Technic and Mystics of *Tukang Wangunan* in Sundanese Traditional Houses in Indonesia (Case Study: Baduy Tribe Community-Banten)

Nuryanto¹, Ngakan Ketut Acwin Dwijendra²*, Syamsul Alam Paturusi², I Made Adhika²

¹Student of Doctoral Program Engineering Science, Faculty of Engineering, Udayana University-Bali, Indonesia  
²Department of Architecture, Faculty of Engineering, Udayana University-Bali, Indonesia

Received January 3, 2021; Revised March 13, 2021; Accepted March 28, 2021

Cite This Paper in the following Citation Styles

(a): [1] Nuryanto, Ngakan Ketut Acwin Dwijendra, Syamsul Alam Paturusi, I Made Adhika, "Technic and Mystics of Tukang Wangunan in Sundanese Traditional Houses in Indonesia (Case Study: Baduy Tribe Community-Banten)," Civil Engineering and Architecture, Vol. 9, No. 2, pp. 533-544, 2021. DOI: 10.13189/cea.2021.090226.

(b): Nuryanto, Ngakan Ketut Acwin Dwijendra, Syamsul Alam Paturusi, I Made Adhika (2021). Technic and Mystics of Tukang Wangunan in Sundanese Traditional Houses in Indonesia (Case Study: Baduy Tribe Community -Banten). Civil Engineering and Architecture, 9(2), 533-544. DOI: 10.13189/cea.2021.090226.

Abstract  Modern Sundanese society, especially in the Provinces of West Java and Banten, Indonesia considers technique and mysticism two things that are impossible to meet, because the technique is rational while mysticism is irrational. This assumption is different from traditional societies that view technique and mysticism as being reconciled, one of which is in the process of building a house. This is the background of the research to reveal how technique and mysticism can meet and unite by the *tukang wangunan* (craftsman). The Baduy community in Lebak Regency, Banten Province, Indonesia was chosen as the research location, covering the Baduy Panamping Village. Baduy is a prototype of Sundanese traditional society that has existed for hundreds of years. This study uses a descriptive qualitative method with an ethnorgraphic approach. The results showed that: (1) The Baduy community views that mystical elements occupy a higher position than techniques, because of their relationship with *Karuhun* (ancestors); (2) In the technical element, there is a core of strength as the knot point in the form of *jangjawokan* (incantations) which is always read by the *tukang wangunan*, so that it sticks firmly to every dimension of the material; (3) The meeting point between technique and mysticism lies in the belief system of the Baduy community, namely *Sunda Wiwitan*, which gave birth to three cosmological views: *Buana Nyungcung*, *Buana Panca Tengah*, and *Buana Larang*. *Tukang wangunan* gets instructions from their ancestors through *tirakat* (special ritual), *harewos* (magical whispers), and *impian* (dreams) about how to bring together technical and mystical elements.

Keywords  Technical, Mystical, *Tukang Wangunan*, Imah Panggung, Sunda Wiwitan

1. Introduction

*Imah panggung* (stilt house) is a form of the traditional Sundanese house in Baduy Village. It is hundreds of years old as a manifestation of the traditions and culture of its people. Likewise in various other areas scattered throughout Indonesia, such as *joglo* in Java, *tongkonan* in Toraja, *griya* in Bali, *gadang* in Padang, *honai* in Papua, and others. A traditional house is a form of community culture which Koentjaraningrat [1] calls *artefak* (artifacts). Adimihardja [2] states that traditional houses are artifacts made by certain communities that are full of values and meanings, built on ancestral rules. Paturusi [3] argues, traditional houses as architectural works when viewed from a tourism perspective are seen as man-made features that can be used as attractions. Dwijendra [4] explains the importance of understanding traditional house architecture
as a manifestation of local traditional and cultural values that are full of symbolic and philosophical meanings. Adhika and Dwijendra [5] [27][28][31] emphasized that the main principle of traditional houses is obedience to customary rules so that beautiful harmonization can be established. Meanwhile, Nuryanto [6][29][32] states that traditional houses are seen as a manifestation of two local cultures that are mutually binding between the concrete (ragawi) and the abstract (tanragawi).

