

# Community Learning Centres Network Based on Open-Source Technology (With Special Reference to Non-Formal Education in Thailand)

Nay Lin Aung

**Abstract**—Community Learning Centre (CLC) is a place where disadvantaged people who could not join formal education can access lifelong learning opportunities through different vocational training to improve their quality of life. There are hundreds of CLCs running in Thailand which are scattered all over the country and some of them are not reorganized their existence. Therefore this paper will bring the way to get all the scattered CLCs in Thailand connected together. Community Learning Centres Network is the new way of connecting all CLCs and it is a new platform to share information among them. Besides it helps government, donor organizations and United Nations to keep track for managing financial and technical support remotely. This research will reveal how effective it is to use the CLC Network for the improvement of peoples' lives in CLC community in Thailand. The analysis result shows more than 70% have benefited from this CLCs Network.

**Keywords**—Community Learning Centers, Community Learning Centers Network, Lifelong Learning, Non-Formal Education

## I. INTRODUCTION

COMMUNITY Learning Centre is a place where people, who are outside the formal education system, can access lifelong learning opportunities to improve their quality of life as well as to develop their community. Located in both village and urban areas, it is usually set up and managed by local people for local people [1]. Some of CLCs are funded and supported by governments. NGOs and donors also support and manage some CLCs. Others are fully supported and managed by communities [2].

Especially at the beginning, CLC mostly needs support form external agencies including Government and NGOs. At the same time, they also train the community in order to make ready for managing CLC by itself [3]. CLC needs to be awareness of financial sustainability as well as sustainability of programme activities in order to develop capacity building for CLC personnel, and to continue the CLC's activities and operations to be successfully accomplished by people in the community.

Nay Lin Aung is with the Assumption University, Bangkok, Thailand (e-mail: nl.aung8@gmail.com).

The main activities of CLCs are to support community development activities, community resource and information services, education and training, and networking and co-ordination. However, learning program of each CLCs will differ according to local needs and context in the country [4]. The purpose of any CLC is to promote disadvantaged people as well as community development by empowering the individuals in local community. The targeted group would be out-of-school children, pre-school children, women and girls, and the elderly [5]. CLC can also help to find and focus on the community's needs. Then, it provides what the community's needs and interests through various activities. The resources are mobilized in the community by CLC. It sets up network in order to make close collaboration and partnerships with other organizations and agencies. It observes and checks progress, and review it in order to help planning future goals. It records the weaknesses and strengths of CLC activities [7].

In Asia-Pacific Region, there are an estimated 170,000 CLCs and similar literacy centres [6]. Its number also has been increased. In Thailand, most of CLCs are located in Sub-District Administrative Offices, temple compounds, upgraded community halls and public health centres.

Fig.1 is the basic organizational structure particularly a large CLC but, in some small CLCs, only one person manages in each unit or several units [7].



Fig. 1 Organizational Structure of CLC

Nowadays social networking is allowed users to create networks of people by providing free space and software tools in order to communicate, collaborate and interact with others. On the other hand, a social networking website is supported to services for individuals to set up a public profile or public page [8].

It helps people to get more connected and exchange ideas and information so that the boundary of lives will become broaden. Social networking is becoming one of the most vital ways of communicating among people. Web-based social

networking makes people from different geographical locations connected. Through the social networking websites, they can share information, data, files, photos and videos. Besides they can create Blogs, send messages and make real-time conversations [9].

## II. RESEARCH METHODOLOGY

It is considerable appropriate to use System Development Life Cycle (SDLC) as a research methodology for the implementation of this network.

### A. Requirement Analysis

CLCs and non-formal education (NFE) students needs good communication channel to connect each other. Currently there is no smooth communication channel between CLCs. Most CLCs communicate traditional way to communicate each other. They are scattering around the country and difficult to know and share the information between each other. There is luck of smooth communication channel for them. And for NFE students are also difficult to find CLCs' places, information, activities and training offered by CLCs.

