

Cultural approach to circular economy. Preliminary analysis of intangible Toraja's vernacular architecture and its potential application on the coffee value chain

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ABSTRACT

The research found that the coffee value chain operates in a long linear path and has not adopted the local wisdom point of view. The real actors in the primary stage are community-based stakeholders. To employ the circular economy framework as the latest sustainable approach to the value chain, then the gap of the social value of the societal structure and the culture in a circular economy that mainly unexplored must be developed. Vernacular architecture represents the social and cultural value. This value has to be understood, translated, and employed in the framework. This research aims to create a framework for the community-based coffee value chain by adapting a circular economy framework with added social value and culture. It is done by analyzing the vernacular architecture values and the coffee culture where both are in the same frame of the cultural landscape, with case study Toraja. Furthermore, this paper will focus on the value of the carving motifs of Toraja vernacular architecture, which are part of the vernacular architecture's material symbols and its meaning in the social value and its interweaving with the coffee culture. The research employs a qualitative research methodology with a case study approach.

Keywords: *Cultural landscape, Toraja vernacular architecture, Toraja coffee culture, circular economy, Toraja carving motif*

INTRODUCTION

Indonesia is known as the fourth world's largest coffee producer (ICO, 2020). The research found that the current coffee value chain has not been adopted the local wisdom point of view and is operated on a long linear path. The model of the framework that currently practice, linear economic, based on take-make-and-dispose activities, has been widely recognized as unsustainable and unable to meet contemporary environmental, social, and economic needs (Lacy, 2015).

Meanwhile, the circular economy, the most promising sustainability approach (Korhonen et al., 2018), gained importance on the agendas of policymakers (G. Brennan, 2015) as an alternative to answering the problem of the unsustainable approach of the Linear Economy (Garcia, 2019). However, there is a gap in social value, societal structure, and culture in the circular economy framework. The social and cultural values underlying world-views and the paradigmatic potential are mainly unexplored (Korhonen, 2018) even if it has been considered in some micro-level such as in the coffee shop. It has often been too narrowly focused on the structural elements of production, resulting in a lack of adaptive capacity (Kristen Lowitt, 2015).

With its deep-rooted origins, the circular economy concept cannot be claimed as one single date or author (MacArthur, 2017). The circular economy concept has been enhanced and elaborated by seven schools of thought: the Cradle to Cradle framework, the Performance Economy, Biomimicry, Industrial Ecology, Natural Capitalism, Blue Economy, Generative Design (Figure 1) (MacArthur, 2017). Culture has not been part of the seven schools of thought's fundamental thought in which the circular economy is enhanced and elaborated.

