

Malaysian Youth and Environmental Sustainability: A Review

Belia Malaysia dan Kelestarian Alam Sekitar: Satu Ulasan

Haliza Abdul Rahman

Institute for Social Science Studies, Putra Infoport, Universiti Putra Malaysia, 43400 Serdang,
Selangor, Malaysia.

Department of Environmental and Occupational Health, Faculty of Medicine and Health Sciences,
Universiti Putra Malaysia, 43400 Serdang, Selangor, Malaysia.

Email: dr.haliza@upm.edu.my

Received: 03 October 2020; Accepted: 28 December 2020; Published: 28 December 2020

To cite this article (APA): Abdul Rahman, H. (2020). Malaysian Youth and Environmental Sustainability: A Review. *Perspektif: Jurnal Sains Sosial Dan Kemanusiaan*, 12(2), 43-54. <https://doi.org/10.37134/perspektif.vol12.2.6.2020>

To link to this article: <https://doi.org/10.37134/perspektif.vol12.2.6.2020>

Abstract

Climate change, deforestation, land degradation, and pollution are some of the environmental concerns that threaten the health of the planet, humans, and other living things. The youth will have to live with the adverse effects of these environmental threats and will be decision-makers in the future. As a result, they have to be actively involved in environmental issues to ensure ecological sustainability, which has become a national and global priority. In Malaysia, youth make up 45.8% of the total population and are emerging change agents in driving the economic change of the country. Thus, this article examines whether youths in Malaysia have a high awareness of the environment and a positive environmental attitude. They need to have a high level of environmental awareness and participation, where people are placed at the forefront of environmental sustainability initiatives. For methodology, this paper used the qualitative method by analysing and reviewing journal articles, reports, newspaper publications, and other relevant documents. The findings show that Malaysian youth generally have a high level of environmental awareness and generally positive environmental attitudes. However, their level of environmental participation issues seems inadequate. The paper also highlights current youth-based programs implemented by government and non-governmental organizations to involve youth in the environment and proposes strategies to enhance their involvement. This literature review is beneficial to environmentalists, academicians, and environment-based organizations, and government institutions.

Keywords: youth, young people, environmental sustainability, environmental protection, environmental Issues

Introduction

In 2015, all United Nations Member States adopted the Sustainable Development Goals (SDGs), also known as the Global Goals, as a universal call of action to protect the planet. By 2030, the world has agreed on several targets, five of which aim to make our environments safe. These include to:

1. Make cities and human settlements inclusive, safe, resilient, and sustainable;
2. Ensure sustainable consumption and production patterns;
3. Take urgent action to combat climate change and its impacts;
4. Conserve and sustainably use the oceans, seas, and marine resources for sustainable development; and

5. Protect, restore, and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat deforestation, and halt and reverse land degradation and halt biodiversity loss. (ILO, 2017)

The SDG's emphasis on the environment is an urgent call to shift the world onto a more sustainable path and highlights the need for environmental protection and sustainability. Currently, the environment faces grave threats that pose a significant negative impact on the health of humans, animals, and the planet. These threats include climate change, deforestation, land degradation, plastic pollution, poor waste disposal and management, and plastic and air pollution. Climate change destabilizes the natural systems and results over heat-related illnesses, exposure to environmental toxins, decreased air quality, and vector and water-borne diseases (Luber & Prudent, 2009). Deforestation has been linked to increasing temperature levels, resulting in severe consequences for biological habitats and organisms (D'Odorico et al., 2013). Inadequate agricultural production due to the loss of agricultural land and soil erosion are adverse effects of land degradation activities like mining, bush burning, and overgrazing (Ladan, 2004). Adverse effects of these environmental threats are predicted to worsen in the future and will likely hit the present youth the hardest. Additionally, the youths are future decision-makers and leaders, who will have to make decisions to tackle these threats and their effects.

Globally, young people aged 15 to 24 years comprise nearly 16 per cent of the world's population (United Nations, 2019). Youths are potent agents of change with unique perspectives that are often underappreciated. Their role in promoting environmental sustainability is crucial (Wee et al., 2017) to implement policies and address sustainable change (United Nations, 2019). They have become strong and loud voices of climate change and other environmental issues by initiating environmental projects locally and globally. For example, Greta Thunberg, the young Swedish climate activist, led school strikes calling for climate action and has inspired other young people in other countries to do the same. Other youth activists worldwide are filming and sharing documentaries on the environment, and increasing awareness of plastic pollution, bush burning, and mudslides in their communities (Turns, 2019). These youth-led initiatives show strong potential in the youth to advocate for and protect the environment. Also, by engaging in issues related to environmental sustainability, the child develops pro-environmental behaviours and skills that are important for environmental sustainability in communities (Browne et al., 2011).

In Malaysia, the youth aged 15 to 35 years make up 45.8% of the total population, about 14 million people in 2018, and they are significant contributors to the country's pressing issues (Department of Statistics Malaysia, 2019). Malaysian youth are emerging agents of change in several spheres of the nation, and their involvement in environmental issues is critical for ecological sustainability (Wee et al., 2017). This paper highlights the importance of youth involvement in environmental issues to achieve ecological sustainability and attempts to answer the following questions: Are Malaysian youth environmentally aware and adequately involved in ecological issues?; What is currently being done to involve Malaysian youth in environmental issues; and finally, what more can be done?

