

Making food: exploring the indigenous resilience strategy of the Bima communities in west Nusa Tenggara, Indonesia

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Abstract

This paper explores collective food practices by indigenous communities in the underrepresented indigenous locations in Indonesia and how they shape the living space to create resilience strategies. There has been a wide range of discussions about the spatiality of food and using food as a method in urban and architectural discourse. However, more discussions need to be on how such a topic has been deployed in a vernacular setting. It is argued that discussion on collective food practices by indigenous communities will bring attention and a new approach to connect domestic space, shared space, and the broader discussion of a productive landscape and create a resilient community. This research investigates food practices and spatial structures in the indigenous community in Bima, West Nusa Tenggara, Indonesia. The villages of Mbawa, Sambori, and Maria become part of the case study, as they have a distinctive way of making food and living arrangements, self-sustaining despite the arid landscape. Through field observations and interviews, this paper attempts to capture the presence of food on the indigenous landscape, focusing on how indigenous communities produce and process it spatially and temporally. By mapping the community practices in processing food and its corresponding structures, three indigenous strategies that the Bima people have developed can be identified: caring for the landscape, constructing a collective structure, and internal ordering of the food system. The strategies extend the food practice beyond household units, connecting domestic with the broader landscape. It also shows how the strategies incorporate the physical features of traditional aspects and the traditions and transmitted values.

This paper contributes to expanding the discussion of food as a cultural practice within vernacular architectural discourse through the practice of indigenous communities. Unfolding the complexities in making food and the spaces connected with the local vernacular traditions and rituals would guide our perspective in seeing how such practices carry meaning and enable local resilience among scarce resources.

Keywords: food, indigenous community, spatial practice, vernacular traditions, resilience strategy, Bima.

1. Introduction

This paper discusses the collective food practices and their spatialities as part of the resilience strategies of indigenous communities. Food is one aspect that constructs vernacular living and arrangements (Lawrence, 2016). Food becomes a necessity that sustains the life and culture of an indigenous community (Vellinga, 2007), regulating not only the survival of the people but also the social and cultural relations. The presence of food reflects how the indigenous communities adapt for survival from the changing nature and availability of resources (Lawrence, 2006), thus suggesting its essential position in supporting the collective resilience of the community. In many cultures and traditions, making, sharing, and enjoying food are done together as part of the ritual or everyday domestic arrangements. In some traditional practices, food even determines a person's or household's position and connectedness in society (Lawrence, 1997; Marte, 2007). It shows how food becomes a cultural identity, traditions, and the social values they adhere to (de Certeau et al., 1998; Marte, 2007; Pollan, 2013). Rather than merely viewing food as an object, this paper attempts to demonstrate food as a practice that shapes the indigenous communities' resilient livelihood and living arrangements.

Despite the wide range of discussion regarding the importance of food in a vernacular living and setting, there needs to be more discussion on how resilience is practiced by the indigenous people (Kirmayer et al., 2023). Food and its spatiality are often addressed as essential matters for a domestic domain, how it is prepared, cooked, and consumed (Suryantini et al., 2019). Making food practices suggests regulating the availability of edible matter that is fundamental for the sustenance of such communities and their living space (Suryantini et al., 2023; Paramita et al., 2023). As food practices imply a dialectical connection between nature and culture (Lawrence, 1997), it also indicates the mechanism and essential principles needed for adaptation to the changing environment. Exploring such fundamental ideas and principles of vernacular traditions provides lessons for a better concept of sustainability as the basis of a resilient community (Asquith & Vellinga, 2006). Thus, this paper seeks to understand how food is practiced spatially in response to the needs of the community's resilience.

Understanding food practices as part of community resilience strategies demonstrates the importance of addressing such processes' collectivity and how they connect different spaces within the settlements. Various and intricate ways of making food reflect how the indigenous communities value food and develop particular operations to celebrate food. However, the collaborative nature and spatial flows of the process and practices that follow during the material transformation must be addressed and implicate a simplified end. Functionally, food implies a transformation process from raw material to edible one (Doyon & Labrecque, 2008). However, food also involves broader processes extending from sourcing or cultivating, harvesting, storing, distributing, and preparing within the community and amongst domestic units (Lawrence, 1997). Food traverses and demonstrates a connection between the domestic domain and the larger context (Suryantini et al., 2019). Nevertheless, the trajectories of food are rarely seen as a continuous process, resulting in a narrowed discussion in the vernacular discourses, focusing them as stand-alone units or separated entities from the whole context. This paper

argues that the discussion of the shared and collective way of making food expands such narrow discussion, elaborating the micro to macro trajectories of the indigenous landscape.