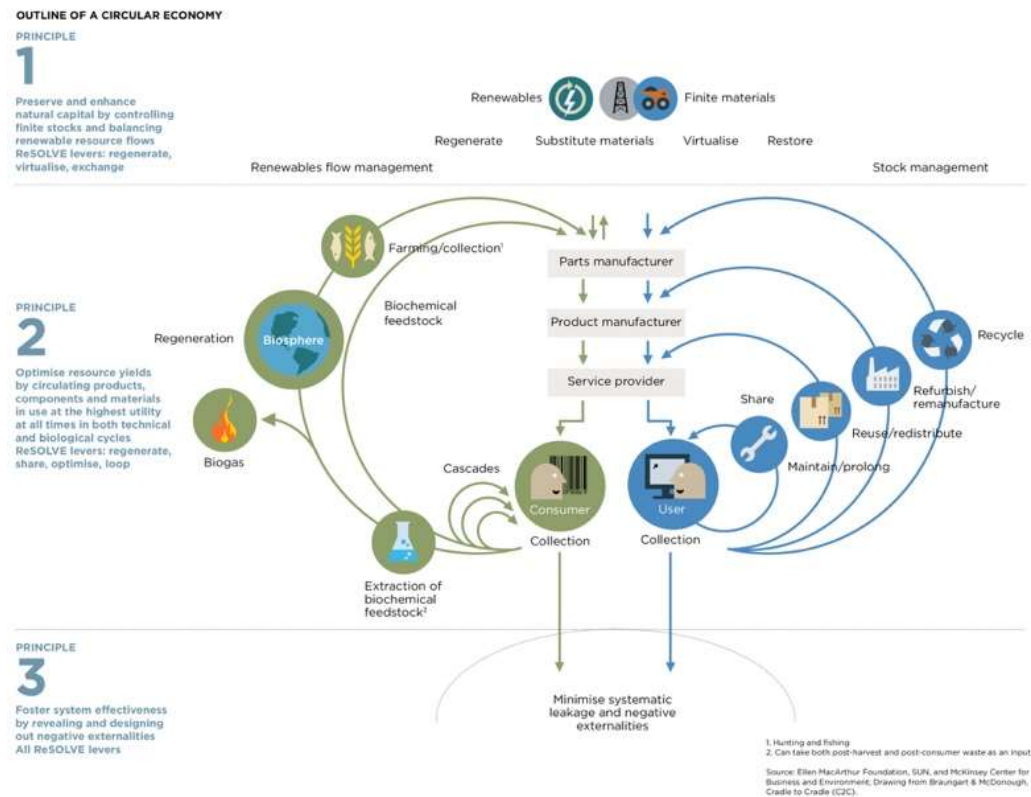


Figure 1: The circular economy model (MacArthur, 2017).

Tana Toraja's cultural landscape reflects the traditional socio-political organization. It is a society with its own customs and its own *adat* in many respects (H.M.Nooy-Palm, 1979), as seen in Figure 2. The classification system of Toraja may not be systematized, at least not in any way that complies with Western expectations, but its accuracy is unsurpassed in essential respects: it places man in a world that is as much a synthesis of parallels and contradictions as he is himself (H.M.Nooy-Palm, 1979).

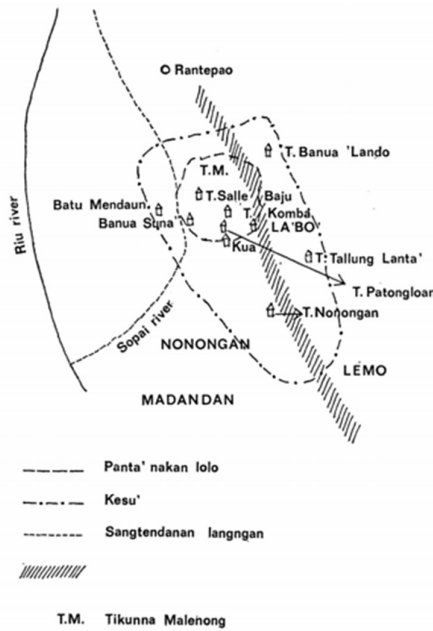


Figure 2: The federation of Kesu' (H.M.Nooy-Palm, 1979).

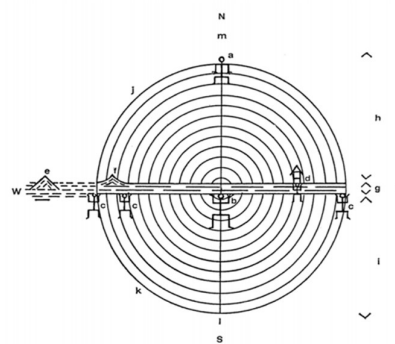


Figure 3: the schematic representation of Sa'dan-Toraja cosmology (H.M.Nooy-Palm, 1979).

This schematic drawing (Figure 3) represents a cross-section of the three realms, upper, middle, and lower, which is presented (H.M.Nooy-Palm, 1979).

This research aims to create a framework for the community-based coffee value chain by adapting a circular economy framework with added social value and culture. It is done by analyzing the social value of societal structure and the culture of the vernacular architecture values and the coffee culture. This research uses Toraja vernacular architecture and coffee culture as its case study. Furthermore, this paper will focus on the value of the main carving motifs and its arrangement, which are part of the vernacular architecture's material symbols.

