



Collective Work, Household Resilience, and Local Ecological Knowledge: Interpreting the Philosophy of *Meup on Ate, Nah on Usif* through the Narrative of Baimoke Farm in Timor

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ABSTRACT: Studies of agrarian labor generally position agricultural activities as strategies for production, livelihood, or ecological adaptation, while labor as a cultural institution that reproduces family relations and ecological knowledge remains under-recognized. This study analyzes how the philosophy of *Meup on Ate, Nah on Usif* is embodied in the collective labor of Mr. Rafael Obe's family in Baimoke Farm, Timor, and explains its contribution to household resilience and ecological regeneration. The study employed a qualitative approach with a narrative case study design. Data were collected through two in-depth interviews, participant observation, field documentation, and narrative reflections on the researcher's lived experiences as a member of the studied family. Data were analyzed using reflexive thematic analysis. The results show that this philosophy is not simply an individual work ethic, but rather a relational principle that organizes the intergenerational division of labor, food production and storage, the transformation of corn into livestock as household assets, and the management of fallow periods and vegetation protection. Collective labor also serves as a medium for family identity formation, risk management, and the transmission of ecological knowledge through direct participation. These findings are formulated in the Collective Labor–Ecological Reproduction Model, which links food, economic, social, knowledge, and ecological reproduction in a single cycle of sustainability. This study expands the anthropology of work and meaningful work by locating the significance of agrarian labor in collective responsibility towards family, land, and future generations. The implication is that dryland development policies need to recognize family labor and local knowledge as socio-ecological infrastructure, not simply factors of production.

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1. INTRODUCTION

Work is a fundamental theme in anthropology because it not only produces goods and income, but also shapes social relations, identities, moral obligations, and how humans relate to the environment. In agrarian societies, work skills develop through bodily engagement with the land, the seasons, vegetation, and other family members; therefore, knowledge does not exist outside of practice, but is formed in the process of work (Ingold, 2000). The value of work products cannot be reduced to market prices either, because food, livestock, and land acquire meaning through responsibility, honor, and their contribution to the sustainability of the collective (Graeber, 2001).

This perspective positions work as a cultural practice that unites skill, ethics, and attention to process. Sennett (2008) calls the DOI: <https://doi.org/10.55677/SSHRB/2026-3050-0819>

connection between hands, minds, and responsibility the core of craftsmanship. On family farms, this principle is evident in the sequence of clearing fields, selecting seeds, tending plants, storing the harvest, and caring for livestock. This sequence produces food while fostering discipline, solidarity, and a long-term orientation. Identity as a 'good farmer' is also constructed through cultural norms regarding decent work, land stewardship, and social recognition, not just through productivity (Burton, 2021).

Studies of meaningful work demonstrate that people work to gain meaning, build identity, form relationships, and fulfill moral goals. However, this literature is still dominated by the experiences of workers in formal organizations (Rosso et al., 2010; Yeoman, 2014). This dominance raises the question of how meaningful work is constructed in agrarian households that do not clearly separate the spheres of work, family, subsistence, and cultural inheritance. In such contexts, the meaning of work is more closely tied to the ability to secure food, fulfill kinship obligations, defend the land, and ensure the sustainability of future generations than to individual careers.

Farming families are therefore inadequately understood simply as units of production and consumption. Family labor is a mechanism that organizes household labor, needs, and risks (Chayanov, 1966), as well as an arena for intergenerational learning. Contemporary research on youth pathways to agriculture confirms that the sustainability of family farming depends on access to land, family networks, agrarian identity, economic opportunities, and the ability to combine farming activities with other livelihoods (Ambarwati et al., 2024; Chazali et al., 2024; Srinivasan & White, 2024; White & Wijaya, 2024). Thus, farmer regeneration is not simply a matter of age, but a social process embedded in family and agrarian relations.

The literature also suggests that interest or passion is insufficient to retain new generations in farming when access to land, capital, knowledge, and social support is limited (Nasielski et al., 2024). Pathways to farming unfold through negotiations with family legacies, market pressures, educational aspirations, and changing agrarian structures (Jansen et al., 2024; Pan, 2024). In the Indonesian context, journeys into and out of farming are gendered, pluriactive, and plurilocal; young people may leave the village, work in other sectors, and then re-engage in the family farm (Ambarwati & Chazali, 2024; Chazali et al., 2024; White & Wijaya, 2024). This perspective reinforces the importance of viewing family work as a process of social reproduction, rather than as a mere labor input.

Family work is also closely related to household resilience. Resilience is determined not only by the number of assets or income diversification, but also by a family's ability to coordinate labor, store food, manage consumption, convert harvests into assets, and mobilize social support when faced with uncertainty. Community support can strengthen the position of smallholder farmers through risk distribution and more stable relationships between producers and consumers (Sulistiyowati et al., 2023). However, the forms of resilience that emerge from daily work, moral obligations, and local knowledge remain poorly explained.

