

# Exploring Minangkabau Local Knowledge Management in Agam District, Indonesia

## A Preliminary Study

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**Abstract** – Local knowledge is the knowledge found in local communities that consists of a set of experiences that have been accumulated and provides information that shows the local community or local culture's behavioral characteristics. As a result of a variety of factors, such information is at risk of being obliterated, including lack of interest from younger generations and low life expectancy, where knowledge enables individuals to die before passing it to the next generation. Therefore, this paper aims to look at the perspective of community leaders on the status of local knowledge. The data collection method used in this research is an interview. The results of this study indicate that the Minangkabau community in Agam Regency, Indonesia, recognizes their customs, cultures, and habits that are different from the general public. The investigation was carried out by involving community leaders related to the dimensions of local knowledge: (1) The environmental dimension of local knowledge through Lubuak Larangan is a type of community custom and culture that involves the preservation of river and lake areas within specific territorial borders and rules; (2) dimensions of local values; (3) dimensions of local abilities are employed to ensure survival by farming, livestock or industry; (4) dimensions of local resources: utilization of natural resources. The Minangkabau community divided its forest into two categories: prohibited forest and forest cultivated or utilized for economic interests and family needs; (5) the local decision-making mechanism's dimensions; and (6) local group solidarity dimensions: religious rituals, traditional ceremonies, arts, and cooperation.

**Keywords:** *community leaders, local culture, local knowledge, Minangkabau community*

## I. INTRODUCTION

Local knowledge (LK) covers the indigenous, traditional, and innate knowledge associated with local rural people's way of life (Kankeu et al., 2020). LK should not be viewed as a simple complement to scientific knowledge; it encompasses cultural and technical information and social and political knowledge and abilities. Local knowledge can also contain information about the local environment or location, such as unique traits, situations, events, and relationships, as well as an awareness of their significance. To manage agricultural land or plantations and the environment, the community's local knowledge and collective experiences from generations must be conserved and cultivated (Cahyono et al., 2021). LK is frequently and significantly portrayed as distinct by expert or scientific knowledge. It is often described as formalized, explicit, rational, systematized, placeless, non-contextual, and

transferable (Setten & Lein, 2019). Despite the current transformations of society and economy at the global level, a lot of information is embodied almost exclusively in local knowledge as the expression of the local identity of a population (De Lucia et al., 2020). Several experts have characterized local knowledge as a dynamic and complex body of information, practices, and abilities generated and maintained by towns or communities with histories and shared experiences (García et al., 2020). It's critical to remember that people can participate in various knowledge systems, such as local scientists, who are both scientists and local knowledge keepers. LK is the distinct knowledge of a specific community or culture that has evolved through time due to a continual reciprocal interaction between the group and the environment (Wibowo et al., 2021). LK may be defined as a way of life, knowledge, and numerous living tactics carried out by the local community in response to various difficulties and in fulfilling their requirements. This involves how residents of a community watch and assess their environment, as well as how they resolve issues and authenticate contemporary knowledge. It covers the processes that produce, store, apply, and convey knowledge to others.

