies**

Additionally, the adoption of advanced waste treatment technologies is crucial for enhancing the effectiveness and sustainability of waste management practices in Sarawak. While traditional methods such as landfilling remain prevalent, investing in innovative technologies such as anaerobic digestion, composting, and waste-to-energy facilities can help mitigate environmental impacts and reduce reliance on landfills. Sarawak should actively pursue cutting-edge solutions and decrease its dependence on landfills due to the projected rise in waste production in tandem with population growth. In the future, landfills will be inadequate to accommodate all the rubbish that is generated. Despite the current high cost, it is imperative to begin using modern and new technology immediately to prevent the need for more funds to rectify the situation later. These technologies offer opportunities for resource recovery, energy generation, and the reduction of greenhouse gas emissions, contributing to a more circular and sustainable waste management

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### **Financial Constraints**

Inadequate funding also presents a significant obstacle. According to data from the local authorities in Sarawak between 2019 and 2020, over 30 percent of their revenue was allocated to the management and maintenance of landfills<sup>2</sup>. This expenditure has been increasing annually due to the growing amount of waste being generated and the lack of participation in recycling. Balancing the need for efficient waste management with financial constraints is a constant struggle for local authorities, especially in rural areas. The low collection fees, often a result of maintaining affordability for residents, can limit investments in infrastructure upgrades, technology adoption, and public education campaigns. Additionally, the reliance on private contractors for waste collection introduces complexities in terms of cost control and ensuring adherence to environmental regulations.

### Conclusion

Sarawak faces specific and unique challenges beyond those seen nationally. Its vast rural areas, diverse geography, and scattered population make implementing a uniform waste management system difficult. In conclusion, addressing the challenges of waste management in Sarawak requires a multi-faceted approach that addresses policy gaps, community needs, budget constraints, and technological advancements. By addressing the unique challenges of the State, bridging the gaps in governance and infrastructure, and fostering community-driven solutions, Sarawak can overcome these persistent obstacles and pave the way for a more sustainable future.

What we throw away, doesn't go away!

#### References

1. Tang, K. H. D. (2020). Retracted: Municipal Solid Waste Management in the Sarawak State of Malaysia and the Way Forward. Asian Journal of Environment & Ecology, 12(2), 38–55. https://doi.org/10.9734/ajee/2020/v12i230157

2. The Borneo Post. 2023. Dr Sim: Waste collected by councils increasing every year. https://www.theborneo-post.com/2023/01/19/dr-sim-waste-collected-by-councils-increasing-every-year/#:~:text=He%20noted%20that%20 on%20aver-age,waste%2C%20which%20includes%20landfill%20maintenance. (Accessed on 15 February 2024).



# PAST EVENTS



The recordings of the talks are available at **www.sdi.com.my** 

### SDI BROWN BAG TALK ON "PRESERVING OUR LEGACY: NURTURING CULTURAL HERITAGE IN THE MODERN WORLD"

20<sup>th</sup> June 2024 | ZOOM Application



The talk was presented by Dr. Yvonne Michelle Campbell, Lecturer, Faculty of Language and Communication, UNIMAS and a member of SDI.

Dr. Yvonne's presentation deliberated on the definition of cultural heritage, the significance of preserving cultural heritage, and the impact of globalisation on cultural heritage. She also emphasised the pivotal role of technology in preserving and promoting cultural heritage through digital preservation, virtual and augmented reality, and social media. She concluded her presentation by sharing the different approaches to cultural preservation such as exploring

new methods for cultural preservation, fostering global collaborations, and involving younger generations in preservation efforts.

In between her presentation, she also responded to the audience queries about balancing ethnic cultural heritage and national identity. She said they should go together as preserving cultural heritage also indirectly preserves national identity as that is what makes us Malaysian. There must be a balance. She also shared that currently she is working on a book project examining the perception of the Bidayuh community on cultural commodification, especially in terms of their cultural heritage.