This paper explores food making as a spatial practice within the vernacular traditions of an indigenous community in the Bima region, West Nusa Tenggara, Indonesia, exploring how such practices demonstrate strategies of resilience. The discussion starts with exploring how food is practiced spatially and how collective ways of making food characterize their everyday life in the village. The inquiry is followed by describing the traditional community and study methods employed in this paper. It focuses on how rice, as the primary staple food, is produced, stored, consumed, and celebrated by the Bima people, highlighting the spatial structures generated by each process over the landscape. Scrutinizing the making of food signifies the connections between domestic space, shared space, urban design, and the broader discussion of a productive landscape and resilient community.

2. Making Food as a Contextual Tradition Of Indigenous Communities

This paper is interested in understanding food as an indigenous tradition that connects the community with its context. Food is fundamental to traditional communities' domestic life patterns (Lawrence, 1997; Prussin, 1997). It shows that food becomes one of the determinant aspects that can change people's domestic life patterns by managing the availability and access to food materials (Standage, 2009; Haaland, 2012). The availability of food materials in the domestic space of traditional communities affects not only a person's survival but also a community's social and cultural life (Lawrence, 1997). Consciously, regulating the availability and access to food materials in the domestic space becomes part of the community's living space and traditions. The arrangement of food materials in the domestic space is influenced by the number of people and the availability of types of food, whether as their everyday practices, rituals, or specific events (Oliver, 1997). Food is also present as part of the creation (cosmology) of traditional architecture. The presence of food materials is also believed to maintain harmony with environmental, social, and other forces in nature. The territorialization of food materials demonstrates the vast potential of food as a basis of architectural and built form in connection with its context.

The traditions of making food reflect how a community regulates the availability of edible matter throughout the years. Traditions are handed down from generations, manifested in establishing cultural behavior, customs, rituals, or artifacts, suggesting a meaningful and fundamental idea of their living (Oliver, 1997). In vernacular architecture, the traditions are apparent spatially and physically, ranging from the orientation and organization of the minor building details to the larger built form, landscape, spatial relationship, rituals, and ways of doing. As a community that becomes a full-time agriculturalist community, the presence of food traditions is apparent in the establishment of food for their sustenance. They have to deal with environmental variations and irregularities of natural course and anticipate famine, which may be inclined by changing environmental conditions in context.

Reading changes and irregularities in the environmental context becomes essential to address threats and challenges to food processes (Suryantini et al., 2023). In agricultural communities, some tribes may detect the impending drought by addressing the soil conditions, strong winds, and changes in surface temperatures (David et al., 2020).

Weather forecasting is also essential to determine when to plant and when to dry the plant properly (Briggs & Meyers, 2012). With such reading, the communities may react by altering ways of planting, sharing food, and constructing existing structures that support the process of cultivation, gathering, and harvesting, as well as storing the foodstuffs (David et al., 2020; Fleuret, 1986; Lawrence, 1997). These structures reflect practices of cooperation, exchanging or shared goods, and other collective agreements become their way of operating, which are usually carried on for generations as their tradition. Such anticipation demonstrates how some food structures are vital to society's resilience strategies.

