

Anthropometrics in Kajang Traditional House Architecture: Understanding Cultural Values and Functionality in Traditional Design

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<https://doi.org/10.5755/j01.sace.41599>

Kajang, situated in the Bulukumba Regency of South Sulawesi, Indonesia, is the residence of the indigenous Kajang population, known for their unwavering commitment to preserving cultural traditions, as shown in the architectural style of their houses. The Kajang people use anthropometric principles based on cultural values, ancestral beliefs, and practical concerns to build their traditional dwellings in a way that perfectly meets the people's demands. This study aims to thoroughly investigate the various anthropometric elements used by the Kajang community to shape the visual appeal of their traditional houses. This study seeks to contribute significantly to the broader comprehension of Kajang's traditional house architecture and the utilization of anthropometry in cultural heritage by thoroughly analyzing the different components of Kajang's homes and developing a nuanced understanding of the underlying cultural values. The study will employ qualitative interviews with community leaders (*Ammatoa*) and traditional housebuilders (*Uragi*) to present descriptive and explanatory findings. These findings will reveal the significant influence of anthropometric factors on the functional and cultural aspects of Kajang's traditional house architecture.

Keywords: vernacular architecture; anthropometric principles; Kajang traditional tribe; traditional housing.

The discussion of anthropometry in traditional architecture has been a serious study for decades. Anthropometric studies are fundamental to understanding how traditional architecture can respond to the physical dimensions and spatial needs of its inhabitants, ensuring that built environments remain both comfortable and culturally meaningful. In the context of Indonesia, examining the anthropometrics of the Kajang traditional house in Bulukumba, South Sulawesi, reveals the intersection between local wisdom, cultural identity, and ergonomic design. The Kajang people's dwellings reflect a deep-rooted respect for ancestral teachings, embodied in the philosophy of *Patuntung* and *Pasang ri Kajang*, which shape both the form and function of these homes. Research on anthropometrics in architectural practice emphasizes the critical role of human measurements in creating functional living spaces, especially within vernacular traditions (Daniel, 2023), and highlights how cultural diversity influences the application of design standards (Nguyen et al., 2019). In addition, contemporary scholars advocate for integrating locally adapted anthropometric data – rather than relying solely on international norms—to support both usability and

JSACE X/X

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Traditional Design

Received
2025/05/21

Accepted after
revision
2025/10/22

Abstract

Introduction



Journal of Sustainable
Architecture and Civil Engineering
Vol. x / No. x / 202x
pp. x-x
DOI 10.5755/J01.SACE.41599

cultural relevance (Atmodiwirjo & Yatmo, 2024), and to better preserve authenticity in traditional houses (Oderman, 2005).

Architecture is described as a physical manifestation of cultural values and beliefs (Hafid, 2013). Culture relies on a physical vessel, emphasizing the link between space, place, human behavior, and ethics. As cultural agents, humans advance civilization in a constantly evolving society and culture. Historical surroundings shape architectural designs to balance current and future needs. Architectural design is strongly connected to culture and utilizes anthropometry (Gartiwa, 2011), the study of human body measurements, to create culturally meaningful settings. is crucial for creating things (Bridger, 1995). Anthropometry, derived from the Greek words “anthropos” and “matron”, originating from philosophical origins, gained significance in 19th-century anthropology by establishing a link between physical dimensions, human imperfections, and societal problems, and it is crucial for creative developments (Bridger, 1995). Significant achievements in anthropometry include the development of Johann Sigismund Elsholtz’s anthropometer in the 17th century and the race studies conducted by anthropologist Paul Topinard in 1881. The standardized measurement system of Ancient Egypt was established circa 4000 BC and had a significant impact on Indonesian architecture depicted from Javanese and Balinese culture. Anthropometry, categorized as static or dynamic, is crucial in ergonomic and proportion theories. It ensures that designs are in line with human dimensions (Glinka, 1990).

Anthropometry is paramount in constructing traditional houses in the Tana Toa Kajang community. This community is located in Tana Toa Village, Dusun Benteng, Kajang District, Bulukumba Regency, South Sulawesi Province, Indonesia. Following the “*Pasang ri Kajang*” traditions (Hafid 2013; Hijang and Wulandari 2019; Syarif 2018), the community adheres to a lifestyle that governs their thoughts, actions, and construction of homes to maintain a harmonious relationship with their natural environment. The construction of Kajang traditional dwellings thoroughly considers the occupants’ anthropometric measures, highlighting the strong correlation between anthropometry and architecture. Anthropometry, one of the seven theories of proportion in architecture, is essential for understanding human body measurements (Agustapraja and Wahab 2023) (Agustapraja & Abd Wahab, 2023) and guaranteeing appropriate and comfortable housing. This application showcases the incorporation of anthropometry into indigenous knowledge, enhancing the long-term viability of the natural environment and safeguarding cultural traditions within the Kajang community.