The ecological dimension is a crucial part of this issue. Local ecological knowledge is formed through long experience in interpreting soil, rainfall, vegetation, water sources, seeds, and seasonal changes (Berkes, 2018; Toledo & Barrera-Bassols, 2008). This knowledge is passed on primarily through participation in the work, not just through verbal explanations. In West Timor, the Salome farming system demonstrates that local wisdom, crop diversification, and farmer behavior contribute to household food security (Levis et al., 2017). However, the relationship between collective work, knowledge reproduction, and ecological regeneration has not been widely formulated as a single socio-ecological mechanism.

The island of Timor provides an important context for examining these relationships. Dryland agriculture faces a short rainy season, limited water availability, and uncertain yields. Atoni Meto life is structured through relationships between family, land, customary structures, and place of origin (McWilliam, 2002; Nordholt, 1971). Previous research has shed light on Atoni cosmology, kinship, and political systems, but everyday work practices have not been widely explored as a primary arena where cultural values, food security, family assets, and ecological knowledge are simultaneously produced.

This article focuses on the philosophy of *Meup on Ate, Nah on Usif* as practiced by Mr. Rafael Obe's family on Baimoke Farm. This philosophy is not treated as a stand-alone maxim, but rather as a lens for understanding how work is shared, learned, repeated, and directed toward the common good. The narrative of one family is used as an ethnographic window, rather than as a statistical representation of the entire Atoni Meto. This approach allows for in-depth analysis of the micro-processes linking work, food, livestock, land, and generations.

Based on this review, three main gaps remain. First, studies of agrarian work often separate economic production from cultural and ecological reproduction. Second, studies of meaningful work and farmer regeneration have not fully explained how the meaning of work is shaped through family obligations and intergenerational engagement in indigenous communities. Third, literature on indigenous ecological knowledge often inventories knowledge rather than explaining collective work as a medium for its formation and transmission. This study bridges these three gaps through an analysis of a single family practice system.

This study asks three questions: (1) how is the philosophy of *Meup on Ate, Nah on Usif* embodied in the collective work practices of Mr. Rafael Obe's family; (2) how do these practices build household resilience through food management, asset formation, and the transmission of ecological knowledge; and (3) how do the experiences of Mr. Rafael Obe's family expand the anthropology of work on the relationship between family and sustainability in dryland areas. The article argues that collective work is a mechanism of socio-ecological reproduction that simultaneously produces food, assets, solidarity, knowledge, and the regenerative capacity of the landscape.

This research contribution consists of three parts. Empirically, the article documents the work practices of dryland farming families in Timor. Theoretically, the article expands on meaningful work and the anthropology of work by demonstrating that the meaningfulness of agrarian work lies in the relationship of responsibility to family and the environment. Conceptually, the article proposes a Collective Labor–Ecological Reproduction Model to explain the cyclical relationship between collective work, household resilience, knowledge transmission, and ecological regeneration.

2. MATERIALS AND METHODS

2.1 Research Design

This research uses a qualitative approach with a narrative case study design. This design was chosen to understand how the philosophy of *Meup on Ate, Nah on Usif* is formed, practiced, and passed down through family life experiences, not to measure relationships between variables or produce statistical generalizations. Narrative inquiry allows experiences to be situated in relationships between time, place, and social interactions (Clandinin & Connelly, 2000; Riessman, 2008).

2.2 Study Site

The research was conducted at Baimoke Farm, South Central Timor Regency, East Nusa Tenggara. The location was chosen purposively because it represents dryland agriculture, which is affected by a short rainy season, limited water supply, and a heavy reliance on local knowledge. Farms are understood not only as production spaces but also as cultural landscapes where families organize work, food, livestock, intergenerational relationships, and land restoration.

2.3 Participants and Units of Analysis

The primary informant is Mr. Rafael Obe, an Atoin Meto farmer who has managed Baimoke Farm with his family for decades. The selection was purposive based on his agricultural experience and knowledge of the philosophy under study. The unit of analysis is not the individual, but rather the collective work practices of the family, reconstructed through the informant's narrative, observations, documentation, and the researcher's participatory reflections on the experience.

2.4 Data Collection

Data collection took place over two weeks through two in-depth interviews, participant observation of family activities and field conditions, photo documentation and field notes, and narrative reflections on the researcher's life experiences since childhood. Interviews were conducted in Dawan and Indonesian, depending on the informants' comfort. Local terms were translated contextually, preserving the cultural meanings that emerged in the conversations.

2.5 Data Analysis

Data were analyzed using reflexive thematic analysis through six stages: familiarization, initial coding, theme development, theme review, defining and naming themes, and writing analytical narratives (Braun & Clarke, 2022). The analysis was conducted iteratively by comparing interviews, observations, documentation, and researcher reflections. The themes were then dialogued with literature on the anthropology of work, meaningful work, family labor, moral economy, household resilience, and indigenous ecological knowledge.