Further investigation of such structures may refer to Rapoport's (1997) elaboration on the physical elements and other non-verbal features shown by the communities as cues to capture the presence of the traditions practiced and their meaning, namely fixed features, semi-fixed features, and non-fixed features. The presence of architectural, built forms and structures can indicate the fixed features. The semi-fixed features can be identified as the furnishing of space and setting, showing the temporal qualities--appearing and disappearing as needed. The traditionally built form and community living space demonstrate the fixed and semi-fixed features to manage food. For the agrarian-based community, several traditional built forms are crucial for maintaining supply availability for the whole community. The crops are selected and cultivated to obtain types that suit the needs of traditional communities, whether in their yards, fields, rivers, or forests (Barton & Denham, 2018; Ellen, 2006; Nolan, 2016; Standage, 2009). Food is then collected and stored based on quantity and type in storage spaces such as granaries, field barns as collective or household containers, or particular parts of domestic spaces. Crouch and Johnson (2001) identified a specialized or dedicated farming area, and the food storage units are evident in many traditional agrarian communities. Some cultures also developed irrigation and water control to support the farming area. These structures exist as a series of processes across landscapes. However, how they are spatially connected is often neglected in the vernacular discussion (Suryantini et al., 2023). Examining the whole process of making food becomes a critical inquiry to understand how the spatial structures and settlement forms are shaped in the vernacular context. Thus, this paper attempts to see further food practices how space is arranged by the indigenous people and appropriated accordingly, unfolding the landscape's traditional way of living.

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This paper explores food making as a spatial practice within the vernacular traditions of an indigenous community in the Bima region, West Nusa Tenggara, Indonesia, exploring how such practices demonstrate strategies of resilience. The discussion starts with exploring how food is practiced spatially and how collective ways of making food characterize their everyday life in the village. The inquiry is followed by describing the traditional community and study methods employed in this paper. It focuses on how rice, as the primary staple food, is produced, stored, consumed, and celebrated by the Bima people, highlighting the spatial structures generated by each process over the landscape. Scrutinizing the making of food signifies the connections between domestic space, shared space, urban design, and the broader discussion of a productive landscape and resilient community.

3. Making Food as A Collective Spatial Practice

The above section discusses the indigenous traditions of food making as connected to its context, mainly through the existence of fixed and semi-fixed features of food structures in the community. The non-fixed features can be seen through the people and their attributes and behavior, insinuating how they practice their traditions and everyday life. Such structures and organizations are the affirmations of traditions. Meanwhile, the apparent spatial practices or appropriations in their everyday become a way to connect the present with the past. The following paragraph aims to elaborate on such practices, particularly with regard to food making for the community.

Some of the food-related practices in the community are culture-driven and ritualistic. An example is the elaborate rice planting ritual of the Banjar tribe that is aimed to bring blessings and avoid crop failure (Hastuti & Sumarmi, 2017). However, studies on the indigenous way of doing food based on local knowledge are much more scarce. As an essential material, food has a character that is defined based on its edible and palatable properties (Counihan & Van Esterik, 2013). According to Levi-Strauss (2013), edible food materials may be present in various forms: raw, cooked, or rotted. Various forms of food

material indicate the position of the food material in space as something whose presence is permitted or not (taboo). This form will determine the food transformation process that will occur. The various existence of food shows that the character of materials and the process of material transformation are an essential part of the knowledge of food and architectural spaces.

Understanding the process of making food as practice suggests not only a cultural act and process but also ways of doing or operating that are guided by particular rules or evolving conditions of the community. Making food can be seen as a spatial practice, a way of making or operating based on established rules while allowing one to act based on circumstances in time and space (de Certeau, 1984). De Certeau (1984) emphasized the importance of seeing operations or "ways of operating" in spatial practice. The practice of making food is defined as an essential activity in everyday life because it is not only a practice that is carried out continuously as a tradition but also involves modification and innovation as part of cultural transformation (de Certeau et al., 1998). The process of making food cannot only be seen as a symbolic activity related to the cultural transformation state of materials (Levi-Strauss, 2013) but also as a process that involves particular ways of doing, involving innovation and technology.

The ways of making or operating form the basis of spatial practice and can be used to understand the construction of space. Operations or ways of operating can be interpreted as procedures, ways of doing something (making do), to reveal the logic of action in everyday life (de Certeau, 1984, pp. xiv–xvi). The everyday perspective has the potential to show how the ways of making or doing are carried out repeatedly and continuously, generating dynamic spatial arrangements. The spatial practices reveal themselves as adjustments or negotiations between general macro conditions and specific micro conditions surrounding the context (Highmore, 2002). For example, the use of rice stocks in the granaries and rice trading is related to the planting times and collective assessment of the food sufficiency of families in the community (Bahagia et al., 2020). In this sense flow of foodstuff is determined by local practices and rules regarding micro and macro conditions of society and the environment. This perspective positions the architecture and spatial arrangements as an accumulation of spatial practices full of dynamics and not sterile, with various irregularities and intricacies (Wigglesworth & Till, 1998). Such spatial practices represent an essential basis for understanding how the space is organized and dynamically appropriated (de Certeau, 1984).