### B. Process Design

CLC network is designed to share CLCs' information, activities, facilities and training courses offered by CLCs and connect CLCs and students. In order to be more useable and effortless for the users the most popular and familiar social network platform is planned to utilize its functions and features in CLC network as well as to connect with CLC network. This network will allow CLC to login by using their Facebook account. CLC administrator or teacher or facilitator can update their CLC's information anytime and they can also announce any information to NFE students through this network.

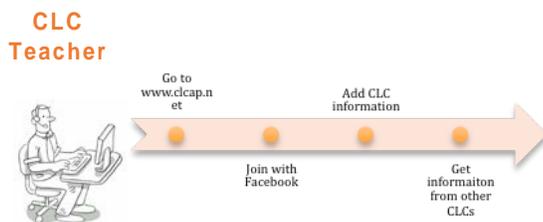


Fig. 2 Concept of Joining to CLC Network

Fig. 3 shows the process design of how to extract the data on dynamic web page from database [12].

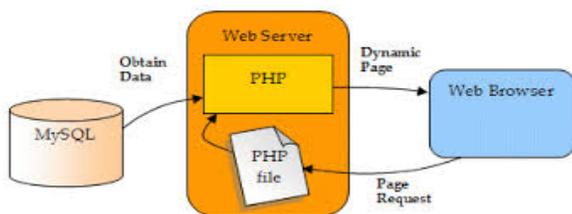


Fig. 3 Process of dynamic web page with database

### C. Implementation

Based on compiled information from various resources, documents and reports, and attend it makes to define the useful information for users in order show on CLC network. Then, dynamic website is set up by using PHP, HTML, CSS, JQuery and JavaScript. All of data from database are queried and extracted by using SQL coding. And data that are extracted by SQL are shown on the Web pages with appropriate way by PHP, HTML, CSS, JQuery and JavaScript. Fig 4 shows page tree of website.

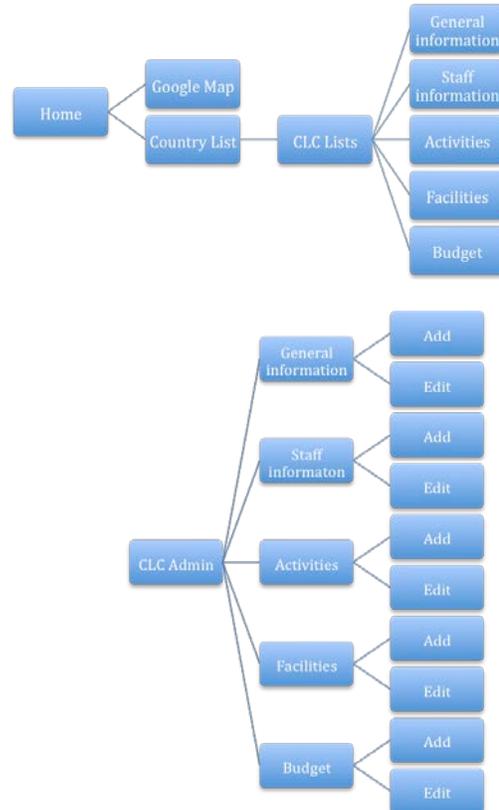


Fig. 4 Page Tree of website

### D. Testing

Primary data was generated by randomly calling phone to CLCs to collect information on communication channel and information transferred rate between CLC and others and between CLC and its students before and after using the system. Before CLCs communicated with each other through traditional way like mail, phone and by person. But, sometime even CLC doesn't know who is contact person and phone number of the CLCs they want to contact. So basically they have to go to there or by mail to communicate between them. Although the students who are studying at CLCs can communicate with their teachers or CLCs by phone or by person directly, there is difficult communication channel between CLCs and new students. Because they don't know phone no or contact person of CLCs as well as some student even do not know where CLC is located in.