### SDI PUBLIC TALK ON "INTRODUCTION TO CARBON CAPTURE, UTILISATION AND STORAGE (CCUS)"

### 27<sup>th</sup> June 2024 | ZOOM Application

The talk was presented by Madam Nazrin Banu Shaikh S. Ahmad, Senior Vice President, Sarawak Resource Management, Petroleum Sarawak Berhad (PETROS). Madam Nazrin and her team members shared some fundamentals of CCUS – what it is, how it works, as well as CCUS projects located in different parts of the world. The team also shared an overview of the CCUS projects and plans in Sarawak.

The subsequent interactive discussion delved into the technical aspects of capturing carbon dioxide ( $CO_2$ ) and the logistics of  $CO_2$  transportation. Participants also asked about CCUS technology, especially on the feasibility, cost implications, and the benchmarks and standards of practice adopted specifically for Sarawak.

Before the talk started, a brief poll was conducted to gauge participants' awareness of the subject matter. The results indicated that 74% of participants had heard of

CCUS and 26% had not. A higher percentage (43%) of participants learned about it through newspapers, mainstream media, and climate change/environmental sites, while another 30% quoted social media platforms such as Facebook, Instagram, and LinkedIn as their source. When asked to rate their knowledge on a scale of 0 to 5 (where 0 means knowing nothing and 5 means knowing a lot), 38% rated their knowledge of CCUS at 3, and 23% rated it at 1. Regarding the viability of CCUS for achieving net zero emissions, 57% of participants believed it to be viable, 38% were unsure whereas 5% did not think it was a viable option.

A post talk poll was also conducted which showed 48% of participants felt they had a moderate understanding of CCUS and learned some new information after the talk, another 30% felt they now had a good understanding and could explain the main points of CCUS, while 10% shared they had a thorough understanding and can discuss the topic confidently. An overwhelming 97% expressed interest in learning more about CCUS. Topics suggested for future talks include the return on investment (ROI) for CCUS, forest carbon sequestration and storage, carbon reduction statistics vs. cost, CCUS technology and circular economy, Sarawak's implementation plans, progress updates from PETROS, environmental impact, and inclusivity in developing CCUS.







### PADDY VARIETIES IN SARAWAK

The rice industry in Sarawak is under the spotlight currently as the Sarawak government aims to increase its rice self-sufficiency levels (SSL), set up a Paddy and Rice Board, and upgrade the present paddy seed storage facility in Semenggoh into a modern rice gene bank. While there is a strong push for cultivating commercially-viable rice variety to increase local rice supply and reduce reliance on imported rice, preservation of local rice varieties are also under the spotlight. Names of specialty local rice like *Bario* and *Bajong* may sound familiar to many Sarawakians, but few are aware that there are dozens more variety of local rice in Sarawak.

### **Recommended Rice Varieties**

The Department of Agriculture (DOA) Sarawak has documented and recommends the cultivation of rice varieties based on their high quality especially in terms of aroma, eating quality, rice size, resistance to diseases (especially rice canker disease) and insect attacks, drought resistance, resistance to soil nutrient deficiencies, maturity period, and yield quantity.







### Aroma and Eating Quality

Varieties that have fragrant aromas and good eating quality are the *Biris* and *Wai* (*Rotan*). However, these varieties are susceptible to canker disease and disease control should be emphasised when planting. The maturity period of these varieties is 5½ months and the yield is 3-4.5 tonnes/ha. Other varieties for good eating quality but lacking aroma are *Adan* (*Bario*), *Mahsuri Mutant* and *Jarum Mas*. The maturity period for these are 2½-5½ months while the yield is 2.5-4 tonnes/ha.





# High Yield, Resistant to Drought and Infertile Soil

Varieties that are suitable for areas often affected by drought or faced difficulty in getting water supply and with less fertile land belong to the Long-Term Variety group, namely *Kara 1* and *Lasak*, *Serendah Kuning*, *Baru 3* and *Acheh 62. Kara 1* and *Lasak* are local varieties while the rest are from other countries. All of them take more than 5 months to mature. These varieties grow tall and are able to compete with weeds.