Food that is present and available locally becomes the basis for life and traditional architectural forms (Lawrence, 1997; Rapoport, 1969). Food outside the home needs to be considered as a continuum that connects the two oppositions between nature and culture, the raw and the cooked (Suryantini et al., 2019). The transitional space that connects existing oppositions reflects the movement of food materials that may occur in traditional architecture. Food materials move in a flow, transform to meet human needs and become the basis for the existing architecture.

4. Method Of Study: Identifying The Spatial Practice And Vernacular Traditions In Making Food

This study employs the qualitative approach to explore food as a practice that shapes spatial structures of an indigenous community settlement in Bima, West Nusa Tenggara, Indonesia. It aims to investigate the resilience strategy generated within the food practices and traditions of the Bima people. In this study, Bima communities in Mbawa, Sambori, and Wawo Village (Figure 1) become a case study to depict the variety of spatial practices and arrangements in providing food as a domestic unit and collective traditions. In this study, staple food such as rice and corn become the food material being studied. This paper attempts to capture the presence of food on the indigenous landscape through field observations and interviews, complemented by secondary data mining, focusing on how indigenous communities produce and process it.

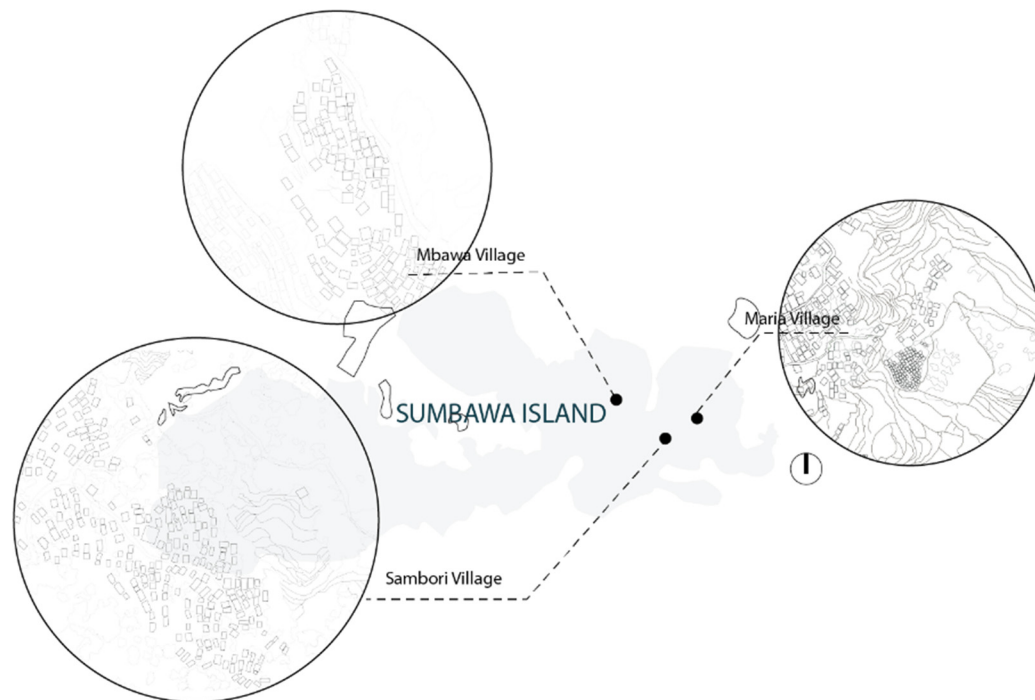


Figure 1: Mbawa Village, Sambori Village, and Maria Village in Sumbawa Island, as the locations of study

Source: Author

Scrutinizing food making as a spatial practice in a vernacular context means following the trajectories of food materials, and its transformation process requires an everyday perspective. This study requires the everyday perspective in food making as the framework that helps to understand the connection between the macro and micro-locations, the general and particular (Highmore, 2002). The perspective arguably allows the revelation of dialectical relations between the general and particular domains that mutually influence each other (Highmore, 2002). The general approach discusses existing social structures,

institutions, and so on and shows the realm of power in everyday life. Particular approaches tend to emphasize the role of individuals and forms of resistance or incompatibility with existing situations.

