Chapter

Indigenous Knowledge and Food Preservation: A Case of 'Collective Responsibility' for the Murambwi Locality in Chivi, Zimbabwe

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Abstract

Research in Southern Africa, Zimbabwe included, focusing on indigenous knowledge (IK) and food preservation practices have increased markedly over the past two decades. Some research focus on IK and the role of gender. It does not, however, consider specifically the role played by traditional values in indigenous food storage and preservation techniques. This paper explores a rural community's IK and how this contributes to their post-harvest strategies used in Murambwi locality in Chivi, Zimbabwe. This locality has a dry ecology and indigenous people in the area have for centuries managed to preserve their food using indigenous knowledge. Sixteen community elders were interviewed through open discussions. The elders stressed the importance of collective responsibility in their IK of food preservation in communities, with reference to large and small grains and seasonal and perishable foods. Also, the elders displayed a collective sense of belonging, as manifested in their use of collective pronouns when referring to their homes and the land, ownership of resources, working together, close family relationships, and respect for sacred places. Relationships were at the center of the community, and they manifested through the emphasis on sharing, caring, respect, and common good.

Keywords: indigenous knowledge, collective responsibility, values, food preservation, respect, common good

1. Introduction

This paper was framed within the context of social values and their potential for contributing to the community's IK of food preservation. The article draws on practical experience of the indigenous methods of food preservation from Murambwi locality in Chivi, Zimbabwe. The main purpose of this paper was to examine community elders' social values related to post-harvest indigenous food preservation strategies for their seasonal and perishable foods. Science education literature is replete with studies focusing on IK for food security, for example, [1, 2]; a few, however, have looked specifically at the role of collective responsibility in the community members' IK of

food preservation. The capacity of IK values to sustain indigenous peoples' livelihoods has been undervalued as a result of globalization and modernization in rural communities in Southern Africa [3]. In spite of this low regard due to colonization of African societies, indigenous people resisted individualism in favor of "*kubatana*"/ "*ukubambana*" (togetherness). As a result, many of these peoples' values have remained intact and are applicable to modern-day indigenous peoples' lives. These lives are driven by a sense of belonging to a community. While retaining a keen sense of place and rootedness in the land they occupy, they have changed lifestyles within their own framework of values, priorities, and worldview. In most rural indigenous communities, "traditional societies tend toward collective decision-making, extended kinship structures, the ascribed authority vested in elders, and traditions of informality in everyday affairs" ([4], p. 5). It is worth noting that IK, as reflected in the community members' collective decisions in life, might play an important role in the indigenous peoples' methods of food preservation. This collective responsibility of the community with regards to cultural values was examined by first clarifying our understanding of the concept IK as was used in this paper.

2. Indigenous knowledge

First, the paper provides a view of what indigeneity means in the context of this study. The concept of indigeneity or indigenousness carries with it a sense of belonging to a place [5]. This view concurs with the contention that indigeneity is a process that asserts that land and place-based knowledge are key to understanding oneself [6]. This indigenousness as originating from the local consciousness and long-term occupancy of a place and develops skills that are embedded in the culture of a given location or society [7]. In agreement, the idea of indigeneity is about indigenous knowing; it is the knowing of bodies in relation to the spaces and places in which people are inseparably interconnected. In these interconnections, indigeneity emphasizes context [6]. In this paper, indigeneity refers to the collective engagement of indigenous communities as active knowers. But the question still remains, what is IK?

It is important to provide a conception of what IK entails for the study. Various debates have been forwarded by different authors with regard to the definition of IK in science education. More importantly, IK is not a monolithic epistemological concept, with no unitary experience providing a useful starting point for our argument [5]. The author further argues that this form of knowledge is drawn from diverse sites and collectives; that knowledge is a connecting feature in indigenous communities. Literature shows that authors slightly differ with regards to their distinction between IK and indigenous knowledge systems (IKS), but on the whole, they are in agreement. For example, IKS is a systematic reference to the knowledge and practices of indigenous communities constitutive of their meaning and belief systems, as well as the substantive dimension of their practices and customs [8]. On the other hand, in the process of generating IKS, indigenous people take into account their cosmos, spirituality, ontological realities, land, socio-cultural environment, and historical contexts [3]. This belief casts IKS as a holistic form of knowledge that is context-based. In concurrence, the idea that IKS is: "community knowledge rather than individual knowledge, unique to every culture or society and providing problem-solving strategies for that society ([9], p. 39). This knowledge used by the community is IK [9]. With this view, IK is a place-based knowledge, rooted in local cultures, and mostly associated with long-settled communities, which have strong ties to their natural environments [10].