The Malaysian Context

Malaysian Youth

The Malaysian government defines youth as those aged between 15 to 30 years. Malaysia has a significant proportion of young people. Since 1991, the number of young people has increased from 7 million to 10.1 million in 2001, 13.67 million in 2014, and 13.88 million in 2018. As of 2018, Malaysians aged 15 - 35 years made up about 45.8% of Malaysia's total population, the largest among all the age groups (Department of Statistics Malaysia, 2019). The Malaysian youth are thus the backbone of the nation, act as drivers of economic change, and are key agents in shaping the future of Malaysia.

Environmental Issues in Malaysia

Malaysia faces several environmental threats, including natural disasters, which have led to negative impacts. In the past two decades, Malaysia has experienced 51 natural disasters. These disasters have affected over 3 million people, resulting in 281 deaths and about US\$2 billion (MYR8 billion) in losses (ReliefWeb, 2019). Floods have been responsible for most of the disasters in Malaysia, making up 38 out of the total 51 natural disasters from 1998 to 2018. Over the past two decades, floods have affected over 770,000 people, resulting in 148 deaths and US\$1.4 billion (MYR5.82 billion) worth of damages (Zurairi, 2018).

Climate change, another environmental threat to Malaysia, has negatively impacted water, agriculture, and coastal resources. The reported approximate rate of mean temperature increase is 0.25 °C per decade for peninsular Malaysia, 0.20 °C per decade for Sabah, and 0.14 °C per decade for Sarawak (NRE, 2015). This temperature has been projected to rise by 1.5°C by 2050, resulting in more severe droughts and higher floods in the future. Sea levels are also expected to increase and threaten urban settlements (Haliza, 2009). Overall, the total average sea level in Malaysia has been rising at 3.67 ± 0.15 mm/year based on the analysis of tidal data from 1984 to 2013 (Abdul Hadi et al., 2016). This is higher than the projected global sea-level rise of 1.7–3.1 mm/year due to local climate and topographical conditions.

Malaysia has also been a witness to droughts. In 1991, a shortage led to the drying up of the Durian Tunggal Dam in Malacca, resulting in prolonged water rationing in the state. In 1998, Sabah suffered from extreme high rainfalls for about 4 to 9 months resulting in wildfires, significant financial loss, and damage to crops. In 2007, another drought was witnessed in Sarawak, resulting in wildfires and damage to crops (Haliza, 2009). Due to climate change, the country is expected to face more prolonged droughts, which will see its water resources reduced by 20-25% between 2025 to 2030 (Leoi, 2019).

Deforestation is another major environmental issue in Malaysia, which has been attributed to acid rain, climate change, and land use and this could result in the loss of about 15% to 20% of mangrove forests located along the coasts (Haliza, 2009). According to the FAO, only 11.6 per cent of Malaysian forests are considered pristine. Between 1990 and 2010, Malaysia lost an average of 96,000 ha or 0.43% per year. In total, between 1990 and 2010, Malaysia lost 8.6% of its forest cover, or around 1,920,000 ha (Butler, 2013).

Haze in Malaysia usually occurs during the dry season between September and October every year. It is reported to have started in 1997 when land clearing was carried out through burning to make way for palm oil production. Recent occurrences have been attributed biomass burning from farmers in neighbouring countries looking to clear their lands. This emits delicate particulate matter into the air carried over to the Pacific Ocean (Nur et al., 2019). In September 2019, the west coast of Peninsular Malaysia was suffocated by the haze, and 25 locations registered "unhealthy" readings ("Haze crisis: Still no breather for much of Malaysia", 2019). Prolonged exposure to haze has been linked to ear, nose, and throat irritation, and bronchitis, and eczema among Malaysians (Nur et al., 2019).

Problematic waste management, a major environmental threat, is not only aesthetically unpleasant, but pollutants from the waste can also be transferred to water and land, and improper burning can lead to air pollution. Waste activities like landfills and reuse fleets lead to the emission of greenhouse gases like methane, carbon dioxide, and nitrous oxide. In Malaysia, there has been a high increase in the quantity of waste produced daily. In 2001, 16,200 tonnes of municipal solid waste were delivered daily, which increased to 19,100 tonnes per day in 2005 (Nur Shafira et al., 2019). By 2018, the quantity rose to 38,000 tons per day, despite the increased recycling rate of 17.5%, which is alarming. The quality exceeded the Japan International Cooperation Agency (JICA) predicted rate of 30,000 tons per day in 2020 (Malaysian Investment Development Authority, 2020). The waste dump rate continues to increase every year, with many of Malaysia's landfills and dumpsites currently full or closed. Chemical effluent from factories is also discharged into rivers and contributes to its pollution (Leoi, 2019).

