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The adults non-formal environmental education (EE): A Scenario in Sabah, Malaysia

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Abstract

Education and awareness are the Green Strategies outlined in Malaysia’s National Policy on environment. Non-formal education aims to complement primary and secondary education and provide acquisition of new-updated knowledge and skills. It has certain advantages over formal education because its flexible programme offers environmental knowledge to various target groups at convenient places through different types of activities. At present, adult environmental education activity in Sabah is increasingly being developed and promoted by various sectors. This paper presents the scenario of non-formal environmental education among adults in Sabah, Malaysia. The data were gathered from review of literatures on non-formal environmental education conducted by the Environment Protection Department, Sabah. The findings of compilation of case studies conducted by the Science and Technology Unit were also used. The results showed that many environmental education activities were campaigns on awareness and participated by non-government organizations (NGOs). Other activities involved include environmental talks, exhibitions, seminars, workshops, conventions, and outdoor activities. All activities implemented were found to have increased public awareness on environmental protection.

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Keywords: Primary education; secondary education; non-formal education; environmental education; sustainability.

1. Introduction

Non-formal education refers to education that is driven by the objectives of the learners who often participate voluntarily (Heimlich 1993). The learning process occurs through activities or programmers organized by organizations that construct the learning opportunities. Adult learning, which is usually in a non-formal manner, is a central tool in the process of raising environmental awareness and promoting environmentally supportive action (UNESCO 1999). The existing current adult environmental education is experimenting different ways to bring about change and initiate actions through non-formal ways (UNESCO 1999).

During the historic Tbilisi Convention sponsored by the United Nations Educational, Scientific and Cultural Organization (UNESCO) and United Nations Environment Programmed (UNEP) in 1977 in Tbilisi, environmental education was defined as:

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...a process aimed at developing a world population that is aware of and concerned about the total environment and its associated problems, and which has knowledge, attitudes, motivations, commitments and skills to work individually and collectively towards solutions of current problems and the prevention of new one (p. 2).

The Belgrade Charter: A Global Framework for Environmental Education proposed that environmental education be developed as one of the most critical elements of an all-out attack on the world’s environmental crisis (UNESCO 1975). The foundations must be laid for worldwide environmental education programmes that would make them possible to develop new knowledge, skills, values, and attitudes towards a better quality of the environment.

The Fifth International Conference on Adult Education, organised by UNESCO, was held in Hamburg in July 2007. The workshop on the Adult Environmental Education: “Awareness for Environmental Action” was to discuss the present state of adult environmental education, its major difficulties and shortcomings, and to develop recommendations for further development (UNESCO 1999). The workshop discussions arrived at the following conclusions:

- The government and donor policies with regard to adult environmental education are in a precarious state.
- Environmental education is less developed in adult and non-formal sectors than in schools.
- Teaching practices in environmental adult education often tend to be limited to the transmission of knowledge rather than to promote a critical examination of environmental problems.
- Practical solutions are seldom promoted in environmental education for adults.
- Environmental education is seldom linked to the immediate environment of the participants (p.13).

1. Statement of the Problems

Education and Awareness are some of the Green Strategies outlined in Malaysia’s National Policy on the environment, which is in line with the recommendations of Agenda 21 (Ministry of Science, Technology and the Environment (MOSTE), 2002). Environmental education in Malaysia is actively promoted both in formal and non-formal settings. Target groups are diverse comprising teachers, students, government agencies, developers, restaurant operators, and industries/factories by various federal and state government departments, private sectors, educational institutions, and Non-Governmental Organisations (NGOs) (Pudin 2008). Environmental education in Malaysia is usually geared towards addressing environmental challenges such as littering, pollutions (air, water, etc), and loss of biodiversity.