2.6 Researcher Positionality and Reflexivity

The researcher is from Baimoke, speaks Dawan as his mother tongue, and is a member of Mr. Rafael Obe's family. His insider position afforded his access to experiences, local terms, and practices that are difficult to grasp during a short visit, but also potentially led to taken-for-granted assumptions. To manage this risk, the researcher separated personal experience notes, informant narratives, observational findings, and analytical interpretations; compiled reflective memos; and tested interpretations through dialogue with the literature and confirmation with informants.

2.7 Trustworthiness

Credibility was strengthened through triangulation of sources and techniques, long-term engagement with the researcher in the social context, and member checking. Transferability was supported through a thick description of the socio-ecological context of Baimoke Farm. Dependability was maintained through documentation of coding decisions and theme development, while confirmability was strengthened through an audit trail and critical reflection on the researcher's position (Lincoln & Guba, 1985).

2.8 Ethical Considerations

Informants received an explanation of the research objectives, participation methods, data use, and the right to withdraw from the interview. Informed consent was obtained prior to data collection. The primary informant, Mr. Rafael Obe, also provided explicit consent to be identified by name in this publication. The presentation of findings respects the dignity, family relationships, and cultural values of the Atoin Meto community. Family experiences are treated as a collaborative body of knowledge, not as objects of academic exploitation.

3. RESULTS AND DISCUSSION

3.1 *Meup on Ate, Nah on Usif*: Work as Cultural Practice

Activities at Baimoke Farm begin long before the sun reaches its zenith. During the planting season, the entire family is in the fields from early morning. There is no rigid division of labor as found in modern production systems. Each family member learns their responsibilities through life experiences repeated from one season to the next. Children help clear the land, gather wood, or chase birds away from the fruiting plants. Adults clear the land, plant, harvest, repair fences, and organize the storage of the harvest. Parents not only work but also supervise, lead by example, and explain the rationale behind each task. Thus, work becomes a shared learning process that connects experience, responsibility, and family life.

In a conversation using Dawan, Mr. Rafael Obe explained that work is not primarily about earning money. For him, work means fulfilling obligations to his family, preserving ancestral fields, and ensuring that his children continue to have a livelihood in the future. The philosophy of “*Meup on Ate, Nah on Usif*” is understood as an encouragement to work diligently, but not for individual gain. Work gains meaning because it is done together with the family and is directed towards the continued well-being of all household members.

This experience demonstrates that *Meup on Ate, Nah on Usif* serves more than just a moral imperative that teaches work ethic. This philosophy lives on in the family's daily practice, through the involvement of all household members in various agricultural activities. Children learn to work not through formal instruction, but through direct participation in family activities. Knowledge about when to open fields, how to select seeds, how to store corn, and the right time to use fallow land is acquired through experiences working with their parents. Thus, work becomes the primary medium for transmitting knowledge and cultural values between generations.

These findings demonstrate that the meaning of work in the Mr. Rafael Obe’s family differs from the understanding developed in most meaningful work studies that focus on individual experiences in modern organizational environments (Rosso et al., 2010; Yeoman, 2014). In the context of Baimoke Farm, the meaningfulness of work does not come from personal satisfaction, career achievement, or professional recognition, but from one's ability to fulfill responsibilities to family, ensure food security, and prepare for the lives of the next generation. Work is understood as a social relationship that connects humans to family, the environment, and the future.

These findings also broaden the perspective of the Anthropology of Work, which views work as a cultural practice embedded in social life (Ingold, 2000). In the Mr. Rafael Obe’s family, work activities are inseparable from the process of building relationships among family members. Every task always involves cooperation, mutual assistance, and a naturally evolving division of responsibilities. These relationships demonstrate that work is not simply about producing agricultural commodities but also about reproducing the family's social structure and strengthening its collective identity as a dryland farming family.

From this perspective, the philosophy of *Meup on Ate, Nah on Usif* is no longer understood as a stand-alone work ethic, but as a cultural practice that organizes all family life. Through collective work, Mr. Rafael Obe’s family not only produces food but also builds solidarity, instills moral responsibility, transmits ecological knowledge, and maintains the continuity of the relationship between humans, the land, and future generations. Work, therefore, becomes the primary mechanism for the reproduction of the social and cultural life of the Atoin Meto agrarian community.

3.2 Collective Work as the Foundation of Household Resilience

For Mr. Rafael Obe’s family, working in the fields has never been seen as an individual activity. Each planting season involves all family members, depending on their abilities and stage of life. Parents prepare the land, determine planting times, select seeds, and make important decisions regarding field management. Children are involved from an early age in various tasks appropriate to their abilities, such as clearing weeds, protecting crops from livestock and birds, gathering the harvest, and helping bring the corn home. This involvement is not intended to exploit child labor, but rather as a cultural learning process that introduces responsibility, discipline, and the meaning of living together as a family.