The Kajang traditional area referred to as Tana Kamase-Masea consists of communities clustered together and facing west. These communities are influenced by the Patuntung (Hafid, 2013) belief system and are organized according to the *Tana Kuasayya* pattern, which extends beyond the central parts of Dusun Benteng. The Kajang traditional houses exhibit a consistent design and scale (Samidi & Husain, 2023), featuring three portions upheld by sixteen tree trunk pillars. This architectural style symbolizes both simplicity and consistency. Every house is oriented towards the west, symbolizing the direction of our ancestors. *Parra Bola*, *Kale Bola*, and *Siring* are three unique components that serve different daily functions. The sago palm leaf roof, embellished with wooden *Anjong* ornaments, represents the link between the celestial and earthly domains. The central section of the house comprises a front room, which serves as a combined kitchen and living area, a middle room that can be used for dining, living, or sleeping, and a rear room designated for the head of the family. Walls adorned with petite windows foster a hospitable ambiance. The raised platform in the leader’s room highlights respect, while a receptacle for washing the feet before entering, known as *cena*, symbolizes cleansing. The open arrangement between the kitchen and living space in Kajang exemplifies its hospitable character. The lower section of the building, supported by *Na’nasaya* wood pillars firmly embedded in the ground, has a lifespan of approximately 20 years. This design feature enables convenient replacement of rotten wood

without the need to dismantle the entire structure.

Using anthropometry in the Kajang traditional house strongly supports sustainability from cultural, ecological, and social perspectives. The Kajang indigenous people intricately link their housing design with human body measurements to ensure optimal comfort, safety, and usability for all inhabitants. By considering body dimensions, room sizes and spatial layouts are tailored to local residents, minimizing unnecessary excess space, material use, and resource waste. This approach facilitates passive cooling, natural lighting, and effective air circulation, which reduces dependence on external energy and mechanical systems which certainly in line with low carbon footprints arguments of modern architectural design. The application of anthropometry follows the ancestral rules embedded in Kajang cosmology, which emphasize harmony with nature and respect for human needs. The construction uses locally sourced renewable materials like bamboo, wood, and palm fronds, chosen not just for environmental reasons but because their physical properties match the anthropometric needs of the Kajang people. Furthermore, every construction is mindful of avoiding environmental degradation—wood for structures is only taken from designated areas, and new trees are planted for every tree cut, ensuring regeneration.

By applying anthropometry, Kajang houses utilize space efficiently to promote health, eliminate cramped or oversized areas, and improve waste management, the problem that disturbs all modern worlds. The layout optimizes airflow and daylight, vital in humid tropical environments, reducing the need for artificial ventilation and lighting. These principles reflect a symbiotic relationship between humans and the ecosystem, forming part of local wisdom that preserves resources and transmits sustainable practices across generations. Anthropometric design also enhances social sustainability by making houses accessible and comfortable for all age groups and physical abilities, facilitating communal interaction and preserving strong cultural ties. The continued use of anthropometry enables the Kajang community to maintain their identity and adapt gradually to changes without losing tradition. Thus, anthropometry in Kajang Traditional house design is fundamental to enduring sustainability, as it conserves both material and cultural heritage, promoting balance between society and nature.