By implication, IK is part of the IKS. For this study, IK is the product of the knowledge, skills, and practices of the people within a community based on their historical ties to their land. These ties may manifest themselves as values that play an important role in the indigenous peoples' community practices with regard to food preservation.

3. Communities' food practices

This communal life rests on the collective responsibility members of a cultural group undertake in African societies [11]. This way of life is a true reflection of the peoples' lives in Murambwi locality, in Chivi community, Zimbabwe. The concept "community" refers to the living, the departed, and the unborn [12]. It is through this community that the individual gains an understanding of his/her identity, his/her kinship, duties, and obligations to other persons. This communal life is guided by the philosophy of *Ubuntu/Hunhu*. In the Ubuntu philosophy, an African individual is a member of the community with one's existence defined with reference to others and one's relationship with them [13]. This communitarian way of life can be succinctly expressed in the words including "tirivamwe/simunye (we are one or unity is strength)" ([14], p. 3), "I am, because we are; and since we are, therefore I am" ([15], p. 106), 'one lives for the other' ([14], p. 313). Ubuntu is an ontological perspective; an interconnectedness of all beings in the community [16]. This community life is based mostly on "mushandirapamwe" (working as a community, or working with others) as a collective responsibility.

Collective responsibility with regards to cultural values occurs when a group of people engages in collective decision-making and all take responsibility for something that has happened in everyday affairs [4]. Such collective decisions come with the moral responsibility to be taken by people in a society based on common interests. This community's collective responsibility is aptly summarized by an African proverb: "*Mwana ndewe munhu wese*" translated to ("It takes a whole village to raise a child") ([4], p. 15). In an African society, every adult member of the community is a teacher and parent of any child even to those without any biological links. In this regard, this common Africaness is about harmony in the culture and religious beliefs and practices [17]. For example, the time-honored values of respect, reciprocity, and cooperation are conducive to adaptation, survival, and harmony; especially when dealing with issues of food security in societies at the household level.

Food security is a situation where all people at all times have access to nutritionally adequate food and safe water [1]; which can be expressed as access, entitlement, and security issues [18]. To ensure food security, indigenous societies had inherent values [2], some of which have remained intact and are applicable today. The following discussion section describes traditional values and IK among the Shona people in Zimbabwe.

4. Traditional values and IK

In the indigenous Shona society value system, knowledge is passed down from the elders to the youth through storytelling or oral culture [2]. Besides oral tradition, knowledge was passed on to children by working with, observing, and mimicking their parents, grandparents, and older siblings, or the sage practice [11]. In a sage practice, indigenous people regard very old persons to be wise and knowledgeable, with a lot of experience. The young ones were educated at the "*dare*" (homestead

meeting place for males) and the young women were given an education that was called "*yemapfiwa*" (education from the hearthstone). For girls, this was meant to impart knowledge about the duties of motherhood including cooking and raising the family. In addition, communal learning in the Shona and other traditional societies was provided through teachings using proverbs, riddles, folktales, songs, legends, dance, taboos, and myths among others [19]. Furthermore, among the Shona, these teachings are usually preceded by the words: *"Vakuru vedu vanoti…" or "Vakuru vedu vaiti…*" (Our elders used to say…" or "Our elders say…" [19]. He concludes by asserting that this appeal to the Vakuru, who may belong to the dead or are much advanced in age, also comes from the Shona proverb that states: *"Nzira inobvunza vari mberi"* (You should ask the experienced for assistance). This concurs with the view that indigenous peoples' knowledge is determined by age with the older members teaching the young ones [11]. This type of education produces an individual who conforms to societal values facilitated largely through cultural safety nets in communities.

