Water Resource as *Axis-Mundi*: an Effort to Preserve Water Resource Sustainability

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**Abstract.** Sumberawan Site is an entity of water resource and an old *stupa*. Its existence is corroborated by myths, folklore, and legends about *amerta* water and paradise garden. Rituals, myths, and sacred artefacts are clues that lead to the *axis-mundi* concept. It is characterized by a sacred space as the central of the environment. It is unique that Sumberawan Site is not located in the village centre, but the activities and symbolic attributes lead to its function as axis-mundi. This possibility was explored by phenomenological paradigm. The study used two approaches: phenomenology and non-verbal communication approach. Field observations and in-depth interviews were conducted to collect data. Observational objects included time, space, and activities. In-depth interviews were conducted on key informants to explore their experience. The data were analysed inductively through five stages of phenomenological analysis. Space attributes were recorded, drawn, and interpreted by non-verbal communication approach to support phenomenological interpretation. The results reveal that (1) Sumberawan Site is an axis-mundi which means *source of life*; (2) This concept relates to water resources in the context of agrarian societies’ culture; (3) In the settlement setting, it is located 'outside' the village; (4) The concept of life source is vertical-transcendental, and directly connected to the horizontal-social concept; (5) The sacred zone is bound by time. The findings of this study indicate that efforts to preserve water resources as a source of livelihood of agrarian societies are not only conducted by physical effort, but also directly linked to vertical-transcendental and social-horizontal values.

**Keywords:** centre, *stupa*, water resource, sustainability, local wisdom

1. **Introduction**

The awareness of agrarian-traditional society towards water needs has created special culture and tradition. This tradition is in the form of ritual, corroborated by myth and folklore[1], toponyms, artifacts, and space attributes [2]which lead to the creation of water source sacrality. The Javanese people believe that the water source becomes the abode of the *danhyang*, the spirits of the ancestors and other spirits [3]. Belief about a place affects behavior and policies over the place, even creating attachment to the place [4].

The activities at Sumberawan water source show sacred character (meditation, prayer, traditional-religious ceremony, and bath ritual) in addition to profane activities. The belief in transcendental energy in water and the place has developed since before the construction of the temple (the temple was built around the 14th century). This place is referred to as *Kasurangganan* (angel’s garden of paradise) in the Book of Negara Kertagama. It is said that the water is *amerta* water. People believe...
that the kings of Singosari retired to this place after descending from the throne in preparation for entering the world of saint[5].Sacred activities at Sumberawan water sources led to the concept of axis mundi.

Axis mundi is a central point as well as a vertical-transcendental bridge that connects the middle world of human with the upper world of gods and the middle world with the beneath world of evil [2,6–8].

The space around it is sacred[6,9]. This point is the expression of human promordial yearning to always be near the center of the world (God). The markers are sacred artifacts. Axis-mundi is the origin and return point; the point of birth as well as the point of death (back to God). At times marked as a turn of the period, traditional societies commemorate the rebirth process (cosmogony) at that point with the aim of transforming chaostic into cosmos (regular/equilibrium/harmonious) as at the beginning of creation[6].In Javanese society, the ancestors became the intermediary of the transcendental relationship of man-God[10]. Studies on traditional settlements indicate that axis-mundi becomes the point of reference in shaping the structure of domestic space for the creation of security, safety, social-family relations, and power classification[11–15]. Generally, in the context of settlements, axis-mundi positioned as the central point. It lies in the middle of residential area and forms cosmic axes according to the sacred-profane direction[7,16–18]. In the wider context, mountain is an axis-mundi. It is represented on sacred artifacts, building, or building elements[16,19,20]. The symbols of axis-mundi can also be stones [14], trees [8], compositions of open space with place of worship and palaces [12,14,21], caves, small pit in the floor, pyramids [22], totem poles, temple or other religious buildings [4,6,23–29]. Water can be function as axis-mundi, (8) i.e. whirlpool or rough water (in a river or lake). It connects Middle Earth with Beneath Earth. But, as we know, no research has shown that water sources can also act as axis-mundi. This will be the novelty of this research.