Traditional societies with strong ancestral traditions built houses with sharp instincts, symbolic meanings, cosmological values, philosophies, and even mystical approaches [26][30][33]. Generally, modern society prioritizes logic (technique or technology), while the mysticism is considered superstition. Traditional society uses both, namely technique and mystique combined into one. These two differences become very unique and interesting to, so that it raises the question: "why can the technical and mystical meet and unite?". This question will be sought and the answer will be found in traditional communities in Baduy village. Thus, this research can reveal how the combination of technique and mystique by the tukang wangunan can produce harmonious architectural works of imah panggung. In this case, harmony means being able to combine technical and mystical elements in noble work. Sundanese traditional architecture is one of the noble works produced by the skilled hands of tukang wangunan.

2. Material and Methods

The method used in this research is descriptive-qualitative, by observing the artifacts or physical remains of the architecture. To help researchers collect data in the field in strengthening their qualitative descriptive arguments, an ethnographic approach is needed. The ethnographic approach is often referred to as field research [7] or participant observation [8]. The scheme of the observation process was adapted from Spradley [9] with three steps: descriptive observation, focused observation, and selective observation. Research was conducted by observing physical traces, in three ways: product use, adaptation for use, display self and public messages [10].

3. Research Result

This research specifically reveals the relationship between technique and mystique so that the tukang wangunan in Baduy village can meet and integrate it. In the view of the tukang wangunan, the technique is illustrated as a cangkang (shell or wrap), while mysticism is as eusi (spirit or soul). According to them, the cangkang without eusi will be useless, will be weak, brittle, or defenseless (teu walakaya). A house built without being based on mystical power will be weak, even if it uses great and strong building techniques. The mystical power is believed by the tukang wangunan to come from their ancestors (karuhun), obtained through tirakat, harewos, impian and semadi (meditation or occult whispers). Honoring their ancestors is proof of their loyalty to tradition. The ritual practices that are carried out in every house building as a manifestation of their traditional values.

1. Baduy Panamping village

The research location in Baduy Panamping village, Kanekes Village, Leuwidamar District, Lebak Regency, Banten Province-Indonesia. The research location can be seen on the map (fig. 1) below.

There are three groups of Baduy people, namely Tangtu, Panamping, and Dangka. Tangtu is the core of Baduy with the highest degree (sacred), while Panamping and Dangka are the opposite (profane). The research location in Baduy Panamping village is a part of the traditional Baduy community.
2. **Imah Panggung Architecture**

The house in the rough level of Sundanese is called *imah*, which means a place to take refuge from various weather and disturbances. In the more refined Sundanese language house is called *Bumi* with the same meaning. Nuryanto [6] explained, the *Bumi* does not only mean home but furthermore means the origin of a person. In this case, *Bumi* has the meaning of land as the origin of which humans were created from its essence. The Sundanese people who still adhere to their ancestral traditions strongly believe that the house is not only a physical dimension but also a metaphysical one that is closely related to the unseen. For them, the house has a "soul" just as humans have a spirit, so that in every process of building it is not arbitrary. Many rules must be observed so as not to cause problems [12]. The strength of the house is not only influenced by strong and sturdy structures, but there are non-physical factors that come from their ancestors [13].