METHOD

The qualitative analysis method was used to perform this research. It used a case study method, and it used a grounded theory ethnography approach within the case study approach. Grounded theory

ethnography is an ethnography study that "focuses less on a setting's stable structures and more on phenomena or processes" (Charmaz, 2006) as the data collection and analysis method.

The use of qualitative methods is due to social value analysis, social structure, and culture. The aim of using the case study method is to develop an in-depth overview and interpretation of the cases and providing an in-depth understanding of the cases to solve the research problems, and seeking an understanding of "the complex" world of life experiences from the point of view of those who live it (Groat & Wang, 2013).

The reasons for using grounded theory ethnography study as a data collection and analysis method are to discover, discern and understand the in-depth meaning, belief, norm, world-view and etc of Toraja vernacular architecture and coffee culture (Creswell, 2018) and to emphasizes an in-depth engagement with a site-specific setting, especially through active and detailed observation and aimed at developing a "natural science of society" that could provide an empirical definition of culture (Groat & Wang, 2013) with less emphasis on the stable structures of a setting and more on phenomena or processes (Charmaz, 2006).

The use of grounded theory ethnography in a deep understanding of the chosen scenes is to obtain a more accurate image of the entire setting (Charmaz, 2006). By using the grounded theory analysis, the Toraja cultural landscape, each of the in-depth data of ethnography, vernacular architecture, and coffee culture can be related to the comparative method of comparing each data from the beginning of the study (not after all data is gathered), comparing data with emerging categories and showing the relationship between the definition and categories of the contemporary sustainability and the Toraja social value. The researcher is able to pick the scenes to be examined by using grounded theory ethnography and direct the study into a structured guideline for investigating under the surface and digging into the scene while concentrating, structuring, and arranging it to create a fresh look and developing new categories and concepts (Charmaz, 2006).

The overall research design and flow process are illustrated in Figure 4.

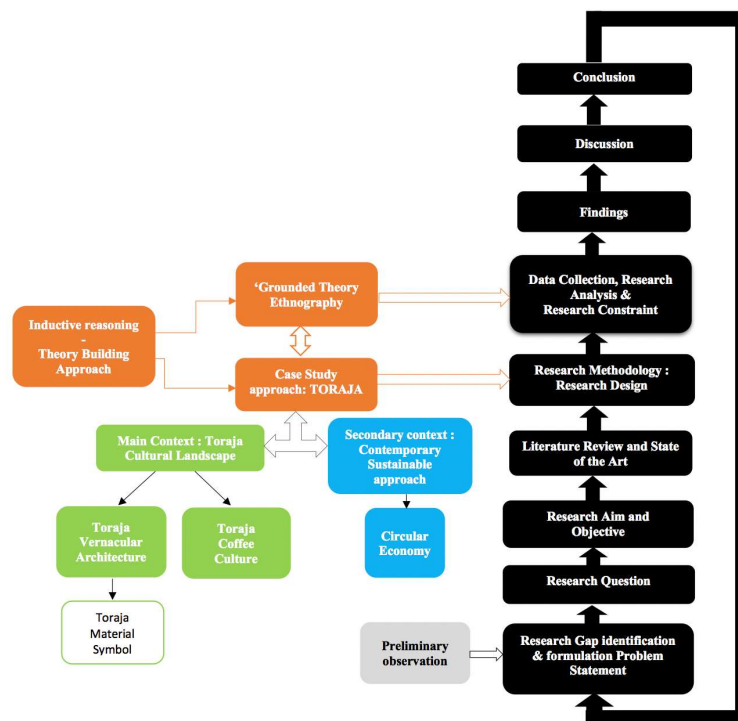


Figure 4: Research Design.

