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APPLICATION OF UNIVERSAL DESIGN PRINCIPLES IN NATIVE LONGHOUSES OF SARAWAK

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ABSTRACT

Most research in universal design is concerned with the community of people that live in the urban and sub-urban public spaces. In the Malaysian state of Sarawak on Borneo Island many people in the interior live in the longhouses. They live in a large community within a single longhouse. It consists of approximately 40-46 families from infants to elderly people. Furthermore, elderly and disabled people are increasing in longhouses. The current spatial design problems limit the normal activities of their life. Today, gradually many new longhouses are being built for a better quality of life. However, the design of the new longhouses does not cater for all users' conveniences. This study focuses on the application of the principles of universal design for the native longhouses of Sarawak but without changing the original design. The objective is to propose a design solution, improve comfort and accessibility for the disabled. It includes areas in longhouses such as tanju, ruai, room, roller and kitchen as well as possibilities of emergency exits. This paper aims to fill a lacuna of universal design awareness amongst the indigenous people. It is designed to cover the various spectrum of design specifications. It consists of a set of design recommendations for the future development of new longhouses in Sarawak.



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INTRODUCTION

Universal design means that the products which designers design are universally accommodating, that they cater conveniently for all their users (Goldsmith, 2000). Universal design respects human diversity and promotes inclusion of all people in all activities of life. The barrier-free movement in 1950s began a process of change in public policies and design practices. Disabled veterans and advocates for opportunities in education and employment for the disabled established the movement in response to the demands.

Universal design is the design of products and environments which are usable by all people, to the greatest extent possible, without the need for adaptation or specialized design (Mace, 1997). Universal design is a movement in America that introduces seven principles of universal design as a guideline for designers, developers and anyone involved in developing, producing and making products. The group agrees that all people should be treated the same. The purpose of universal design is to reduce the physical and attitudinal barriers between people with and without disabilities. The seven principles are as follows:

1. Equal in use
2. Flexible use
3. Simple and easy to understand
4. Clear information
5. Tolerance in mistake
6. Low physical force
7. Ample size and space

Dayak people of Borneo are best known for their longhouses. From the middle of the nineteenth century onward many observers have described the artistic embellishments and the social uses of *Dayak* building (Winzeler, 1998). Many described their architecture in relation to their exotic way of life, building material, design and practices.

Generally architectural change is a fundamental part of development. New modernised longhouse in Sarawak is certainly an expression of prosperity. However the design change on their daily needs has made them concerned with their way of life. They live in a large community within a single longhouse. It consists of approximately 40-46 families from infants to elderly people. Furthermore, elderly and disabled people are increasing and they are sharing the limited space of the longhouse. The current spatial design problems limit the normal activities of their life. Therefore steps should be taken to improve the quality life and they should be exposed to universal design principles through design awareness activities. In the future, if they would like to renovate their own longhouses, consideration can be made to comply with the needs of everyone from children to elderly people.

OBJECTIVE

The objective of this study is to identify problems of longhouse design for elderly people, disabled people and children in their everyday life in the longhouse. This paper will present future steps that should be taken through design proposals that relate to universal design principles.



Fig. 1: An Iban longhouse.