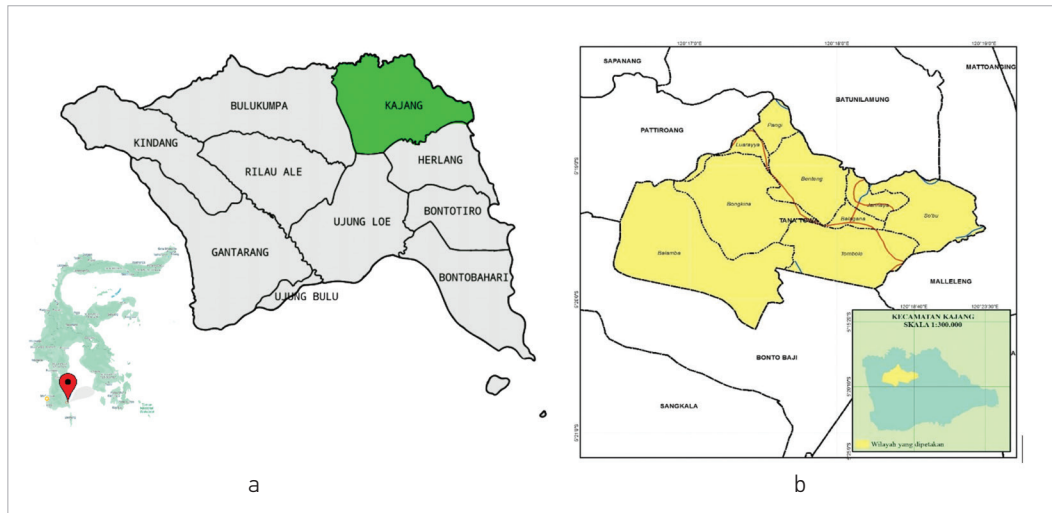
This study employs a qualitative methodology to investigate anthropometric characteristics associated with traditional homes in Kajang, Bulukumba, South Sulawesi. This research provides a comprehensive analysis of anthropometric data, elucidating its practical implementation and uncovering the underlying functional, aesthetic, and symbolic motivations for its utilization in this particular setting. This research aims to enhance understanding of the architectural legacy of traditional Kajang dwellings by focusing on 15 (fifteen) different forms of anthropometry. In addition, this study seeks to investigate the cultural values that form the foundation of residential design using architectural features. This research aims to contribute substantially to improving the comprehension of traditional Kajang dwellings and the utilization of anthropometry within cultural heritage.

The research was conducted in Dusun Benteng, Kajang Subdistrict, Bulukumba Regency, located in the southern part of South Sulawesi province. Dusun Benteng is a constituent of the historic Ammatoa region, usually called inner Kajang or Kajang Le'leng (Black Kajang) (Hijjang, 2016). The distance between Kajang Subdistrict and the capital of Bulukumba Regency is roughly 50 kilometers. The research primarily centers on Dusun Benteng, which is regarded as a sample region for examining anthropometric variances within the Kajang community and their relevance to traditional Kajang dwellings. Kajang Subdistrict is located in the northern and eastern parts of the regency. Bulukumpa Subdistrict surrounds it to the west, the shoreline of Bone Gulf to the east, Sinjai Regency to the north, and Herlang Subdistrict to the south. Kajang Subdistrict is situated within the geographical coordinates of 5°20" to 5°40" S and 119°50" to 120°28" E.

Method

Fig. 1

Administrative map of
(a) Bulukumba Regency
and (b) Tana Towa Village
or Traditional Area
(Syarif, 2018)



There are two major aspects in Kajang vernacular architecture, *Pasang Ri Kajang* (the teachings of the Kajang community), and the architectural design itself, encompassing the shape, space, and features of traditional Kajang dwellings. These aspects are employed to ascertain the factors that influence differences in human body measurements and their utilization in the design of houses. The subsequent discussions are elaborated on multiple elements; (1) immaterial elements; elaborated according to traditions, credence, and religious practices, specifically *Pasang Ri Kajang*, a time-honored doctrine within the Kajang community, (2) Physical aspects; assessed according to traditional Kajang dwellings' structure, layout, and components.

A set of operational definitions used is:

- _ Anthropometry refers to the process of measuring body proportions or other pertinent physical attributes for the purpose of design.
- _ The Traditional Kajang House refers to the houses owned by the Ammatoa community in Kajang, located inside the Tana Toa Kajang Traditional Area.
- _ Pasang Ri Kajang refers to the sacred teachings passed down through generations within the Ammatoa community in Kajang. These teachings focus on ideals associated with divinity, honesty, simplicity, human conduct, and environmental conservation.
- _ The Kajang Architecture Philosophy embodies architectural principles developed from Pasang Ri Kajang, which serves as a guide for constructing traditional Kajang dwellings.
- _ Honesty: Pertains to the homeowner's transparent presentation of their belongings in the kitchen to visitors, by the principles of Pasang.
- _ The behavior of the Ammatoa community in Kajang is shaped and directed by the principles of Pasang Ri Kajang, which encompass characteristics such as religious commitment, integrity, modesty, and fairness.
- _ Culture: The Ammatoa society in Kajang is known for its remarkable creative and intellectual accomplishments, particularly its distinctive method of choosing a new Amma Toa.
- _ Form: Utilizing a square or rectangular configuration in constructing a dwelling.
- _ Spatial Division:
 - _ Horizontally, the layout consists of a front portion designated for the living room and kitchen, a centre part serving as a combined living and sleeping space, and a rear area designated as the family head's room.