By utilizing this system, CLCs can search other CLCs information through this network by geographical location. They can easily get the information from other CLCs and

communicate and share information between them by using this network. For the students who are currently student, they can communicate with their teacher and CLCs through Facebook or email or phone. Teacher can share information like CLC's activities and others related to students like exam information or any announcement on its Network and its Facebook page in order to keep in touch with its students. New students can also search CLCs to get information for studying based on where they live. After getting information, they know the place of CLCs, activities, available courses and facility information. So they can choose the CLC which is suitable with their needs. Then, they can communicate directly to CLC as they have all contact information of that CLC.

*E. Maintenance*

Existing code written in the system is developed according to users needs in order to make user-friendly platform. Broken links are fixed in the system from time to time. All data are backup according to schedule.

III. FUNCTIONS AND FEATURES OF THE SYSTEM

*A. System Design*

Fig. 5 shows the design of CLC Network communication system connecting with CLCs and NFE students. CLCs' data or information and training courses information offered by CLCs can be accessed over network.

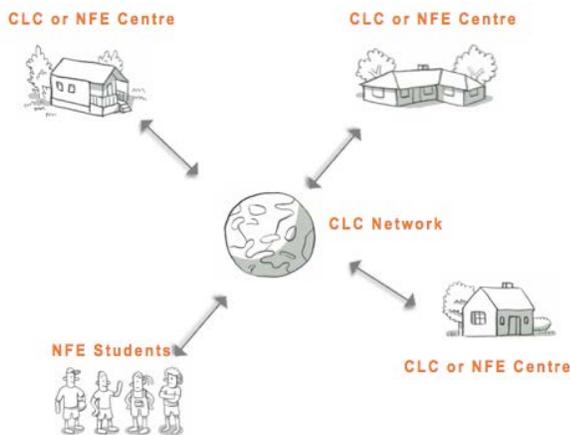


Fig. 5 CLC Network Communication Channel

CLC administrator or teacher or facilitator can add CLC general information, geographical location, activities, staff information, budget information and training courses information offered by CLC in the system. System allows CLC to login the CLC network by using its Facebook account. Thus it makes CLCs more easily to join the network because CLC administrators or teachers or facilitators can easily login with their personal Facebook account or CLC Facebook account without registration process. So it is eliminated a problem like forgetting username and password. And it is more encouragement to update information from time to time while they are using their Facebook because nowadays many people use Facebook almost everyday.

Each CLC can share their good cases and activities on the

network. They can also collaborate with other CLCs like sharing knowledge and information, developing curriculum together, and implementing activities together.

Government sector, INGOs and NGO can easily get the information of CLCs and know the activities via the network. Government sector particularly provincial level can communicate and manage to each CLCs in their province through this channel. Government can even use this network for natural disaster management as it is used geographical location. For example, if natural disaster is happened, Government know which areas are affected and they can do rehabilitation and reconstruction CLCs in those area. INGOs and NGOs can also coordinate and collaborate with CLCs they want to work together because they get current situation, activities information and financial information via the network. They know what is going on in CLC and can target the CLCs they want to support. Then, they can contact directly to CLCs they want to support financially or technically. It makes CLCs much more easier to connect the world.

Non Formal Education (NFE) Students can get any announcement and activities information on CLC Facebook. They can also access training courses information offered by CLCs through network. If they are interested to attend these courses, they can contact to responsible person directly or through Facebook communication. Students can also closely communicate with their teachers, classmates through Facebook.

*B. Dynamic Site*

To create the dynamic site, core programming languages like PHP, MySQL, HTML, CSS and JavaScript are used. All of the data from database are queried with MySQL and it is shown on each page with PHP. For designing part, HTML and CSS are supported to be looks good. JavaScript is used for some interactive things. PHP and SQL are mainly used for this network for querying, searching and data extraction. Facebook authentication function is used for user login. So users can easily login with their Facebook account. Fig. 6 and 7 show how to flow the data and site map of network.