The possibility of water source as axis-mundi is interesting to study. This relates to the concept of sustainability of natural resources (water resources) in traditional societies, especially agrarian societies. Although located far outside the residential area, but Sumberawan water source phenomenon leads to function as axis-mundi. Concerning the concept of sustainable development on conservation and management of natural resources (water resources), the function of water resources as axis-mundi in agrarian society is interesting to study. This research attempts to explain how the concept of axis-mundi on Sumberawan water source according to agrarian society of Toyomerto Village and the pilgrims. If the water source is axis mundi, then it is possible that beliefs and prayers that are implemented at once in behavior, policies, and actions towards water sources are one way of maintaining water quality and sustainability. Those who study about prayers state that prayers, feelings, thoughts, words, and beliefs must come true [30]. The limit for this research is on the expression of the axis mundi concept of Java’s agrarian society (in this case the people of Toyomerto Village), which may be related to water sources.

2. Methods

This research employed phenomenology approach[31,32] and non-verbal communication approach[33]. These methods were selected in accordance with the purpose of research, namely: to determine whether Sumberawan water source has a meaning of axis mundi. Phenomenological approach aims to describe the meaning of a phenomenon, while the non-verbal communication approach aims to determine the meaning of a place based on the attributes of space and its settings.

The data were collected directly from the field through interviews with key informants or participants in natural setting [34]. The focus of the interview was on what participants experience and how they experience it. Participants were selected purposively from the ritual actors in Sumberawan. Data analysis was carried out inductively in five stages of analysis, namely: identifying phenomena, reducing information to important statements or important citations, integrating them into themes, developing textural descriptions (what is experienced) and structural descriptions (how participants experience it), then combining textures and structural descriptions to convey essence or essential invariant structure of the phenomenon under study [31]. In this process, the researchers
conducted bracketting or epoche so that the exploration of the participants' experience was not disturbed by the subjectivity of the researcher's experience. Non-verbal communication approach method was mainly used in the exploration process of structural description related to the setting of space or place. The focus of the observations is on fixed, semi-fixed, and non-fixed feature elements [33].

3. Discussion

3.1. Key Themes
Participants were selected from those who performed ritual and bathing activities at Sumberawan Site. Of the 25 key participants, 78 important statements about their experience at Sumberawan Site emerged. The meaning of the statements was formulated and subsequently grouped into 6 themes, namely:

1. Water that heals
2. The holy water of source of life
3. Garden of paradise (Kasurangganan)
4. Place with a magical atmosphere
5. Reminders of human life
6. Buddhist symbol

Almost all participants stated that Sumberawan's water could heal a sick body, refresh, and make the people become ageless. They believed the water of Sumberawan as amerta water (water of life). Participants obtained information about the efficacy of water from generation to generation or from people they knew, both in the form of water mythology, folklore, and news about those who recovered after bathing and drinking Sumberawan water. The stories motivated their arrival to use Sumberawan water as an intermediary for healing, health, and beauty. Although there were participants who believed that people must go through a special ritual in order to “pull out” amerta water, some participants argued that the existing water in Sumberawan has already had amerta properties that could be used for various purposes without special rituals. They claimed that stupa (temple) was a washing or a transforming building, so that water coming out of the source has already had amerta properties. According to them, the stupa was located on the largest source of water that was flowed and accommodated to two ponds (Amerta Pond and Sumber Penguripan Pond) and a large pond outside the temple fence. Yet, there were also participants who said that the water from the source was sacred, so there was no need for 'tools' to transform the water. The water came from a sacred mountain (Mount Arjuno), so the water automatically had sacred properties.

According to the caretaker of Sumberawan Temple, amerta water was actually a symbol of sustainability of life. The gods and giants in amerta water mythology were symbols of love and passion in the procession of union of men and women. Amerta water was the symbol of the semen that gave birth to a new (human) life. Therefore, marriage was a sacred procession that began the birth of a new life. Human needs were symbolized by creatures and objects thrown out during the process of removing amerta water from the bottom of the Mantana Ocean. These needs were demanded by those who prayed at Sumberawan Site. Amerta water is a symbol of human kind sustainability.

