Environmental sustainability engagement practices among youths in Muallim District, Perak, Malaysia

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Abstract. The study aimed to examine environmental sustainability practices among youths in Muallim District, Perak, Malaysia. This study applied a quantitative method comprising questionnaires with 400 youths aged 19 to 40. A simple random sampling method was used to divide the respondents into groups of two. Most variables (including knowledge, values and skills) were at high levels, but the environmental sustainability skills variable was only at a moderate level, with a mean score between 2.34 until 3.66. The findings also revealed a strong significant relationship between knowledge, values and environmental sustainability skills and environmental sustainability practices \( p<0.05 \). The regression findings showed that environmental sustainability knowledge, environmental sustainability values and environmental sustainability skills contributed a total of 38.3 percent of variance change to environmental sustainability practices, with environmental sustainability knowledge being the greatest contributor at 31.5 percent, environmental sustainability at 5 percent and environmental sustainability skills at 1.8 percent \( R^2 = .383, F(1, 339)=81.846, p<.05 \). This indicates that overall environmental engagement practices were influenced by individual sustainability skills. In fact, environmental knowledge not create awareness among youths to apply practices that lead to environmental sustainability; rather, the skills possessed and acquired by youths can lead to their engagement in environmental sustainability practices.

1. Introduction
Sustainability is interpreted as a condition that must be maintained for the continuous needs of future generations [1]. Consequently, it has become the basis for many countries to form nations that are stable economically, socially and environmentally [2]. The environment is the main site for all human activities, and must be used appropriately to ensure its sustainability [3]. This environmental element is also applied in the concept of sustainability, as ecosystems and humans operate in an interconnected relationship in maintaining the sustainability of life and the environment. Various developments, especially in terms of infrastructure, have increased to meet the social and economic needs of populations such as access to health, education and recreation [4]. Unawareness of the impact of this condition on the quality of the environment today, which is felt when there is an increase in the Earth’s temperature and levels of pollution [5]. This situation has become a global issue, raising concern not only in Malaysia but also in worldwide [6]. Given this situation, many parties have begun to take action in a collaborative and holistic manner to control human activities and actions that might destroy the environment. Globally, the United Nation (UN) has implemented seven goals of the 2030 Agenda, comprising 17 Sustainable Development Goals (SDGs) the seventh of which is to ensure environmental sustainability [1].
Malaysia is not exceptional in informing efforts towards sustainability [7] by becoming a sustainably developed country as planned in the 11th Malaysia Plan (RMK11) based on knowledge and practices of taking care of the environment. This intention can be realised through young people because they represent an asset for community change [8]. Youth are those who are in transition age between children and adults [9]. Defining age for youth is different according to country. As an example in Malaysia, youths in the country from 2006 to 2011 are those who are 18 to 40 years of age. However, the National Youth Policy 2015 began to change the age of the youth to those aged 15 to 30. According to [10] the characteristics of these young people are heterogeneous. Youths make up the greatest population demographic in the country, constituting 13.3 million or 44%. As such, Malaysia has promoted various activities to involve youths in environmental sustainability activities and hence facilitate sustainable living.

The government has established various policies, regulations and programs to realise environmental sustainability in line with the goals of the 11th Malaysia Plan. Existing policies provide guidance to all parties, including federal and state government agencies, local authorities (PBTs), the industrial sector and communities, as well as youths in order to minimise their environmental impacts that will be experienced by future generations [11]. Programs with environmental sustainability themes also exist, such as Program Anugerah: Bandar Lestari, Sekolah Lestari and Anugerah Langkawi. In addition, one can access collaboration programs such as the Kem Kesedaran Alam Sekitar (KeKAS) and “Tabiat takpa, bumi binasa” campaign via mass media platforms. These programmes for establishing environmental sustainability are also conducted in each state and areas under their respective control. For instance, in Muallim, Perak, various parties assumed the initiative, such as Tanjong Malim District Council, which has held programmes such as gotong-royong and recycling [12]. There are also programmes that promote environmental preservation awareness and make a habit of 3R practices, which are conducted by the National Blue Ocean Strategy Programme (NBOS) [12]. These environment-related activities priorities’ youths as actors because they are a group that can influence their peers and local communities [13].