Environmental Sustainability

The worsening condition of the environment has made environmental sustainability a global and national priority (Wan Kalthom, 2020). Environmental sustainability is about satisfying current needs without compromising the quality of the ground in a way that ensures it is equally capable of meeting the needs of future generations (Kaswan et al., 2019). It has been defined as "a condition of balance, resilience, and interconnectedness that allows human society to satisfy its needs while neither exceeding the capacity of its supporting ecosystems to continue to regenerate the services necessary to meet those needs nor by our actions diminishing biological diversity" (Morelli, 2011).

For environmental sustainability to be achieved, several principles and strategies must adhere some of these (Morelli, 2011) include:

1. Addressing societal needs by designing products and services that contribute to a sustainable economy; and making environmental sustainability a requirement of ingredients for these products and services;
2. Reserving biodiversity by making use of raw materials that maintain the biodiversity of natural resources and improving energy efficiency;
3. Ensuring regenerative capacity through keeping harvest rates of renewable resource inputs within the natural systems; and reducing depletion rates of non-renewable resources inputs; Facilitating the adoption of reuse and recycling practices by designing for reusability and recyclability and reducing waste emissions; and
4. Addressing constraints of non-renewable energy and waste management by ensuring sustainable consumption, reducing waste generation, prioritizing low-impact transportation.

In essence, environmental sustainability requires drastic changes and efforts at individual, communal, societal, national, and global levels.

Youth and Environmental Sustainability

The youth has to be actively involved in environmental issues to ensure ecological sustainability. They form a significant part of the world's population and become the largest youth population in history in a few years (United Nations, 2019). The youth are creative, more open, and enthusiastic. As a result, they can adapt their lifestyles and make eco-friendly choices a part of their daily life. They can influence their families and communities to adopt pro-environmental behaviours, employ creative strategies and ideas to address environmental concerns. By adopting an environmentally sustainable lifestyle, they can contribute to protect the environment from further pollution. Moreover, the youth will have to live with the adverse effects of the environmental concerns that currently threaten the environment (Wan Kalthom, 2020).

It is essential that the youth adapts to recycling and reusing practices to reduce waste accumulation and achieve sustainable consumption (Mboringong & Martha, 2016). They need to be aware of environmental issues, develop positive attitudes towards the environment, and adopt pro-environmental behaviours. They also need to be actively involved in environmental sustainability programs like environmental education programs and other environment-related initiatives (Browne et al., 2011) that could in still pro-environmental behaviours among youth participants and empower them with skills needed to take environmental action in their communities and make environmental-related decisions as future leaders. The following section, therefore, reviews environmental awareness, attitudes, and participation among Malaysian youth.

Environmental Awareness among Malaysian Youth

Environmental awareness is defined as having fundamental knowledge and understanding about the earth, physical and ecological systems, and environmental issues that affect society, politics, economy, culture, and technology (Hollweg et al., 2011). The ecological awareness of youth could enhance their

sensitivity to environmental issues and this is a step towards a citizen's feeling of environmental responsibility (Sengupta et al., 2010). Environmental attitudes may determine environmental behaviour (Gifford & Sussman, 2012), hence several studies have been conducted to assess environmental awareness and attitude among Malaysian youth.

In a study by Aini *et al.* conducted in 2007 among four secondary school students in Johor, 93 per cent of the respondents were aware of the environmental issues faced in Malaysia. In this study, the three frequently mentioned environmental issues were air pollution, water pollution, and noise pollution. There were fewer mentions of acid rain, ozone depletion, flash floods, and traffic congestion. These students were more aware of pollution as environmental issues of national concern and were less aware of more complex environmental problems (Aini et al., 2007).

Norizan (2010) has studied environmental knowledge, attitude, and practices of the student on recycling and found that the 54.8% of students scored higher than the mean knowledge score, 53.9% of students scored higher than the mean attitude score, and 56.5% of students scored higher than the mean practice score (Norizan, 2010). Studies by Rosta et al. (2011) showed in general, 95% of 1200 students in Sabah have a high level of environmental knowledge except for several items that measure current environmental issues in Malaysia, such as carbon dioxide and climate change. Their attitudes were influenced by their level of environmental experience (Rosta et al., 2011).

This finding was also reported in the qualitative study by Abdul Latiff et al. (2012) carried out through focus group discussions and interviews among Malaysian youth aged 18 – 25. This study concluded that the informants were generally aware of environmental problems in Malaysia. The participants cited tree cutting, waste dumping, air pollution, and water pollution. However, they showed only a basic understanding of the processes of global warming and climate change (Abdul Latiff et al., 2012). The high level of awareness of air pollution and haze among students might be attributed to its frequent occurrence, its visibility, and its effect on schools. During this period, schools are closed, and outdoor activities are reduced (Norfazillah et al., 2018). Studies have shown that Malaysian youth generally have a positive attitude towards the environment. In the review by Aminrad et al. (2013) conducted among secondary school students in Selangor, 82.8% of the participants had a positive attitude towards environmental issues.

However, the lowest attitude score was recorded for social responsibility (Aminrad et al., 2013). Jamilah et al. (2015) carried out a study among Malaysian university students and they reported similarly high awareness of environmental issues. The participants demonstrated good knowledge of the importance of sewage treatment and the effects of improper waste disposal. This study also reported positive attitudes towards the environment, with lower attitude scores to learning more about the sustainable environment and joining sustainable environment activities (Jamilah et al., 2015).