It began with the preliminary observation, literature scope, and research gap assumption, followed by identifying the research gap and the first step in formulating the problem statement. The research questions were formulated in the second phase. The third step was to coordinate the purpose of the study and identify the research goals. The fourth step was to study the literature, formulate state of the art by finding the conceptual cause, confirm the void's identification, and design the necessary solutions for the conceptual context. The fifth step was to establish the methodology and flow of research design, decide the process and methods of data collection, and define the research limit for the research analysis schedule and procedure. This analysis uses the case study approach based on the research issue and research purpose. The sixth stage was an in-depth collection and arrangement of data, followed by a study review, where the information was interpreted, assembled, and reassembled as a back and forward process. In this step, the study constraints were also set based on data collection and analysis restriction. The results of the interrelated and interpreted themes indicate that the theoretical model has been improved. The results of the conceptual structure and possible recommendations have been highlighted. Finally, the synchronization of the conclusion with the aim and purpose of the study was rechecked.

RESULTS AND DISCUSSION

Toraja people did not know the characters (H.M.Nooy-Palm, 1979); Tongkonan was a visualization of life's value in the Toraja community, a manifestation of the intangible symbol of societal structure and culture (H.M.Nooy-Palm, 1975). Furthermore, the material symbols, the carving motifs represented the event, the way Toraja people thinking in the past, and the prayers (H.M.Nooy-Palm, 1979). The two lines of Tongkonan development are the holder of power and the indigenous role, which becomes a social stabilizer and continuously develops. It is the center of family alliance and the base of the birth of unity and a very close-knit family and a life of communal togetherness (Tangdilintin, 1978).

The Tongkonans (ancestral houses) of Tana Toraja are living heritage in the true sense. They go beyond the sense of 'home,' which is regarded as living symbols of local families who insist on maintaining their religious, cultural, and environmental traditions. The landscape demonstrates a deep relationship with nature that has existed for generations. Preserving the genius loci of Tana Toraja villages goes beyond protecting the unique architecture of the dwellings (Adams, 2003, p. 92).

The symbols in Tongkonan and rice barn are the expressions of material culture (H.M.Nooy-Palm, 1979). Toraja's carving was born to the reason for the insanity of Toraja's ancient life in the form of a symbol called *Passura'*. It was readable because it was a symbol of an event or a process of life from the people. So the carving of Toraja is not only - the image he created just to decorate one shape or object, but the whole kind of carving was born from the understanding of one matter of life or the association of the life and the ideals of life. Hence all the carvings of Toraja have real meaning (Tangdilintin, 1978).

In Toraja history, carvings were initially known as only four forms of image symbols of human life's fundamental problems and then enshrined Tongkonan house intending to remain a concern and always remembered by society (Tangdilintin, 1978). This paper is focused on the symbolic meaning of the four main carving motifs that are the origin of the whole carving motifs development and arrangement.

The installation of four kinds of symbols or symbols is not an arbitrary place on the Tongkonan but installed in a place that, according to the philosophical view of Toraja life that has meaning with respect to the belief in the utilization of the Tongkonan (Tangdilintin, 1978).

The four basic carvings of *Garonto' Passura'* (main Carvings) (Figure 5) are *Passura' Pa' Barre Allo* (sun-shaped carving), *Passura' Pa' Manuk Londong* (rooster-shaped carving), *Passura' Pa' Tedong* or *Pa' Tikke'* (buffalo head-shaped carving), *Passura' Pa' Sussuk* (smooth and lined path-shaped carving) as explained below (Tangdilintin, 1978).

The first motif, *Passura' Pa' Barre Allo*, symbolizes the unity of *Tondok Lepongan Bulan Tana Matarik Allo*. It means the radiance of sunlight as a symbol of the unanimous unity of the Land of *Tondok Lepongan Bulan* with one rule or *aluk* emanating from the center of unity as a form of life and association. A unitary society that gets blessings and guidance from the Almighty as the Almighty like the Majesty of the Sun, which means the unity has the life's doctrine or belief as to the source of life (Figure 6A) (Tangdilintin, 1978).