LK is, additionally, an intangible cultural heritage in many parts of the world, such as Australia, New Zealand, Ghana, China, Tanzania, Nigerian, Africa, and, with no exception, Indonesia (Al-Roubaie, 2010; File & Derbile, 2020; Geng et al., 2017; Syahputra, 2019). In Indonesia, the richness of awareness of local populations has evolved together with the growth of the society in the long run. Made up of divergent ethnic and multicultural groups (religious systems, customs, procedures, language, arts, crafts, regional skills, etc.), Indonesia represents a characteristic that enriches its people's life values. West Sumatra enjoys its knowledge as part of Indonesia's region populated by the Minangkabau tribe. In the long term, local communities' knowledge richness has grown with the evolution of human civilization in Indonesia. West Sumatra is well-known as part of the Indonesian province inhabited by the Minangkabau tribe. Regional knowledge is a passed-down tradition inextricably linked to the lives of men and may take the form of rituals, petitions, wise words, existence slogans, and so on. As a result, plurality must be preserved and created to preserve the noble goals of the country's civilization. One of these civilizations is the Minangkabau tradition. The above leads to the capacity to retrieve information buried in diverse cultural aspects, which necessitates information literacy, particularly cultural literacy. Cultural literacy must be developed to introduce culture and the cultural learning process to society. As cultural literacy is advanced, the emerging generation will be formed by national cultural values, with souls and characteristics. The Minangkabau community has a unique matrilineal and maternal lineage heritage system. In giving birth to the norms that govern life, the traditional Minangkabau society has established nature as its life guide and a source of analogy, demanding thinking and acting (Firdaus et al., 2018). Minangkabau regulates fundamental things such as the basis of thought, values in life, norms in the association, philosophy of life, and laws that must be obeyed. Community leaders lead in developing local culture and disseminating the way of life, values, and local wisdom, which is an important part of building a solid community (Huadsri & Al, 2021). Leaders and community leaders create this habit via conversation and agreement (Munir & Pandin, 2018). Leaders and community leaders create this habit via conversation and agreement (Munir & Pandin, 2018). All community members play a vital role in preserving local wisdom, distinctly religious leaders, community leaders, traditional leaders, youth, children, and the village government (Arsal et al., 2022).

As yet, the Minangkabau community has been recognized as a tribal and robust society in sustaining traditional values based on Islamic teachings, with its customary philosophy of *Adat Basandi Syara', Syara' Basandi Kitabullah* (Iska et al., 2022). The Minangkabau community displays cooperative, interpretive, and dynamic personal and cultural beliefs (Munir & Pandin, 2018). The Minangkabau are the exclusive Indonesian ethnic practicing the matrilineal system and the most considerable adherents globally (Syarief et al., 2020). With its matrilineal system, Minangkabau represents a culture that elevates women as determinants of customary heirs in their tribes (Fauzi & Kumalasari, 2020). The matrilineal system represents the symbolic recognition that a mother is a focal point for unity (Handrianto, 2017). Minangkabau women play a role in maintaining lineage because of its matrilineal system and as a custodian of the treasures of communal ownership in the inheritance system (Azwar, 2018). The Minangkabau society utilizes a matrilineal form of kinship that fosters a sense of responsibility and familial ties among its members (Lamadirisi et al., 2020). This emotion promotes harmony in social interactions. The Minangkabau community prepares a family in marriage to maintain a personal existence within their respective clans.

The United Nations Educational, Scientific, and Cultural Organization (UNESCO) defines cultural heritage as the material objects and intangible qualities of a community or society inherited from previous generations, preserved in the present, and passed down to rising generations (Koya & Chowdhury, 2020). This social legacy Minangkabau community is composed of “intangible” and “tangible” social legacy (substantial legacy incorporates the physical objects and artifacts occupying a cultural place; for illustration, conventional buildings, archeological destinations, notable places, landmarks, and artifacts; intangible legacy is comprised of nonphysical mental property, such as fables, verbal conventions, ceremonies, traditions, convictions, conventions, information, and dialect). Community leaders encourage and maintain cultural awareness as part of the community’s legacy. Minangkabau allows many local understandings, but it’s all in the framework of tacit knowledge that isn’t widely understood. Even though the people of Minangkabau believe some of their customs cannot change, some may experience changes because they adapt to the times (Firdaus et al., 2018). The activities to be carried out are identifying and acquiring knowledge in the Minangkabau community, specifically in Agam Regency, Indonesia.

## **II. METHODOLOGY**

The preliminary study used a qualitative method to individual perception and behavior’s situational dimensions. A qualitative method is appropriate for field research since it focuses on understanding current occurrences from a social and natural standpoint while emphasizing human life and experience characteristics. Qualitative research approaches are implemented to investigate why or how a phenomenon occurs, to build a hypothesis, or to characterize the nature of an individual’s experience, among other things (Berman, 2017). According to Creswell, qualitative research is an effective methodology that takes place in a natural context and allows the researcher to generate a degree of depth by being deeply immersed in actual events (Marvasti, 2018).