Haliza and Nur Atiqah (2015) investigated secondary school students' level of knowledge, attitude, and practice on recycling and found that majority (77.2%) of the students possessed moderate environmental knowledge, and 77.6% had a moderate environmental attitude (Haliza & Nur Atiqah, 2015). In 2016, Nordin and Saliluddin found that 85.2% of undergraduate students in Universiti Putra Malaysia (UPM) possess high levels of knowledge on recycling. However, only 42.9% of respondents exhibited a positive environmental attitude (Nordin & Saliludin, 2016).

In another study among Malaysian youth aged 19 to 30 years on green travel, there was a high level of awareness on the green journey among the participants of the study. Many participants were aware of the harm of littering during the trip and reported that they did not engage in littering and they switched off electrical appliances. They reduced their consumption of water and disposable items. The authors reported that the primary source of motivation for youth participation in these activities was the trendy and "cool" nature of eco-friendly actions during travel (Azilah and Wickens, 2020). These studies report a high level of awareness of and a generally positive attitude towards environmental-related issues. According to Jamilah et al. (2015), this may be due to the efforts made by higher institutions and the Malaysian government to promote sustainable development among the youth.

Environmental Participation of Malaysian Youth

In the study by Aini et al. (2007), only 6% of the secondary school students were involved in environmental clubs. The students were also not actively engaged in environmental related activities, and their main form of involvement in environmental-related activities was watching documentaries and reading environment-related articles.

Abdul Latiff et al. (2012) reported that the significant avenue for environmental participation among Malaysian youth was through sharing environmental-related information on social media platforms like YouTube, Facebook, and Twitter. However, pro-environmental behaviour among the participants was low. Some participants felt that participation in environmental activities would be offensive to people and a form of meddling in other people's affairs. Other participants lacked awareness about pro-environmental activities. The authors concluded that despite a high understanding of the environmental problems of the country, the youth either felt they could have no impact on an individual level or were not bothered enough about the issues to participate (Abdul Latiff et al., 2012) actively.

The study by Haliza and Nur Atiqah (2015) reported that 73.2% of secondary school students surveyed had bad recycling practices, and the study by Nordin and Saliluddin (2016) among undergraduate students in University Putra Malaysia reported that less than half (49.0%) of respondents had acceptable recycling practices (Nordin & Saliludin, 2016). In a more recent study conducted among 400 respondents aged 19 to 40 years, the level of participation in at least one form of environmental activity was high at 60.8%. The training with the highest level of involvement was reported to be the cleaning of a residential area. However, the majority of the participants had never planted a tree nor carried out any recycling activity. Additionally, less than 10% of the participants had been involved in other environmental activities like making compost fertilizers from waste materials and cleaning rivers or forests. Contrastingly, there was a high level of sustainable environmental practices like saving water, saving electricity, using eco-friendly products and travel modes. In this study, about half of the participants reported that the most influencing factor for environmental participation was self-awareness. About 20% of the participants reported parents as an influencing factor in their engagement in environment-related activities, while 16.8% said their teacher as their influencing factor (Hanifah et al., 2019). These findings show an inadequate level of environmental participation among Malaysian youth.

Efforts Towards Promoting Malaysian Youth Involvement in Environmental Issues

The following section describes efforts and strategies employed by the Malaysian government and non-governmental organizations to involve Malaysian youth in environmental issues for environmental sustainability.

Environmental Education

Environmental Education (EE) creates environmental awareness, changes attitudes towards the environment, build capacity to address environmental issues, and could subsequently lead to adopting sustainable lifestyles (Wan Kalthom, 2020). As a result, in 1998, the Malaysian government introduced environmental education into its national school curricula through formal education and extracurricular activities. The National Policy on Biodiversity was also developed to introduce biodiversity and related fields into schools and higher institutions. In 2002, the National Policy of Environment was designed to provide a deeper understanding of environment and sustainable development concepts, and a caring attitude to nature. Additionally, the National Integrity plan was developed in 2004 to increase environmental conservation (Loubser et al., 2014).

One of the EE initiatives implemented by the Malaysian government in schools was the Kelab Pencinta Alam (KPA) or the Science Nature Clubs, which has been established in over 300 primary and secondary schools in the country. The membership of the clubs is open to standard four to six

primary school pupils and all secondary school students. One teacher from each school is appointed as the club advisor and trained regularly by government agencies (Loubser et al., 2014).

A 2014 program evaluation of the impact of KPA in schools revealed high implementation rates of KPA and functional integration of EE in a wide variety of subjects like Maths and Science. The teachers and principals were also satisfied with the program. Activities like cleaning school grounds, creating food gardens, and designing environmental-related murals on school walls were also observed. However, there was a need for schools to implement more composting activities. Overall, the authors declared that the KPA program has successfully impacted schools (Loubser et al., 2014).