During the interview, Mr. Rafael Obe emphasized several times that a person does not work solely for themselves. In everyday Dawan language, work is always understood as a responsibility for all family members. The fruits of labor are never owned individually, but rather belong to all, and must be managed for the well-being of the household. This perspective forms a relationship pattern that views work as both a moral obligation and a manifestation of concern for the lives of others.

This experience demonstrates that the family is not simply a place where agricultural production activities take place, but rather a social institution that reproduces the values of work. Children learn the meaning of work not through advice or formal education, but through direct involvement in family activities. They witness how their parents prioritize the common good over personal interests, how the harvest is not immediately consumed, and how each family member assumes responsibility according to their role. Thus, collective work serves as both a mechanism for character formation and a medium for intergenerational cultural transmission.

In Mr. Rafael Obe’s family, the division of labor is not based on rigid specialization, but rather develops flexibly according to job requirements, age, physical abilities, and seasonal conditions. When clearing the fields, nearly all family members are involved. During harvest time, work is carried out cooperatively to ensure the harvest can be secured quickly before it spoils. This flexibility

demonstrates that economic efficiency is not the sole consideration in organizing work. More important is maintaining family cooperation so that all work can be completed collectively.

This collective effort ultimately shapes household resilience. Resilience is not understood solely as the ability to cope with crop failure or food shortages, but as a family's ability to maintain survival through cooperation, shared responsibilities, resource management, and adaptability to environmental changes. When the rainy season arrives late or harvest yields decline, families do not immediately shift their focus to other economic activities, but instead strengthen their collective work, reorganize the use of food reserves, utilize livestock as assets, and adjust consumption patterns until the next planting season. Thus, household resilience is built primarily through social relations within the family, not solely through increased agricultural production.

These findings demonstrate that collective work serves a much broader function than simply producing food. Work serves as a mechanism that enables families to manage risk, maintain solidarity, regulate resource distribution, and ensure intergenerational sustainability. In this context, household resilience is not a condition that arises after a family successfully produces food, but rather the result of ongoing collective work practices in daily life.

This finding expands the concept of family labor, which has been widely used to explain family members' contributions to agricultural production activities (Brookfield, 2001; Chayanov, 1966). In Mr. Rafael Obe's family, family labor not only generates economic output but also generates social capital, moral responsibility, cultural knowledge, and adaptive capacity that enable the family to survive ecological uncertainty. Thus, collective labor not only reproduces the family's labor force but also the family's life system itself.

This perspective also enriches discussions on household resilience. Previous studies generally explained household resilience through asset ownership, income diversification, or the ability to adapt to climate change. This research shows that before all these factors come into play, a more fundamental foundation exists: collective work that connects all family members in a shared life purpose. Collective work enables food production, careful harvest management, family assets development, ecological knowledge transmission, and social solidarity maintenance. Therefore, collective work is a key foundation for household resilience in dryland agrarian communities.

Based on these findings, this study proposes that the relationship between work and household resilience is not linear, but relational. Collective work forms a network of relationships that connect food production, food reserve management, asset formation through livestock, the transmission of ecological knowledge, and the sustainability of family life. Thus, the philosophy of Meup on Ate, Nah on Usif not only explains why communities work, but also explains how collective work becomes a primary mechanism of social reproduction that enables families to sustain their livelihoods from one generation to the next.

3.3 Corn, Barns, and Moral Economy: Food as a Support for Family Life

For Mr. Rafael Obe's family, the end of the harvest season does not mean the end of the agricultural work. In fact, after all the corn is harvested, an equally important stage begins: managing the harvest to ensure it can sustain the family until the next planting season. Not all the corn is immediately sold or consumed. Most of the harvest is first dried, sorted for quality, and then carefully stored in the family barn. Interestingly, even the corn that will eventually be sold is stored there first. Thus, the barn serves not only as a food storage area but also as a space for managing family life.

In the Obe family, corn storage is not merely a technical measure to maintain the quality of the harvest. Storage is part of a cultural strategy for coping with seasonal uncertainties. Corn is stored until the next harvest season so that the family has sufficient food reserves in case the rainy season is delayed or the next harvest is lower. Some corn is only sold during the lean season, when the community's corn supply begins to dwindle and its exchange value increases. In such situations, the harvest not only ensures food security but also provides an economic resource that can be used to meet various family needs.

Furthermore, corn harvests are often not sold solely for cash. On numerous occasions, corn is bartered for livestock, particularly cattle, which hold significant economic and social value in the Atoin Meto community. Through this mechanism, corn undergoes a transformation in value. It does not cease to be a food source but becomes a family asset that can be utilized for various future needs, including financing children's education, customary needs, and as a reserve in case of emergency. Thus, the value of corn does not stop at its consumption function but continues to evolve through the family's life cycle.