This preliminary study observes two traditional leaders, they are 57 years old and 59 years old. This paper explores natural and social phenomena concerning knowledge mechanisms LK community leaders use in Agam Regency, West Sumatera, Indonesia. The core objective is to collect qualitative data from the LK community leaders at the information-gathering stage. As recommended, the most reliable method to implement for this stage is a semi-structured interview to understand the LK among the Minangkabau community with two primary sources of information that have been selected (Creswell, 2013; deMarrais & Lapan, 2004).

## **III. RESULTS AND DISCUSSION**

The inquiry was carried out with the participation of community leaders concerned with the components of indigenous knowledge that exist in the Minangkabau community, particularly in the Agam area of Indonesia. Dimensions are divided into six categories: local knowledge of the natural environment, local values, local skills, local culture resources management, local decision-making mechanism, and local group solidarity.

### *A. Dimensions of Local Knowledge of the Natural Environment*

The agrarian Minangkabau people have long known, utilized, developed, maintained, and preserved their environmental sustainability. They have their own rules and ways, so they don’t annihilate each other, as an elaboration of their traditional teachings: *alam takambang jadi guru*. Human behavior and actions must be rooted in nature. Mortal life and nature are in balance and need each other and are needed by each other. Humans require the natural environment for their life. The natural environment requires humans to preserve, develop, and maintain it. To support this, all communities maintain a pattern of preserving the natural environment for humans that the community has carried out in a hereditary tradition. Agam Regency is a hilly, mountainous, and coastal area dominated by protected forest areas and an agricultural economic base. Human and natural relations (man and biosphere) endure interacting reciprocal relationships. Human life in the conventional system interacts with changes in the environment of life, trying to adapt to natural changes through social adaptability. *Lubuak Larangan* represents indigenous knowledge that typically contains teachings to sustainably maintain and utilize natural resources (forest, land, and water). *Lubuak Larangan* is used to conserve river areas and lakes or reservoirs within certain limits with specific regulations. *Lubuak Larangan* is a form of community

custom and culture in preserving river and lake areas within certain territorial boundaries and regulations. Ecologically prohibited *Lubuak* can protect fish populations and river ecosystems.

*Rimbo Larangan* is to protect the jungle or forest *Rimbo Larangan* of the Minangkabau Community's local wisdom for preserving natural resources. Invitations to protect *Rimbo Larangan* were considered or conveyed by traditional leaders, religious leaders, and community leaders who were made at the time of a traditional gathering. Customary rules have regulated their relationship with nature so that humans and nature coexist and are sustainable. First, cutting down trees except for already dead trees and having certain interests, such as cutting wood for public facilities, is prohibited. Second, it is forbidden to burn the *Rimbo Larangan* area or divert the land in any form because it will destroy all the resources in the *Rimbo Larangan*. Third, it is forbidden to sell forest products. Forest product extraction can merely be carried out to fulfill the needs and interests of the community, not individuals. Fourth, it is prohibited to hunt protected animals in *Rimbo Larangan*.

#### B. Dimensions of Local Values

These values may emphasize the importance of preserving and promoting cultural identity, passing down ancestral knowledge, and maintaining cultural cohesion within the community. Various factors, including culture, history, traditions, and the local environment, shape these values. *Adat Basandi Syarak, Syarak Basandi Kitabullah* is the philosophy of the Minangkabau people, as a cultural community that upholds customary and religious values. *Syarak mangato adat memakai*, the words *syarak* were taken from the *Qur'an*, *Sunnah*, and *Fiqh*, and finally used in custom. According to the philosophy of *alam takambang jadi guru*, nature is exploited as an example in life. Because nature is dynamic and fixed, one source of education in human life is obtained from the phenomena of the universe.

The village must have a hall as a place of deliberation and a mosque as a place of worship, as a cultural community that upholds customary and religious values. Traditional leaders in the community are exalted and praised by the group and society. Traditional leaders in the community, such as the saying *Gadang di ambah, tinggi di anjuang*, mean a customary leader must be exalted and praised in the group and society. The Minangkabau people decided something with consensus and negotiation, known as *bakato baiyo, bajalan bamolah*.