This study analyzes the general and particular aspects of the food practices of the Bima people. To further unfold such practices, food mapping can be a relevant tool for analysis. Food mapping is a representation method for tracing food materials present in various mapping forms. Such mapping can uncover their livelihood pattern by following the everyday trajectories generated by their spatial practice (de Certeau, 1984; Highmore, 2002). Atkins (2005) uses functional mapping to project territories and explore food systems at various scales (foodscape). On the other hand, Marte (2007) uses mapping to explore and analyze domestic food as an expression of cultural identity using various visual documentation and cognitive maps. Food mapping reveals not only the spatial practices and traditions of the village landscape but also captures their presence temporally.

5. The Indigenous Resilience Strategies of Bima People

Bima becomes the case study, as the indigenous community has a distinctive way of making food and living arrangements, self-sustaining despite the arid landscape. As a region, Bima is located in the eastern part of Sumbawa Island, which has a tropical climate with relatively short rainy days. It can be categorized as a dry region throughout the years, affecting limited water supply and drought in some areas. Half of the region is barren, and only a tiny amount is fertile and suitable for rice fields.

From the everyday perspective, the series of operations and trajectories of food, extending from its raw position to the cooked, define and connect spaces and places in the village. The trajectories suggest that there are fixed and semi-fixed features of the Bima village that accommodate the food-making process and construct the structure of the village. The features comprise the paddy field, the shed, the pathways that connect the field and the houses, the open spaces, the storage units, the space under the houses or granaries, the kitchen, and the eating space. The variations of inside and outside positioning of the operation shape the whole village as a place for making food.

Based on mapping the trajectories, three resilience strategies can be identified from the spatial practice within the Bima vernacular traditions: caring for the landscape, constructing collective structures, and the internal food ordering system. These strategies become crucial in establishing a resilient community, as they indicate the mechanism and essential principles needed for adaptation to the changing environment.

5.1 Caring For The Landscape

The first strategy can be viewed as a macro approach as the people must always deal with a larger context--nature and its changing condition. Food making can be reckoned with the cultivation of rice seeds and planting. Bima people treasure rice very much since they can only plant it once a year to support their family for the year ahead. From January to May, the villagers harvest rice from their fields only once a year. Due to the arid condition of the landscape, they depend on the rainfall in the rainy season and develop a rain-fed system to

ensure they have adequate water for the plants. Bima people start to plant rice in the rainy season and work on growing the crops until the crops are ready to be harvested.

They start farming early in the morning, going to the field with their working tools around seven and returning home in the evening before the sun sets. They weed, water, and fertilize the soil until the crops are ready to be harvested. Some of the villagers build a shelter for them to stay in and tend the rice, mainly if the location of the field is far or approaching harvest time. The family members, usually the men, take turns keeping the field safe day and night, as they need to respond quickly to any threat or changing natural conditions. They usually have dogs to help them chase away wild animals or pests. They work together to process the harvested crops on the field with their family and close relatives. Collective operations are seen in most of the processes of making food.

By reading the arrangement of the houses, it can be seen that the Bima people build their houses with orientation and positions that are always in accordance with the existing topography. The positioning of houses in relation to paddy fields and their storage units related to their respective geographical position shows how food shapes the spatial structures of the village. For example, Mbawa and Sambori are in a mountainous area, and they position their houses on higher terrain or at the same level as their surrounding paddy fields and forests. Both villages arrange the houses and storage units very close or even unseparated from each other. Compared to Sambori, Mbawa Village is located at the top terrain and has a limited surface and terraces-like topography for the houses. Such landscape makes the people build their houses relatively narrow next to each other while attempting to provide ample open spaces in between. Regardless of such conditions, the people in Mbawa optimize several outdoor spaces in the village with good exposure to the sun for drying rice grains while occupying a relatively shaded area for other activities, such as grinding and sifting the rice. On the contrary, Sambori Village has a larger open space area, even though the current houses are more significant than their original traditional ones. They use the open space in front of their house for drying and processing the rice.