- Vertically, the structure is divided into three areas: the upper section, known as “*Para*,” is used for food storage; the middle section, called “*Kale Bola*,” is designated for everyday activities; and the lower section, situated beneath the home, is utilised for weaving and storage purposes.
- Structure: The conventional Kajang house design incorporates a wooden framework, featuring pillars that are two metres in height firmly embedded into the ground.
- Materials: The use of organic materials such as bamboo for the flooring, sago palm leaves for the roof, and planed and cross-mounted boards for the walls.
- Orientation: The trait of looking westward (Lompobattang-Bawakaraeng) is influenced by the Patuntung belief.
- Ornaments: The purposeful incorporation of external and internal components of conventional Kajang dwellings, such as the buffalo head and Anjong adorning the roof.

Analysis of the Forms of Traditional Kajang House Buildings

Pasang ri Kajang requires the indigenous community to have uniformly designed houses using traditional principles and architectural features determined by the assigned Uragi, who takes measurements of the residents’ bodies. The architecture reflects the *kamase-masea* ethos, prioritizing compliance and simplicity (Syarif, 2018)(Syarif 2018). The principle of simplicity in *Pasang ri Kajang* reads: *Care-carena rie’, pammali juku rie’, tana koko rie balla situju-tuju*, which means “life is sufficient if the clothes are available, buyers for side dishes are available, the fields are available, the house is simple”. The phrase “*balla situju-tuju*” according to Uragi, is how the shape, space, and materials used in building a house must be in accordance with the resident’s needs and not show luxury. The dwellings in Kajang exhibit a straightforward design, including consistent shapes to cater to the requirements of the occupants.

Kajang houses have odd-numbered pillars, symbolizing a deep connection to the ground. This design concept sees the earth as a mother and the house as a tangible representation of humanity. An odd number of components and their arrangement indicate a belief in life’s essential nature. The placement of the house is also regulated in the *Pasang ri Kajang*, which reads, *Addalle mae ri beluga arena haji punna addable mae ri taluka*, which means facing the mountain is good, which is not good if facing the valley. Facing the mountain means facing west, which the Kajang people believe is the Qibla direction. Ammatoa said that a house facing the Qibla is interpreted by its residents as worship.

Anthropometry is utilized in home design to measure the dimensions of space and the house by using the body size of an adult human, particularly the head of the family. The dimensions can be seen in Table 1, which encompasses many physical parts, such as height, arms, fists, fingers, head, eyes, ears, and feet. This method is an ancestral tradition inherited from the Kajang community and is employed to compute the quantity and ratio of rooms within the dwelling.

The Kajang traditional house consists of various rooms, as depicted in Fig. 2, such as the central room (*latta’ tangnga*), the front room (*latta’ riolo*), and the rear room (*tala-tala*). The center room is partitioned into multiple areas by simulated partitions, such as the dining room (*nganre*), bedroom, and family room. The dining room, situated adjacent to the washing room (*pabbissang*), without any divisions, and its activities are conducted by sit in a cross-legged position (*a’cidong ngallarang*) without the use of a dining table, instead employing mats as seating mats. The dining room and the boys’ bedroom are adjacent to the living room and comprise a mat and several head pillows. Family members convene and engage in their daily routines in the family room. The middle room (*latta’ tangnga*), is restricted to inhabitants of the house or immediate family members, making it a semi-private space.