A systematic effort is required to realise sustainability and mitigate potential negative impacts on the environment, as well as to improve management of the ecosystem [14]. According to [15] today’s levels of environmental sustainability practices remain low. Sustainability practices are very important in maintaining the harmony of the environment, economy and society. Various efforts are needed to enhance sustainability practices such as electricity saving, solid waste reduction, water saving, recycling and ecofriendly product purchase [16]. Therefore, this increasingly challenging environmental problem requires the involvement of the community, especially youths. Youth engagement and practices of environment-related activities are still at an unsatisfactory level [17]. Most environmental studies involve youths as there are a large number of them in the community and they can affect the environment [18]. Therefore, this study was conducted to identify the extent of environmental sustainability engagement practices among youths in Muallim, Perak.

1.1. Knowledge, Values and Skills regarding Environmental Sustainability Engagement Practices

Environmental knowledge can be defined as the general knowledge of facts, concepts and relationships that are interconnected with the natural environment and ecosystem. Thus, in the environmental concept, this knowledge leads to environmental aspects or effects and mutual responsibility is required to achieve its sustainability [19]. Some studies conducted by researchers have demonstrated that knowledge does not influence the practice of engagement in forming environmental sustainability. For example, a study conducted by [20] with 895 students in 16 higher learning institutions (private and public HLI) revealed that all respondents had very high knowledge regarding the environment, but a weak relationship was observed between knowledge and practices of environmental sustainability engagement. This indicates that one’s knowledge does not affect individual practices. This study is contrary to the findings obtained by [21], which stated that in order for youths to engage in and practice environmental sustainability, they need to possess the necessary knowledge and skills.
A study was conducted by [22] with the aim of examining the factors that determine the environmental engagement of an individual, such as the use of green products, which do not pollute the environment. The study highlighted that individual behavior is influenced by values, beliefs, norms and strengths. Values are defined as desirable trans-situational goals, varying in importance, that serve as guiding principles in the life of a person or other social entity [23]. This implies that an individual’s self-value affects his or her behavior. In addition, an individual can apply according to [24] environmental sustainability values either directly or indirectly. For example, values can be applied by looking at individuals who use green products. If an individual knows the benefits of green products, they can apply the values directly and priorities their use in everyday life. Moreover, individuals who are unable to identify the advantages or benefits of green products but believe that their use can help protect the environment, even though they do not opt for green products as their main consumption products, will gain indirect values.

A study on values was also conducted by [25] stating that values are taught by religious groups and can easily be applied by individuals. A study entitled “Youth Capability in the Context of Sustainable Development” sought to examine youths’ ability to influence the sustainability of development, and was conducted in the Baltic States involving youths aged between 13 and 19. The findings showed that the values of an individual did not affect his or her behavior and practice of a positive attitude towards the environment.

A study regarding the environment was also conducted by [12] demonstrating that environmental skills can help mitigate environmental problems resulting from human activities. This skill-related study was conducted via the Self-Motivated Incremental (SMILE) programme, where skills can be mastered through one’s own interest or motivation. This skill hierarchy was divided into three phases: exploring the environment, identifying interesting skills in using environmental resources and creating skills through situations. Many skills are acquired through knowledge, which can also encourage individuals to undertake positive practices to protect the environment.

In addition, studies such as the [26] have analysed environmental skills in general in order to identify skills programmes in countries outside of Europe to prepare people for low carbon utilisation. The study was conducted by comparing several countries, including Europe. In Europe, governmental policies have promoted national programmes to undergo training in environmental sustainability skills focused on energy efficiency. The study’s findings revealed that the skills acquired would lead to some best practices and generate knowledge that will help facilitate environmental sustainability.

The practice of environmental preservation remains very poor among youths. This statement is in line with a study conducted by [16], which found that youth were less interested in knowing about the environment because they did not practise environmental sustainability. Students were aware of several practices, but only practised sustainability in terms of the environmental landscape by not damaging trees and by recycling. Therefore, this study aimed to examine environmental sustainability practices among youths in Muallim District, Perak, Malaysia.

2. Methods
This study used a correlation survey, a relevant method for examining the relationship between knowledge, values, skills and environmental sustainability practices. The study was conducted in Muallim District in Perak, Malaysia. This district was also developed as a youth city under the 1 Malaysia Youth City (1MYC) programme because it has a high number of youths.

