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LA PANCA:  
THE FURNITURE FOR THE BOTTOM BILLION

**Azli Abdullah**

Faculty of Architecture and Ekistics, Universiti Malaysia Kelantan, 16300 Bachok, Kelantan, Malaysia  
azli.ab@umk.edu.my

**Nik Nurul Hana Hanafi, Siti Aisyah Muhammad, Najah Md Alwi, Nor Hafizah Anuar, Nuzul Haqimi Muhammad, Mhd Hafiz Karami Mhd Zain, Muhammad Rizal Khairuddin, Juliza Mohamad, Yasmin Mohd Faudzi**

Faculty of Architecture and Ekistics, Universiti Malaysia Kelantan, 16300 Bachok, Kelantan, Malaysia  
hana.h@umk.edu.my,aisyah@umk.edu.my, najah.ma@umk.edu.my, norhafizah@umk.edu.my,  
nuzulhaqimi@umk.edu.my, hafiz.k@umk.edu.my, rizal.k@umk.edu.my, juliza@umk.edu.my, yasmin.mf@umk.edu.my

**Highlight:** This product aims to produce innovation in the production of prefabricated furniture using 'appropriate technology'. The product production method incorporates traditional architectural, structural elements such as 'tanggap system', which is translated through the strength of the building structure. La Panca is driven by the concept of the bridge structure. It aimed to utilize the usage of friction and gravity as part of the structural idea. La Panca structure designed mainly of wooden poles and beam without any fasteners. Timber is a sustainable material, and it was suitable for heavy-duty usage. This idea was influenced by the traditional craftsman and 'tanggap' system in Malay architecture construction techniques. From this idea, we try to develop and enhance the method in order to commercialize the concept. La Panca interlock system makes the two mechanisms in this product function manually. It is easier to install and affordable to the people.

**Keywords:** *La Panca, appropriate technology, furniture, Bottom Billion,*

## Introduction

Urbanization is a general term that refers to the displacement meant of people from the rural and urban areas to the city for social and development purposes (Hadi, 2010 & Wahid, 2014). Rapid urbanization has taken place worldwide, and Asia is no exception (Aziz & Hadi, 2017). It has passed through all the regions, including Asia, either East Asia or South Asia. The main result of the urbanization process is that traffic congestion over the entire area is due to the urban population dominated by newcomers from rural and urban areas. These groups are exploited by development and are regarded as human resources to drive the city's economic, social, and political outcomes with the presence of this group in the city. According to Lamry (2014) and Dahlan (1997), most informal settlements redeveloped through privatization will result in the urban poor moving elsewhere. However, the re-settlement process of these low-income communities poses enormous financial problems for them. We admit that "architecture is about people, culture and land: the architecture flourished when the people developed, and it is portrayed through architecture out of people's determination". Street furniture is a collective term for objects and pieces of equipment installed along the street, road and any public space for various purposes. La Panca is designed to fit this purpose and will be benefiting people, especially the Bottom Million.

La Panca is by Meranti wood. It was easier to find with minimal price. Besides, it also easy to carry. This product had immense potential in the furniture industry. It can also generate income for local people for the local craftsman to sustain the local community. Besides, this product can also be produced by yourself, without the help of many employees. To create it, this product only needs to employ a minimum of two people. La Panca can also be owned by the low-income group. They can also produce these products at home without the use of large machines.

## Design Development

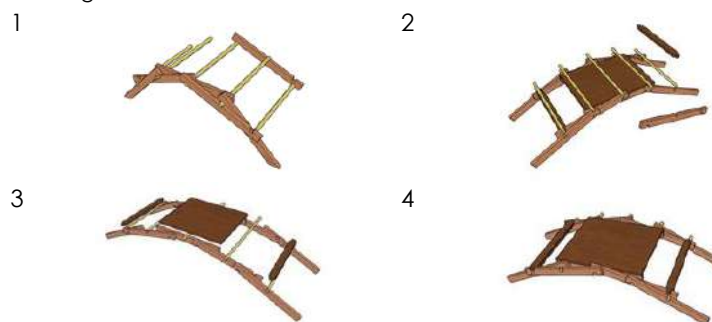
After the introduction of the Industrial Revolution 1, the industry sector played a major role in developing the global economy. The same situation is happening in Malaysia. The industry has resulted in the demand for human resources and employment, resulted in a shift pattern of economic in the Malay community. Currently, furniture product is made in a factory using machinery and low skill labour. This situation is forcing and affecting traditional construction systems. Malay carpentry skills are increasingly threatened due to the rural-urban migration process. Then, the impact of globalization and the pace of urbanization affected directly the Malay craftsmanship skills disappear. The furniture industry is threatened by the problem of skilled workers in the production of wood-based products. La Panca is an innovative piece of furniture introduced to highlight the art of Malay craftsmanship through the construction of more innovative, creative, durable and practical ways. This product can conserve Malay skills through 'tanggap' joinery system that existed for centuries.

## Background Innovation

La Panca is an innovative product that combines the traditional method of 'tanggung' joinery system and structural strength. La Panca was introduced to demonstrate the strength of a durable and portable structure. In addition, this product does not require many human resources, portable installation, no use of machines and high-quality products. This advantage makes La Panca is a product that will provide jobs opportunity and income generators for the B-40. Since it does not require high costs and have a high quality, this product can offer job opportunities for the Malay community, especially in the rural area.

## Advantages of La Panca

Of course, La Panca is a greater choice for anyone to use. Simple installation techniques, structural strength and ease of maintenance are the main keys of La Panca (Figure 1.0). In addition, it is able to use materials other than wood, such as metal and plastic, for future innovation. But what is important, it is able to generate income for the poor and improve their quality of life. As described earlier, the urban poor is the largest group in Malaysia. In addition, the production of this product will provide jobs opportunities to the local community, rural area and prevent rural-urban migration.



**Figure 1.0:** La Panca installation process (Source: Azli Abdullah, 2021)

## Commercial Values

La Panca has its own strengths to be of high commercial value. These 'appropriate technology' products do not require a monopoly and capitalist system that will turn the poor people into 'tools' for economic development. With the existence of this product, the rural communities are able to create job opportunities in their communities by themselves. It is also able to preserve the Malay community rather than migrate to the cities. After changes to the non-agricultural sector of agriculture to the Malay people, they can now carry out innovative products in rural communities and market these products to the city. Population explosion and pace of urbanization in the city have a significant impact on the cramped living space in the city. Moreover, the development of low-cost settlements has resulted in social communities not having a space to congregate. La Panca offers the only product innovation capable of overcoming this problem.

## Novelty

his innovation is the combination of bridge technology and the Malay traditional 'tanggung' system. The variety of modern and traditional construction techniques will produce a product that can be commercialized and not available in the market.

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## Reference:

- Aziz, N., & Hadi, A.S. (2017). Linking Urban Form to a Liveable City. *Malaysian Journal of Environmental Management*8. Pp. 10- 17.
- Dahlan, H., M., (1997). *Urbanisasi Alam Kejiwaan Sosial dan Pembangunan*. ISBN: 96 79423662. UKM Press. Malaysia.
- Lamry, M., N., (2014). *Biografi Ishak Shari: Pejuang Bumi Semua Manusia*. ISBN: 9789674122522. UKM Press. Malaysia
- Hadi, A.S. (2010). *Urbanisasi di Malaysia: Mengaitkan Kepelbagaian Proses ke Bentuk Perbandaran*. *Malaysian Journal of Environmental Management*11 (2) (2010). Pp. 21-31.