Discussion

Table 1
Anthropometric dimensions















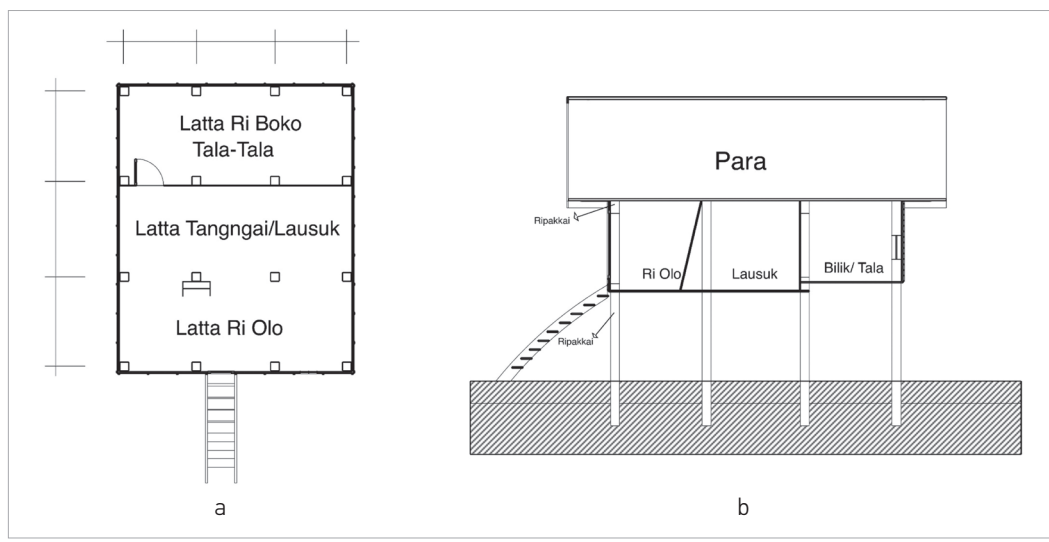
Dimensions	Various Types of Anthropometrics from the Kajang Indigenous Community	
Body	 <p><i>Tinggi bangkeng na ulu</i> (height starting from feet to head)</p>	 <p><i>Sirappah</i> (range)</p>
Arm	 <p><i>Sisingkulu/Silappa</i> (arm length)</p>	
Hand	 <i>Sikangkang</i> (a handful)  <i>Anro lima</i> (thumb)  <i>Datung</i> (middle finger)  <i>Kaningking</i> (little finger)	 <i>Silama'</i> (a span)  <i>Pajjojo'</i> (index finger)  <i>Pacincingang</i> (ring finger)
Head	 <p><i>La'ba'na ulu</i> (head width)</p>	
Face	 <p><i>Mata na Toli</i> (eyes and ears)</p>	
Foot	 <p><i>Silla'buna Bangkeng</i> (leg length)</p>	 <p><i>Sillabba'na Bangkeng</i> (foot width)</p>

Fig. 2

Division of space in the Kajang traditional community's house, (a) top view, and (b) side view



The front room (*latta' riolo*), as shown in Fig. 3, contains multiple chambers: the kitchen (*pap-palluang*), a designated area for excretion, and the living room. *Latta' riolo* serves as a semi-private space where people can cook and wash. Additionally, residents have the authority to allow guests into this area. The kitchen in a thatched house has a cooker that utilizes wood or bamboo as its fuel source. The inhabitants utilize a *dapo'*, a clay stove resembling a conventional stove. The kitchen is divided into two sections: *papalluang*, the cooking area, and *ketapi*, which stores

culinary goods and spices. In addition to the kitchen, there is a washing area called *pabbissang* on the left side of the house. This area serves as both a dishwasher and a toilet bowl. The wastewater from the toilet descends, namely sewage (*sabbo*) until it exits the premises and infiltrates the soil. Next is the living room on the right side of the entrance. This area exclusively has pandan mats and rattan mats, which serve as seating options. The living room lacks any decorative elements or ornamental trinkets. However, it features a pillar adorned with male buffalo horns, *po tangnga* (middle pillar). This symbolizes that the house's occupants had recently celebrated by ceremonially sacrificing a buffalo.



Fig. 3

(a) kitchen (pappalluang),
(b) dishwasher
(pabbissang), and
(c) living room

The back room, known as *tala-tala* and depicted in Fig. 4, contains a wooden partition called *pam-muntulang*. Within this partition is a middle room (*latta' tangnga*) which is elevated approximately two spans (*silama*) or 35 cm above the floor of the main portion of the house (*kale balla*). This elevation corresponds to the height of the eldest male resident of the house. This chamber serves as the main bedroom, a space for newly married couples, a storage area for crops, and a place for making offerings. This room is exclusively accessible to the house's inhabitants, rendering it a private space. The rear bedroom is often designated for parents, although it may be allocated to newlyweds if necessary. The décor of the bedroom in a traditional Kajang house is modest, comprising a pandan mat (*tappere*) and multiple cushions. In addition to functioning as storage for harvests, certain Kajang traditional houses utilize *tala-tala* as a designated area for making offerings, usually protected by mosquito nets.



Fig. 4

(a) Dining room,
(b) Serving room, and
(c) Bedroom

The area beneath the roof, referred to as *para*, functions as a storage room for harvested crops and a place for offerings (*ummatang*), which gives it great respect and privacy within the Kajang indigenous people. The base area of the home is equal in size to the house itself. However, the height of this space decreases towards both the right and left sides because of the roof's design.

The lower sections on both sides are used to store household equipment, including culinary utensils and other essential household items. An overview of *para* can be seen in Fig. 5.