The Sundanese traditional house is the *imah panggung*, as is the case in Baduy *Panamping* village. *Imah panggung* (see figs. 2 and 3) is a house that has an empty space under the floor (*kolong*). *Kolong* as a medium for air circulation can provide comfort in the house. This type of house is owned by a very strong community holding ancestral customs. *Imah panggung* in Baduy *Panamping* village entirely uses the roof of *sulah nyanda* according to ancestral rules. *Sulah nyanda* is a roof shape that resembles a pregnant woman leaning back. The material must be of natural origin, not fabricated because it is prohibited by custom (*pamali*). There is a prohibition against using tiles, bricks, and other materials that contain earth essence because they mean burying oneself alive. Cosmologically (see fig. 2), the *imah panggung* consists of three layers of the world: (1) *Buana Nyungcung* or *Ambu Luhur* (upper world/sacred) where everything is purified; (2) *Buana Panca Tengah* or *Ambu Tengah* (middle world/neutral) where humans and other living things are; and (3) *Buana Larang* or *Ambu Handap* (underworld/profane) the place of spirits.
3. Characteristics of Structure, Construction, and Tectonic Elements of the *Imah Panggung*

The characteristics of the structure and construction of the stage in the knowledge of the Baduy community are grouped into two parts: (1) Handap framework, namely the structure and substructure as the basis for the strength of the building including lelemah (ground surface) and umpak foundation; (2) Middle frame, namely structures and constructions whose position is in the middle of the body of the building as forming a house frame so that they can stand upright. This section consists of pangadeg (wall) and lantayan (floor); (3) The sublime frame is a structure and construction that is located at the top as a protection for all building components. This section includes suhunan (roof), palapon (ceiling), and para (place to store plant seeds). The whole process of making the *rarangka* is related to the rituals performed by the builders.

In the tectonic context, construction workers in Baduy village understand how to take, process, make and bring together building materials to look very beautiful. Tectonics relates to the building materials used, including articulating joints' completion concerning construction styles. The builders in Baduy Village have the concept of "pondok teu beunang diteukteuk, lojor teu beunang connected", meaning that if there are building materials (wood, bamboo, coconut tree trunks, etc.) that are very limited in size, they cannot be changed, but used improperly. Changing from the original form means changing nature, and it means breaking the rules of the ancestors. All building materials are obtained from natural surroundings through specific ritual processes. The method of cutting, cutting, and processing is meticulous not to cause disasters; for example, bamboo must be cut down in the month of the rainy season (around March) at dawn or the full moon so that pests are not disturbed [6][36].

The connection system on the stage of the *Imah Rarangka* is in pupurus (pen-holes) and adu manis (meeting or corner). These two connections are very popular with the Sundanese traditional community, not only in Kampung Baduy but in all other areas. According to the builders, the pupurus and adu manis connection has extreme binding power, because it is strengthened by paseuk (pegs) and fibers or rattan ties. Everything is done manually, not allowed to use modern equipment because it is prohibited by custom. According to them, such work processes have the meaning of maintaining a good relationship with nature. Building materials do not come
into contact with modern equipment but through the touch of soft and affectionate human skin.

4. Technical Elements of the Imah Panggung

Havery [14] defines technique as a rational procedure so that interrelated components can become one unit. Poerwadarminta [15] technique is a method or system of doing something. Wikipedia Online states, technic or engineering is the application of science and technology to solve human problems. Based on the three definitions above, the keyword for technical elements is rational or logical (makes sense). The ability to think logically is the main provision of life for humans to be able to empower all abilities and solve the problems at hand [16]. Concerning logic, the technique is one of the thinking concepts that prioritizes reason, ratio, objectivity, is an empirical, factual, laboratory, and replicable [17]. Modern society highly upholds rationalism (ratio, reason) than empiricism (both physical and inner sensory experiences). Everything beyond the reach of the reason is called takhayul (superstition) or making up (lying).

Modern society plans and designs houses using the services of architects with sophisticated technological capabilities, prioritizing logic, high aesthetic taste, structural systems, construction, and fabricated materials. Meanwhile, the traditional community in Baduy Panamping village, on the other hand, was without an architect but by a local building expert called by tukang wungunan. With his instinctive sharpness and physical and inner sensory experience, tukang wungunan can carry out building techniques that are considered difficult by architects, for example the connection system without nails only uses paseuk (pegs), contour engineering through swales, ties using injuk ropes, and so on other.