In 1999, the Natural Resources and Environment Board (NREB) of Sarawak state has established the Kelab Pencinta Alam Sekitar (PALS) clubs or Environment Club in Sarawak to instil positive attitudes towards the environment. The club has been implemented in 277 primary and secondary schools in the state. Club activities include planting, creating huts, fishponds, environmental gardens, mini ponds, greenhouses, and a project hydraulic plant. Other activities include composting and collecting recyclables (Biak, 2006).

In 2005, the Sustainable Schools Program Environmental Award (SLAAS) was implemented in secondary schools to promote holistic environmental sustainability in schools. Some of the program's objectives were to instill environmental values in the school community, to increase awareness of environmental issues, and encourage environment-friendly activities in schools. Schools were tasked with carrying out tree planting activities and increase knowledge on water and energy conservation, waste management, and recycling. Schools involved in the program encouraged students to plant trees, tapped rainfall to water plants; made and used compost fertilizer; and carried out programs that promoted tree cutting. A research in 2015 was carried out to evaluate the effectiveness of this program. The findings revealed that teachers and pupils in schools where SLAAS was implemented were highly involved in hands-on greening activities, water, and energy conservation activities through posting water and energy saving suggestions (Hanifah et al., 2015).

In addition, in a more recent study in 2018 among form four students in Johor, SLAAS students had high environmental literacy, a positive attitude towards the environment, and good pro-environmental behaviours such as saving water and electricity, recycling, and greening activities (Noraini et al., 2018).

Partnership with Non-Governmental Organizations

The Malaysian government is also working with other organizations on initiatives that involve the youth. For example, the Eco-Schools program in Malaysia is run by WWF-Malaysia, an environmental conservation organization, and supported by a National Eco-Schools Committee made up of ministries (like the Ministry of Natural Resources and Environment, and the Ministry of Education, the Natural Resources and Environment Board Sarawak), government agencies and universities. Eco-Schools is an environmental and sustainable development program developed for schools. The schools have to form an eco-committee comprising teachers, students and parents, who carry out environmental reviews, develop, implement and monitor action plans aimed at addressing the school's environmental concerns and share information about the environment (WWF-Malaysia, n.d)

Another example can be seen in the Small Grant Program (SGP) funded by the Global Environment Facility (GEF) and implemented by UNDP and the United Nations Office for Project Services (UNOPS) to support environment-related outreach activities and build capacities of environment-focused NGOs and CBOs. The Malaysia SGP has a National Steering Committee chaired by a representative of the Ministry of Natural Resources and Environment and comprises several government representatives (SGP Malaysia, n.d).

Promoting Green Technology and Entrepreneurship

Malaysia Green Tech Corporation is a governmental organization under the purview of the Ministry of Energy, Green Technology and Water Malaysia aimed at promoting green technology for sustainable socio-economic growth. Their yearly workshop, called International Greentech and Eco Products Exhibition and Conference, brings together over 1000 students to participate in programs to inspire them to adopt greener approaches in their daily lives and have a deeper understanding of green technology and sustainable practices. Students showcase their green technology innovations to business owners and decision-makers (Yayasan Hijau Malaysia, 2017).

They also organize a youth camp called My HIJAU Youth Camp that brings together secondary school students to train them in green technology. Additionally, their SME Entrepreneur Development Program supports small and medium enterprises incorporating green practices in their business operations. This strategy is especially important because the youth will become entrepreneurs and innovators in the future (Green Tech Malaysia, 2014).

Future Directions

Despite efforts by the Malaysian government to involve youth in environmental issues, more needs to be done to ensure environmental sustainability. Below are the recommended strategies to guide future efforts:

Provide Youth with Environmental Leadership Roles

Youth must be provided with more opportunities to be decision-makers in environmental issues. In the study by Abdul Latiff et al. (2012), social ties provided a barrier to youth participation in environmental issues. The youth felt that advising others could disrupt social harmony. However, providing youth with leadership roles in environmental-based activities empowers them with skills and confidence they need to make active choices to protect the environment (Pandve et al., 2009). The Philippines, for example, has youth councils whose members are trained in disaster risk reduction and tasked with sharing their knowledge and skills with other community members, and increasing disaster preparedness awareness. They are also tasked with implementing disaster risk reduction workshops and climate change adaptation into local development planning (Regional Coordination Mechanism-Group Asia-Pacific Thematic Working Group on Youth United Nations Development, 2015). This strategy can be adapted in Malaysia, with a more broadened scope of environmental protection to empower youth to make active choices to protect the environment and place them at the forefront of environmental sustainability.

Provide Youth with Participatory Roles in Environmental Sustainability Initiatives

Young people should be provided with more opportunities to participate in environmental sustainability initiatives. They should be allowed to initiate ideas and projects, express their ideas, form views, and participate in activities and processes that affect them (Narksompong and Limjirakan, 2015). An example can be seen in an energy-saving project in China implemented to decrease carbon emissions, where university students developed strategies to reduce energy consumption in the Wangjing community. The students interacted with Wangjing community members to determine their energy consumption patterns and then raised awareness in energy conservation and carbon emission reduction. The project led to a decrease in carbon dioxide emissions by 50 tons in five months (Regional Coordination Mechanism - Group Asia-Pacific Thematic Working Group on Youth United Nations Development, 2015).