Cultural safety nets at the level of the family, other small groups, or community may play an important role in how people collectively act to survive [2]. In the Shona society, these safety nets are manifested, for example, in the form of "*zunde ramambo*" concept (the chief's granary). In this concept, apart from individual fields, the chief has also a separate communal field where people would work communally and the chief is the overall manager. Every household would contribute to the production of crops from the sourcing of seeds to harvesting and storage in the chief's granary. The main concern for the *zunde ramambo* concept is its nature as collective well-being of humanity. Apart from this concept, the Shona families also have their own "*matura"/ "tsapi"* (granaries). At this family level, the knowledge for food preservation in these granaries is derived from community knowledge systems that are collectively held by the elders. After constructing a granary, it is cleaned and smeared with cow dung, before being filled with grain to exclude air. This sealing of the granary kills organisms responsible for decaying food [2].

In the traditional person's life, people's practices are grounded in collective practices. In these practices, communal good takes priority, and the individual is a contributor to communal goals [11]. For example, in the Murambwi locality, ownership of land is communal, vested in all the members of a particular group, or perhaps of a clan or subgroup. In this ownership, a resource-holding group may own territory, or a group of religious sites, or a water hole. The relationship of people to their territories is closely identified with their close family relationships or "*ukama.*"

In the indigenous societies, communities are built around their patterns of kinship which extend beyond the elementary family. For example, in most rural communities including the Shona localities, this kinship system is patrilineal since male systems are stressed over women [20, 21]. Like any other cultural group, the Shona people have a distinct way of organizing their own society and they are always collective structures governing the behavior of individuals in every aspect of life. Their kinship ties that spread from, say, a nuclear family to include all members of the group are meant to provide social cohesion to the people.

The study was interested in exploring the community members' practices with regard to their IK of food preservation. Specifically, the study was guided by the following three research questions: i. How do indigenous community members in the Murambwi locality preserve their food; ii. What are the indigenous community members' practices informing IK of food preservation in Murambwi locality in Chivi, Zimbabwe; iii. How do such values influence the community members' IK of food preservation.

To answer these research questions, the research now turns to the description of the methodology of the study.

5. Methodology

The research took an interpretive approach to data collection. Overall, an interpretive philosophy was required for our purpose, that is, a research paradigm intended to make sense or interpret the meaning others have about the world [22]. In keeping with the interpretivist research, the study focused on the way people construct their understanding of the phenomenon based on their experiences, culture, and contexts. The study did not focus on empowering human beings to transcend the constraints placed on them by other knowledge systems (critical theory) [22]. Rather, the thrust was at an in-depth understanding of the people's lived experiences on traditional methods of food preservation within a particular community.

This research was carried out in two villages in the Murambwi locality in Chivi, Zimbabwe, one of which the author belongs. So, access was not so much of a challenge to the researcher. Although the author knew where to go, whom to speak to, what language to use, for what, and how; it was later realized that some of the issues turned out to be more complex than the study originally assumed. The issues the study took for granted, did not present themselves easily as anticipated during data gathering and interpretation in the villages under study.

The two villages, *Gomoguru* (big mountain) and *Dzivaguru* (large pool of water), were selected based on their distinctiveness in terms of geographical location for the site. A total of 16 community elders comprising 4 males and 12 women participated in the study. All participants were of the Karanga dialect of the Shona ethnic group and had a long history as inhabitants of the area. For this reason, most participants possessed IK they depended on for survival in the area since time immemorial. In this area, indigenous people eke out a living mostly through subsistence farming. The study focused on how these farmers keep their food safe for consumption in relation to crops grown, animals reared; and hunting and gathering.

This qualitative research study collected data using semi-structured interviews and site visits. In our semi-structured interview, a tentative set of questions was formulated for individuals and groups. Participants were purposely selected [23], by identifying the most likely participant from which insights into the phenomenon could be learned. The key selection criterion was to identify through the "*Vana Sabhuku*" village heads (as gatekeepers) [23]; those participants with an interest in IK as a method for sustaining their lives with regards to food preservation. Initially, individual interviews were held with four participants from each village. After realizing that there was a need for additional information, more participants were sought in the study. As more participants were sourced, the study shifted the format of discussions to group interviews. In these group interviews, *Gomoguru* had seven elders; and *Dzivaguru* had nine who were involved in focus group discussions (FGDs). In doing this, a total of 4 FGDs were held at the participants' choice of place. Each session lasted between 30–60 minutes.