The technique of installing the house foundation frame is entirely done manually without modern equipment. Umpek or tatapakan (see fig. 4) is the foundation it is made of rock or rock formed to resemble trapezium placed on the ground (lelemahan). On it are installed the main posts which are connected by beams (see fig. 5). Likewise, the conventional technique of installing floor and wall frames (see fig. 5). The connection technique for poles and beams uses paseuk, without nails, while for bamboo it uses fibers or rattan. Although it looks simple, it is so strong that the house can last a long time. Customary rules strictly prohibit the use of machine tools and fabricated materials, because they are considered against their ancestors. The whole work process is regulated and carried out by the tukang wungunan under the control and supervision of the Pu’un (customary leadership). If there are errors, both technical and non-technical, the tukang wungunan always coordinates with the Pu’un.

![Figure 4. Umpek or tatapakan foundation installation technique](Image Link)
The floors and walls are made of woven or chopped bamboo. The manufacturing technique is also done manually, without machines. The talupuh floor and the bilik awi walls are reinforced by palm fibers and clamped by bamboo strips (see fig. 5). In this case, tukang wangunan have a vital role and are required to think tactical and technical in every job. Logical thinking quickly without the help of modern tools will determine the success of building a house. In every task, tukang wangunan must not make mistakes, especially those related to customary rules, because they are very sacred. If something goes wrong at work, it must be reported to Pu’un immediately.
The technique of installing the roof frame (suhunan) is the last part of the procession of building a house (see fig. 6). All work is also done manually. The tukang wangiwan first assembles the posts and beams on the vacant land, then the roof frame is lifted and mounted on the top. The poles and beams are assembled using a strength system for the connection of pegs, clasps, and fibers or rattan ties. There were no nails or wires found in the joints, because of the taboo (pamali).

The connection technique in the structural system and house construction uses the pupurus type reinforced with paseuk (see fig. 7). Pupurus has been known by traditional communities, not only in Sundanese but throughout the archipelago (Indonesia). The terms used vary according to the local language. Besides pupurus, there is also another type of adu manis (angular connection), which is usually used in the "L" connection system, while pupurus is in the meeting connection or "T" connection. In the type of longitudinal connection or "I" using the type of coakan (klam). So that the position of the connection is strong, paseuk and fibers or rattan ties are used. There were no nails and wires in this section either. At the meeting connection, it is usually reinforced with a wooden wedge.

5. Mystical Elements of the Imah Panggung

Mysticism is still something scary and taboo because it deals with supernatural things. To speak mystical means to talk about the unseen in the form of a great mystery that is still dark, closed, hidden, sensitive, secret, which is invisible to the eye, and cannot be reached by logic. According to Ramdan [18], mysticism is a religious experience that can be introvertive (a person's tendency to emphasize more on the inner aspect) and extrovertive (a person's tendency to emphasize more on the outer aspects). Mystical experience is an attitude of mind, a tendency for the human soul to always seek and seek to gain experiences that are directly related to God [19]. Mystics are magical things that are not accessible to ordinary human minds [15]. Based on the above opinion, mysticism is the occult, outer experience, an inner way to uncover nonsense mysteries.

Mysticism in Baduy Panamping village is related to the procession of establishing the imah panggung which has two dimensions, namely social and ritual. The social dimension relates to fellow residents because building a house is a mutual cooperation activity. Meanwhile, the ritual dimension relates to mysticism to honor something or the purified essence. The Baduy Panamping community strongly believes that the rituals carried out will protect them from calamities. Maintaining good relations with the unseen means protecting the strength of the house from various bad possibilities.
help unconditionally, according to their respective abilities. Especially for the ritual procession of building a house (ngadegekuin imah), there are three stages, namely: (1) Ancer-ańcer, namely the preparation stage; (2) Ngadegekuin or nangtungkuun, namely the implementation stage; (3) Ngaruwat is the final stage of the whole process, in the form of a welcome to fill a new house. The mystical atmosphere during the practice of the ngadegekuin imah ritual is very pronounced because many jangjawokan, jampe, and ubarampe (prayers) recited by the tukang wangunan and Pu’un always accompany the ritual implementation. The Baduy Panamping community believes that every place and material they take is controlled by supernatural beings, so they must ask permission from those waiting for them.