Build Teachers' Capacity to Implement Education for Sustainable Development

Education for Sustainable Development (ESD) involves incorporating poverty, climate change, and ecological consumption into teaching and learning. It aims to empower youth by equipping them with critical thinking skills and reflection to play an active part in sustainable development (Wan Kalthom,

2020). In Malaysia, schools have played a significant role in environmental education among the youth through clubs and societies, classroom activities, and the establishment of initiatives like Kelab Alam Sekitar and Kelab Pencinta Alam. Hence, programs like the Sustainable Schools Program Environmental Award (SLAAS), implemented in Malaysian secondary schools, should be commended.

However, studies by Hanifah et al. (2015) and Loubser et al. (2014) evaluated SLAAS implementation in schools reported that teachers were not equipped with strategies and methodologies to incorporate ESD in their teaching. Teachers are relevant role models for youth and they are the essence for the successful implementation of environmental education. Therefore, they need to be professionally equipped to implement environmental education that will bring about change, which calls for professional development and continuous training of teachers (Aini et al., 2007; Loubser et al., 2014; Hanifah et al., 2015). Additionally, teachers need to focus on environmental issues close to home that students can see and experience through field works and community participation (Rozita, 2016).

Leverage Social Media and Technology

The youth are avid users of technology and social media. In the study by Abdul Latiff et al. (2012), social media was a significant avenue to increase awareness of environmental issues. Nevertheless, social media can be leveraged for more than environmental education. They can be leveraged to recruit youth for environmental projects and promote environmentally friendly activities as cool and trendy (Azilah & Wickens, 2020). Additionally, interactive apps can be developed to educate youth about environmental issues and provide them with the soft skills they need to address them. For example, the mobile gaming app, Sai Fah: The Flood Fighter, developed for Thai youth and children, provides education about floods by simulating real-life scenarios (Regional Coordination Mechanism - Group Asia-Pacific Thematic Working Group on Youth United Nations Development, 2015).

Apply Religious Teachings

Malaysia is a multi-religious country with Islam, Christianity, Buddhism, and Hinduism as religions practised by most of its populace. These religious beliefs have a standard message of protecting the earth and mother nature. There is potential in utilizing messages, like the need for modest consumption and respect for the earth and nature, which is God's creation, changing youths' attitudes towards the environment and promoting pro-environmental behaviours (Rozita, 2016). Religious bodies can also organize informal environment and community-based activities and programs involving youth (Aini et al., 2007).

Promote Eco-Tourism

Policy makers can encourage tourism providers by giving them tax breaks if they offer environmentally friendly activities like "clean a village" to youth. Higher learning institutions can work with tourism providers so students can be involved in these activities and gain practical learning experiences they could apply in their communities (Azilah & Wickens, 2020).

Conclusion

To achieve environmental sustainability, youth need to be actively involved in environmental issues and equipped with skills to make environmental-related decisions for themselves and the future. They are the future and will face the consequences of environmental threats the world faces today. Malaysian youth constitute a significant proportion of the country and have a significant impact on the country's social and environmental issues. Even though research has shown that Malaysian youth have a high environmental awareness and positive environmental attitude, their level of environmental participation is inadequate. The Malaysian government has employed several strategies to involve youth in environmental issues, however, the government needs to fully harness the creativity,

openness, and passion of the youth by providing opportunities for youth to play active roles in environmental sustainability initiatives, effectively implementing existing initiatives and leveraging technology to capture youth's interests.

Acknowledgement

The author would like to thank Universiti Putra Malaysia for providing the research grant (9661300) which made this study possible.