Fig. 5

The area beneath the roof (*para*)



Fig. 6

One of the functions of the *siring* area is as places for weaving cloth



The bottom section, known as *siring*, is located beneath the primary floor (first level) and features an earthen floor. Its purpose is to serve as a storage area for coconuts, firewood, coffin boards, and agricultural tools. In addition, *siring* also serves as a location where women engage in activities such as weaving, pounding rice, carpentry, wall construction, and more. Most of this facility is designated as public, except for the weaving room depicted in Fig. 6. The weaving room is mainly designated for women and is considered semi-public.

Analysis of Kajang Traditional House Building Elements

The traditional dwellings of the Kajang community consist of four primary components: the door (*pakkebbu*), window (*tontongang*), stairs (*tuka'*), and wall (*ringring*). Uragi assesses the magnitude

of each component by referencing the stature of the eldest adult male residing in the residence, which corresponds to Fig. 7. In traditional Kajang dwellings, the door (*pakkebbu*) is unique and adjacent to the piling (*benteng pakka'i*). It is accompanied by stairs that directly face the door. This door represents the oral cavity as the place of entry for nourishment. The door's dimensions are defined by the height of the individuals who will be using it (*tinggi bangkeng na ulu*), while the width depends on the activities of the individuals entering and exiting the door with their goods.

The term "window" (*tontongang*) refers to the ocular openings situated on both the right and left sides of a building. The house's front and back are equipped with only a single window. The window is an aperture created in the wall, and wood is supplied as a grille for the window. Window measures are determined by the dimensions of the occupant's head breadth (*La'ba'na ulu*), body height and the length of one arm beyond the elbow (*Sisingkulu/Silappa*). In Fig. 8, we can see that the building's walls are constructed from bamboo

Fig. 7

The door (*pakkebbu*)



Fig. 8

The window (*tontongang*) and the wall (*ringring*)



and rattan. The choice of wall material significantly impacts the house's functionality, which serves as a venue for traditional rites.

The last component, steps (*tuka*), hold a holy significance for the Kajang traditional community as they serve as a crucial pathway for residents to ascend or descend from their homes while engaging in everyday tasks. The houses utilized as research samples in Dusun Benteng have an odd number of steps. A traditional Kajang house construction often has a staircase ranging from five to nine steps.

Analysis of Anthropometric Implementation in Kajang Traditional House

The study finds a range of standardized proportions and sizes that *Uragi* and artisans utilize while constructing dwellings for the Kajang settlements based on the measurements of the occupants' bodies, which have been used traditionally. This included using body parts like the height of the head, forearm, thumb, foot, and others. Additionally, measurements based on a unit named "*kappara*" were used to determine the width of doors in houses.

According to the *Uragi*, the ideal height for a structure is one that the homeowner can easily access. This represents the concept of simplicity and using items only when necessary since it allows the homeowner to achieve their life goals. All measurements in the structure, construction, and building elements must be modified to odd values to ensure that measurements generated from the occupants' bodies are used.

The application of anthropometric measures extends beyond a single body part, encompassing the entire body to measure each aspect of the dwelling. The measurement of the adult male height (*bangkeng na ulu*) is used to determine the height of the home's pillars (*benteng*) from the lower section of the house (*siring*) to the body of the house (*kale balla*). *Uragi* suggests that the inhabitants' height symbolizes their aspiration and desire for constant and noteworthy outcomes in all their endeavours.

The arm and hand are employed to measure several dimensions of the house, such as an adult male stretch of hand (*sirappa*), the stretch of hand measurement derived from the middle finger on the right hand to the middle finger on the left hand. This measurement is

used to determine the width between pillars in the house. The Fig. 10 showcases the application of *tinggina bangkeng na ulu* (height starting from feet to head) to measure the vertical dimension of a house. At the same time, *sirappa* is employed to determine the horizontal distance between the pillars of the house.

In addition, the hand measurement known as *Sisingkulu* (a handful) or *silappa* (an inch), which refers to the distance from the middle finger to the midpoint of the arm or more than one elbow



Fig. 9

The steps (*tuka*)

