



## Roundtable Discussion Reporting

Preparation Period
Roundtable Discussion Session Topic/Title: <b>Human Resources (RD1)</b>
Session Number: The RTD was conducted in 1 session only
Type of Session: ( <input checked="" type="checkbox"/> ) Online ( <input type="checkbox"/> ) Direct
Date & Time: 28 July 2021 & 1400 – 1600 (Malaysian Time)
Venue: Virtual total online using zoom application
Moderator(s): (1) Professor Dr Zainab Ngani, (2) Associate Professor Dr Ahmad Nizar bin Ya'akub
Facilitator(s): (1) Associate Professor Dr Hasnain Hussain (Head of MYSUN UNIMAS) (2) Mdm Noraziah Bt Abdul Wahab (Sustainability Office, UNIMAS)
Rapporteur(s): Dr Samuel Lihan
Participants: (1) Associate Professor Dr Hushairi Zen (Faculty of Engineering Unimas) (2) Ir Dr Danial Mohd Danial bin Ibrahim (Faculty of Engineering Unimas) (3) Dr Stephen Teo Ping (Sarawak Forestry Department) (4) Dr Affendi bin Suhaili (Sarawak Forestry Department) (5) Abang Arabi Abang Aimran (Sarawak Forest Corporation) (6) Azroie Bin Denel (Sarawak Forest Corporation) (7) Mohamad Kasyfullah Zaini (Sarawak Forest Corporation) (8) Abang Norizan Abang Median (Sarawak Forest Corporation) (9) Muliati Musa (Sarawak Forest Corporation) (10) Leonard baring (Sarawak Forest Corporation) (11) Louis Velda ak Dominic Salon (Sarawak Forest Corporation) (12) Aiman-Rasyid bin Nizam (Sarawak Forest Corporation) (13) Abdul Aziz Abdul Haddy (Sarawak Forest Corporation) (14) Dr Mohd Izwan Julaini Abdul Gani (Sarawak Forest Corporation) (15) Anthony Malang (Natural Resources and Environment Board) (16) Sinanawati Marto (Natural Resources and Environment Board)
Objective of Roundtable Discussion Session: (1) To create and strengthen the links between Higher Education Institution (UNIMAS) and its local stakeholders (2) To discuss problems and issues in the field of sustainability affecting the local stakeholders (3) To get feedback from the stakeholders on what HEI can do to address the issues and problems associated with sustainability affecting the stakeholders
Rationale: The feedback from the stakeholders will be taken into consideration for what HEI can do to address the issues and problems associated with sustainability affecting the stakeholders.
Execution Period The period of RTD was about 2 hours and 10 minutes.
Discussion Sub-topics:

- (1) What has been done in organization on sustainability
- (2) Sharing experience in sustainability in human resources
- (3) Energy sustainability affecting stakeholders and involvement of UNNIMAS in energy sustainability
- (4) Future planning to improve on human resources
- (5) What human resource should be look like in higher education

#### Participants' Feedback:

The feedback obtained from the participants in the roundtable discussion (RTD), Mdm Noraziah who is currently the director of Unimas Sustainability Center (USC) asked the stakeholders on how crucial is GRI (Global Reporting Initiative) certification to the state and industry. According to her, in Unimas sustainability master's plan, Unimas want to build the talent in the GRI. However, none of the participants from different stakeholders has heard about the GRI.

Ir Dr Danial from Faculty of Engineering Unimas mentioned that he has been initiating projects whereby he sent his students to the industry to help the industry to reduce their energy consumption, hence, reducing their cost. He has been sending his students to plant in Johor, cement plant in Kuching, refinery plant in Sabah and other states in Malaysia. Most of time he focused on refinery because refinery uses a lot of energy in their operation. Small portion of reduction in energy will save a lot of money in the energy consumption. His students, before they graduating, they knows where they want to work since they have been providing free service to the companies on energy reduction. Some of his students have been optimising pump system for air conditioning, for example, if they can save 10% of the energy consumption, that will save a lot of money for the company. The general rule is to reduce 10-15% of energy usage. They have been providing free service for saving energy usage of companies all over Malaysia including Perak, Sabah and Sarawak. They have been dealing with pump, fans, compressor to reduce energy consumptions without capital.

According to Ir Dr Danial, the system used in Unimas campus is very similar with the system used in the industry. He said the system in UNIMAS is also doable for saving energy. For an example, a company in Kuching, where they have been using the fan system for their operation for about 10-15 years, the blade for their system was not properly chosen for the purpose and they have been wasting millions of ringgit for not properly maintaining the system.

Mdm Noraziah suggested that it is good if whatever Ir Dr Danial has implemented in the industry, he should also showcase those technologies in the campus so that sustainability can be practised in the university.