References

- Abdul Hadi, K., Ami, H. M. D., Mohd Faiz, P., & Kamaludin, M. O. (2016). Long-term sea-level trend from tidal data in Malaysia. 2016 7th IEEE Control and System Graduate Research Colloquium (ICSGRC). *Paper presented at the 2016 7th IEEE Control and System Graduate Research Colloquium (ICSGRC)*, 187–192.
- Abdul Latiff, A., Samsudin, A. R., Latiffah, P., & Fauziah, A. (2012). The understanding of environmental citizenship among Malaysian youths: A study on perception and participation. *Asian Social Science*, 8(5), 85. <https://doi.org/10.5539/ass.v8n5p85>.
- Aini M. S., Nurizan, Y., & Fakhru'l-Razi, A. (2007). Environmental comprehension and participation of Malaysian secondary school students. *Environmental Education Research*, 13(1), 17–31. <https://doi.org/10.1080/13504620601122616>.
- Aminrad, Z., Sharifah Zarina, S. Z., Abdul Samad, H., & Sakari, M. (2013). Relationship between awareness, knowledge, and attitudes towards environmental education among secondary school students in Malaysia. *World Applied Sciences Journal*, 22(9), 1326-1333.
- Azilah, K., & Wickens, E. (2020). Exploring youth awareness, intention, and opinion on green travel: The case of Malaysia. *Tourism and Hospitality Research*, 20(1), 41–55. <https://doi.org/10.1177/1467358418781441>.
- Biak R. (2006). *The "Kelab Pencinta Alam Sekitar (Pals)" for schools in Sarawak: An evaluation*. Sarawak, Malaysia: Natural Resources and Environment Board.
- Browne L.P., Garst B.A., & Bialeschki M.D. (2011). Engaging youth in environmental sustainability: Impact of the Camp 2 Grow Program. *Journal of Park and Recreation Administration*, 29(3), 70–85.
- Butler, R. A. (2013, 15 November). Malaysia has the world's highest deforestation rate, reveals the Google forest map. *Mongabay*.
- Department of Statistics Malaysia. (2019). Current population estimates, Malaysia. Retrieved from <https://www.dosm.gov.my/v1/index.php?r=column> [15 June 2020].
- D'Odorico, P., He, Y., Collins, S., De Wekker, S.F.J., Engel, V., & Fuentes, J.D. (2013). Vegetation-microclimate feedbacks in woodland-grassland ecotones: Vegetation-microclimate feedbacks. *Global Ecology and Biogeography*, 22(4), 364–379. <https://doi.org/10.1111/geb.12000>.
- Gifford, R., & Sussman, R. (2012). *Environmental attitudes in the Oxford handbook of environmental and conservation psychology*. Oxon: Oxford University Press.
- Green Tech Malaysia. (2014). Green Technology Master Plan. *Paper presented at the Human Resources Green Skills Malaysia Summit 2014, Kuala Lumpur, Malaysia*.
- Haliza, A. R. (2009). Global climate change and its effects on human habitat and environment in Malaysia. *Malaysian Journal of Environmental Management*, 10(2), 17–32.
- Haliza, A. R., & Nur Atiqah, Y. (2015). Knowledge, attitude, and practice towards recycling activity among secondary schools' students at Hulu Langat, Selangor, Malaysia. *Paper presented at the 1st International Conference on Interdisciplinary Development Research, Chiangmai, Thailand*.
- Hanifah, M., Shaharudin, I., Mohmadisa, H., Nasir, N., & Yazid, S. (2015). Transforming sustainability development education in Malaysian schools through greening activities. *Review of International Geographical Education*, 5(1): 18.

- Hanifah, M., Mohmadisa, H., Yazid, S., Nasir, N., & Saiyidatina Balkhis, N. (2019). Factors influencing eco youth sustainability Activity and practices in Youth City, Muallim, Malaysia. *Asia Pacific Social Science Review*, 19(4), 154–164.
- Haze crisis: Still no breather for much of Malaysia. (2019, 21 September). *News Straits Times*.
- Hollweg, K. S., Taylor, J., Bybee, R.W., Marcinkowski, T.J., McBeth, W.C., & Zoido, P. (2011). *Developing a framework for assessing environmental literacy*. Washington D. C: North American Association for Environmental Education.
- ILO. (2017). *Relevant SDG targets related to environment and green jobs*. New York: UNDP.
- Jamilah, A., Shuhaida, M. N., & Nurzali, I. (2015). Investigating students' environmental knowledge, attitude, practice, and communication. *Asian Social Science*, 11(16), 284. <https://doi.org/10.5539/ass.v11n16p284>.
- Kaswan, V., Choudhary, M., Kumar, P., Kaswan, S., & Bajya, P. (2019). Green production strategies. In: Ferranti, P., Berry, E. M., & Anderson, J. R. (eds). *Encyclopaedia of Food Security and Sustainability*. New York: Elsevier Inc., 492–500.
- Ladan, S. (2004). The phenomenon of land degradation in Nigeria: A review of effects and current solutions. *Namoda Tech-Scope Journal*, 6: 390–399.
- Leoi, S. (2019, July 16). Malaysia is overflowing with waste, and we're running out of options. *The Star*.
- Loubser, C., Noor Azlin, Y., Dreyer, J., & Abdul Nik, A. (2014). The effectiveness of environmental education workshops for teachers, learners, and schools in Malaysia. *Environment Development and Sustainability*, 16: 1163–1176. <https://doi.org/10.1007/s10668-014-9518-9>.
- Luber, G. & Prudent, N. (2009). Climate change and human health. *Transactions of the American Clinical and Climatological Association*, 120: 113–117.
- Malaysian Investment Development Authority. (2020). Sustainable waste management in Malaysia: Opportunities and challenges. Retrieved from <https://mida.gov.my/home/search?find=Sustainable+Waste+Management+in+Malaysia+%3A+Opportunities+and+Challenges> [2 April 2020].
- Mboringong, F., & Martha, A. D. (2016). Youth at the forefront of sustainability. CIVICUS. Retrieved from <https://www.civicus.org/index.php/media-resources/op-eds/853-youth-at-the-forefront-of-sustainability> [27 May 2020].
- Morelli, J. (2011). Environmental sustainability: A definition for environmental professionals. *Journal of Environmental Sustainability*, 1(1), 1–10. <https://doi.org/10.14448/jes.01.0002>.
- Narksompong, J., & Limjirakan, S. (2015). Youth participation in climate change for sustainable engagement: Youth participation in climate change for sustainable engagement. *Review of European, Comparative & International Environmental Law*, 24(2), 171–181. <https://doi.org/10.1111/reel.12121>.
- Noraini, S., Abdul Rahim, H., Mohd Asnorhisham, A., & Jaafar, J. (2018). Implication of the sustainable school-environment award program on the environmental literacy level of students. *Advanced Science Letters*, 24(1), 57–59. <https://doi.org/10.1166/asl.2018.11918>.
- Nordin, F. N., & Saliludin, M. S. (2016). Knowledge, attitude, and practices of recycling and its associated factors among undergraduate students in Universiti Putra Malaysia, Serdang. *Journal of Public Health and Clinical Sciences*, 3(6), 154 - 170.
- Norfazillah, A. M., Mohd Rizal, A. M., & Rozita, H. (2018). The Malaysia haze and its health economic impact: A literature review. *Malaysian Journal of Public Health Medicine*, 18 (9).
- Norizan, E. (2010). Environmental knowledge, attitude, and practices of student teachers. *International Research in Geographical and Environmental Education*, 19(1). 39–50. <https://doi.org/10.1080/10382040903545534>.
- NRE. (2015). *Malaysian biennial update to the UNFCCC*. Putrajaya, Malaysia: Ministry of Natural Resources and Environment Malaysia:
- Nur H. H., Mimi H. H., Zainura Z. N., Denny K. S. N., Nor Harrin, N. H., & Nurazimah M. A. (2019). Analysis of transported pollution and haze-related diseases via HYSPLIT Trajectory Modelling in the urbanized area of Johor, Malaysia. *IOP Conference Series: Earth and Environmental Science*. 373, 012008. <https://doi.org/10.1088/1755-1315/373/1/012008>.