The Malaysian Ministry of Education has played an active role in its effort to develop a curriculum on environmental education and implementing it in various teaching and learning strategies in schools. The environmental subject, called Alam dan Manusia (Man and Environment), was once incorporated in the primary school curriculum which began in 1982 (Arba’at 2006). It was a multi-disciplinary approach taught to primary school students only. However, the subject was scrapped after ten years of implementation (Arba’at 1992). It was then replaced by another subject called the Social Studies (Kajian Tempatan).

Environmental education across the curriculum was introduced to both primary and secondary school curricula since 1996. Through the curricula, environmental education is integrated in every subject. At the tertiary level, various environmental science and environment-related courses are offered at degree level. After years of research, several local universities have built up their expertist in the environment-related fields.

In the non-formal settings, various government organisations and NGOs are involved in implementing environmental education in all the states in Malaysia. Programmes and activities such as talks, exhibitions, drawing and colouring competitions, cleaning-up campaigns, tree planting, seminars, workshops, and other environmental trainings are carried out. Various environment-related events, like Malaysia Environment Week, Forestry Day, Water Day, Green Day, Earth Day, World Environment Day, and Wetlands Day, are commemorated annually. At present, adult environmental education in Sabah is increasingly developed and promoted by various sectors.

Due to the many organisations involved in the implementation of environmental education, a network known as the Sabah Environmental Education Network (SEEN), was set up on 17th. March, 2005 (Environment Protection Department (EPD), (2008). The setting up of SEEN is to create synergy of all the efforts by the various organisations in order to build up strong co-operation and co-ordination amongst them. The present Chairman is the Director of the Environment Protection Department while the Deputy Chairman is the Director of Sabah Department of Environment. The Environmental Protection Department, Kota Kinabalu, Sabah, acts as the SEEN Secretariat.
This paper presents the scenario of non-formal environmental education among adults in Sabah, Malaysia, highlighting various case studies.

2. Method

The methodologies used in preparing this paper were (i) literature review on non-formal environmental education for adults locally and globally; (ii) collection of secondary data from a compilation of case studies by the Science and Technology Unit; and (iii) collection of primary data from the Environment Protection Department.

Out of the 26 case studies conducted under the Science and Technology Unit, in collaboration with Japan International Cooperation Agency (JICA) and World Wide Fund for Nature (WWF) Malaysia, 12 campaigns targeted the general public. In the context of this study, the general public was assumed to be mostly adults as there were also specific campaigns for students that were evaluated.

3. Data And Findings

The adult environmental education conducted by the Environment Protection Department was not included in the list of Case Study A. This is because its programmes and activities are discussed separately in Case Study B. For the purpose of this paper, adult environmental education excludes activities participated by teachers because this group have been exposed to formal environmental education in their teacher training institutes.

Case Study A: Adults Non-Formal Environmental Education by Various Organisations (2002)