6. Symbolic Elements of Stage Imah Architecture

The symbolic element in question is how the Baduy people interpret the symbols that exist in their houses' architecture. The symbolic element is closely related to form because, in Baduy society, the form is used as a parable full of hidden, symbolic meanings (siloka). The symbol is one of the human tools to reach knowledge and experience beyond the boundaries of culture. The orientation of symbols is transcendent knowledge, thoughts, and experiences, which transcend human beings' inherent boundaries. Humans cannot enter the transcendent realm with their limitations. To reach that realm, humans are forced to use analogies; humans play with metaphors. Analogy and metaphor transform inherent knowledge and experience, thus connecting with the transcendent [6].

The symbolic manifestation of the Baduy community's architecture can be seen in the house plan, which has a rectangular base, which is called opat interpreter or ngajuru opat, which means the same four corners. Opat interpreter is related to the understanding of the four cardinal directions, namely kidul (south), kaler (north), kulon (west), wetan (east) plus one in the middle as puseur (center). Kidul or south is a direction that has sacred value because as the place of Lalayang Sasaka Domas (the holy place of Baduy people), the entire face of the building must face the kidul be on the kidul-kaler axis. To determine good or bad days, they recognize the terms weton: legi, pahing, pon, kliwon, and wage. In the birth cycle of the Sundanese people, there is also the term weton or babar, which is the day of birth which is often used as a benchmark for measurement and calculation in building a house, usually the husband's weton is used, because he is the head of the family. Weton is used for the width and height of the door and the height of the building walls. The basic rectangular shape on the house plan relates to human origins from four elements, namely: taneuh or land as a symbol of human origin, cai or water as a symbol of human's primary needs, seuneuh or fire as a symbol of lust, and wind or air as a symbol of life and
human life. Thus, symbols are an inseparable part of the Baduy community: "breathe pinuh ku siloka, manusa jeung siloka keur nu kawasa", meaning that life is full of symbols. Therefore humans with symbols are one unit to serve Sanghyang Keresa (God). From this sentence, it is obvious that the Baduy community cannot be separated from symbols because symbols become media in relationships and maintain harmony with God.

7. Tukang Wangunan as a “local architect”

The Baduy tribe community in general does not know the terms architect, planner, or designer. They are more familiar with tukang wangunan to call them building experts (see fig. 9). In fact, the principle between tukang wangunan and architects has the same task, namely, to realize the desire of the homeowner to have a new house. In the view of the Baduy tribe community, tukang wangunan are people who are able to establish magical communication with ancestors and spirits.

Source: Author, 2020

Figure 9. Tukang wangunan in Baduy Panamping village

This ability is not owned by others, including architects who are only able to communicate with clients and drawings. Therefore, the work carried out by tukang wangunan is a tough task, because it bridges two interests, namely the prospective house owner (lahiriyah/in the body) with the ancestors/spirits (batiniyah/beyond the soul). If the two communications are well established, the process of building a house will run smoothly. But if it is the other way around it will get into trouble.

The expertise of the tukang wangunan in Baduy Panamping village is based on their loyalty to the custom of tatali paranti karuhun (ancestral tradition rules). Experience and sharp instincts that have been trained become a strong foundation in every job (see fig. 9). There is no modern equipment used, it entirely relies on hand skills (hand made), pikiran/pikir (mind), perasaan/rasa (feel), and anggota badan (body). Customary rules prohibit the use of manufactured machines and materials in buildings so that everything is done completely conventional. They are used to limitations, but never become obstacles. Besides, the process of building a house in Baduy Panamping village is a collective work, because it is not only the tukang wangunan who work, but all residents voluntarily help according to their respective abilities.