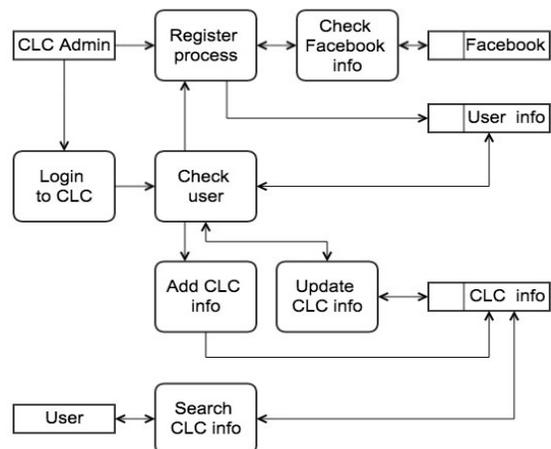


Fig. 6 Data Flow Diagram

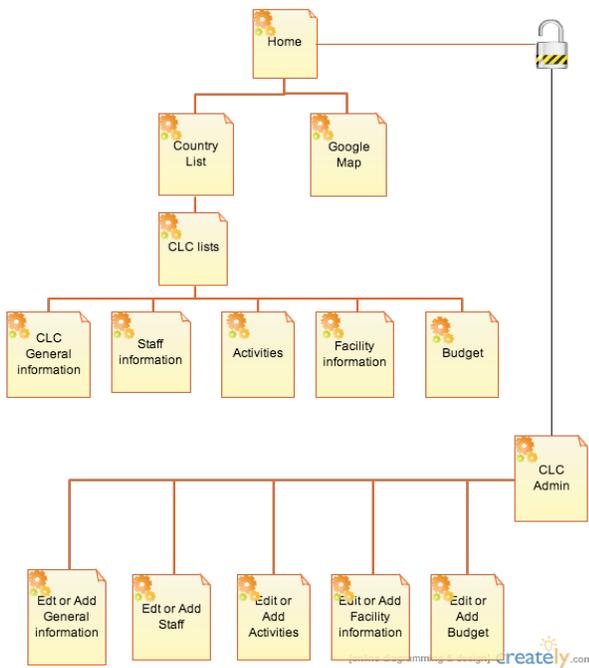


Fig. 7 Site Map of CLC Network

In this network, MySQL is used as a database to collect the data that is the vast amounts of information in network. MySQL Server used as a database management for accessing, adding and processing data saved in database system.

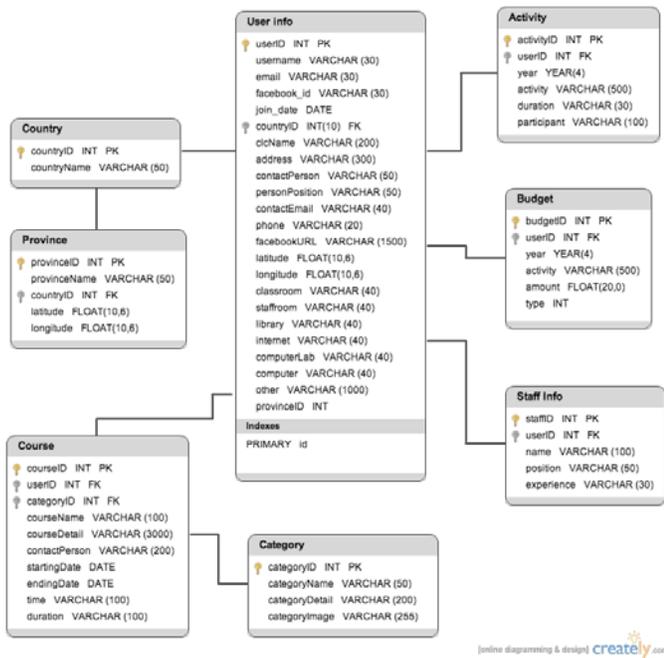


Fig. 8 Database Scheme of CLC Network

#### IV. THE EXPERIENCE OF CLCS IN THAILAND

Based on the above operational design and methods, the CLCs have been in operation. There are two types of CLCs in Thailand: centers organized and operated by local people, and centers organized and run by local people, but with some government support.