The second, *Pa' Manuk Londong* (Figure 6A), cock symbolizes the rule and norms of the law of the society of *Kesatuan Negeri Tondok Lepongan Bulan* (United Country of *Tondok Lepongan Bulan*) that marks the human race. It was stated by the existence of *Peradilan Adat Toraja* (Toraja Indigenous Judiciary) named *Silondongan* in *Tarian Pitu* (Pitu Dance). The laying of *Pamanuk Londong* on the top of *Pa' Barre Allo* (Figure 6A) means the rules and norms of Toraja's society rules, and the law is based on a Godly philosophy of life that forms the belief of *Aluk Todolo*. Furthermore, *Pa' Barre Allo* symbolizes the united faith and *Pa' Manuk Londong* as the symbol of society's rules and laws (Tangdilintin, 1978).

Pa' Barre Allo and *Pa' Manuk Londong* is placed at the front and very top of the Tongkonan with respect to the meaning of the role as the main of all human life and their relationships.

The third, *Passura' Pa' Tedong* or *Pa' Tikke* (Figure 6B), according to *Garante' Eanan*, is a staple symbol of property symbolizing Toraja's prosperity and working life. There is also the opinion that *Pa' Tikke* engraving with a *Pangngunuran* or Dragonfly motif representing cotton spinning to become yarn and woven into clothing as the symbol of prosperity as well as property in human life. Furthermore means symbolizing working and working life, which is the backbone of wealth and livelihood. Toraja people can choose to use *Pa' Tedong* or *Pa' Tikke* (Tangdilintin, 1978).

Moreover, according to L.T. Tangdilintin, the use of *Pa' Tedong* is more precise with evidence in the community of Toraja *Tedong Garonto Eanan*. It can be seen in the use of this carving on tongkonan on *Sangkinan Rinding* wood (Figure 6B), which is the wood meeting place of all walls of the house. *Sangkinan Rinding* is the backbone of the House building that protects humans.

The fourth, *Passura' Pa' Sussuk* (Figure 7), is an engraving symbolizes the life and relationship of the human being with his God. It means that all humanity is the same before God, and thus, the nature of the cult in *Aluk Todolo* all men are the same before God (The Three Peoples of *Aluk Todolo*). Besides, *Passura' Pa' Sussuk* means that the community structure of *Tondok Lepongan Bulan* State is formerly Democratic, whose legacy is still visible today in the Tongkonan Life Institute as a feature of *Lembang Ukiran Pa' Sussuk* (Tangdilintin, 1978).

The placement of *Pa' Sussuk* carving is always on the house's sidewalls (Figure 7), which means the wider community, especially for Tongkonan, who holds the customary function, should be engraved with carving *Pa' Sussuk* on the side.