Moreover, the Bima people used to believe in *Parafu*. This ancient spirit resides in rocks, large trees, mountains, and water springs, and it is terrible to conflict with the spirit, as misfortune or danger can happen to them (Furkan et al., 2023). Therefore, they used to avoid cutting the trees in the forest. Even though swidden farming is occasionally done, they limit themselves so they would not interfere with the spirit. An ancient belief proves to be a way to protect nature and care for the landscape.

5.2 Constructing Collective Structures

The second strategy involves a combination of macro and micro approaches. The collective agreement is influential in shaping the spatial structure of their village. The crucial process that determines their survival is storing the rice. They store the rice in the storage unit, either in the granary or their house, depending on the village tradition. According to the old stories, the people of Maria Village collectively agreed to create distance and separate the houses from the granaries. The people's granaries are localized as a compound between their houses and paddy fields (Figure 2). The idea was to reduce the risk of losing their food supply due to fire from cooking activities (Alfansi et al., 2018) and have better control over

rice consumption in the village. Each house has a granary in the compound. In addition, the people in Maria Village bring the crops directly from harvest to the storage units and do the entire rice drying process in the available outdoor space. Some people there still believe there are bad days for drying the rice, as the days belong to the mice, so they avoid drying the rice on that particular days.



Figure 2: The compound for the granaries in Maria Village as collective structure, a way to regulate the flow of rice supply

Source: Author

Such collective agreements are also seen in their space arrangement during the drying process. They take turns using the ample open space in the granary compound and help each other with the work (Figure 3). To prepare the rice, they grind the rice grains using traditional mortars--the *aru* (pestle) and *kandei* (mortar) and sift the grain with a winnow called *doku*. Two or three women gather and mill the grains together under the house. When their pestles hit the grains inside the mortar repeatedly, they generate particular rhythmic sound patterns, creating an acoustical composition known as the *Kareku*. The sound could cheer up the women who mill the rice grains.



Figure 3: The process of making food in Mbawa Village after the rice is harvested

Source: Author

A special ritual is held to get a blessing and celebrate the good harvest, like the one conducted in Maria Village. The celebration is called Ampe Fare and starts with praying together, wishing for safety and blessings for their food for the whole year ahead (Alfansi et al., 2018). The whole village gathers in the compound of granaries in Maria Village and performs dancing and singing. The celebration reaches its culmination as the village chief throws a bunch of rice into the granary, the so-called *Uma Lengge*. A successful throw through its main entrance will indicate the successful life of the thrower in the year to come. In the meantime, someone inside the *Uma Lengge* catches the rice bunch and arranges the rice bunch in an orderly manner, up to reaching one thousand bunches of rice. Usually, in each storage unit, they have the so-called *ama-ina pare* (the father and the mother of the rice)—the first rice bunch from the harvest that should not be consumed and specially hung or put in a particular location (Figure 4). The house owner hoped that the *ama-ina pare*'s presence could safeguard their food supply and bless their children, which are the other rice bunches. Such non-verbal features of the community in valuing rice are kept alive as a tradition by the people of Maria Village, reminding them to respect and care for the food.



Figure 4: Ama-ina-pare, the father and the mother of rice
Source: Author

The food-making covers not only the consumption for domestic needs but also the whole village as a communal practice. Tools and ways of preparing the rice create a particular work rhythm and add a different atmosphere to the village. On some particular village occasions, they cook the rice together outside the house along with other meals, creating a temporary kitchen for serving the guests (Figure 5). They set up several temporary stoves from larger stones, bring out their cooking utensils from their household, and cook there together. They also share their rice and food materials and eat them together on the occasion.



Figure5: Prepare the food for the communal activity by setting up an outdoor temporary kitchen

Source: Author

5.3 The Internal Order of The Food System

The third resilient strategy is establishing an internal order of the food system so that each household can have enough rice for the whole year. This internal order covers the micro level of food practice. The Bima people have particular ways of handling the rice and rituals to take care of the food after the harvesting season. Bima people hold rice as a valuable and sacred material, something they need to treasure and respect. They are not allowed to sell the rice; they use it only for their consumption. The harvest should be enough to support the family throughout the year.