#### C. Dimensions of Local Skills

Local skills refer to the specific abilities, knowledge, and expertise that are developed within a particular community or geographic area. The local context, including the environment, culture, and socio-economic factors, often shape these skills. Every society has a different way of meeting the needs of life, for example, by farming, livestock, or industry. Community skills range from hunting, concocting, trade, farming, handicraft crafts, carving, embroidering, and raising livestock such as chickens, goats, cows, buffalo, ducks, quails, pigeons, and various types of fish that are kept in the pond. The Minangkabau people work on agricultural land together. The economic base of the Minangkabau people, who used to be farming, has shifted with the increasing importance of other sectors. More and more Minangkabau people no longer live in the agricultural sector, with increasing skills and social mobility.

The view of working and hard working aligns with the meaning of life for the Minangkabau people, namely, giving services to relatives and the community. Work is a part that is highly valued, especially trading or trading, because, according to beliefs in Minangkabau culture, the market is the most appropriate place to try to build the economy. Having economic strength will be able to leave an inheritance for the children and avoid it "*hilang rano dek panyakik, hilang bangso dek tak barameh*" (loss of color due to disease, loss of spirit because of not possessing wealth "means that one's self-respect will be lost due to poverty (Miswardi & Nasfi, 2021).

These resources are vital to local communities' well-being, development, and sustainability. Natural resources include the physical elements of the environment, such as land, water, forests, minerals, energy sources, and biodiversity. Cultural resources encompass the tangible and intangible elements of a community's cultural heritage. This includes historical landmarks, archaeological sites, traditional architecture, sacred sites, cultural artifacts, oral traditions, rituals, festivals, and traditional knowledge systems. Each community lives in an area that utilizes varied natural resources. They will process natural resources according to their needs and not exploit them excessively. Not only as a storage

and source of clean water reserves, but the Minangkabau community also understands that when the forest is preserved, it will not pose a danger to them. The Minangkabau community divided its forest into two: (a) prohibited forest that functions as conservation for the sake of the survival of the surrounding community, especially for the sake of protecting water sources and maintaining existing biodiversity, and (b) forest cultivated or used for economic interests and family needs, however, its utilization remain reasonable and do not exploit excessively. The community already knows and understands the rights and obligations of the forest in the village. In most cases, the dominant land uses are fields and gardens. The existing plantations in each village vary from one village to another.

In the Minangkabau society, three pillars build and maintain the integrity of culture and customs. *Tungku tigo sajarangan* is a leadership term in Minangkabau that is needed to regulate governance and norms that exist in society. *Tungku tigo sajarangan* consists of *penghulu (niniak mamak)*, *alim ulama*, and *cerdik pandai*, i.e., traditional leaders, religious leaders, and community leaders (Roza, 2020). All three work in complementary with each other and are put shoulder-to-shoulder in the same high position. In a democratic and egalitarian Minangkabau society, all community affairs are unanimously deliberated by these three elements (Wirasty, B, 2017).

#### D. Dimensions of the Local Culture Resources Management

These resources are vital to local communities' well-being, development, and sustainability. Natural resources include the physical elements of the environment, such as land, water, forests, minerals, energy sources, and biodiversity. Cultural resources encompass the tangible and intangible elements of a community's cultural heritage. This includes historical landmarks, archaeological sites, traditional architecture, sacred sites, cultural artifacts, oral traditions, rituals, festivals, and traditional knowledge systems. Each community lives in an area that has different natural resources. They will process natural resources according to their needs and not exploit them excessively. Not only as a storage and source of clean water reserves, but the Minangkabau community also understands that when the forest is protected, the forest will not pose a danger to them. The Minangkabau community divided its forest into two: (a) is a prohibited forest that functions as conservation for the sake of the survival of the surrounding community, especially for the sake of protecting water sources and maintaining existing biodiversity, and (b) forest that is cultivated or used for economic interests and family needs, however, its utilization remain reasonable and do not exploit excessively. The community already knows and understands the rights and obligations of the forest in the village. In general, the dominant land uses are fields and gardens. The existing plantations in each village vary from village to village.