Mr Abang Rabi from Sarawak Corporation (SFC) mentioned that the information on the sustainability is very new to SFC. SFC was established only few years ago, and their main task is to deal with conservation of wild life (WL) and Totally Protected Area (TPA) in Sarawak. From the perspective of SFC, sustainability is a very important factor that they needed in order to move forward. In terms of WL and TPA, sustainability is crucially important. They are facing a lot of challenges especially in global competition in conserving wild life following the International Union for Conservation of Nature

(IUCN) red list, to produce tourism products. They need to have competent staffs, who really possessed the competent knowledge and skills in the related field. To adhere to the international standard, SFC need scientist and there is opportunity for Unimas to produce more professional, in term of managing WL and TPA for this purpose. He (Mr Abang) mentioned that Dr Mohd Izwan, a Unimas graduate working with SFC, is one example of human resource that has the good knowledge in wild life, especially related to crocodile. He is very crucial for the SFC and the one and the only expert in crocodile. He (Mr Abang) stressed that SFC really needs experts related to wild life and conservation.

This is the area where Unimas has to look into, possibly producing the human resources related to the stakeholders such as SFC, if Unimas can incorporate some curriculum related to the highlighted point.

SFC, with the new concept in TPA, their controller have to come out with energy for the National Parks, Eco tourism and the Wild Life Sanctuary. Most of these national parks are located in remote area. The main hurdle is the supplies of utilities for 67 TPA which include supply of clean water, which is currently mostly rely on gravity feed. Internet supply is also critical for ecotourisms in those area. For example, Bako National Park need clean water from water board and gravity feed. Feedback from Mdm Noraziah, mentioned similar problem with the cottage industries which solely depends on untreated water which was not preferred by tourists, because tourists preferred only treated water.

For the sustainable energy supply for internet and wifi, SFC have been trying to shift from SEB power supply to solar system. The question is do they have competent people who are certified with the standard to handle this technology?

According to the Park Manager for Bako national Park, Mr Abang Norizan water supply in the area depends on two sources: water supply from the water board and water from gravity feed. Water supply for gravity feed is having problem with piping system where the pipe is using metal pipe, which become rusty after some time. They still rely on gravity feed which is affected during prolong dry season - with no water during dry season. When tourist come during the dry season, the water will be one of the major issues in the park. The park manager also mentioned about a solar in Pulau Lakei, where servicing the system has been started since January to change mother board and they have managed to do it. Bako National Park has sustainable electricity power supply to the park although during certain power trips, which also happening in the surrounding village as well, they will not have the power supply.

Waste management in Bako is consider new, before that they have proper way in term of managing waste. Waste are collected from Bako NP and the waste are moved to another site in Kpg Bako where cost is incurred (as waste). Last year, they got an incinerator generated by electricity that can generate the waste to become dust except for metal. The technology is new, so the current incinerator was not operated because the technician cannot come over to Sarawak during the pandemic. The new incinerator, using electricity, a very good example of energy sustainability in SFC. Even we have the technology but no competent person, so it is not sustainable. So, the expert

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(human resource) is need in this case. They already brought in the incinerator but there was no competent person to operate it.

For the solar system, SFC collaborated with Swinburne University of Technology because Swinburne has been sharing their system with the community in the past. In the sustainability of energy, human resource capacity is still the main issue.

Feedback from Associate Professor Dr Hushairi, a certified energy manager, mentioned that he has experience in teaching microhydro systems and solar PV systems. They have organised courses for the public and students. Regarding the issues on renewal energy sustainability, they have trained center for renewal energy. They have designed solar PV for the rural. On issue of energy sustainability on career, they do have trained for energy. According to him, platform is important, so that when students graduate, those who are interested can know where they can work in the future. Not many students know and also interested to go into the sector. It is very important that universities and government agencies play their roles. There must be a platform so that we can achieve what we targeted. Their group have been involved in renewal energy, hydropower system, hydrogen system, solar PV system, etc.

In areas far from town, solar PV is the best solution far from the town, solar is easy to maintain, those who are maintaining must know how to maintain it. For example, the solar panel normally get dirty then the solar energy will be reduced. It is important to look at the system, to let the system run optimumly. Some system can work for 10 years (more than 5 years). Maintenance is import so proper maintenance of the system there should be any problem with the system. You need to get good power system, e.g., water need pump to pump up water to the reservoir.

The local champion plays important part, when the project hand over to the community, train them so that they can become the local champion. They can also give some idea how to improve it. It helps a lot in the process where technologies are involved. If there is failure in the system, you cannot call people from the city, is the technology not good? But the people, sometime simple problems can be tackle by the local champion, so they are very useful. We can have all the technologies but if we don't have trained human resource, it will be not working, therefore, training of human resources is very important.