A state wide study on the public environmental awareness campaigns in Sabah was conducted in 2002 (Ajum & Iguchi 2003). The campaigns carried out are shown in Table 2. The people involved in carrying out the campaigns were interviewed by the study team to obtain the necessary data to evaluate the campaigns and information. Table 1 presents the summary of the campaigns results.
<table>
<thead>
<tr>
<th>No.</th>
<th>Case Studies</th>
<th>Effective</th>
<th>Efficient</th>
<th>Positive Impact</th>
<th>Relevant</th>
<th>Sustainable</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Anti Fish Bombing</td>
<td>Yes</td>
<td>Difficult to assess</td>
<td>Yes</td>
<td>Yes</td>
<td>Unknown</td>
</tr>
<tr>
<td></td>
<td>World Forestry Day</td>
<td>Yes</td>
<td>Yes</td>
<td>No significant impact observed</td>
<td>Yes</td>
<td>Difficult to assess</td>
</tr>
<tr>
<td></td>
<td>Exhibition on Sustainable Forest Management</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>Environmental Education Programme for Rural Communities</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>Reduce the Usage of Plastic Bag Campaign</td>
<td>Yes</td>
<td>Yes</td>
<td>Not direct</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>Species 2000</td>
<td>Yes</td>
<td>No</td>
<td>No significant impact observed</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>Partners for Wetlands Programme Vision – Kinabatangan, A Corridor of Life</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>Forest for Water, Water for Life</td>
<td>Yes</td>
<td>Yes</td>
<td>No significant impact observed</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>World Environmental Day</td>
<td>Yes</td>
<td>Yes</td>
<td>Not direct</td>
<td>Yes</td>
<td>Unknown</td>
</tr>
<tr>
<td></td>
<td>World Wetlands Day</td>
<td>Yes</td>
<td>Yes</td>
<td>Unknown</td>
<td>Yes</td>
<td>Unknown</td>
</tr>
<tr>
<td></td>
<td>Sabah Clean-up Month</td>
<td>Yes</td>
<td>Yes</td>
<td>Unknown</td>
<td>Yes</td>
<td>Unknown</td>
</tr>
<tr>
<td></td>
<td>Voluntary Guardian Programme</td>
<td>No</td>
<td>No</td>
<td>No significant impact observed</td>
<td>Yes</td>
<td>Unknown</td>
</tr>
<tr>
<td>Positive response (100%)</td>
<td>91.67%</td>
<td>75.00%</td>
<td>33.33%</td>
<td>100.00%</td>
<td>50.00%</td>
<td></td>
</tr>
</tbody>
</table>

Table 1: Summary of the Campaign Results

Source: Ajam & Iguchi (2003)

Ajam and Iguchi (2003) defined the criteria of environmental education as follows:

Effectiveness is the degree to which services delivered by the campaigns have enabled beneficiaries to achieve the intended results.

Efficiency was evaluated in terms of the quantity and quality of the outputs in relations to the inputs.

The impact of a campaign means permanent changes in the society brought about by the activities. Such impacts could be unforeseen, positive or negative.

The relevance of a campaign means the extent to which the campaign achievements are relevant and important to the beneficiaries and stakeholders.

Sustainability is the degree to which the benefits continue after external support for the campaign has ended.

Case Study B: Adults Non-Formal Environmental Education by Environment Protection Department Sabah
The Environment Protection Department, a state environmental agency, established in 1998, was to manage natural resources and the environment in Sabah.

The adult target groups for non-formal environmental education organised by the Environment Protection Department are the general public, community residents, government officers, religious groups, head of villages, village committees, and lecturers (Environment Protection Department (EPD), 2008). Most of the talks and exhibitions run by the departments were based on invitations from various target groups. Seminars, workshops, and other activities were planned ahead and target groups were defined.

Most of the talks discussed topics on kitchen and garden waste composting methods and general awareness of environmental management. Exhibitions ranged from environmental issues, tools in environmental management and means and ways to reduce environmental problems. The seminars and workshops revolved around topics on environmental management. Table 2 illustrates the number of non-formal environmental education activities run for adults compared to that for students.

Table 2: Adults Non-formal Environmental Education Activities Compared to that for Students (1999-2008)

<table>
<thead>
<tr>
<th>Year</th>
<th>Talks Adults</th>
<th>Talks Students</th>
<th>Exhibitions Adults</th>
<th>Exhibitions Students</th>
<th>Other Activities Adults</th>
<th>Other Activities Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>1999</td>
<td>3</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>2000</td>
<td>3</td>
<td>5</td>
<td>1</td>
<td>0</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>2001</td>
<td>3</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>2002</td>
<td>8</td>
<td>2</td>
<td>4</td>
<td>2</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>2003</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>2004</td>
<td>10</td>
<td>5</td>
<td>6</td>
<td>2</td>
<td>10</td>
<td>0</td>
</tr>
<tr>
<td>2005</td>
<td>10</td>
<td>5</td>
<td>6</td>
<td>4</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>2006</td>
<td>4</td>
<td>7</td>
<td>5</td>
<td>3</td>
<td>8</td>
<td>2</td>
</tr>
<tr>
<td>2007</td>
<td>7</td>
<td>11</td>
<td>5</td>
<td>8</td>
<td>10</td>
<td>0</td>
</tr>
<tr>
<td>2008</td>
<td>3</td>
<td>17</td>
<td>3</td>
<td>9</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>TOTAL</td>
<td>52</td>
<td>54</td>
<td>38</td>
<td>31</td>
<td>42</td>
<td>15</td>
</tr>
</tbody>
</table>