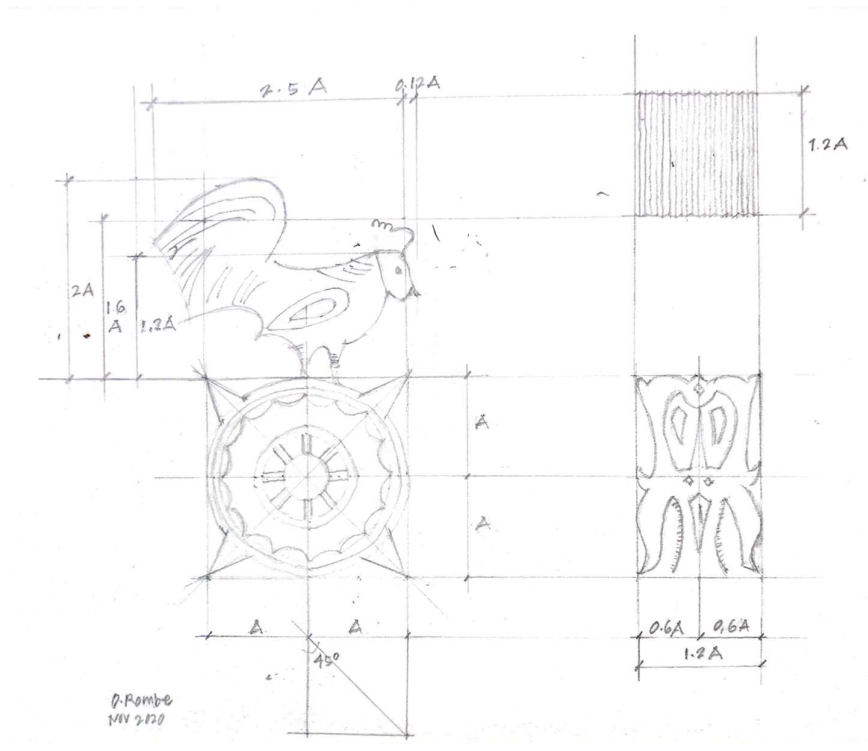


Figure 5: Toraja main carving motifs: (Left) Passura' Pa' Barre Allo (bottom) & Pa' Manuk Londong (top), (Right) Passura' Pa' Tedong (bottom) & Pa'Sussuk (below). The figures are redrawn, and the proportions are interpreted by Octaviana Rombe using photos elicitation inspired by Tangdilintin's work in 1978. It is a balanced geometrical proportion, whether it is a symmetrical or asymmetrical form.

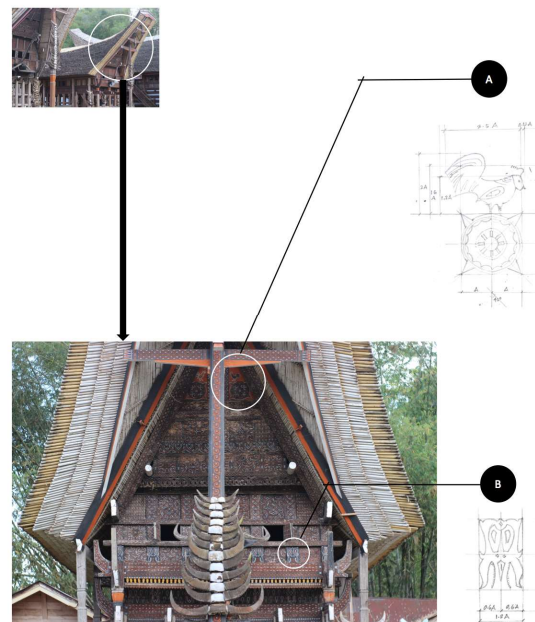


Figure 6: Toraja material symbols. North face details of the Tongkonan show the *Pa'Barre Allo*, the radiance of sunlight motif surmounted by the *Pa'Manuk Londong*, the cock (A), and the *Pa'Tedong*, the buffalo head (B) surrounded by the motifs' development.

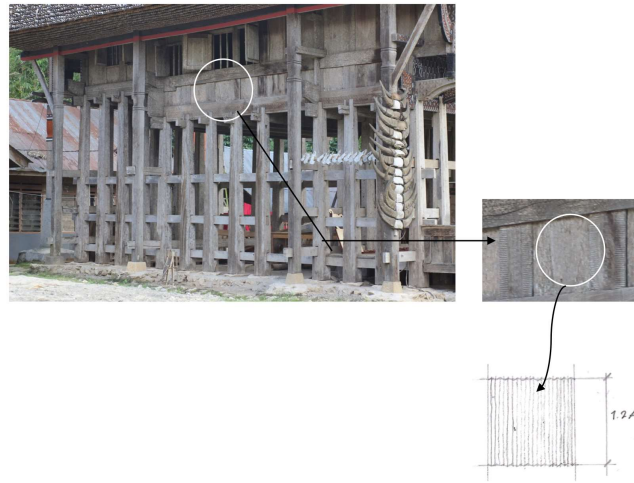


Figure 7: Toraja material symbols. Details of the East sidewall of the Tongkonan show the *Pa'Sussuk*, the simple uncolored vertical or horizontal lines.