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#### E. Dimensions of the Local Decision-Making Mechanism

Local decision-making mechanisms refer to the processes and structures through which decisions are made within a specific community or locality. These mechanisms determine how community members participate, contribute, and influence decisions that affect their lives. In Minangkabau, two systems influence the politics of customary governance. The two systems are well recognized, namely *Bodi Caniago* and *Koto Piliang*. *Bodi Caniago* applies a democratic system, and *Koto Piliang* applies an autocratic system. Apart from influencing government politics, these two systems also influence the character of the Minangkabau community. When a decision has been committed, something is in place. The deliberations are not over. The decision is not binding. There is, nonetheless, another measure that must be used. That measure is *Alua Patuik, Jo Mungkin*. *Alua* is a law or provision. *Patut* is appropriate or reasonable and, perhaps, is enforceable. Therefore, the decisions adopted must be according to these measures. If it conforms to that standard, there is, even so, a final measure, *adat jo pusako*. Decision-making in Minangkabau society employs deliberation and consensus in all problems that occur in life. There are customarily no problems that cannot be resolved in the deliberation. In Minangkabau custom it is historically termed *indak ado kusuik nan indak salasai, indak ado karuah nan indak janiah*. Local

decision-making mechanisms frequently emphasize the participation and engagement of community members. Participatory processes involve consultation, dialogue, and collaboration among various stakeholders, including community members, local organizations, government agencies, and other relevant parties.

#### F. Dimensions of Local Group Solidarity

Local group solidarity refers to unity, cohesion, and mutual support among members of a specific community or group within a locality. The dimension of local group solidarity can be identified in religious rituals, traditional ceremonies, arts, and cooperation. Religious rituals typically performed are *Balimau*, usually done to welcome the holy month of Ramadan, which aims to cleanse oneself from sins and give mutual forgiveness, *Khatam Al-quran*, and *aqiqah*. Traditional ceremonies, among others, *maminang* is an application procession ceremony in the Minangkabau tradition; *manjapuik marapulai*, namely the process of advancing the groom who lives with the bride at the bride's family house; *maanta marapulai*, namely the process of delivering the groom witnessed by guests, this process is the prior procession after the wedding; and *pasambahan adat*—art shows, among others *Randai*, *Saluang*, *Tambua Tansa*, and *Basilek*.

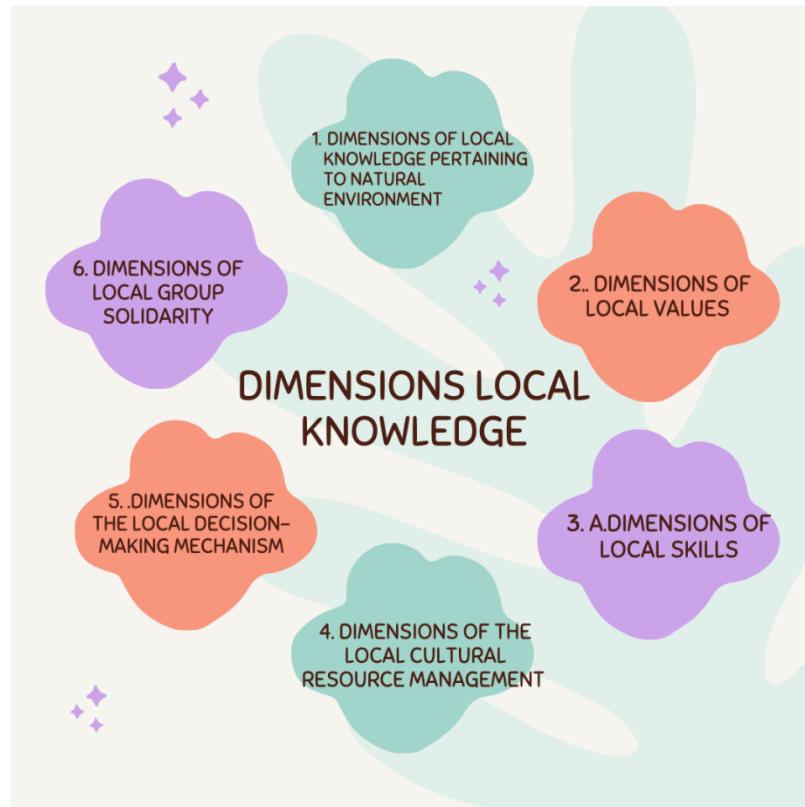
The Minangkabau people incorporate a philosophy of life related to cooperation: *Sadancıang bak basi*, *saciok bak ayam*. This illustrates the robustness of the cooperation activity system in the Minangkabau community. The embodiment of a cooperation system in the agricultural sector for the Minangkabau community in processing agricultural land is carried out jointly. The rice fields are done under the guidance of an uncle or *mamak* (the mother's brother), together with the sons of the sisters (nephews) and the husbands of the sisters (*orang sumando*) heavy category portion. *Sumando* represents the Minangkabau language for men who associate with a female family and are tied up with a marriage rope. His status in his wife's family remains a person coming. After harvesting and positioning it in the barn, the men cooperated until they brought the rice home. The light work is carried out by women together with the cooperation system between women, while the children are tasked with *menggaru pipit* (hunting rice-eating birds).