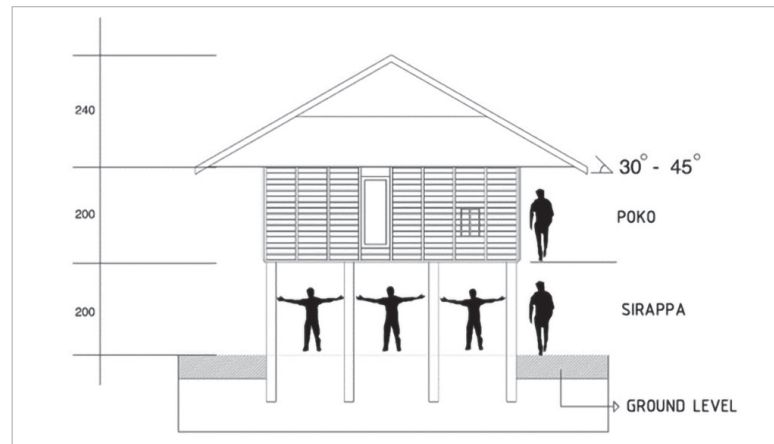


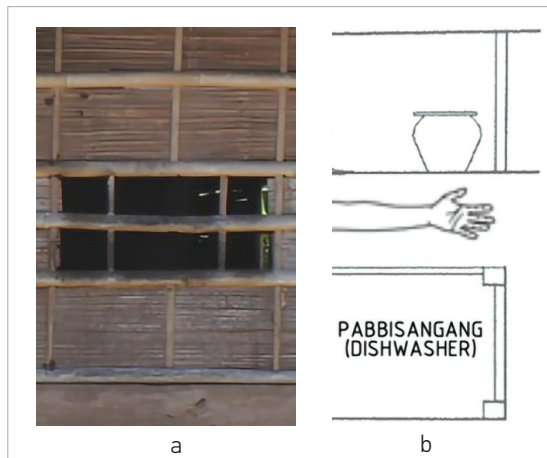
Fig. 10

Anthropometric Implementation in Kajang Traditional House

seen in Fig. 11, is used to determine the width and length of windows, the length of embedded pillars, and various components of the roof structure of a house. This measurement is believed to symbolize the ability to bring safety and good fortune. Expanding the measurement beyond the elbow is advisable, as it is considered to have negative or unlucky implications for the individuals involved. The above illustration depicts the utilization of *sisingkulu* for measuring different components of the house.

Fig. 11

Hand measurements, is used to determine (a) the width and length of windows and (b) dishwasher

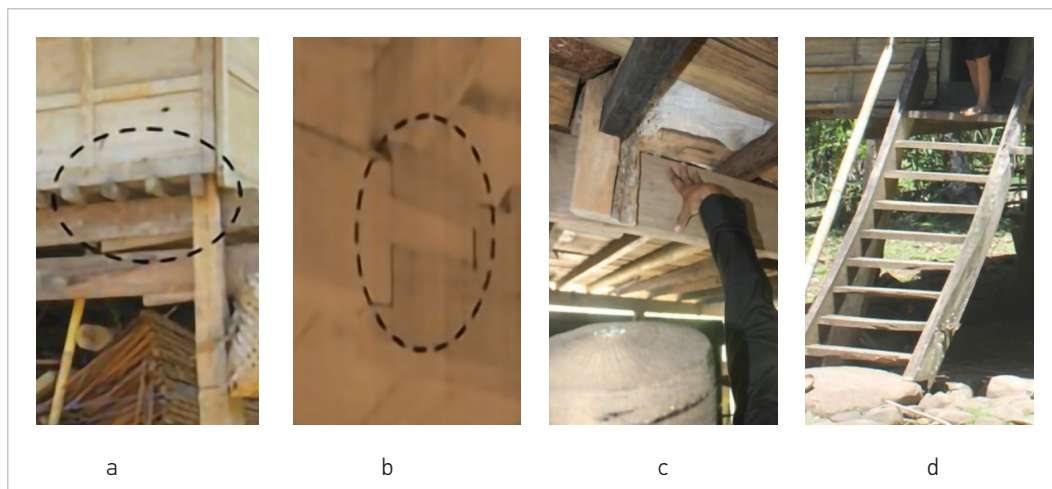


The subsequent unit of measurement, "*Sikangkang*" (equivalent to a handful), quantifies the span of an adult male's grip, determined by the distance between the pinky finger and the index finger. This measurement is utilized in cutting or incorporating wooden components for the construction of the house. This anthropometric application shares similarities with the measurement capabilities of handful (*anro lima*) as a measurement for selecting plank floor support beams, index finger (*pajjojo*) as a measurement of the length of depth or connection between beams, middle finger (*datung*), ring finger (*paccincingang*) as a determination of the

distance between floor support beams, pinky or little finger (*kangingking*), and foot width (*sillabbuna bangkeng*) as a measurement in making stairs. Fig. 12 below depicts dimensions for several dwelling components using manual units such as hands, fingers, and foot width.