Based on information obtained from the Youth and Sports Office of Muallim District, there are 35,400 youths in Muallim, comprising 18,900 male youths and 16,500 female youths on 2017. The ethnic majority is Malay, with 22,600 persons. The study sample was selected by referring to [27] guidelines, where in a population ranging from 30,000 to 40,000, 380 samples need to be selected. Therefore, this study took a sample of 400 respondents to represent the youths in two Muallim sub-districts. In fact, the number of samples exceeded the recommendation of [28] that if the population is between 5001,000 people, the number of samples should be 217-278 at a significance level of .05. Simple random sampling technique was used in this study to determine a sample group, and helped
ensure that every subject in the population would have an equal likelihood of being selected as a respondent in a survey [29]. Once the sample list had been determined, by using simple random sampling technique, 200 youths in the Slim sub-district and 200 other youths in the Hulu Bernam Timur sub-district was selected (Table 1).

| No. | District             | Number of Sample |
|-----|----------------------|------------------|
| 1.  | Slim                 | 200              |
| 2.  | Hulu Bernam Timur    | 200              |
|     | Total                | 400              |

The study instrument used in this study was a questionnaire. The questionnaires were distributed to youths who were 19-40 years of age, and consisted of seven sections to measure youths’ engagement practices in environmental activities towards environmental sustainability: (A) Respondents’ Background, (B) Background of Environmental Activity Engagement, (C) Environmental Sustainability Knowledge, (D) Environmental Sustainability Values, (E) Environmental Sustainability Skills, (F) Environmental Sustainability Engagement Practices and (G) Comments and Recommendations. Item information regarding each study variable is displayed in Table 2. The items used for the study had also been reviewed by experts in the relevant field to ensure that they and the language used were suitable and accurate. In fact, a review on the reliability value (Cronbach’s alpha) found that all of the variables in the pilot study exceeded 0.7. According to [30] Cronbach’s alpha values of 0.70 or above are good and are acceptable values for an instrument scale with ten or more items. The Cronbach’s alpha values of the actual study also exceeded 0.7 (Table 2).

| Part | Constructs                                | Sub Constructs | No. of Item |
|------|-------------------------------------------|----------------|-------------|
| A    | Respondents’ Background                   | Distinct       | 1-4         |
|      |                                           | Age            |             |
|      |                                           | Gender         |             |
|      |                                           | Races          |             |
| B    | Background of Environmental Activity      | Engagement     | 1-27        |
| C    | Environmental Sustainability Knowledge    |                | 1-9         |
| D    | Environmental Sustainability Values       |                | 1-9         |
| E    | Environmental Sustainability Skills       |                | 1-9         |
| F    | Environmental Sustainability Engagement   |                | 1-12        |

Correlation was used in this study as an analytical tool with the aim of analysing the relationship between knowledge, values and skills variables towards environmental sustainability engagement practices. In order to determine the strength of the relationship, the value of p was examined to discover whether it was less than or equal to .05 (p≤0.05), or alternatively greater than .05 (p>0.05). The value (p≤0.05) shows that there is a significant relationship between two variables, while the value of p (p>0.05) indicates that there is no significant relationship between them. To determine if the relationship between two variables is strong, moderate or weak, the Pearson’s coefficient value classification (Table 4) was used according to the Cohen’s correlational relationship classification (1998).
### Table 4. Classification of Relationship/Correlation Strength

| R Value   | Classification of Relationship |
|-----------|-------------------------------|
| .10 until .29 | Weak                         |
| .30 until .49  | Moderate                     |
| .50 until 1.0   | Strong                        |

Source: [31]

### 3. Results and Discussion

In total, 400 respondents representing two sub-districts of Muallim participated in the survey, and all were aged 19-40. Based on the findings, 169 respondents (42.3%) were male respondents and the remaining 228 (57%) were female. The majority ethnic group involved was Malay with 262 respondents (65.5%), while the second highest was Chinese with 83 respondents (20.8%). In addition, 50 people (12.5%) identified as Indian, followed by Bumiputera of Sarawak (four, or 1.0%) and Sabah (one, or 0.25%) (Table 5).

