



## The Fuction of Nuwo Panggung in Flood Disaster Mitigation Kelumbaya District, Tanggamus

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Article Info	Abstract
<b>Article History</b> Received: 2023-05-22 Revised: 2023-06-15 Published: 2023-07-10  <b>Keywords:</b> <i>Flood Disaster; Local Wisdome; Traditional House.</i>	The culture of the Lampung Tribe dominates the culture in Kelumbayan District. As with other tribes in Indonesia, the Lampung tribe makes culture an identity that is attached to every member of the tribe. Local wisdom is part of the culture. <i>Qualitative research</i> is a process of understanding human or social phenomena by creating a comprehensive and complex picture that can be presented in words, reporting detailed views obtained from informant sources, and being carried out in natural settings. Instruments in the research were the observation of data collection, interviews, and documents. The local wisdom of nuwo onstage as a traditional house for the Lampung tribe in Kelumbayan District is still commonly found in Kelumbayan District, especially in Pekon Umbar, Napal, and Susuk. Various traditional Lampung houses are based on their shape, including the Slow Dalom Building, the Slow Pesagi, the Slow Kejayaan, the Slow Sakura, and the Slow Dalom. Nuwo Panggung in Kelumbayan District is included in the Lamban Pesagi, which has three building parts, namely the upper, middle, and lower sections. The Nuwo stage with the Lalan Pesagi type was built using a basic pattern of cylinders, cubes, and pyramids.
Artikel Info	Abstrak
<b>Sejarah Artikel</b> Diterima: 2023-05-22 Direvisi: 2023-06-15 Dipublikasi: 2023-07-10  <b>Kata kunci:</b> <i>Bencana Banjir; Kearifan Lokal; Rumah Adat.</i>	Kebudayaan Suku Lampung mendominasi kebudayaan yang ada di Kabupaten Kelumbayan. Seperti halnya suku-suku lain di Indonesia, suku Lampung menjadikan budaya sebagai identitas yang melekat pada setiap anggota sukunya. Kearifan lokal merupakan bagian dari budaya. Penelitian kualitatif adalah proses memahami fenomena manusia atau sosial dengan menciptakan gambaran yang komprehensif dan kompleks yang dapat disajikan dalam kata-kata, melaporkan pandangan rinci yang diperoleh dari sumber informan, dan dilakukan dalam setting yang alami. Instrumen dalam penelitian ini adalah observasi pengumpulan data, wawancara, dan dokumen. Kearifan lokal nuwo on stage sebagai rumah adat suku Lampung di Kabupaten Kelumbayan masih banyak dijumpai di Kabupaten Kelumbayan, khususnya di Pekon Umbar, Napal, dan Susuk. Berbagai rumah adat Lampung didasarkan pada bentuknya, antara lain Gedung Slow Dalom, Slow Pesagi, Slow Kejayaan, Slow Sakura, dan Slow Dalom. Nuwo Panggung di Kecamatan Kelumbayan termasuk dalam Lamban Pesagi yang memiliki tiga bagian bangunan, yaitu bagian atas, tengah, dan bawah. Panggung Nuwo dengan tipe Lalan Pesagi dibangun menggunakan pola dasar silinder, kubus, dan limas.

### I. INTRODUCTION

Floods can occur due to high rainfall around rivers, bare mountains, and coastal areas (Prasetyo & Hayati, 2019). This high rainfall influences El Nino South Oscillation (ESCO), namely La Nina (Yudistira & Hutaaruk, 2021). The Center for Research On The Epidemiology of Disaster (CRED) (2018) states that Indonesia has 44% of the total flood hazard of the total flood hazard in the world. In the last 30, it is estimated that 85% of losses due to disasters each year average up to 1% of GDP annually. The Directorate of Irrigation and Irrigation at Bappenas in 2018 stated that Indonesia has 1.4 million hectares of flood-prone areas (Adiyoso, 2018)