Mdm Noraziah asked about the incinerator which was not being opened and the end product is dust. According to Mdm Noraziah, Chemical engineering in Unimas has a project on designing project on incinerator for rural villages. She wanted to know what has been done with the dust.

The eco-friendly trash incinerator was a pilot project recommended by NREB earlier to get Bako as the pilot project, but unfortunately the project is still not taking off. Bako has TPA with 67 National Park in Sarawak.

Associate Professor Dr Hushairi asked about the monitoring of the park whether technology is used. According to Mr Abang Arabi, the inventory technology used to monitor the park was currently according to IUCN network (monitoring is following international standard). SFC is also working

closely with Dr Efendi of Sarawak Forest Department to subscribe to the state on the monitoring using GIS (geographic information system) and other related technologies.

Mdm Noraziah was asking SFC whether they prepare sustainability report. She suggested that it is good if they come out with the sustainability report (GRI, Global Reporting Initiative) which is sustainability for organization so the GRI is for different standard to manage sustainability. Mr Abang Arabi mentioned that they are going into this sustainability reporting. Mdm Noraziah said Unimas can also provide training for GRI.

In response to waste management in the park and the incinerator, Mdm Sinanawati Marto from Natural Resources and Environment Board (NREB) said that rural problem is mainly in domestic waste and not much on the hazardous waste. On the end product of the incinerator and the effect of the end product on the environment and what to do with the end product, the park manager has to decide and inform NREB. She also suggests for their human resources to have mutual agreement with Unimas to make their staff competent, for example Unimas may provide short training courses for their staff. Their staff should have study leave to further their study to Master and PhD. Level to have their staff upgraded their expertise. There is also suggestion to have discussion or coffee talk with the Unimas lecturers as what they have done with lecturers in Universiti Putar Malaysia, Bintulu Campus. According Mr Anthony from NREB, their task involved diverse disciplines. The challenges, that they face is related to lack of expert in the subject matter, for example in climate change, remote monitoring of environment. Sustainable human resources are really needed. The organisation need to have expert in other fields - solid waste, soil erosion and water quality . These are the area Unimas can explore into for the sustainability of human resources for the stake holders.

In another matter she mentioned about wood waste conversion into charcoal. Current product did not achieve the quality criteria. She was also looking if Unimas has the expertise in converting waste into cash like what they are doing to convert this wood waste to charcoal. According to Mdm Noraziah, for the incinerator- Unimas is engaging a program to train the locals, forming committee in the village and training them in waste management. For example, Unimas has been engaging with a project with the villages where they convert agriculture waste into compost.

Apart from that, Unimas also engage on another project converting agriculture waste to inactivated carbon, produce by incinerator, for water treatment. In terms of future collaboration between Unimas and NREB, Unimas has recently established a water center. The water center may provide training in competency program related to water for NREB. On similar matter, Associate Professor Dr Hushairi said that he and his team have set up IoT (internet of things) which include the monitoring of water quality, air quality etc. This IoT open the opportunity to its application in local scenario for monitoring of the environment.

Among the courses that Unimas can offer are short courses, Master and PhD programme. These courses are already offered in Unimas, especially the Master programme in SLUSE (Sustainable Land Use and Natural Resource Management), which has been very sustainable since the year 2000 (about 20 years now).

### Issues / Challenges

The challenges faced by stakeholders mentioned during the RTD were (1) Sustainable human resource in the specified fields are very much needed in the organisation of the stake holders  
2) The human resources need proper training and education to be competent in their respective fields, especially in area of energy.

### Recommendations / Approaches / Solutions

The HEI has to look into all the problems and challenges and come out with proper management and strategies, including the followings;

- 1) Conducting or offering short courses related to the needs of human resource of the stake holders,
- 2) Offering Master and PhD. degree courses related to fields where human resources are crucially needed,
- 3) In terms of energy, the option for sustainable energy like solar is crucially important in remote area where Sarawak Energy Berhad is unable to supply energy,
- 4) Utilising latest technology in energy to reduce energy consumption and to save cost

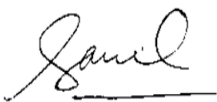
### Concluding Period

About 15 minutes

### Learned Lessons

Sustainability in human resource is crucially important as highlighted by the stakeholders during the Roundtable discussion. Even if technology is available, but if the expertise is not available, nothing much can be done.

### Signature(s):



Rapporteur:  
Dr Samuel Lihan



Facilitator:  
Assoc. Prof. Dr Mohd Hasnain Hussain