A pilot study was made of the 67 CLCs in different

provinces including in metropolitan Bangkok, the southern region, the central region and the northeastern region. Fig. 9 shows the location of CLCs on Google map.

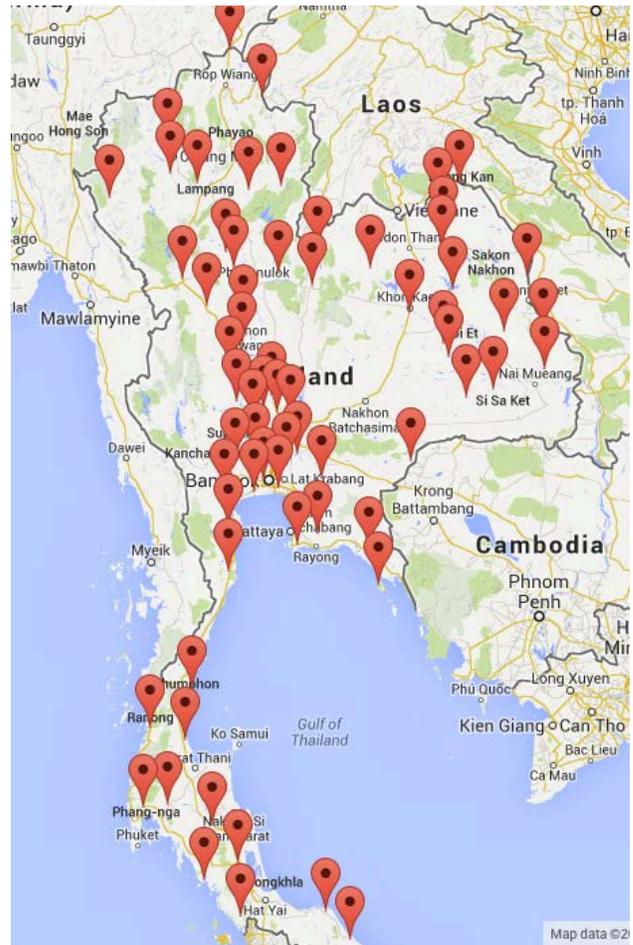


Fig. 9 CLCs on Google map

The result of the study shows 70% of the CLCs used the Network extensively in particular sharing information, activities, facilities information, training information, interacting with students and benefited from the Network.

#### V. CONCLUSION

The Network of Community Learning Centers (CLCs) is designed to provide lifelong learning opportunities to disadvantaged groups of people who are deprived of formal education. CLC Networking is a new approach of communication and social contacts using information technology (IT) among individuals in the Non-Formal Education (NFE) sector with a view to eliminating communication barriers between them. The Network enables the teachers and learners to share information with regard to activities, facilities, training and courses offered by CLCs. Based on compiled information from various sources, documents and reports, a database is built to provide relevant and useful information for users of the CLC network. Then dynamic website is set up by using PHP, HTML, CSS, JQuery and JavaScript. All of data from database are queried and

extracted by using SQL coding. And data that are extracted by SQL are shown in the Web pages for access to and sharing of information.

In Thailand, there are 8,057 CLCs supported by the Office of the Non-Formal Education Commission (ONFEC) in all 76 of country's provinces [10]-[11]. This network was adopted to assess the functioning of the CLC network and benefits derived from the use of the network. A pilot study of 67 CLCs was studied with regard to their operation including education and literacy equivalency programmes, functional literacy, basic education, non-formal education for adult learning and lifelong learning. The result of the study shows that 70% of CLC have benefited from the use of the Network.

An interactive map has been created to display on Google covering various places where the CLCs in Thailand are located. It is envisaged that the Network can be extended to other countries in the Asia-Pacific region with great potential for benefiting the CLCs in other countries in the Region.

#### ACKNOWLEDGMENT

I take this opportunity to express my profound gratitude and deep regards to my guide Professor Dr. Rapeepat Techakittiraj for his guidance and advice. The blessing, help and guidance given by him time to time shall carry me a long way in the journey of life on which I am about to embark.