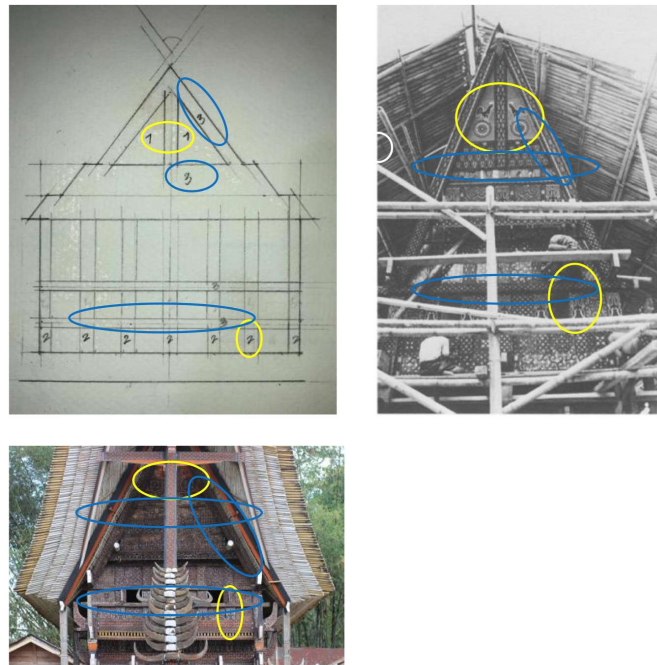


Figure 8: The arrangement of the main carving and its development. The left figures are Tongkonan in Ke'te' Kesu' while the right figure is Tongkonan's photo from Roxana Waterson (Waterson, 1988). Both Tongkonan show (in yellow) where *Pa' Barre Allo*, *Pa' Manuk Londong*, and *Pa' Tedong* must be located surrounded by the rice grain motif (in blue).

The Toraja vernacular architecture, Tongkonan house, is a microcosm, with its carvings reproducing a picture of the universe, the natural world, and human society in miniature (Waterson, 1988). The Tongkonan, a microcosm that has survived for decades (Kis-Jovak et al., 1988), is related to

and associated with the cultural landscape (H.M.Nooy-Palm, 1979). Simultaneously, the Tongkonan villages separated and connected by the rice fields, smallholder coffee farms, and bamboo forest (Mukhlis & Anton, 1987). It is separated due to land ownership, and connected to the cultural landscape. The cultural landscape is the foundation of food production systems (UNESCO, 2002). From this angle, the smallholder coffee farm, the starting point of the coffee supply chain and coffee culture and food production system is seen as part of the cultural landscape.

The cultural landscape reflects the works of man and nature combined, a place for people's livelihoods, identities, and belief structures as the roots of food production systems and living gene banks for tomorrow's food crops. These areas are home to local peoples and indigenous communities and are rich in cultural diversity and intangible values that are meant to be preserved for a sustainable future as a whole (UNESCO, 2002).

The arrangement (Figure 8) of the main carving motifs and the development motifs surrounded is correlated with the rice-growing period (as a constellation) may be regarded to *dandanan sangka*, the term in folk stories (Waterson, 1988) to tell the stories of three life shoots in *Alluk Tallu Lolona*. The theme of the Toraja house carvings can be interpreted in the broadest sense as one of hope for the continuous renewal of the earth's fertility, especially of rice (Waterson, 1988).

The arrangement, which differs from one Tongkonan to another, represents the social and cultural rules of *Aluk Tallu Lolona* that rule the relationship between human, plant, and animal as the local wisdom of agriculture in Toraja. *Aluk Tallu Lolona* means wise and meaningful natural resource management, sustainability in one complete ecosystem (Salubongga, 2011).

Figure 9 shows the conceptual framework, which links the Toraja cultural landscape, Toraja vernacular architecture and its carving motifs, Toraja coffee culture, and the circular economy and coffee value chain.