Kelumbayan District, located in Tanggamus Regency, Lampung Province, is one of the areas in Indonesia prone to flooding. Kelumbayan District is an area with diverse morphology. Some areas are areas that have steep slopes that are prone to landslides, some areas are low-lying areas prone to flooding, and some areas are coastal areas that are directly adjacent to Semaka Bay in the south and allow for a tsunami disaster (Irma Lusi et al. ., 2019). In addition, Kelumbayan District is also prone to tsunami disasters because most of its territory is a coastal area for floods that occurred in Kelumbayan District due to the diverse morphology of Kelumbayan District, namely the lowlands through which

large rivers pass, the coast and the highlands (Irma Lusi et al., 2019). Therefore, the flood disaster in Kelumbayan District was caused by overflowing rivers, tidal floods, and flash floods (Central Bureau of Statistics for Tanggamus Regency, 2021).

Therefore, knowledge about disaster mitigation, attitudes, and skills are needed for residents who live in disaster-prone areas (Setyowati et al., 2021). Disaster mitigation is related to the disaster management cycle by handling efforts before a disaster occurs (Permana et al., 2011). Disaster mitigation can be done by utilizing local wisdom. Local wisdom is local (local) ideas that are wise, full of wisdom, and of good value that are embedded and followed by community members (Suharni & Kurniawan, 2021). In 2022, Kelumbayan District will be occupied by 11,129 residents distributed over eight villages. As many as 90% of the population in Kelumbayan District are ethnic Lampung residents. The Lampung tribe is divided into two, namely Lampung Pepadun, which is in inland areas such as Way Kanan and Menggala, and Lampung Saibatin, which occupies coastal areas such as Tanggamus, West Coast, West Lampung, Pesawaran, and South Lampung. The people of the Lampung ethnic group in the Kelumbayan District are included in the Lampung Saibatin, which adheres to a leadership system based on heredity, namely, the eldest son as a traditional leader or what is commonly called a counterweight (Nurdin & Damayanti, 2018: 28). The Saibatin tribe inhabits the coastal area of Lampung which stretches from east, south, to west. The distribution area of the Saibatin Tribe includes East Lampung, South Lampung, Bandar Lampung, Pesawaran, Tanggamus, and West Lampung (Kaya, 2022).

The local wisdom of two on-stage as a traditional house for the Lampung tribe in Kelumbayan District is still commonly found in Kelumbayan District, especially in Pekon Umbar, Napal, and Susuk. Traditional house architecture is a cultural product that gives its style and shows a distinctive value. Traditional houses are related to environmental systems, buildings, and humans, which are impregnated in settlement arrangements (Susanti et al., 2022). Local wisdom can be a reference for behavior in everyday life in the form of slogans, concepts, sayings, songs, ancient books, traditions, and ways for local people to meet their needs (Parapat & Artonang, 2020). Local wisdom is also interpreted as positive human behavior in

dealing with nature and the surrounding environment, which originates from religious values, customs, ancestors, or culture, built naturally in a community to adapt to the surrounding environment (Alexandra et al., 2019). The stilt house is one of the local pearls of wisdom that play a role in flood disaster mitigation. The house on stilts, commonly called Nuwo Panggung by residents of the Lampung Tribe, has a high position from the ground to protect the homeowner from flood currents (Juhadi, Muis, 2018).

The local wisdom of stilt houses in Lampung Province is generally used to adapt to natural conditions close to forests so that stilt houses function as a shelter from wild animals. However, currently, the beast population has been reduced to nothing. Therefore, there is a transfer of the function of local wisdom on stilt houses from a shelter for wild animals to another function. The local wisdom of the wastage will decrease in number and gradually become extinct if the population does not know other functions of the local wisdom, such as disaster risk reduction. The participation of the population, especially residents of the millennial generation and generation Z, is also needed in preserving the local wisdom of Nuwo Stage for disaster mitigation. Adiyoso (2018) states that the response to disasters is primarily determined and influenced by the culture of the people that are adhered to, so understanding local culture is crucial to success in implementing disaster management strategies (Adiyoso, 2018). In addition, the knowledge and involvement of the population in disaster mitigation are essential because residents are the most vulnerable to becoming victims of disasters (Prasetyo & Hayati, 2019).