Source: Environment Protection Department (EPD), 2008

4. Discussion

Discussions are presented based on the two case studies.

Case Study A: Adults Non-Formal Environmental Education by Various Organisations (2002)

Table 1 illustrates that nearly 92% of the campaigns were found to be “Effective.” This implies that most of the campaigns have successfully delivered services that enabled the participants to achieve the intended results of the campaigns. From the aspect of efficiency, 75% respondents claimed that the campaigns were efficiently (“Efficient”) implemented. However, efficiency needs to be further enhanced to improve the quality of the campaigns. About 33% (“Positive Impact”) of the campaigns were assessed to have brought about permanent changes in the society. All (100%) of the campaigns were claimed to be “Relevant” and important to be beneficiaries and stakeholders. About 50% (“Sustainable”) of the campaigns were assessed to have continual benefits to the stakeholders even after external support for the campaigns had ended.

Based on the results, efforts by various organisations in Sabah to implement non-formal environmental education for adults have achieved their objectives to a certain extent. Since the campaigns were focused on environmental awareness, they were expected to be relevant and important to the stakeholder. However, impacts of the campaigns on individuals or groups need to be studied further. This is to obtain in-depth information on the changes that have occurred.

Case Study B: Adults Non-Formal Environmental Education by Environment Protection Department Sabah

Table 2 shows that the most implemented environmental education activity for adults conducted by the Environment Protection Department (1999 to August 2008) was environmental talks. Within the same period,
exhibitions were also extensively carried out. The study also shows that various seminars and workshops were held for adult target groups.

Based on the data shown in Table 2, it is found that generally, there were more non-formal environmental activities conducted for adults compared to those conducted for students within the same duration. However, there was a rise in the number of talks and exhibitions given to students due to an increase invitation from schools for such activities.

To evaluate the success of the programmes, the Environment Protection Department had obtained a basic evaluation data using a feedback form. It is found an increased number of activities being conducted. This leads to the deduction that the response towards the activities from targeted groups is positive and encouraging. Furthermore, an increase in the public awareness on the necessity of environmental protection and the role played by the Department is also observed. The study also shows that cooperation among government agencies, NGOs, and private sectors has seen enhanced through the Sabah Environmental Education Network (SEEN).

Conclusion and Recommendation

Non-formal education is a vital component of environmental education. The majority of the activities in the non-formal environmental education programmes involved publics at all levels. The different mode of learning used for environmental education is that the learning environment is set outside the conventional formal education setting. The learning structure is flexible and interesting. It does not follow any specific programme structure usually implemented in the classroom. The interesting learning method used here is that people are directly involved with nature.

Places like Environmental Education Centres found in every state, and other relevant centres such as wildlife sanctuaries, rehabilitation centres, zoos, mangrove swamps, etc. can become centres for non-formal education “schools.” Thus, this form of education could be considered “learning by doing” which is believed to be highly meaningful and therefore remembered longer by the students. It is also suggested that more learning sites be found for the programme.

To evaluate the non-formal environmental education programme, better tools and mechanisms need to be explored and developed. This is to ensure the effectiveness of the program of its implementation, its impact relevance and its sustainability whether by the government of specialist volunteers. More non-government organisations (NGO) and wider range of members of the public should be encouraged to offer their hands and make a commitment to ensure recognition of this programme as life-long learning education programme.

References