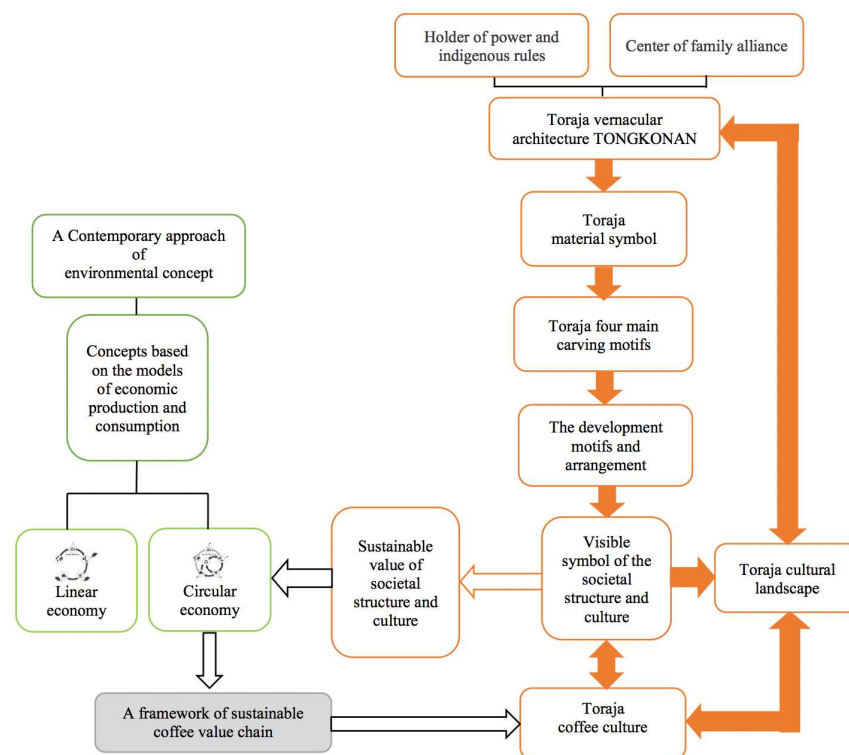


Figure 9: Conceptual framework.

CONCLUSION

Tongkonan is the visualization of the intangible value of Toraja's social structure and culture and the symbol of Toraja's life philosophy. It is a house-society, attached to fluctuating kin relationship, the house that guarantees continuity (Scheffold, 2008). The Tongkonan holds power and indigenous rules for Toraja society. It has an essential meaning of unity, godliness, rules, and governing the life and association of society, work and prosperity, and symbol of the form of a democratic society's social life (H.M.Nooy-Palm, 1975) (Scheffold, 2008). In this sense, architecture is not just *wastu widya*, technically practices, but also *wastu citra*, deeply spiritual (Managunwijaya, 2013).

Passura, the main carving motifs, an important Toraja material symbol, is installed on the Tongkonan. Each of the motifs has its meaning. More than that, the *Passura* and the motif development arrangement is storytelling passed on through generations about the life surroundings and the sustainable value of three life shoots of *Alluk Tallu Lolona*: human, plant, and animal. The existence of *Alluk Tallu Lolona* in the symbolization of Toraja vernacular architecture reinforces the position of *Alluk Tallu Lolona* in the highest order of society, Tongkonan.

This sustainable value of *Alluk Tallu Lolona*, which rules the Toraja cultural landscape and agriculture, thus the coffee culture, will be added as a school of thought to the circular economy framework for the community-based coffee value chain. As it rolls on the community level, the adapted framework with the indigenous value will speak in the same frequency.

It will be a challenge to complete the research on the cultural landscape's material symbols and connect them with the carving motifs found in the vernacular architecture.

Part of the data collection is conducted during the Covid-19 pandemic. The pandemic affects the enormous economic value of the coffee value chain. The domino effect starts with the coffee retailers around the globe and gets deeply into the farming level. It affected how the coffee value chain should be and how the indigenous culture could play an essential role as an agent of change for facing the paradigm.

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