Water source was the heart of life, especially for the agrarian community. They called it as Sumber Penguripan (a source of livelihood). Tirta Amerta Sari Cultural Carnival was a traditional ritual held to express a gratitude for the blessing of the water source while at the same time hoping that the water source will continue to be abundant. The ceremony was performed together with the Bersih Desa (Village Cleaning) ceremony in the month of Suro (the first month of the Javanese calendar). Kamitowo, the leader of Toyomerto village, said that this ceremony must be done in order not to be kualat (cursed/damned; Javanese: got a problem because of mistakes made against the elderly), resulting in the drying of the water source. Dry water sources meant that their lives were 'dry' or 'dead'. Not only villagers, water user groups from these sources also did slametan sumber (ceremony for water source).
Belief about amerta water was closely related to the naming of Sumberawan Site as Kasurangganan (Angel’s Garden of Paradise). Most of the informants felt the calm and peace in this place. This place was a good place for meditation as done by the ancestors. Some sources believed that the kings who have descended and were about to enter the world of saint meditated in Sumberawan/Kasurangganan. Some of them experienced moksha, the process of reuniﬁcation (spirit) of man and God. Meditation was the process of ‘reuniting oneself’. This procession was done by bathing as a symbol of self-cleansing (physically and spiritually). Written on the walls of Amerta Pond: mulat sarira angrasa wani, which the free translation was: self introspection, freeing from all worldly attachment.

"... Some people say God is above, but God is in our souls. We can penetrate into the realm of God through nature. Beings must be united with nature so that there is something that is "diungghano" (raised/lifted), ‘means that there can be something that can enter into our soul ... ... In the process of puriﬁcation, there must be something to be offered. Not only fasting, but there are also some rituals like bathing at night with the intention of 'metu soko lali', i.e. we must get out of the mistake, and 'jumeneng' i.e. on behalf of A Substance (God) Who Regulate Human .... "

Some sources described Sumberawan Site as a place with a magical atmosphere and a great aura. Those who need 'energy' were like ﬁlling themselves through rituals and meditation. A chaotic mind and atmosphere required a calm situation by removing the burden of worldly thought. The positive power would be derived by means of meditation, from A Substance (God) who regulate human, by connecting with ancestors’ (properties) and uniting with nature. In addition to the place, the right time also determined the amount of energy. Sumberawan Site location was about 700 meters from the village (residential area) and surrounded by forest, which made it guarded in the silence. Before the greater use for tourism activities, access to the Sumberawan Site was quite difﬁcult to reach. It was in the form of a path on the edge of rice ﬁelds.

The shape of the temple was in the form of a stupa, but it did not mean that Sumberawan Site belonged only to Buddha. The privilege of kasurangganan have existed prior to the construction of the temple. The caretaker of Patirtan Watu Gede stated that the stupa was a reminder to humans that life in the world was only ‘half’ from the real life. The caretaker Sumberawan also said that the temple of Sumberawan was pepunden, which was something that was “pundi-pundi” (being praised or glorified). The naming was not directed to the physical form of the temple, but to the ‘something’ it symbolized (ancestors, testament, meaning).

Participants of Buddhist leaders interpreted Sumberawan stupa as a symbol of Buddhist sanctity. Every year, Buddhists in Malang commemorate Vesak in Sumberawan. The Buddha was a man who attained perfect enlightenment, that was, united with God. Worship was done to God. Respect for the Buddha was to practice his teachings. Stupa became a reminder and appreciation of the Buddha and his teachings in an effort to ‘reach’ God.

3.2. Discussion
The universal system is shaped by a religious conception and cosmological image[16,17], namely: a sacred space that decides the homogeneity of space[6]. This space allows the connecting of two cosmic regions (the middle world - the upper world, the middle world - the underworld. It is around this point that our world lies (human). Thus, axis-mundi is located in the middle or 'navel point'[6,7]. In the settlement of pre-modern or early culture [3,35,36] which laid the foundations of urban spatial arrangement and architecture in cosmology, often the middle position is marked by a sacred symbol. The space around it becomes sacred, although there is also a nature that varies depending on the context of time and function[14,17,37].