- Nur Shafira, Z., Mohd Khairul Amri, K., Mohd Armi, A. S., Ahmad Shakir, M. S., Noorjima, A. W., Muhammad Hafiz, M. S. & Siti Nor Aisyah, M. B. (2019). Environmental pollution and solid waste management in Malaysia. *International Journal of Academic Research in Business and Social Sciences*, 9(12), 12.
- Pandve, H. T., Deshmukh, P. R., Pandve, R. T., & Patil, N. R. (2009). Role of youth in combating climate change. *Indian Journal of Occupational and Environmental Medicine*, 13(2), 105. <https://doi.org/10.4103/0019-5278.55130>.
- Regional Coordination Mechanism - Group Asia-Pacific Thematic Working Group on Youth United Nations Development. (2015). *Switched On - Youth at the heart of sustainable development in Asia and the Pacific*. New York: United Nations.
- ReliefWeb. (2019). Malaysia: Disaster management reference handbook (June 2019). Retrieved from <https://reliefweb.int/report/malaysia/malaysia-disaster-management-reference-handbook-june-2019> [7 May 2020].
- Rosta, H., Lim Kuang, H., & Fadhilah, O. (2011). Environmental knowledge and attitude among students in Sabah. *World Applied Sciences Journal*, 14, 83 - 87.
- Rozita, I. (2016). Promoting environmental literacy in Malaysian society: Challenges and opportunities. *Jurnal Pengajian Umum*, 5: 12.
- Sengupta, M., Das, J., & Maji, P. K. (2018). Environmental awareness and environment related behaviour of Twelfth Grade students in Kolkata: Effects of stream and gender. *Anwesa*, 5, 1–8.
- SGP Malaysia. (n.d.). The GEF Small Grants Programme. Retrieved from <http://sgpmalaysia.org/>. [25 April 2020].
- Turns, A. (2010). Meet generation Greta: young climate activists around the world. Retrieved from <https://www.environmentaljournalist.co.uk/project/meet-generation-greta-young-climate-activists-around-the-world-guardian/> [20 June 2020].
- United Nations. (2019). *World population prospects - population division*. New York: UN Department of Economic and Social Affairs.
- Wan Kalthom, Y. (2020). Engaging youth participation in making sustainability work. Leal Filho W, Wall T, Azul AM, Brandli L, and Özuyar PG (eds). *Good Health and Well-Being*. New York: Springer International Publishing, 1–10.
- Wee, M. I., Fatin Nabilla, A., Foo, N. G., & Ahmad Firdhaus, A. S. (2017). Awareness and attitudes towards sustainable development amongst higher education students in Penang, Malaysia. In: Leal Filho W, Azeiteiro UM, Alves F, and Molthan-Hill P (eds). *Handbook of Theory and Practice of Sustainable Development in Higher Education*. New York: Springer International Publishing, 49–64.
- WWF-Malaysia. (n.d.). Eco-Schools Programme. Retrieved from <https://www.wwfmy-esd.com/ecoschoolsprogramme> [12 April 2020].
- Yayasan Hijau Malaysia. (2017). Igem 2017 Empowers Malaysia's Youth. Retrieved from <http://yahijau.com/igem-2017-empowers-malaysias-youth/> [12 March 2020].
- Zurairi, A. R. (2018, October 12). Climate-related natural disasters cost Malaysia RM8b in the last 20 years. *Malay Mail*.