Based on the structure of the customary organization, the position of the tukang wangunan in Baduy Panamping village was directly under Pu'un's leadership. In his craftsmanship practice, the task of tukang wangunan is not only to make an imah (house), but also leuit (rice storage), saung lisung (a place to pound rice), bale adat (traditional hall), including infrastructure, such as roads, ditches, water showers, and others. Pu’un as the customary leader has full authority to grant permits and cancel the plans of its residents to build houses based on certain considerations. In terms of ability, the tukang wangunan have different fields, for example, tukang awi (expertise about bamboo), tukang kayu (carpenters), and tukang batu (masons), some are even experts in all three. Their working principle is "teu maksaka jeung teu dipaksa", meaning voluntary, not asking for payment or wages: "nulung ka nu butuh, nala ng ka nu susah", which means helping those in need. Construction work is social, and they were commissioned by Pu’un at the request of their citizens. His skills and abilities are rare because not everyone meets the requirements to become a tukang wangunan.

8. Manifestation and Harmonization

Imah panggung in Baduy Panamping village is not only seen as a physical building but has a soul that cannot be separated from its inhabitants. In the view of society, imah is cangkang (shell/wrap/skin), while the soul is considered as eusi (core). The cangkang is concrete, the soul or spirit is abstract, while the householder is the real owner of the cangkang and eusi. The three manifestations result in a comfortable house arrangement to live in, because between cangkang, eusi, and its owner can harmoniously meet.

Furthermore, cangkang is technical, because it consists of the whole process of building a house physically, while eusi is mystical because the soul or spirit is present at the invitation of the ritual procession. The tukang wangunan in Baduy Panamping village were able to bring together, combine, and harmonize the two. This meeting resulted in a very beautiful combination with established communication, both technical and non-technical. Technical relates to the strength of structure-construction, while non-technical deals with things beyond human capabilities.

The architecture of imah panggung, which is widely spread in the traditional villages of the Sundanese people in Indonesia, can adapt to natural disasters, such as earthquakes, landslides, and floods. This is evidence of other strengths besides technicality. When an earthquake occurs, their house is safe and they continue their activities as usual. Some examples of traditional villages that have been hit by an earthquake include: Naga village in Tasikmalaya Regency was shaken by an earthquake with a magnitude of 10 SR in 2009, Baduy village in Lebak Regency was shaken by a 6.1 magnitude earthquake in 2018, Dukuh village and Pulo in Garut Regency was rocked by an earthquake 7.3 SR in 2009,
and other areas. Based on this incident, not a single house was damaged. *Imah panggung* their remains safe and solid. Even in Naga village, when the earthquake occurred, the people ran into the house, while in urban areas it was the opposite.

4. Discussion

Mysticism for the Baduy *Panamping* community is still very sacred to talk about, especially regarding their ancestors: "teu wasa bisi kabendon", meaning that we do not have the courage for fear of getting the wrath of our ancestors. The syncretic and mystical practices in the village of Baduy *Panamping* are still clearly inherent in the lives of the people. This is intended to maintain the balance of the universe. The magical-mystical balance is maintained by traditional ceremonies, while the social balance is maintained through mutual giving and mutual cooperation.

This discussion focuses on three things: (1) Techniques to build of *imah panggung*; (2) The mystique that accompanies the building technique; and (3) The ability of the *tukang wangunan* to match and combine techniques with mysticism. The technique of building of *imah panggung* can be seen in the foundation using *umpak* or *tatapakan*, the walls using *blik* from bamboo and wooden, the floor is made of *talupuh*, the roof is made of *injuk* and *hateu*, its strength uses *pupurus*, *paseuk*, and *tali*, as well as differences in contours using swales and *gawirs*. This is confirmed by Harapan [20], that *umpak* is one of the techniques for making foundations in Sundanese traditional houses, including the use of other local materials. Local materials are very suitable for use as a medium for natural and environmentally friendly climatic adaptation [21]. In addition, the local wisdom of the community by managing houses based on the *sengkedan* system shows a solution to thinking as a form of land engineering [22][35].