This practice demonstrates that Mr. Rafael Obe's family primary focus is not on maximizing economic profit through immediate post-harvest sales, but rather on maintaining household survival. The decision to store the harvest until the lean season demonstrates that the family prioritizes subsistence security over short-term profits. This finding aligns with James C. Scott's (1976) notion of the moral economy of the peasantry, which states that farming households tend to make economic decisions based on the principle of safety first rather than profit maximization. However, Mr. Rafael Obe's family experience also demonstrates distinct characteristics. While in many of the farming communities Scott studied, food reserves primarily served to maintain family consumption, in Mr. Rafael Obe's family, these reserves also served as a means of building productive assets through exchange for livestock. Therefore, corn storage was not only a subsistence strategy but also an intergenerational investment strategy.

The moral value of corn is further evident in the various cultural rules that accompany the harvest process. During the harvest season, family members maintain a watchful attitude and speech while in the fields. They avoid speaking loudly, shouting, or laughing excessively. These taboos are not understood as unreasonable prohibitions, but rather as a form of respect for the harvest

that has been bestowed upon the family. In the Atoin Meto community, corn and rice are called *usi*, a term that demonstrates respect for food as a source of life. This designation demonstrates that the harvest is not positioned as an inanimate object or mere economic commodity, but as a part of life that must be treated with respect and responsibility.

This cultural significance demonstrates that Mr. Rafael Obe's family relationship with corn is relational. Corn is not simply an object to be produced, traded, or consumed, but rather part of a social relationship that connects humans, families, nature, and the future. Respecting corn means honoring the collective work of all family members, appreciating the fertility of the soil, and preserving the sustainability of life that depends on the harvest. Therefore, storing corn in the barn is both an economic and a moral act that connects the family's present with its future.

These findings also broaden our understanding of the theory of value in anthropology. As David Graeber (2001) explains, the value of an object is determined not only by its market price but also by the social relationships and cultural meanings that society attaches to it. In the context of Mr. Rafael Obe's family, corn gains its value not primarily because it can be sold, but because it ensures the family's continued survival. This value continues to increase as the corn is transformed into livestock, as livestock become a source of economic security, and as this entire process enables the family to sustain itself from one season to the next.

Thus, this study proposes that the granary in the Atoin Meto community cannot be understood simply as a harvest storage facility. It is a cultural institution that connects collective work, food security, asset formation, and intergenerational responsibility. It is in this context that the philosophy of *Meup on Ate*, *Nah on Usif* takes concrete form. Work does not stop at the activity of producing corn, but continues in the way the family manages, respects, stores, and transforms the harvest into the foundation of household sustainability. Therefore, the moral economy in Mr. Rafael Obe's family is not only centered on subsistence security, but develops into a cultural system that reproduces household resilience through a close relationship between food, family assets, and respect for life.

3.4 Transformation of Work Results: Corn, Livestock, and Household Asset Formation

In Mr. Rafael Obe's family, the fruits of agricultural labor don't end with the corn harvest or the food reserves stored in the barn. The next, equally crucial, stage is how the harvest is transformed into assets that can ensure the family's future livelihood. Therefore, decisions about when to sell corn, how much to store, and for what purposes the proceeds are used are part of a cultural strategy passed down within the family.

Mr. Rafael Obe explained that corn that has been stored for some time is generally only sold when the lean season begins, when the community's corn supply begins to decline and its exchange rate increases. However, the purpose of the sale is not primarily to obtain cash to be immediately spent on consumptive needs. In many cases, the proceeds from the corn sale are used to acquire livestock, especially cattle, either through buying and selling transactions or through the barter system still prevalent in local communities. Thus, the harvest undergoes a significant change in function: from food to a productive family asset.

This transformation demonstrates that Mr. Rafael Obe's family does not view the harvest as a commodity that must be immediately marketed for maximum economic gain. Instead, the harvest is positioned as a resource whose value continually changes according to the family's needs throughout its life cycle. Corn initially serves as food, ensuring household consumption security. Once food needs are deemed secure, a portion of the harvest then serves as a medium of exchange for livestock. Furthermore, livestock becomes a form of long-term savings that the family can draw upon when facing economic needs, customary obligations, children's education costs, or other emergencies. From this perspective, the value of the harvest continues to evolve with the family's life journey.

These findings suggest that Mr. Rafael Obe's family employs an asset management strategy built through collective labor, rather than through the accumulation of financial capital as typically described in modern economics. Family assets are formed gradually through the transformation of labor output. Corn produced through the family's collective labor is stored, its value maintained through careful storage, and then transformed into livestock that serve broader economic, social, and cultural functions. Thus, collective labor not only produces food but also generates productive capital that strengthens household resilience.