### Table 5. Respondents’ Profile Table

| Respondents’ Profile | N  | %  |
|----------------------|----|----|
| Distinct Slim        | 200| 50.0|
| Distinct Hulu Bernam Timur | 200| 50.0|
| Distinct Total      | 400| 100|
| Age 19 – 24          | 62 | 15.5|
| Age 25 – 30          | 136| 34.0|
| Age 31 – 36          | 129| 32.3|
| Age 37 – 40          | 73 | 18.3|
| Age Total            | 400| 100|
| Gender Male          | 169| 42.3|
| Gender Female        | 228| 57.0|
| Gender Total         | 400| 100|
| Races Malay          | 262| 65.5|
| Races Chinese        | 83 | 20.8|
| Races Indian         | 50 | 12.5|
| Races Sarawak’s Bumiputera | 4 | 1.0|
| Races Sabah’s Bumiputera | 1 | 0.3|
| Races Total          | 400| 100|

The levels of constructs and sub-constructs of environmental sustainability knowledge were divided into three, namely ecology, society and economy. The results showed that the overall construct was at a high level (Mean = 3.69 and SP = 0.55). The sub-construct for ecology knowledge was highest (Mean = 3.91 and SP = 0.71). The levels of knowledge in terms of society and economy, respectively, were moderate (Mean = 3.56 and SP = 0.81; Mean = 3.59 and SP = 0.72) (Table 6).

### Table 6. Levels of Environmental Sustainability Knowledge

| Constructs | Low Level | N  | %  | Moderate Level | N  | %  | High Level | N  | %  | Mean | SD  | Mean Level |
|------------|-----------|----|----|---------------|----|----|------------|----|----|-------|-----|-------------|
| Knowledge  | 9         | 2.2|    | 199           | 49.8| 4.8 | 192        | 48.0| 3.69| 0.55  | High|             |
| Ecology    | 12        | 3.0|    | 149           | 37.2| 3.2 | 239        | 59.8| 3.91| 0.71  | High|             |
| Social     | 32        | 8.0|    | 244           | 61.0| 1.0 | 124        | 31.0| 3.56| 0.81  | Moderate|             |
| Economy    | 30        | 7.5|    | 222           | 55.5| 5.5 | 148        | 37.0| 3.59| 0.72  | Moderate|             |
In addition, the environmental sustainability values construct in this study was divided into three sections, namely knowledge, attitude and behaviour. The findings showed that the overall level of this construct was high (Mean = 4.02 and SP = 0.57). The level of knowledge was also high (Mean = 3.93 and SP = 0.67). Moreover, the attitude value was at a high level (Mean = 4.21 and SP = 0.72), while the behaviour value also showed a high mean value of 3.91 and an SP of 0.71. These data indicate high levels of respondents’ environmental sustainability values (Table 7).

Next, the levels of environmental sustainability skills were also divided into three, namely reuse, creativity and green products purchase. The results of the study generally showed that the levels of the construct and sub-constructs were moderate, ranging between 2.34 and 3.66 in terms of mean. Overall, the level of environmental sustainability skills among Muallim youths was moderate (Mean = 3.31 and SP = 0.80). The levels of reusing skills (Mean = 3.36 and SP = 0.92) and environmental sustainability skills in terms of creativity were also moderate (Mean = 3.29 and SP = 0.95). The mean value for green products purchase was at a low level (Mean value = 3.31 and SP = 0.95). Based on the data, levels of environmental sustainability skills among Muallim youths were moderate (Table 8).

The practices construct pertained to electricity saving, water saving, eco-friendly products use and travel modes. The results showed that the overall levels of the construct and sub-constructs yielded high mean values. The mean score for this practice level was 3.78 and the SP was 0.67. The level of practice for electricity saving was very high (Mean = 3.70 and SP = 0.92), while the practice of environmental sustainability in terms of water saving was also high (Mean = 3.98 and SP = 0.82). In addition, the level of practice for environmentally friendly products use was high (Mean = 3.56 and SP = 0.91). Next, environmental sustainability engagement in terms of travel modes also revealed a high level of practice among youths (Mean = 3.87 and SP = 0.76) (Table 9).
The results of the analysis indicated that there was a weak significant relationship between environmental sustainability knowledge and environmental activity engagement practices among Muallim youths, with values of $r = 0.255$ and $p = 0.000$ ($p < 0.01$). These findings imply that knowledge does not affect environmental sustainability engagement practices. However, according to [17] in order to create practice by an individual, various parties need to promote environmental knowledge. Similarly with the relationship between the construct of environmental sustainability values and environmental activity engagement practices, which also showed a moderate significant relationship with values of $r = 0.430$ and $p = 0.000$ ($p < 0.01$).