I would like to offer my special thanks to Professor Dr. Thotsapon Sortakul for his kind help.

I also take this opportunity to express a deep sense of gratitude to Mr. Ichiro Miyazawa, UNESCO Bangkok for cordial support, valuable information and guidance, which helped me in completing this task through various stages. I would like to show my greatest appreciation to Mr. Nyi Nyi Thaug, UNESCO Paris for his kind support and guidance.

I would like to express my very great appreciation to UNESCO Bangkok office for their kind support and valuable information.

I am obliged to the Office of the Non-Formal and Informal Education (ONIE), CLCs and NFE students, for the valuable information provided by them in their respective fields. I am grateful for their cooperation during the period of my assignment.

I thank almighty, my parents, sisters, my uncle and aunt for their support and understanding.

I would like to give special thanks to Khaing Sandar Htun for her constant encouragement, supporting, understanding and giving energy without which this assignment would not be possible.

#### REFERENCES

- [1] United Nations Educational, Scientific and Cultural Organization, "Strengthening Community Learning Centres through Linkages and Networks," Bangkok, 2007, pp. 1-2.
- [2] United Nations Educational, Scientific and Cultural Organization, "CLCs: Asia-Pacific Regional Conference report", Bangkok, 2012, pp. 4
- [3] Malabou Baylatry, "Non-Formal Education for Community Development," Juth Pakai UNDRA 2006 Edition, pp.5
- [4] United Nations Educational, Scientific and Cultural Organization, "Regional Handbook on Life Skills Programmes for Non-Formal Education", Bangkok, 2012, pp. 4-8
- [5] United Nations Educational, Scientific and Cultural Organization, "Community Learning Centres: Country Report from Asia," Bangkok, 2008, pp.2-9
- [6] United Nations Educational, Scientific and Cultural Organization, "CLCs: National Qualifications Frameworks for Lifelong Learning and Skills Development," Bangkok, 2013, pp. 4
- [7] Asia Pacific Programme of Education for All, UNESCO Bangkok, "CLC Management Handbook," Bangkok, 2003, Part I and II
- [8] Alessandro Cecconi, "Research Paper on Social Networking", Nova Southeastern University, 2007
- [9] Turban, E., King, D., Lee, J.& Viehland, D., The Use of Social Networking in Education: Challenges and Opportunities --- "E-commerce A managerial Perspective", New Jersey 07458: Pearson Education, Inc., 2010, Upper Saddle River. pp. 392.
- [10] United Nations Educational, Scientific and Cultural Organization, "Community Learning Centres: Country Reports from Asia," Bangkok, 2008, pp. 84
- [11] UNESCO and UNICEF, "EFA Goal 4: Youth and Adult Literacy", Bangkok, 2012, pp. 43
- [12] Database Journal [www.databasejournal.com](http://www.databasejournal.com), Jan 24, 2012

**Nay Lin Aung** was born in Bago, Myanmar. His date of birth is 18 August 1984. He is doing Master Degree in Information Science at Assumption University, Bangkok, Thailand. He is awarded Bachelor of Engineering in Mechatronics by Yangon Institute of Technology University, Myanmar in 2006. He also earned Bachelor of Technology in Mechatronics Engineering from Government Technology University, Myanmar in 2005.

Currently, he has been working for United Nations Educational, Scientific and Cultural Organization (UNESCO), Bangkok, Thailand as an IT & WEB DEVELOPMENT SPECIALIST (CONSULTANT) since 2011. Regarding his experiences with ICT work, as a WEB DEVELOPMENT SPECIALIST with UNESCO, he has developed the capacity of implementing, developing, monitoring and managing ICT activities and websites. He is also working for Keys to Media Literacy, USA as a WEB DEVELOPER and team member. He has developed many websites, software, forums, online training platforms and videos for UN Agencies, Governments and private sectors.

He is awarded 1<sup>st</sup> prize of Engineering Drawing in the whole country by Government Technology University, Myanmar.