## II. RESEARCH METHODS

This study uses a qualitative method. *Qualitative research* is a process of understanding human or social phenomena by creating a comprehensive and complex picture that can be presented in words, reporting detailed views obtained from informant sources, and being carried out in natural settings (Fadli, 2021). Instruments in the research took the form of observation data, interviews, and documents. Data collection in descriptive qualitative research is in the form of observations made by researchers directly in the field. Observation is observing various events or symptoms related to the research objective. Data collection through

interviews was carried out by asking questions referring to the questionnaire instrument made by the researcher and validated by the relevant experts. The research was conducted in Kelumbayan District, in Tanggamus Regency, Lampung Province. Kelumbayan District is located at 104° 56' 00" E-105° 12' 00" E and 5° 50' 30" LS- 5° 40' 20" LS. Kelumbayan District is one of the areas prone to flooding. The types of floods that often occur are floods caused by rainwater, flash floods, and tidal floods (BPBD et al., 2019).

### III. RESULTS AND DISCUSSION

#### A. Characteristics of Nuwo Panggung Local Wisdom

Nuwo comes from the Lampung language, which means a place of activity. Nuwo's synonym is *slow, lam banana*, a place to live (Saputra, 2017). Nuwo Benawa is a stilt house with a large part of the material made of wooden planks. At first, the people built new stilts as a shelter from wild animals because, in ancient times, the Kelumbayan area was a forest area with only a tiny population. Apart from that, the stage now also plays a role in traditional customs, namely as a place for deliberations, consensus, *badawi*, and other traditional events (Susanti et al., 2022b). Therefore, usually, the new stilts belonging to the adat stakeholders or what is commonly called the weights are more comprehensive than those belonging to other residents.

Various traditional Lampung houses are based on their shape, including the *Slow Dalom Building*, the *Slow Pesagi*, the *Slow Kejayaan*, the *Slow Sakura*, and the *Slow Dalom*. Nuwo Panggung in Kelumbayan District is included in the *Lamban Pesagi*, which has three building parts, namely the upper, middle, and lower sections. The Nuwo stage with the *Lalan Pesagi* type was built using a basic pattern of cylinders, cubes, and pyramids (Atthaya et al., 2022).



**Figure 1.** Population Knowledge Level Diagram (Source: Atthaya et al., 2022)

The construction of the new stilts begins with an offering ceremony that aims to ask for smoothness and make the house a place full of blessings. The construction of the new stilts was carried out in cooperation as a characteristic that reflects the characteristics of the people of Lampung, namely prioritizing kinship, togetherness, and cooperation or commonly called *sakai sambayan* and *nengah napper*. Traditional houses for the community are buildings that contain noble values and are passed down from generation to generation so that their construction will be full of meaning.

Nisa et al. (2022) researched the socio-cultural meaning of the traditional houses of the Lampung people. This research is motivated by traditional architecture as a form of culture characteristic of ethnic groups. It contains socio-cultural meanings, one of which is the traditional architecture of the *Slow Keaksian Sekala Brak*. However, traditional architecture is starting to be abandoned, and changes are being made due to raw material factors and globalization, so the existence of the traditional architecture of Lampung traditional houses is decreasing. It affects public understanding of the meaning and efforts to preserve Lampung culture. The research aimed to explain the socio-cultural meaning and efforts to preserve the traditional architecture of the *Lamban Kaksian Sekala Brak*, with the research object being the *Dalom Keaksian Buay Pernong Building*. This type of research is a qualitative descriptive study with data collection techniques involving 5 (five) traditional leaders and relatives of *Kaksian Sekala Brak*. Data analysis was done through data reduction, presentation (display), and verification. The results of the study show that the socio-cultural meaning of the traditional architecture of the *Slow Keaksian Sekala Brak* is a representation of self-identity and the life guidelines/philosophies of the Lampung people as contained in the "*Piil Pesenggiri* including the elements of Leadership (*Bejuk Beadok*), Hospitality (*Nemui Nyimah*), Cooperation and Mutual Cooperation (*Sakai Sambayan*) and elements of Social and Environmental Life (*Nengah Nyappur*). Preservation efforts are carried out by passing the love of culture to the next generation through activities to preserve material and intangible culture (Nisa et al., 2022).

