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Community-Based Learning Center of Renewable Energy Sources for Indigenous Education

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Abstract
Renewable energy based Community Learning Center (CLC) has an impact in the indigenous people's education development, especially those in remote areas. The aim of the program is to provide electricity in order to access the Internet and telecommunications, which can reduce the gap of education among the indigenous students in rural and urban areas. Issues discussed in this article are regarding the cause of drop out among the indigenous students in the formal education system. The focus of the discussion is on factors of environmental infrastructure that discourage them from improving and extending their studies to a higher level. The facilities for this program can also enhance the learning process in schools, families and communities. The discussion also focused on the indigenous people's willingness to accept and use the facilities provided for the CLC physical preparation. Some suggestions on the use of CLC to support Aboriginal's education system were also discussed.
Keywords: Community Learning Center, Renewable Energy, Aboriginal Community

Introduction
Development of rural communities or, more specifically, indigenous peoples have been started since the country gained independence in 1957. During that time, economic status and achievements of rural communities was very low compared to urban communities. Consequently, the government has launched a program plan to assist in developing the rural communities, especially the indigenous people. Its objective is to provide the physical infrastructure and other basic needs such as education (Mohd Koharuddin, 2005). Aborigines are a group of people who have culture, knowledge and belief systems that are unique and distinctive. As a minority, Aboriginal communities barely involved in the politic, economy and social. Nevertheless, they continue to struggle to maintain identity, way of life and their right to ownership of land and natural resources (Masron, Masami & Ismail, 2010).

In the context of socioeconomic development, Aborigines are mostly the isolated and poor communities. Marina et al. (2009) provide almost half of their study participants with a monthly income of between RM300 and RM500, which accounted for 54.8%. Their income is from forest products such as sandalwood, pine, wicker and salads (Choy, Zalina & Pereira, 2010). This shows the economic activity of the society is still not enough to cover their subsistence survival.

Human capital development should be emphasized among the indigenous people so that they can compete with others during the present and future. They need to be educated and given knowledge in order not to be left behind. The question arises whether all parties took the indigenous peoples' education seriously?. Refining the Eleventh Malaysia Plan (RMK 11) 2016-2020, various initiatives have been taken to fulfill the needs of children B40 households (households earning up to RM3,855) and special groups (Aboriginal) in improving education and skills. This includes the implementation of the program 1Asrama and dormitory village (Economic Planning Unit, 2016). However, socioeconomic gaps among households B40 and Aboriginal groups still exist. Why is this still plaguing us every day?

For indigenous people, the forest is inseperable from their lives. The uniqueness of their culture is the cause of why they still lag behind. Therefore, the approach that should be taken to improve their progress in various aspects is that we should think about the most efficient way for them to receive education and still be in their area (Mohamad Johdi et al., 2009; Thanabalan et al., 2014). A decade ago, the Ministry of Education (MOE) in the Ninth Malaysia Plan 2006-2010 has been mentioned about the use of the school or community center for lifelong learning should be considered (MOE, 2005).

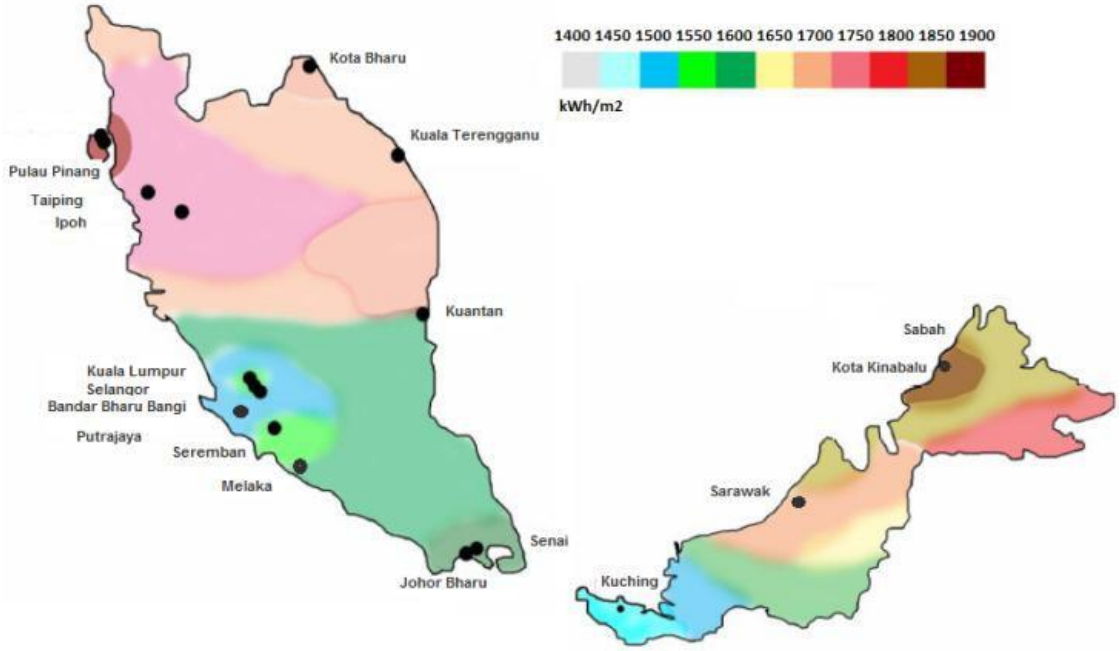
CLC and Renewable Energy Technology Concept