Fig. 12

The part of the house using measurements (a) *anro lima*, (b) *pajjojo*, (c) *silama'* and (d) *sillabbuna bangkeng*



La'ba'na ulu refers to the anthropometric measurement of head width, which is utilized to measure windows. The premise of this measurement is that windows serve primarily as a visual medium for women from within the house which is visible in Fig. 8 and 13. Uragi states that a Kajang woman is prohibited from communicating with anybody outside her residence and can only leave the house if she has domestic responsibilities. This further suggests that in Kajang society, particularly for women, it is crucial to maintain their dignity.

Another form of anthropometry pertains to measuring the eyes and ears, specifically the width and length of the kitchen. The procedure commences by quantifying the distance between the left

eye and the right eye and then doubling this measurement to get the necessary odd number of occupants. This doubled measurement is next employed as the width of the kitchen space. To determine the length of the kitchen which is seen in Fig. 14, measure the distance between the left and right walls using the method of doubling based on the desired odd number and the availability of wooden materials. Uragi states that the Kajang indigenous people have long regarded the use of eye and ear anthropometry as a symbolic representation of existence. The eyes serve the purpose of anticipating imminent calamities, enabling inhabitants to react immediately, while the ears are employed to perceive any concerns about the people or the environment. Face dimension of woman members of the house, particularly adult female is also a major consideration in kitchen spatial design, as well as the positioning of stove burner.

The implementation of the aforementioned anthropometric dimension can be described in the Table 2 below.

Dimensions	Anthropometrics terms	Physical design of house elements
Body	<i>Tinggi bangkeng na ulu</i> (height from feet to head)	Door (<i>pakkebbu</i>) Window (<i>tontongang</i>) Home pillars (<i>banteng</i>) Vertical dimension (<i>ceiling height or height of pillars</i>)
	<i>Sirappah</i> (range)	Span length between pillars
Arm	<i>Sisingkulu/Silappa</i> (arm length)	Window (<i>tontongang</i>)
Hand	<i>Sikangkang</i> (a handful)	Measurements of wooden components
	<i>Anro lima</i> (thumb)	Selecting plank floor support beams
	<i>Datung</i> (middle finger)	Distance between floor support beams
	<i>Silama'</i> (an span)	Middle room (<i>latta' tangnga</i>)
	<i>Pajjojo'</i> (index finger)	Length of depth or connection between beams
	<i>Pacincingang</i> (ring finger)	Distance between floor support beams
	<i>Kaningking</i> (little finger)	Stairs
Head	<i>La'ba'na ulu</i> (head width/breadth)	Window (<i>tontongan</i>)
Face	<i>Mata na Toli</i> (eyes and ears)	Kitchen design
Foot	<i>Silla'buna Bangkeng</i> (leg length)	Stairs (<i>tuka</i>)
	<i>Sillabba'na Bangkeng</i> (foot width)	Stairs (<i>tuka</i>)

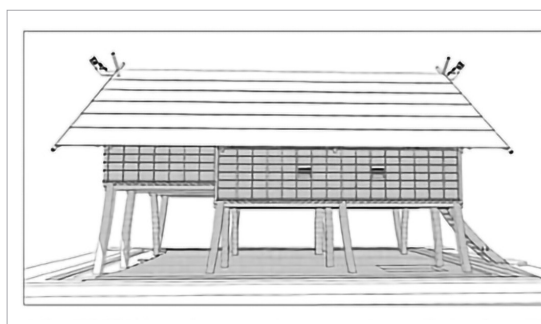


Fig. 13

Kajang traditional house window view from left



Fig. 14

Face dimension, is used to determine the spatial design of kitchen

Table 2

Relationship of anthropometric dimension and house physical design.

Conclusions

In general, the dwellings of the Kajang traditional society demonstrate the utilization of 15 anthropometric measurements, encompassing body proportions, hand size, eye and ear dimensions, and the width of the head and feet. Hand anthropometry is primarily used because the hand is the most convenient and proximate instrument for measuring different aspects of a building. Interestingly, there are also distinct anthropometric differences that pertain to women, particularly about the eyes and ears, which are utilized in kitchen measurements (*papalluang*). In addition, the Kajang traditional house in Benteng Hamlet has consistency in its form, components, and construction. This is a comprehensive depiction of the architectural legacy of the Kajang community that has been transmitted across successive generations.

In order to enhance our comprehension of the architectural legacy of traditional Kajang houses, we should do further meticulous and comprehensive research on the many components of the dwelling. Research can be specifically targeted towards examining the application of anthropometry to the dimensions of the hands and other body parts in greater detail. This study may entail a deeper investigation into the cultural values and philosophy that underlie the choice and usage of anthropometry for each house component.

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