Currently, the new stage is still used as a place to live, a place for relatives to gather, and the house belonging to the balancer is still used for deliberations, consensus, formal events, and badawi. However, the function of the stage now has undergone a shift; which was initially built to protect oneself from wild animals, now turning into a storage area for natural products, livestock, and a place for animals. The transfer of the function of the stage now was not based on deliberations but just happened because of the times. Materials and ornaments in the construction of the new stilts have also experienced a shift; this is due to the lack of individual awareness regarding socio-culture because they need to learn its history. In addition, Lampung residents have begun to stop building traditional new stilt houses made of wood due to government policies regarding the prohibition of logging trees so that buildings with architectural and historical value are replaced with raw materials after renovation (Atthaya et al., 2022).

The local wisdom of Nuwo Pangung has shifted in function and material according to the characteristics of local wisdom, namely dynamic, sustainable, accepted by its members, able to survive from the outside world, can incorporate elements of foreign culture into the original culture, can provide direction for cultural development and develop from generation to generation (Windiyanti et al., 2019; Putri et al., 2022). Therefore, local wisdom in terms of form, material, ornament, or function will continue to change according to the times but will still positively impact the people who have it.

## B. 2. Nuwo Pangung Local Wisdom in Flood Disaster Management

The morphological condition of Kelumbayan District also has a negative impact in the form of natural disasters. The potential for natural disasters in Kelumbayan District includes floods due to overflowing rivers, flash floods in highland areas, tidal floods in coastal areas, landslides on steep slopes, and tsunamis in coastal areas. The vulnerability of floods in the Kelumbayan District can be seen in the following map.



**Figure 2.** Flood hazard in Kelumbayan District

Moreover, according to data from BMKG Masgar in 2019, Kelumbayan District is included in the classification of areas with high rainfall with rain intensities of 2500 to > 3000 mm per year. This high rainfall is a supporting factor for Kelumbayan District to be prone to natural disasters such as river overflow floods, flash floods, and landslides.



**Figure 3.** Rainfall in Kelumbayan District

The local wisdom of Nuwo Pangung can be used to adapt the population to floods that often occur in the Kelumbayan District. Geoscience Australia defines *flooding* as covering land by water due to water overflow from a lake, river, creek, or other waterway such as a reservoir, canal, or dam. Floods have only occurred in the last ten years since logging trees on a large scale in the hills and forests to sell the timber. This can be proven by the large number of trucks carrying logs that cross the Kelumbayan District area, causing the road, which is still cobbled, to be damaged. Floods in Kelumbayan District were floods due to high rainfall, flash floods, and tidal floods. The flood disaster that occurred disrupted the activities of the population and had a negative impact, which claimed lives, damaged facilities and residents' houses, and caused material losses due to damaged rice fields and fields, natural products, and livestock that were washed away, and the risk of causing disease.



The local wisdom of nuwo stilts has played an influential role in mitigating and reducing the risk of flood disasters, namely as an evacuation site for residents who do not have stilt houses and a place to secure the residents' valuables. Local wisdom that residents maintain is learned from nature by considering everything that is good and useful so that local wisdom, which was initially a culture and inherited values, can become something that residents utilize, including in disaster management (Purba et al., 2020). Law Number 24 of 2007 concerning disaster management instructs that the purpose of disaster management is not only to provide protection to residents from disaster threats but also to pay attention to the appreciation of local culture so that it can be concluded that disaster management efforts cannot be separated from local wisdom (Alexandra et al., 2019).