This strategy demonstrates that family economic decisions never stand alone as rational actions solely oriented toward market profit. As Karl Polanyi (2001) explains, economic activity in traditional societies is always embedded in social relationships, cultural values, and moral obligations. Mr. Rafael Obe's family experience demonstrates that decisions to store, sell, or exchange corn for livestock are always weighed against the family's needs, survival, and responsibility to the next generation. Thus, the family's economic logic cannot be separated from the underlying cultural logic.

At the same time, these practices also expand the understanding of moral economy developed by James C. Scott (1976). Scott explained that farming households tend to prioritize subsistence security over maximizing profits. The findings of this study support this notion, but also reveal an additional dimension that has not been widely discussed. In Mr. Rafael Obe's family, subsistence security does not stop at the availability of food reserves. Food reserves are actually the starting point for the formation of family assets through livestock ownership. Therefore, life security is built through a series of practices that link food production, harvest storage, value transformation, and productive asset formation.

This perspective aligns with David Graeber's (2001) view that the value of an object is not solely determined by market price, but is shaped by the social relationships that surround it. In the context of Mr. Rafael Obe's family, the value of corn continually changes as its social function changes. As food, corn ensures the continuity of family consumption. As a medium of exchange, corn enables

the family to acquire livestock. As livestock, the fruits of labor then become a source of economic security, a symbol of the family's success, and an asset that can be passed down to the next generation. Thus, the value of labor is never fixed, but rather continually transforms according to the family's needs and social relations.

These findings also enrich the theory of peasant household economics developed by Alexander Chayanov (1966). Chayanov explained that peasant households organize family labor to achieve a balance between consumption needs and work capacity. This research shows that this balance is achieved not only through labor management but also through the transformation of labor into productive assets. In other words, collective family work not only maintains consumption but also builds economic capacity that enables households to survive ecological and social uncertainties.

Based on these findings, this study proposes that the transformation of labor results is a crucial stage in the reproductive mechanism of household resilience in agrarian communities. Collective labor produces food; carefully stored food builds subsistence security; subsistence security allows families to transform part of the harvest into livestock; and livestock then becomes a productive asset that strengthens the sustainability of family life. This series of processes demonstrates that the philosophy of Meup on Ate, Nah on Usif does not stop at the obligation to work, but forms a cultural logic that connects work, food, assets, and intergenerational sustainability in a unified system of life.

3.5 Ecological Regeneration as a Result of Collective Work: Local Knowledge in Fallow Field Management

For Mr. Rafael Obe's family, the end of the harvest season also marks the beginning of a new phase in the life cycle of the fields. Unlike intensive farming systems that utilize land continuously, fields in Baimoke are typically cultivated for only one growing season. After the harvest, the land is no longer cultivated but left to enter a fallow period. The family then opens a new field in a different location, while the previously used land is allowed to recover naturally. Typically, new cultivation takes place after about four to five years, when vegetation has regrown and the soil is thought to have regained its fertility.

In Mr. Rafael Obe's family view, the fallow period is not a time when the land is left meaningless. Rather, it is understood as an opportunity for nature to "work". Over several years, bushes begin to grow, young trees develop, leaf litter covers the soil surface, and various types of vegetation slowly restore the land's condition. The return of vegetation cover is understood as a sign that the soil has regained its capacity to support subsequent crop growth. Therefore, the decision to reopen a field is not based solely on calendar calculations, but on the family's ability to interpret the changes in vegetation that develop during the fallow period.

This knowledge demonstrates that the selection of new field sites is the result of ecological observations that continually evolve through intergenerational experience. Mr. Rafael Obe explained that families do not choose land at random. Several key considerations are always taken into account, including the length of time the land has been previously cultivated, soil conditions, and the abundance of trees and shrubs growing in the area. The better the natural vegetation growth, the greater the confidence that the land has regained its fertility and is ready for cultivation. Thus, vegetation is understood as an ecological indicator that provides information about soil conditions, not as an obstacle to be removed.

These findings demonstrate that Mr. Rafael Obe's family developed a system of environmental reading acquired through continuous work experience. Knowledge of the soil was not developed through laboratory measurements or modern technology, but through years of direct involvement in farming activities. From this perspective, working also meant learning to read nature. Each planting season provided an opportunity to update knowledge about soil changes, vegetation growth, and the environmental dynamics that determine agricultural success.

The close relationship between work and ecology is also evident in the way families treat the trees that have grown in and around their fields. When brush is cleared and burned before planting, families deliberately protect certain trees from burning. Tree trunks are cleared of dry twigs around them, while fire lines are controlled to avoid damaging the remaining trees. This practice demonstrates that field clearing is not intended to remove all vegetation, but rather is done selectively, preserving environmental elements deemed essential to the land's sustainability.