In managing the household's rice, only particular family members can take the rice from the storage, and the person should do it in an orderly manner to ensure that the rest of the food in the storage is well kept. The mothers are taught to calculate the family's food rations as they need to be thrifty in taking out the rice bunch every week. It would be shameful if they had to take more than once every week and considered wasteful. They need to take good care of their rice, but if a neighbor faces a crisis and needs help, they should help and give some rice to those in need. If the men usually go to the field and attend to their crops, the women handle the preparation process of drying, grinding the grains and winnowing the rice. In the end, the women cook and serve the food for the family.

As mentioned before, each village has its order to regulate the position of the rice. Here, the relation between the house, where the household lives and the storage unit become the fixed features of vernacular tradition and are also regulated and adjusted according to the changing household situation. If the people in Maria Village arrange the storage unit or Uma Lengge collectively and separately from the house, the people in Mbawa and Sambori position both the house and storage units closely. In both villages, three kinds of close connections can be identified. Such connections are maintained to better control their rice (Figure 6). Each household becomes responsible for taking care of their food and carefully

making decisions. In Mbawa, the fixed structures are known as *Uma Leme*, *Uma Mbolo*, *Uma Ruka*, and the *Jompa*, while in Sambori, they are known as *Uma Lengge* and *Uma Panggung*.

- **The first** is arranging the storage unit and the household in the same space and level, such as in *Uma Leme* and *Uma Mbolo* in Mbawa.
- **The second** is arranging the storage unit and the household under the same roof but at different levels, such as in some *Uma Ruka* in Mbawa and *Uma Lengge* in Sambori. The rice is positioned above the household.
- **The third** is the arrangement of the storage unit next to the house as a separate built form. *Jompa* is built as a granary due to the need of the household for storing the rice and is positioned right in front of the entrance so that the household can keep an eye on their rice. Meanwhile, *Uma Panggung* in Sambori shows variations of such a close connection between the first and the third.