The *Bakaba Barito* community knowledge is passed down from parents or hereditary knowledge, knowledge from personal experience, and knowledge from group interactions with external parties. Knowledge transfer from cultural figures or cultural observers to following generations is done by presenting the culture appropriately, such as at the *baralek gadang* event. Traditional cultures maintain a certain approach towards life, the planet, and man, as well as what they consider to be holy or sacred, such that their beliefs, outlook on life, social and cultural institutions, and even rituals are inextricably linked to the components of the environment (Rozi & Taufik, 2020).

From the theories and models underlying exploring the status of local knowledge of Minangkabau community in Agam District, Indonesia, community leaders' perspective derives a dimension of local knowledge such as Figure 1. The investigation was carried out by involving community leaders related to the dimensions of local knowledge that exist in the Minangkabau community. To begin with, there's the environmental dimension of local knowledge. Every culture has the power to alter in response to its surroundings. Local knowledge primarily includes instructions on how to sustainably manage and consume natural resources (forest, land, and water) that can protect fish populations and river habitats from an ecological standpoint.

Second, there are the dimensions of local values. Citizens have voluntarily agreed upon and obeyed rules for living together as a religious and cultural community that supports traditional values. Third, the dimensions of local abilities are employed to ensure survival. Hunting, concocting, trading, farming, artisan crafts, carving, embroidering, and keeping animals such as chickens, goats, cows, buffalo, ducks, quails, pigeons, and many sorts of fish kept in the pond are just a few examples of community abilities. The Minangkabau people collaborate on agricultural land. Fourth, dimensions of local resources (local knowledge). Utilization of natural resources (how to maintain, care for, and utilize). They will process natural resources according to their needs and not exploit them excessively. The fifth is the local decision-making mechanism's dimensions. Two systems in Minangkabau impact customary governance politics. The two systems, *Bodi Caniago* and *Koto Piliang* are well-known. In all life's difficulties, the Minangkabau civilization uses deliberation and consensus to commit to decisions. There are rarely any issues that cannot be settled during the deliberation. The sixth is local

group solidarity dimensions: religious rituals, traditional ceremonies, arts, and cooperation. The Minangkabau people have a life philosophy based on cooperation.



**Fig. 1.** Dimensions of Local Knowledge  
Source: Authors (2023)

#### IV. CONCLUSION

Local knowledge is a way of looking at life, science, and numerous living tactics that the Minangkabau people resort to adapt to various situations and satisfy their needs. Local knowledge is valuable and may be studied, developed, and conserved due to sociocultural development and modernization. Even though these six levels of local knowledge possess local values, the values included within them are regarded as extremely universal. This can be witnessed from their local knowledge of conquering nature. Each community has local rules or values adhered to and agreed upon, life skills are overly dependent on geographic conditions, use local resources according to their needs, and have their local government. Community leaders are widely considered and respected as the keepers of customs and traditions given to them to provide traditional advice to their communities. In the lives of the Minangkabau, character-forming cultural values are transmitted from the prior generation to the younger generation through various institutions, including the family, the extended family environment, and the surrounding community. Customary education is one of the institutions that can be utilized to transmit cultural values. The Minangkabau people base their religious and traditional education on the *surau* (mosque). *Surau* is a local institution contributing to forming religious, moral principles, and Minangkabau cultural practices.

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