The same principle is evident in various customary laws governing the relationship between communities and the environment. Mr. Rafael Obe's family explains that not all areas can be cleared for farming. Certain forests are considered off-limits because they have ecological functions and cultural values that must be respected. Similarly, large trees around water sources may not be cut down. These prohibitions are not merely customary laws but also serve as social mechanisms that maintain the sustainability of water sources and environmental balance. In practice, cultural norms function as conservation instruments that regulate human behavior towards nature.

This view demonstrates that land is not treated as a commodity to be exploited indefinitely. For Mr. Rafael Obe's family, land is an ancestral heritage inherited from previous generations and must be passed on to the next generation in a state capable of sustaining life. Therefore, every decision regarding land clearing always considers the sustainability of the land as both family property and cultural heritage. Cultivating the land means accepting the responsibility to maintain its fertility so that it can continue to be used by future generations.

These findings suggest that Mr. Rafael Obe's family fallow practices cannot be understood solely as a soil conservation technique. They are part of a cultural system that connects human labor with ecological regeneration. As explained by Fikret Berkes (2018), local ecological knowledge develops through people's long experience interacting with the environment and is passed down through

daily life practices. Mr. Rafael Obe's family experiences demonstrate that this knowledge extends beyond knowledge of soil types and vegetation to understanding when to stop cultivating the land to allow nature to recover.

The findings of this study also enrich the discussion on indigenous ecological knowledge. Toledo and Barrera-Bassols (2008) explain that indigenous communities build a very close relationship between knowledge, production practices, and the environment. This research reveals a more specific dimension: ecological regeneration is not simply the result of the cessation of human activity, but rather the result of cultural decisions made through collective family work. Fallow periods, tree protection, land selection based on vegetation, and prohibitions on clearing certain areas are all part of a knowledge system that maintains the sustainability of agricultural landscapes.

Thus, this study proposes that collective work within Mr. Rafael Obe's family not only reproduces household resilience but also reproduces ecological sustainability. Work does not stop at food production or the formation of family assets, but continues through cultural decisions that enable the continued regeneration of soil, vegetation, and water sources. It is in this context that the philosophy of *Meup on Ate, Nah on Usif* acquires broader meaning. Work is not only an obligation to the family but also a moral responsibility to the ancestral land and the environment that will be passed down to the next generation. Therefore, ecological sustainability in the Atoin Meto community is not a coincidental consequence, but rather the result of collective work practices consciously implemented and passed down across generations.

3.6 Towards an Ecological Reproduction Model through Collective Work

The results of this study indicate that the philosophy of *Meup on Ate, Nah on Usif* cannot be adequately understood if it is only interpreted as a work ethic or moral drive to work diligently. This interpretation does capture one important dimension of this philosophy, but it is unable to explain the entire life system that underlies it. Based on the experience of Mr. Rafael Obe's family in Baimoke Farm, this study shows that *Meup on Ate, Nah on Usif* is a cultural principle that organizes the relationship between work, family, food, assets, the environment, and the sustainability of life between generations. Thus, work is not merely producing agricultural commodities, but is the main mechanism that reproduces the social and ecological system of the Atoin Meto agrarian society.

A synthesis of all research findings shows that collective work is the starting point of a series of interconnected processes. Through collective work, families produce food that ensures the sustainability of household consumption. This food is not immediately marketed but carefully stored in barns as a reserve against seasonal uncertainties. In the next stage, part of the harvest is transformed into livestock through buying and selling or bartering mechanisms. Livestock then serves as a productive asset that strengthens the family's economic resilience and provides a resource that can be utilized to meet educational needs, customary obligations, and emergencies. This entire process takes place within a framework of cultural values that place the fruits of labor as the collective property of the family and a responsibility to future generations.

However, the most important contribution of this research lies in the finding that the reproduction of family life does not stop at establishing household resilience. Cultural decisions accompanying work practices – such as harvest storage, respect for *usi* (corn and rice), the implementation of fallow periods, the protection of certain trees, prohibitions on clearing certain forest areas, and the maintenance of trees around water sources – directly result in ecological regeneration. In other words, collective work not only reproduces social life but also creates the ecological conditions that enable the cycle of agricultural production to continue sustainably. Vegetation regeneration, soil fertility restoration, and water source preservation are not accidental outcomes, but rather the result of cultural practices passed down through generations.

These findings expand the study of the Anthropology of Work, which has primarily described work as a social practice that shapes identity, relationships, and cultural values (Ingold, 2000; Sennett, 2008). This research demonstrates that work is also a mechanism of ecological reproduction. The relationship between humans and the environment is not established after the production process is completed, but rather takes place within the work practice itself. Every decision regarding field clearing, harvest storage, fallow periods, and vegetation protection is part of a work practice that simultaneously produces ecological sustainability. Therefore, work not only reproduces society but also reproduces the landscape in which that society lives.