In disaster management, the perspective of local wisdom is one of the primary considerations in disaster management efforts. Local wisdom is one of the primary considerations in disaster management because residents are not only victims or objects of disaster but at the same time also play a role as subjects or actors in disaster management efforts who always try to adapt and take various ways that can be done to minimize disaster risk (Alexandra et al., 2019). Flood control systems are traditionally built with local resources, and continuous and stringent maintenance is required to maintain their function, enabling residents who are stakeholders to maintain and manage systems or facilities better because they have a high sense of ownership (Itsukushima et al., 2021).

Research on the role of local wisdom in reducing the risk of flood disasters has been carried out, which aims to explore the experiences of households in dealing with flood disasters both during and after the devastating floods that occurred in Kelantan based on their cultural context and local wisdom. The research method used is descriptive qualitative in three flood-affected areas: Musang Cave, Kuala Krai, and Kota Bharu. The data collected in this study used in-depth interview guides, recorded and video interviews, and research diaries for four months. Individuals from each household level were taken as key informants. The results of this study regarding community

preparedness in dealing with floods, uneven distribution of rain, unpredictable flood water levels, inadequate food supplies and preparation, and adequate community self-rescue. Rescue, communication effectiveness during the evacuation, inappropriate methods, indications of rising water in an area, and natural signs. The conclusions from this study are reflected in the shared experience of understanding local wisdom and cultural values faced by critical informants in dealing with flood disasters. They will be used in making appropriate programs for preparation in dealing with these disasters in the future (Nurumal, 2019).

In addition to playing a role in reducing the risk of flood disasters, nuwo nagging, which has a wooden structure with pillars attached to stone plinths and a peg system without nails, functions as an earthquake-resistant building, as Kelumbayan District is an earthquake-prone area due to its location around the Semangko fault.

#### **IV. CONCLUSIONS AND SUGGESTIONS**

##### **A. CONCLUSIONS**

Kelumbayan District is an area prone to floods, namely floods due to high rainfall and river overflows as the impact of areas in the Way Napal River Basin area, flash floods due to highlands and hills, and tidal floods due to coastal areas. Kelumbayan District is an area prone to floods, namely floods due to high rainfall and river overflows as the impact of areas in the Way Napal River Basin area, flash floods due to highlands and hills, and tidal floods due to coastal areas. The condition of Kelumbayan Subdistrict, which is prone to disasters, makes the residents of Kelumbayan Subdistrict have to coexist with flood disasters. Floods in Kelumbayan District were floods due to high rainfall, flash floods, and tidal floods. The local wisdom of nuwo onstage as a traditional house for the Lampung tribe in Kelumbayan District is still commonly found in Kelumbayan District, especially in Pekon Umbar, Napal, and Susuk. Traditional house architecture is a cultural product that gives its style and distinctive value. Nuwo Stage also plays a role in traditional customs, namely as a place for deliberations, consensus, badawi, and other traditional events. The local wisdom of nuwo stilts has played an influential role in mitigating and reducing the risk of flood

disasters, namely as an evacuation site for residents who do not have stilt houses and a place to secure the residents' valuables. In disaster management, the perspective of local wisdom is one of the essential considerations in disaster management efforts. Local wisdom is one of the primary considerations in disaster management because residents are not only victims or objects of disaster but at the same time also play a role as subjects or actors in disaster management efforts who always try to adapt and take various ways that can be done to minimize disaster risk.

## B. SUGGESTIONS

Discussion regarding this research is still very limited and requires a lot of input. Suggestions for future authors are to study more deeply and comprehensively about The Fuction of Nuwo Panggung in Flood Disaster Mitigation Kelumbaya District, Tanggamus.

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