### Resistant to Diseases, Pest Attacks, Short Maturity Period and High Yield

The recommended varieties for these are *MR27* (*Kadaria*), *MR30*, *MR52* (*Manik*) and *Mahsuri Line* 17 for paddy rice systems. However, these varieties are not suitable for areas with poor irrigation or frequent droughts or floods. Short maturity period of 4-4½ months. The yield is high which is 3-5 tonnes/ha.

### Short Maturity Period and High Yield

The Bahagia, Mahsuri Line 17, and Mahsuri x Ria are varieties categorised under the Short-Term Variety group that are suitable for cropping twice a year because the maturity period is 5 months or less. The soil must be fertile and disease and pest control must be emphasised and the average yield is 4.4 tonnes/ha.

This article is adapted from DOA Sarawak's Booklet No.28-D (BM); Varieti-varieti Padi Untuk Sarawak, Unit Editorial, Jabatan Pertanian Sarawak.



### **ON-GOING RESEARCH/PROJECTS**

### Multiple Indicators of Poverty: A Case Study in Kuching

The data collection for the Kuching Case Study, utilizing the Multidimensional Poverty Index (MPI) approach, was successfully conducted by the research team. The in-house developed instrument, based on literature sources, was used for this purpose. The research was carried out in collaboration with the Society for Kuching Poor (SKUP), who graciously assisted with the enumeration of the survey.

Data collection took place at various SKUP meal distribution locations around Kuching city. A total of 153 respondents were interviewed in May and June 2024, across five consecutive locations. The majority of respondents were from SKUP's main soup kitchen in the city center. Currently, the data collection is in its final stages. The research team plans to enrich the data with follow up qualitative observations to capture the nuanced lived experiences of the disadvantaged in Kuching while cleaning up the collected quantitative data.



### Cultural Resource Mapping (CRM) – Exploratory Project in Kuching Division

Currently, the CHAMPS, the digital platform for data collection is in the final stage of development, with stability testing currently underway. Pre-release promotion work has also begun to promote the app, ahead of its public launch. One of these included a promotional booth at Rainforest World Music Festival 2024. The visitors were given a brief rundown on the project and shown an early version of the CHAMPS. Influencers are also being engaged for planned post-release marketing.



### Publication on "Sarawak Civil Service (SCS) -Administration and Development: Reflections and Reminiscences over 60 Years"

The publication is a collection of memories and experiences of 22 former civil service officers including some who have since passed on. The book is currently in the final stage of editing and is expected to be printed by August 2024. The Right Honorable Premier and the Honorable State Secretary are expected to pen a foreword and a message in the publication respectively.

### Master Plan for Community Development in the Resettlement Areas 2050: Batang Ai, Bakun, Murum and Bengoh

The revised Interim Report 2 is still awaiting approval from the Economic Planning Unit (EPU) Sarawak. Scheduled presentations had been postponed several times. In view of that, the submission of the development plan draft is put on hold at the moment. Currently, SDI's team is working with the officers from Chemsain Konsultant to finalise the proposed projects and programmes for the development plans.



## UPCOMING RESEARCH PROJECT

### Greater Together: Mapping of Paddy Production Ecosystem in Batang Lupar Granary Area, Sri Aman

Based on the recent DUN meeting on May 14<sup>th</sup>, 2024, it was reported that Sarawak's rice self-sufficiency level (SSL) is currently at 32%. In line with PCDS 2030, the government aims to raise the SSL to 60% by 2030. The main component of the plan involves identifying new areas and repairing and constructing infrastructures to support commercial paddy production in Sarawak. However, statistics also show that the acreage of active paddy production areas and the number of farmers have also decreased.

In line with the above, SDI has proposed to the Sri Aman Development Agency (SADA) to undertake a project to survey and map the ecosystem of paddy production in Sarawak. The focus area for this project is the Integrated Agriculture Development Area (IADA) Batang Lupar, Sri Aman, stretching from Stumbin until Banting. It is a multipronged project combining on-the-ground inquiry and communication. The main objective of this project is to map stakeholders involved in IADA Batang Lupar; to identify their goals, resources and challenges (with particular attention to farmers and landowners); to explore factors influencing technology adoption; and to increase participation in the IADA Batang Lupar paddy planting scheme. The project has been approved by SADA and the TOR for the project has been submitted.