Mystical images can be seen in the implementation of traditional rituals during the building process. The *tukang wangunan* in Baduy *Panamping* village has a mystical position higher than technique because it is related to supernatural powers which, if wrong, is difficult to repair. This differs from the error in the technique which can still be tolerated because it is technical. Mistakes in traditional rituals will have a negative impact on the house and its occupants so that the community does not dare to violate the law or *pamali* [23][36]. A harsher threat to violation of ancestral customs is in the form of two choices *"hirup atawa paeh"*, meaning life (misery) or death, as in the Kasepuhan Ciptagelar and Baduy villages [24]. As a social sanction, those who violate are excluded from the environment of the original village and their status is no longer the indigenous people [25][34].

The ability of *tukang wangunan* to reconcile techniques with mysticism is critical to the success of the process of building a house. According to some of them, they explain that their abilities are based on instincts, habits, and experiences inherited from their predecessors: *"neuleukeun, nuturkeun, migawe"*, which means starting from paying attention, following, and practicing. The essence of these three words is sincerity: *"boga kadaek jeung daekan, kudu jeung hate lain ku jempe"*, the meaning is to want to do and have a will, must be imbued, truly, not by being silent.

According to them, bringing together technique and mystique must be careful and considerate outside of logic, for example the technique of installing a *umpak* stone as the foundation of a house without any additions. In order for the position of the *umpak* to be solid and stable, according to mystics, it must be doused with the blood of a rooster whose feathers are black with incantations. The goal is to ask permission from the spirits who control the stone so that the entire structure of the house is safe. Another way is through *tirakat* and *wangsit* which he receives through dreams, for example the technique of installing the *tihang adeg*, then the *congo* position (base) must be below with a certain type of wood. In order for the wood to be durable and in a stable position, according to mystics, when it is cut down, offerings and incantations must be given to the wood guard. Another example is, when installing a truss for the roof, and offering called *parawanten*. The offerings consist of bananas (one bunch), sugar cane (one segment), rice (one small bunch), and others. The purpose of this offering is to ask God and the ancestors for salvation so that the process of building a house runs smoothly.

5. Conclusions

This conclusion is the final note of the entire research process which includes three important points: (1) The Baduy tribe community, especially Baduy *Panamping* views mystical elements (*nu teu kadeuleu*) as occupying a higher position than techniques, because of their relationship with *karuhun* (ancestral permission/blessing); *"mun teu dibere ijin ku karuhun, imah moal nangtung"*, meaning that if there is no blessing from the ancestors, the house will not stand firmly; (2) In the technical element (*nu kadeuleu*) there is a core of strength as a knot point in the form of *jangjawokan* (*mantra/jampi/ubarampe*) which is always recited by the *tukang wanguan* so that it sticks firmly to every dimension of the material; *"kuat imah lain ku kai, lain ku awi, tapi menta ka nu nyicingan kai jeung awi"*, meaning that the strength of the house is not due to the material, but because it asks the power of those who control every kind of material; (3) The meeting point between technical and mystical lies in the belief system of the Baduy *Panamping* community, namely *Sunda Wiwitan*, which gave birth to a cosmological view of the universe;
Acknowledgments

The author expresses his deepest gratitude to various parties who have contributed to this research, such as Pu’un, tukang wangunan, kokolot, respondents, informants, and residents of Baduy Panamping village; Promoter, Co-Promoter 1 and 2, examiners of the Dissertation Qualification Examination; Governors, Regents, Camat, and Lurahs in administrative research; University Leaders, Deans, and Coordinator of the Doctoral Engineering Science Program Study, Udayana University, Bali. It would be in vain without their help until this research finds the answer and its meaning.

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