Community Learning Centers (CLC) are a local educational institution outside the formal education system for villages or rural areas, usually set up and managed by local people in providing opportunities for lifelong learning that focuses on literacy and basic education for empowerment, development society and the improvement of quality of life, especially through training and skills development to eradicate poverty (UNESCO, 2008; Wright et al., 2013). CLC program was initially introduced in UNESCO's Asia-Pacific Programme of Education for All (APPEAL) with financial support from the Governments of Japan and Norway Countries in Asia Pacific in 1998. Leading Bahasa Inggeris Education And Resource Network (LEARN), 2015) stated CLC is a place to provide education and community development program that is required in order to change something in a collaborative community.

Specifically, the aim is to encourage the human development by providing lifelong learning opportunities for everyone in the local community, especially for the dropped out from the conventional educational system based on the request from the community. The CLC focusing on empowerment, social change and improvement in quality of life (APPEAL, 2001; APRBE, 2008 & 2012; UNESCO, 2003 & 2013b).

Integration of Renewable Energy (RE) or Tenaga Boleh Baharu (TBB) systems such as solar photovoltaic (PV) seen as a healthcare provider that is beneficial especially in providing space and opportunities for the target group to gain access of using ICT in education (UNESCO, 2012). RE is one of the alternative energy in overcoming the deficiency of other energy sources. An example of renewable energy is solar energy, also known as an energy that is generated from the sunlight. The sun is the center of the energy because it reaches 99.9% of the energy to earth. The solar radiation in Malaysia illustrated as fig.1 below

Fig. 1: Solar radiation in Malaysia



Solar energy is an energy source that does not pollute the environment because it is obtained naturally without any chemical process or processing elements that disrupt natural ecosystems. The use of solar energy will not be interrupted and can be used continuously. The advantage of the renewable energy (solar) illustrated as fig.2 below:

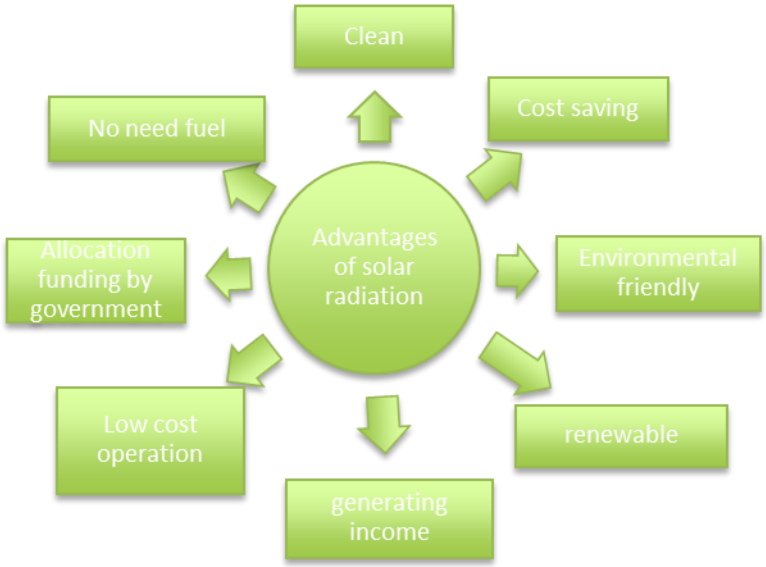


Fig.2: Advantages of solar radiation

Thus, the solar PV system can supply electricity to CLC to launch the activities planned for learning. Conformity geographical factors of Aboriginal settlements in remote areas that do not have access to the national electricity supplied by the government to accomplish this system should be served as an alternative source of supply. The concept of the renewable technology is illustrated as Fig.3 below:

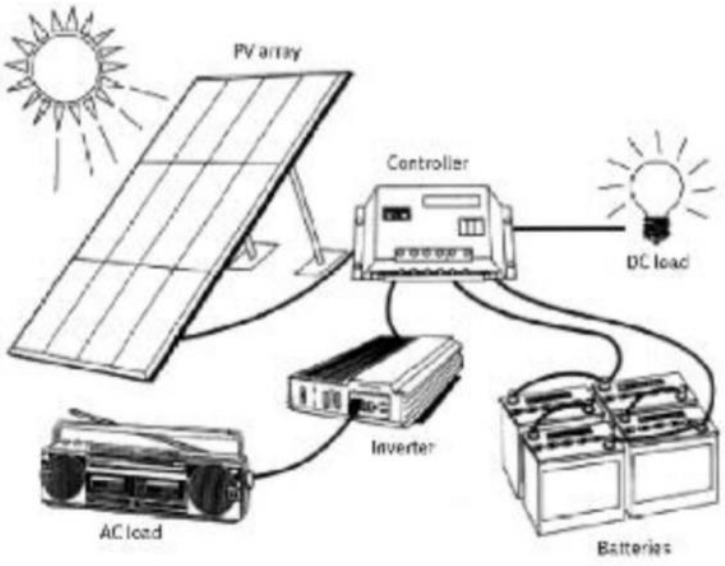


Fig. 3: Photovoltaic system

CLC importance to Aboriginal

CLC has two main functions that work in a particular context or a range of functions based on suitability to the diversity of people and activities in different environments (APPEAL, 2001). PPK introduced aims to provide a venue and opportunity for rural communities such as Aboriginal education in their own place of residence without the need to conventional of formal schools. Based on the recommendations APPEAL (2001), the activities to be carried out in the CLC should be flexible, able to come and in accordance with the cultural and social life, especially the Orang Asli. This is also consistent with the culture and needs of indigenous peoples who do not like to be bound by the formal school system because of their existing system is too high and difficult to follow. They are also not comfortable with the new environment of the school because for them, the forest is a place to play and learn as well as to do any activity.

According to the UNESCO report (2003), the village in a remote area where the majority of its occupation is a farmer would be benefitted from CLC program, especially income generated programs that based on agriculture such as gardening, horticulture, breeding chickens or cattle, as practiced in western Nepal. Through the CLC program, various programs (short term or long

term) and vocational training can be offered to the community. Starting with basic literacy a class, which allows children and adults in learning activities as well as activities that generate income. In addition, education and training is also a benefit to the community development program as it did in Village Keokou, Laos. The success of a village woman whose remoteness of training and internship program organized to make his role model held in the village (UNESCO, 2003).

In the early introduction of CLC in Malaysia, two centers were established to provide technical support for the computer in the remote areas (UNESCO, 2003). Every day, the program is seen to be fair to all settlements, including remote areas that are difficult to access such as the Orang Asli settlement. This is consistent with the approach to basic education Life Skills introduced by UNESCO's programs CLC, it is viewed in accordance with the Orang Asli because for them, education is not as important but the basic skills hands-on should be given to them also in insight into the future direction of the pattern and style of their own and be able to adapt to the world around them (APPEAL, 2001; Shukor, 2011; Wan Afizi et al., 2014).

Drop out Education Issue on Aboriginal

Statistics released by the Institute for Statistics (UIS) UNESCO show that in 2012 there were 58 million communities worldwide and 18 million in Asia Pacific who are not enrolled in either primary or secondary school (UNESCO, 2014). This is also supported by UNESCO (2016) which states globally, there are 61 million older communities around the primary school level is still excluded from formal education. Communities that are not in school includingthose who are marginalized (marginalized) and does not have the power or vulnerable, such as Aboriginal communities.

Malaysia registered a 93, 743 children out of school, representing 18 million of statistical data. UNICEF (2007) reported that in 2007, the number of students enrolled in Aboriginal remains a low level compared with normal enrollment. Only 20-40% of the Aboriginal community who complete primary school has signed up to the lower secondary school level. While 40-60% of those entering middle schools are dropping. For 2008, UNICEF Malaysia (2008) and Thanabalan et al., (2014) also showed that the level of literacy and educational attainment is low among Orang Asli community in Malaysia for the year 2008.

In addition, the SUHAKAM report (2010) mentioned the issue of education in Aboriginal communities, including lesson elusive because many new things that they do not know. They also cannot understand the teacher because of the language (English is the second language community). In addition, teaching materials and learning are lacking in accordance with the background, abilities and needs, especially in rural schools. Learning session also said to be too tied up with the syllabus and examinations.

System of beliefs and taboos that are still practiced by the indigenous peoples is also one of the factors leading to drop-out occurs (Johdi and Mohamad Abdul Razaq, 2009). For example, if children are beaten by their parents, it will bring disaster. Therefore, parents of Orang Asli do not force their children to school. In addition, the attitude of Aboriginal students who do not have the initiative to learn and they quickly get bored with school dropouts make them continue in their studies. Apart from the school system, the school environment is also found to

be in accordance with the culture of indigenous peoples (Johdi and Mohamad Abdul Razaq, 2009).