Some sacred symbols indicate vertical elements such as pyramids, temples, totem poles, mountains, towers, tallest buildings, or they may be stone, cave, under floor, open space, whirlpool, tree, fire or smoke [6–8,11,13,14,16,19,22,24,38]. Sacred space or building as a bridge between the cosmos is an
axis-mundi found in the most pre-modern/traditional settlements and houses [6,37]. Mountain or its representations become axis-mundi and qiblat for most traditional settlements [15–17,28,36,39,40].

The existence of axis-mundi in pre-modern settlements shows its high hierarchy, also as a symbol of the human need to always connect and communicate with God, ancestors, or supernatural powers that support and become the important part of their life [3,8,10,20,22,41]. It gave birth to the concepts of social relations, political order, laws, norms, and policy in order to create stability, harmony, and safety. Previous studies revealed social relationships, assured power legitimacy, urban development and architecture, and resource management policies from the axis-mundi concept [8,11,12,14,24,25,29]. The meaning of a space will greatly affect actions, behavior, and policies on it [4,7]. Ritual procession at the specified time is made to 'open' the axis-mundi portal.

The concept of 'unggah' as conveyed by participants indicated that God was 'domiciled' on the 'top'. Participants also used the term "penetrate" in the effort of meeting the union of man and God. Penetrating showed the existence of two different layers (cosmos). In some ways humans can munggah (go up), penetrate, and 'fused' with God. Ancestors were the nature, the example of nobility and effort of a man to be able to 'meet' and ‘fused’ with God. The idea of 'bridge between the cosmos' appeared in themes 3, 4, 5, and 6.

The representation of the idea of a bridge between the cosmos and sacred space was shown by five shrines, namely: wooden buildings, shrines in the Amerta Pond, 'altars' in front of the stupa, Sumber Urip Pool, and field. The sacred space was tentative, i.e., when used for religious ritual functions. However, sacred symbols confirmed that this space can not be used for any profane activity. It can not be used for washing clothes or household items at water source, destroying and taking something from the temple environment, cutting down trees, dating, and other bad taboos done in this place. Some participants did not dare to do it because they thought this place was guarded by danhyang (ancestral spirit). This belief resulted in the preservation of water resources and the environment. This also happened to the water sources in Java and other places outside, as Titisari and Siswadi [41,42].

![Figure 1. Lay out of Sumberawan Site, area of temple and water source. (a). Wooden buildings for meditation; (b). Sumber Panguripan Pond; (c). Worship area; (d). Amerta Pond; (e). The entrance to the meditation room inside amerta pond; (f). The front of Amerta pond; (g). Temple / stupa](image-url)
The wooden buildings and shrines/worship area in the Amerta pond were closed (visual and accessibility), small, and the floors were elevated. This became a marker of the private character of its activities (Fig 1). The sacred atmosphere was felt from the closure and size of the room, the elevation of space, the Semar statue, the goddesses statue, the dragon head statue, the incense, pelinggih, the flowers, and the decoration of the pool wall resembling a cave wall (Fig 2). Amerta Pond was a closed pool. It was a square-shaped pond with a statue of Dewi Dhanwantari carrying a jug and head of Dragon of Basuki. There was a turtle statue (incarnation of Lord Vishnu) at the edge of Sumber Panguripan Pond.

Another worship space was an open space shaded by trees and paving stone in the north of the stupa (Fig 1). There was an arrangement of ruins of top rocks of stupa nearby. Worship was oriented to stupa. The scents of incense, sacred artifacts, shrines, and large trees were wrapped in a plaid cloth of honor against danhyang who lived in a large tree. These fixed and semi-fixed elements served as markers of place sacrality.

Worship that was oriented to stupa was performed at the Vesak (Fig.4) ceremony. Buddhists sat together in the field. Buddha statues, colored candles, incense, evening flowers, and offerings were added near the stupa. The people sat on the field and faced the Buddha statue as well as the stupa. Pradaksinawas performed around stupa and field.