The findings of this study also provide a new perspective on the concept of moral economy. Scott (1976) explained that farming households base their economic decisions on the principle of subsistence security. This study supports this view but also demonstrates that subsistence security in the Atoin Meto community is built through broader mechanisms. Food security is achieved through harvest storage, strengthened through the transformation of labor into productive assets, and maintained through ecological regeneration that ensures the continuity of production in subsequent seasons. Thus, the moral economy in the Obe family is not only related to food distribution or economic risk management, but also encompasses the moral responsibility to safeguard ancestral land as a source of shared life.

These findings also enrich the discussion on indigenous ecological knowledge. Previous studies have defined local ecological knowledge as a body of knowledge about soil, vegetation, or natural resource management (Berkes, 2018; Toledo & Barrera-Bassols, 2008). This research demonstrates that this knowledge does not exist as a standalone cognitive system, but rather is embodied through daily collective work practices. Ecological knowledge is passed down not primarily through verbal instruction, but through the direct involvement of family members in clearing fields, selecting planting sites, protecting trees, managing fallow

periods, storing crops, and caring for livestock. Thus, work becomes the primary medium for the intergenerational reproduction of ecological knowledge.

Based on this synthesis, this study proposes the Collective Labor–Ecological Reproduction Model as a conceptual framework for understanding the relationship between work, family, and sustainability in dryland agrarian societies. This model explains that collective labor is the foundation that connects five simultaneous reproductive processes, namely: (1) food reproduction through the production and storage of crops; (2) economic reproduction through the transformation of labor into productive assets; (3) social reproduction through the division of labor, solidarity, and family responsibilities; (4) knowledge reproduction through the intergenerational transmission of ecological skills and knowledge; and (5) ecological reproduction through fallow practices, vegetation protection, and agricultural landscape management. These five processes reinforce each other and form a life system that enables families to maintain household sustainability while maintaining environmental sustainability.

The proposed conceptual model demonstrates that the relationship between work and sustainability is not linear, but rather forms an ongoing cycle of reproduction. Collective work produces food; food ensures subsistence security; subsistence security enables the formation of family assets; assets strengthen household resilience; household resilience enables families to maintain cultural practices that support ecological regeneration; and ecological regeneration again provides the conditions that enable agricultural work to continue in the following season. Thus, work and ecology reproduce each other in a cycle of sustainability passed down from one generation to the next.

The conceptual implications of this model extend beyond the context of the Atoin Meto community. It demonstrates that in an agrarian society, sustainability cannot be understood solely through economic or environmental conservation approaches. Sustainability is built through collective work practices that integrate cultural values, food security, asset formation, environmental management, and intergenerational responsibility. Therefore, any rural development or natural resource management effort must consider collective family work as the primary foundation that enables social and ecological sustainability to thrive simultaneously.

4. CONCLUSION

This research shows that Meup on Ate, Nah on Usif is not simply a phrase encouraging hard work, but rather a cultural principle that organizes the relationship between collective work, family, food, assets, knowledge, and the environment. In Mr. Rafael Obe's family, work gains meaning through the obligation to maintain the household and the land that will be inherited. Therefore, the meaningfulness of agrarian work is relational and intergenerational, not primarily individual.

Collective work produces five interrelated processes. First, corn production and storage reproduce food security. Second, the transformation of part of the harvest into livestock reproduces economic capacity. Third, the division of labor and shared ownership reproduce family solidarity and responsibility. Fourth, the direct involvement of children and adults reproduces ecological skills and knowledge. Fifth, fallow periods, tree protection, and restrictions on land clearing reproduce the ecological conditions that enable sustainable agriculture.

Based on this, the Collective Labor–Ecological Reproduction Model positions family labor as the link between household resilience and landscape regeneration. This model expands the anthropology of work, meaningful work, family labor, moral economy, and indigenous ecological knowledge by demonstrating that social and ecological reproduction occur simultaneously in everyday work practices. The value of food does not stop at consumption or price, but moves through granaries, exchange, livestock, education, customary obligations, and intergenerational inheritance.

Practically, dryland agricultural policies should not limit interventions to productivity increases and technology adoption. Strengthening food security requires recognizing collective labor, food storage, livestock assets, the transmission of local knowledge, and cultural institutions as socio-ecological infrastructure. Farmer regeneration programs should also support younger generations' access to land, knowledge, and family networks without reducing them to substitute labor.

This research is limited to a single-family case study and a short data collection period, with the researcher acting as an insider. The findings are not intended for statistical generalization. Future research should compare different families and communities in Timor, more explicitly incorporate the perspectives of women and young people, and test the proposed model through longitudinal and cross-regional studies. Despite its limitations, this study demonstrates that sustainability can grow from cultural practices that maintain reciprocal relationships between people, families, the land, and future generations.

Conflict of interest statement

The author declares that he has no conflict of interest.

Authorship statement

The authors are responsible for the conception and design of the study. The authors have approved the final article.

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