The general location of the Aboriginal settlements is scattered in remote areas (Mazda, Jabil and Rosmiza 2014; Mohd Nur Syufaat, Wee and Maryati 2012). Orang Asli Development Department report showed 31.7% of indigenous villages located in remote areas, 61.45% in the suburbs and in the city of 1.38% (Norwaliza and Ramlee, 2015). This illustrates why the life they left behind and left out of the process of modernization. This is in line with earlier studies by Hassan (1998) which explains that capital expenditure by the government is still unable to meet the needs of indigenous peoples. The geographical position they are located far inland as the main factors they believe that their children have no interest in joining the formal education system in schools that eventually led Aboriginal children left behind in their studies.

CLC and Renewable Energy Resources: Are Aboriginal Ready?

Awareness of education among indigenous peoples have long existed, but they still trap in their narrow mentalities and still plagued by a culture that does not want to change their lifestyle and standard of living (Johdi & Mohamad Abdul Razak, 2009). Aboriginal cultural values of society should be taken seriously to ensure that the programs can be received by them. The attitude of the indigenous peoples who are not so interested in education should be dealt with through the smart approach is acceptable for them. Proposed Community Learning Center program that was built in their place of residence is expected to be received by indigenous peoples and lead them towards a better, especially in terms of education.

CLC building in a residential area of indigenous peoples will certainly lead to a variety of positive and negative reactions by the Orang Asli. Their attitude is that much depends on the nature, beliefs and taboos is a major challenge that must be faced. However, these challenges have been addressed by a number of empirical studies conducted either within or outside the country. Government and NGOs also prove that the CLC can be implemented in order to eradicate the problem of academic dropout (APPEAL, 2001).

Annual Report CLC issued by UNESCO to explain the CLC began to gain a place in the hearts of people, particularly ethnic minorities (Aboriginal) in rural and urban areas that have environmental problems as well as those who are out-of-school, as happened in Indonesia (APPEAL, 2001). Apart from that, the Philippines are also targeting isolated groups in rural areas to get the benefit from the CLC program in its early days. This shows the Orang Asli have been able to adapt themselves to the changes and advances.

If observed, the reform brought into the world of indigenous peoples is not a negative if implemented according to the requirements and conform to the customs of their culture. Although Aborigines were less interested in the system of formal education in mainstream schools, the existence of the CLC gave a social change within themselves to improve the knowledge and socioeconomic families. (APPEAL, 2001; UNESCO, 2008).

To ensure the sustainability of the ongoing CLC certainly requires a technical support as a source of energy that can be used and managed by indigenous peoples. According to Lloyd,

Lowe and Wilson (2001), renewable energy sources have been introduced in rural community life and is economical.

In Malaysia, more than 90% of the energy used each day are a source of electrical energy derived from natural gas and coal will not last forever (Mohd, 2012). This will undoubtedly have a huge impact on the future of generations to come. This is because of the importance of electricity in life cannot be denied, especially in the education sector (Azman Rahman and Jamri 2013). Electrical energy can improve the delivery of services at local schools. This is evidenced by the electricity, water problems can be overcome by the water pump system which can prevent waterborne infectious disease that causes the pupils and teachers can not attend school. It also can save the cost of kerosene that had to be purchased for use in schools, especially in rural areas.

Suggestion

CLC-based renewable energy can be integrated with mainstream classroom learning activities as an input for the interests of children with special teaching methods for indigenous peoples. However, the strengthening of the values and traditions of the community is the need to provide basic education to the survival of Aboriginal peoples, especially basic life skills. Harris (1984) describes the learning approach to Aboriginal needs to implement elements of holistic, imaginative and flexible, in the hands (hands-on), cooperative, contextual, student-centered, observation and imitation behavior, trial and error and learning by repetition and learn to solve problems on its own without depending on the teacher or a friend. This approach is in line with the recommendations of UNESCO APPEAL and contextual elements and flexible to fit applied to any activities organized by CLC particularly in the context of Aboriginal communities.

Conclusion

In Malaysia, there is still a huge gap between indigenous peoples and other communities, whether in urban or rural areas in terms of economic, education, culture and infrastructure. This situation affects the development of future generations and also affects the rate of technology adoption in education. Within this article, we perform of study to develop CLC using renewable energy sources should be considered and expanded in the space and opportunities for isolated communities to enjoy education and information technology. RE system is capable of saving the world and it is environmentally friendly for the future of the country and potentially sustainable energy generation that is clean, safe and sustainable. RE suitability innovation is seen to meet the culture and traditions of indigenous peoples are very concerned about the sustainability of the natural environment.

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