Ceremony of Sedekah Bumi/Bersih Desa (Alms of Earth/Village Cleaning) were done together with Slametan Banyu (water ceremony) of Tirta Amerta Sari. Villagers paraded parcels, foodstuffs, and tree seedlings from villages to water sources (Fig.3). The people gathered in the field to give thanks and beg for the sustainability of the water source for the sake of their agricultural life. After the ceremony was over, they ate the food they brought from the village together. The vertical-transcendental axis was in the form of “cosmos bridge” of thanksgiving and prayer which were coupled with the intertwining of the horizontal-social axis in mutual cooperation shown in the ceremony of Tirta Amerta Sari. As Jones[43] stated that every activity is always connected with past experience and oriented to the future. Mills and Walker [44] dan Van Dyke and Alcock [45] have discussed ritual activity in its relation to the production of social memory, and we acknowledge the important role commemoration plays in the activities. The ritual has strengthened the attachment to this place from generation to generation. In addition, the implementation of the ritual in mutual cooperation becomes a means to maintain social relations [3,35,41,42]

Because the mountain was sacred, everything that came out of it was sacred [5,23,41].Sumberawan is located at the foot of Mount Arjuno. According to Marsudi [5,20] Arjuno mountain is a holy and sacred mountain, as evidenced by many sites of worship on its slopes. Water coming out of it
is automatically have holy properties. Water became something that was rewarded as a sanctifier or closer to the Most Holy (God/Gusti). The sources were well preserved through mythology, folklore[41,46], stories, rituals, prohibitions and invites were granted[3,35,36], location, and layout that affected the behavior in it[4]. This idea appeared in themes 1 and 2.

Punden (the tomb of the founder of the village) was commonly found near the water source. Both were representations of the starting point idea (navel point). Ancestral graves of the founder of the village (punden) were symbols of past and present continuity, as well as the future[10]. The water source 'connected' the settlement with the mountain, as a symbol of the continuity of the two cosmos. Tirta Amerta Sari, Vesak, and rituals performed for both personal and collective interest were efforts to maintain the equilibrium of the cosmos through cosmogony. This effort was pursued through two things: the continuity of the vertical-transcendental relationship and the harmoniousness of social relationships. Water sources precisely 'kept away' from residential areas so that the inhabitants of the two cosmos were not disturbed [3] and so that the purpose of purification can be achieved. Although it was literally outside the village, but the essence of the water source was central. Themes 2, 5, and 6 led to the concept of the central point and the starting point.

![Figure 5. Location of Sumberawan Site to residential area](image)

The title of Kasurangganan showed the strength of beliefs about the sacrality of this starting point. Belief in the sacredness of place and amerta water, gave birth to the name of the village of Toyomerto (toyo/toya meant water; merta was derived from the word amerta, toyomerto meant water of life). Water became an intermediary for the formation of the cosmic bridge because of its nature and its 'energy'. Water was valued as the source and origin of life. The bathing ritual was the imagery of being sacred and clean of physical and spiritual form before facing the Holy One. There was the inscription which said "Mulat sarira angrasa wani" (fig 2) in Amerta Pond, which meant to clean the mind from the defilements of mind and feelings.

In contrast to Kassabaum and Nelson's research [8] which shows that water is the cosmic bridge of the middle and lower world, Sumberawan water source is the axis-mundit that connecting middle and upper world. In addition, in the Kassabaum and Nelson studies, the water is not a water source but a whirlpool in rivers or ponds. What does it means? For agricultural societies, water source is the most important resource for their life. Their dependence on water has spawned an integrated water resource conservation strategy in their cosmological philosophy.

4. Conclusion

The character of axis mundi as the cosmic bridge, the original/starting point, the central point, and the sacrality of space could be found in Sumberawan Site. The concept of axis mundi was attached to the water source as a source of life, which affected the sustainability of water resources. This process was done vertical-transcendental (with respect to its axis mundi nature) and horizontal-socially (one of which was represented in Tirta Amerta Sari). Although it was not located in the middle of the village as the common axis-mundit was, but the sacredness was actually maintained in a stronger manner. This model of environmental preservation as well as disaster prevention due to the scarcity of these

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resources combined the equilibrium of vertical-transcendental and horizontal-social relationships. Thus, this model needs to be studied further in subsequent studies.

5. References

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