The duration of this project is expected take seven months as the team will undertake data collection work, engagement sessions with different stakeholders, the mapping exercise, report compilation and production.





## ACTIVITIES

### **COURTESY VISIT TO PETROS**

#### 30<sup>th</sup> April 2024

SDI team led by Madam Lelia Sim made a courtesy visit to the Headquarters of Petroleum Sarawak Bhd (PETROS) on 30<sup>th</sup> April 2024. The management of PETROS including Dr. James Foo, Group Chief Operating Officer, Mr. Joseph Balan, Head of Corporate Communications, and Ms. Madeleine Ang, Senior Communications Analyst met with the team.

The PETROS team shared and briefed SDI on their strategic plan together with their major development activities and projects planned for Sarawak. The visit was also organised to discuss the arrangement for the public talk on Carbon Capture, Utilisation and Storage (CCUS).



### **MEETINGS WITH SADA**

#### 10th May, 24th May, 11th June 2024

A presentation on the "Greater Together: Mapping of Paddy Production Ecosystem in Batang Lupar Granary Area, Sri Aman" project was made to YBhg. Dato Sri Rohani Abdul Karim, Chairperson of Sri Aman Development Agency (SADA) on 10<sup>th</sup> May 2024 at the Bilik Mesyuarat Utama, Level 2, Wisma Bapa Malaysia to seek SADA's consideration for the project.

Subsequently, the team was invited to present the project proposal to the SADA Steering Committee on 24<sup>th</sup> May 2024 and 11<sup>th</sup> June 2024 at SADA Headquarter, Sri Aman respectively. The project was approved and the Steering Committee announced the research project as one of SADA's development projects on 12<sup>th</sup> June 2024. The research team also attended two of SADA's meet the local people sessions at Bakong and Stumbin, Sri Aman on 9<sup>th</sup> and 10<sup>th</sup> July 2024.







# GREATER AZAM GAWAI DAYAK GATHERING 2024

### 21<sup>st</sup>June 2024 | Serapi Hotel

The joyous celebration was attended by Board members, members of SDI and AZAM, AZAM Young Souls and the media fraternity. YBhg. Datuk Amar Jaul Samion, Chairman of SDI shared on the upcoming changes which will take place in both SDI and AZAM through the respective transformation plans. He hopes both organisations will continue to work together strategically to deliver optimum impact and support for holistic developments in Sarawak.

Among the highlights of activities were the competition for Miss Gawai GREATER AZAM among the staff and a Sape performance by Cik Norfazlina Binti Mohd Fariz who recently emerged as the Champion of the RTM Sape Junior Competition.



### PANELIST AT THE "CONVERSATIONS ON THE CARE ECONOMY IN MALAYSIA: ROUNDTABLE DISCUSSION" 26<sup>th</sup> – 27<sup>th</sup> June 2024 | Institute of Strategic and International Studies (ISIS)

SDI was invited to represent Sarawak at the recent "Conversations on the Care Economy in Malaysia Roundtable Discussion", organized by APPGM-SDG (All-Party Parliamentary Group Malaysia-Sustainable Development Goals) Secretariat at ISIS Malaysia. Dr. Yuen Kok Leong, Senior Research Officer of SDI, presented a paper with key points extracted from the Institute's participation in various healthcare and SDG-themed discussions with local stakeholders over the years and provided feedback on the public sector's role in creating an enabling policy environment to nurture the care economy in Malaysia.



### **THE GREATER AZAM RAYA GATHERING 2024** 4<sup>th</sup> May 2024 | Dewan Seri Mahligai, Jalan Crookshank

The Greater AZAM Raya Gathering 2024 celebration was attended by about 150 individuals comprising, Board members and members of SDI and AZAM, staff of the Greater AZAM, AZAM Young Souls, local stakeholders and friends from the media.

Among the activities organised to liven up the gathering were Raya related games, lucky draws and a short sketch by the AZAM Young Souls portraying the spirit of celebrating Hari Raya.