However, as demonstrated by [25] who stated that youths possess sustainability values within themselves because they are aware of the negative consequences for the environment if every society or community fails to cooperate in protecting environmental sustainability, the values possessed by individuals do not necessarily encourage them to engage in sustainable practices. Moreover, in accordance with [25] values are an aspect that is additionally taught through religion and can easily be applied by individuals. Nevertheless, one’s values alone do not encourage engagement in a practice. However, this finding contradicts those of [32] who found that the values possessed by a person strongly influence his or her practice and engagement in a situation.

In addition, correlation analysis was recorded for the skills and practices constructs (Table 10). Because of these two constructs, there was a strong significant relationship between the skills and environmental activity engagement practices constructs, with values of $r = 0.561$ and $p = 0.000$ ($p < 0.01$). This correlation value indicated that there was a strong relationship between environmental sustainability skills and environmental sustainability engagement practices. Overall, the data analysis of the skills construct showed that the sustainability skills possessed by youths will influence environmental sustainability engagement practices [33]. This suggests that if an individual has environmental sustainability skills, she will indirectly engage in environmental practices in a more positive direction. This situation is in line with the opinion of [34] who state that when youths begin practising environmentally sustainable, they become more likely to engage in essential environment-related activities. In addition, this scenario also indirectly shows that youths represent a key group that should be exposed to various skills to promote their growing engagement. This is because young people are the most significant agents of change not only among peers, but also among close family members and communities in the neighborhood. Therefore, young people need to be instilled with values of environmental sustainability, stimulating them to develop love for the environment. However, knowledge is a key element that must be prioritised because it will create the motivation to deepen one’s skills through interest. This situation is in line with the theory of environmental responsibility [34].

Table 10. Results of Study Construct Correlations

| Constructs                | Environmental Sustainability Engagement Practices |
|---------------------------|---------------------------------------------------|
|                           | $r$      | $p$     |
| Environmental Sustainability Knowledge | 0.255**  | 0.000   |
| Environmental Sustainability Values | 0.430**  | 0.000   |
| Environmental Sustainability Skills | 0.561**  | 0.000   |

**. Correlation is significant at the 0.01 level (2-tailed).

Table 11 displays the contribution of environmental sustainability knowledge, environmental sustainability values and environmental sustainability skills towards environmental sustainability
engagement practices. The results of the analysis showed that environmental sustainability knowledge, environmental sustainability values and environmental sustainability skills contributed 38.3 percent of the variance change in environmental sustainability engagement practices, with environmental sustainability knowledge the highest contributor at 31.5 percent, followed by environmental sustainability values at 5 percent and environmental sustainability skills at 1.8 percent (R² = .383, F(1, 339) = 81.846, p < .05). This indicates that if an individual possesses environmental sustainability skills, he or she will indirectly partake in environmental practices in a more positive direction. This situation is in line with the opinion of [35].

**Table 11. Influences of Environmental Sustainability Knowledge, Environmental Sustainability Values and Environmental Sustainability Skills on Environmental Sustainability Engagement Practices**

| Constructs                  | Environmental Sustainability Engagement Practices | t       | p      | Contribution (%) |
|-----------------------------|----------------------------------------------------|---------|--------|------------------|
| Environmental Sustainability Knowledge | 0.171                                              | 0.140   | 3.418  | 0.001            |
| Environmental Sustainability Values        | 0.242                                              | 0.207   | 4.644  | 0.000            |
| Environmental Sustainability Skills         | 0.386                                              | 0.460   | 10.658 | 0.000            |

*R² = 0.383, F = 81.846, Sig F = p < 0.05*

4. **Conclusion**

This study demonstrates the levels of knowledge, values, skills and environmental sustainability practices variables, indicating that all were at high levels with the exception of environmental sustainability skills, which was at a moderate level. Therefore, environmental sustainability skills among Muallim youths still need to be improved. The regression findings indicated that environmental sustainability knowledge, environmental sustainability values and environmental sustainability skills were contributing factors to environmental sustainability engagement practices, with environmental sustainability knowledge the salient influence, followed by skills and values of environmental sustainability. This shows that overall, environmental engagement practices are strongly influenced by individuals’ sustainability knowledge. Knowledge about the environment alone does not create awareness among youths to practise environmentally sustainable, but the skills that they have or have learnt can lead to their engagement in environmental sustainability practices. This suggests that if an individual has environmental sustainability skills, this individual will indirectly partake in environmental practices in a more positive direction. Therefore, youths need to be instilled with values of environmental sustainability that can encourage them to develop love for the environment. Therefore, various parties should address the involvement of youths in environmental sustainability practices.

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