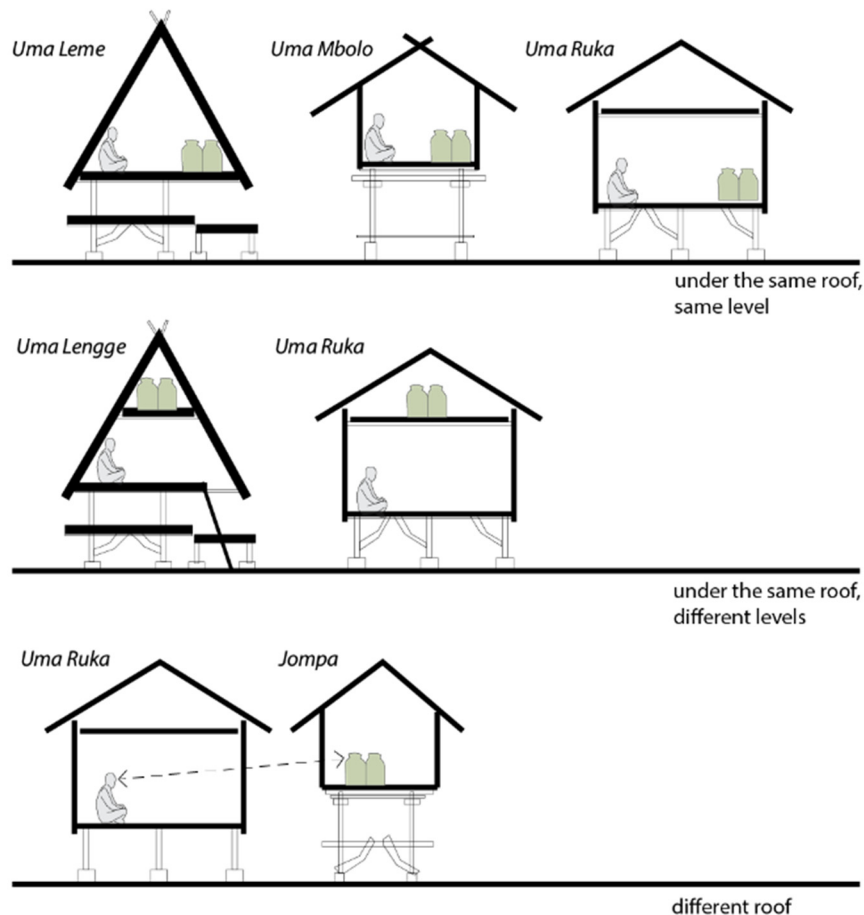


Figure6: Types of connection between household and rice

Source: Author

At the micro level, the trajectories of making food can be seen in the arrangement of food material inside the house. For example, the positioning of rice in Uma Lengge in Sambori Village shows an order related to the layering of surfaces for processing and cooking the food. As mentioned before, the household needs to bring down the rice bunch stored in the attic nearest to the kitchen and move the next bunch, replacing the position of the previous bunch. The bunch is placed on the lowest level of the rack right above the stove so it can be warmed and dried. There are already other bunches on each layer above the newly placed bunch. If the bunch on the highest rack is taken for cooking, the bunch underneath it should be moved and placed on the upper layer so the rice will not be damaged. The layered surfaces of racks above the stove create a cyclical order of food materials.



Figure7: The micro arrangement as a response to food making--the Ri'i wooden pedestal and the arrangement of the wooden ladder
Source: Author

Another example of positioning food material as the micro arrangement is the usage of *Ri'i* and the ladder as part of architectural details (Figure 7). The *Ri'i* is constructed to prevent mice from reaching the storage unit in the granary or inside the house. The wooden platform is comprehensive and positioned under the beam supporting the above floor. Another architectural detail is the arrangement of the wooden ladder. The ladder is only placed temporarily in front of the entrance, signifying that somebody is inside the granary or someone from the household needs to take rice from the granaries. After the use, the household put it back under the granary horizontally aligned with the lower structure. This appropriation shows how a household follows the internal order as part of its system of regulating food availability.

6. Indigenous Food Resilience: Anticipation and Adaptation Strategies

By mapping the community practices in processing food and its spatialities, this paper demonstrates how food practice signifies the resilience strategies driven by indigenous knowledge. The investigation of food practice shows the built form and collective practices to address how the Bima people may cope with the changing environment and crop uncertainty. Three indigenous resilience strategies are outlined: the caring attitude toward the landscape, the construction of collective structures within their village to regulate the flow of food, and handling the food through the internal order of the food system.

These strategies follow trajectories of food flows, connecting the landscape, neighborhood, and domestic spaces. Such strategies incorporate not only the fixed- and semi-fixed features of traditional aspects, such as arrangements of physical forms and open spaces, but also non-verbal features which are shown by the cultural practices of the indigenous, from rituals and beliefs to a particular order of handling objects spatially and temporally, and collective agreement within the people. The variations in the spatial structures of villages show adjustments in practices based on the traditions held for a long time. The sacred value of rice as the primary food is revealed in each of the related operations and manifested in the arrangement of the built forms, in awareness of changing environmental conditions and changing needs of the society.

While discussion of food as a cultural practice in architectural discourse is often limited to a localized domestic space and without reference to its surrounding context (de Certeau et al., 1998), this paper contributes towards expanding such limitations through the practice of indigenous communities. Caring for the landscape requires the community to identify environmental conditions and their changes carefully, and the spatial structures are arranged to enable such connection with the landscape. The presence of collective structures demonstrates the value system shared by the overall communities, shaping the spatialities and collective agreement in storing and using food stocks with each other. In addition, the internal order system of food processing demonstrates how the domestic space is an integrated system that manages the household's food and assesses the food sufficiency and availability based on the positions of food spaces at home.

This study's findings clearly demonstrate how the collective agreement and engagement between actors, temporal arrangements, and networks are apparent within the spatial configurations. By unfolding the complexities of the process, it can be seen how food practices and spaces are connected with the local vernacular traditions and rituals. This becomes essential knowledge that would guide our perspective in seeing how the indigenous community shapes their built environment and the surrounding landscape through their spatial practice to carry meaning, enabling local resilience among scarce resources.

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