6. Language

All interviews were conducted in Chishona, and recorded after acquiring both signed and verbal consent from the interviewees. These interviews were either videotaped or recorded with handwritten notes. Holding interviews in their local language allowed clear communication and maximum participation [24]; respondents felt comfortable sharing their stories and experiences in a language they preferred. The assertion that language is a vehicle of knowing [25], resonates with the view that language acts as the mediator and

supporter in the continuous matching and fitting that takes place between "things as they are" and "things as we know them" ([26], p. 21). The study took note of details in terms of participants' pronunciations, greetings, gestures, and comments during the study.

After realizing that interviews were not adequate to capture participants' knowledge of food preservation, interviews were supplemented with site visits. Participants' residences were visited and observed their food preservation artifacts and took photographs. To facilitate this, an observation guide based on literature was developed. In carrying out this approach, the study took note of the word of caution that in a participant observation method, people who give information may shift much of their attention to the research project rather than focusing on the natural social process being observed [27]. The process may thus no longer be typical. Although the study also asked participants to demonstrate how they preserve their food, the main focus was on the food community members had already preserved. Food artifacts observations were combined with interview data for analysis.

In data analysis, all recorded transcripts were first translated verbatim in Chishona and then translated into English. Thematic content analysis was done on the transcripts. Categories were constructed a posterior informed by the literature and by the theoretical framework guiding the study.

In this study, the research was guided by the advice that for IK studies ethical obligations cannot be sufficiently met through conventional contractual agreements [28]. So, the study went beyond these requirements and asked each participant to verbally express his/her willingness to participate in the study.

The following section presents and discusses the research findings.

7. Findings and discussion

7.1 Murambwi locality's practices on IK of food preservation

In this study, there were 5 males (31%) and 11 females (69%) participants who took part in the study. This agrees with some observations made in other studies that it is mostly women who are involved in food preservation [7, 24, 29]. **Figure 1** in Appendix shows some elders harvesting their groundnuts collectively.

The collective responsibilities found in the Murambwi locality can be summarized as (**Table 1**).

The Murambwi elders have strong feelings of community connectedness as shown through *mitupo* (clan names) or *zvidao* (sub-clan names). Their use is based on the traditional knowledge in a society having religious and symbolic connotations rather than just simply names. In this regard, the VaShumba (not his real name) commented: "People in the village are of various totems that we are living well with as our close friends." In this Shona society, totems deter people from killing and eating their totemic animals. In the Murambwi locality, elders had close bonds with each other.

Since IKs go to the heart, spirit, mind, and subsequent practices of a community [7], the study now turns to a description of some IK practices of food preservation in the Murambwi locality.

7.2 Food preservation strategies

When asked how they preserve their grains, vegetables, milk, meat, and sweet potatoes, elders' responses were a reflection of their symbiotic links were preceded by words

Elders' collective responsibilities	Influence on their IK of food preservation
a) Connectedness through clan relationships	Some animals are not killed and thus not preserved by the concerned people. Meat selectivity.
b) Identification with others in a group	Collectively inform each other on how to preserve food. Cooperatives for gardening and construction of granaries.
c) Sense of belonging to homes and land	All women and men are involved in food preservation.
d) Agenda to solve societal problems	Sharing ideas on preserving food.
e) Common good practices, like marriage ceremonies	Encourages growing and preserving crops suitable for the occasion, like fermented foods.
f) Sacred places (where indigenous people used to go for spiritual assistance) and cultural taboos (prohibits certain forms of behavior and give reasons for such)	Determine the type of food to be stored in the event of drought and the types of crops to be grown and eaten.
g) Traditional cultural sayings	Teaches community members to be responsible for food preservation and keeping harvests.
h) Preferences for traditionally-preserved foods than commercial ones	Most people in the communities are extensively involved in traditional food preservation.

Table 1.
Summary of collective responsibilities and their influence on Murambwi locality's IK of food preservation.

including: "*isu*," "*tinoti*," "*vanoti*" meaning "us" we do things as for example, VaMamoyo (not her real name) commented: "when we built our granaries we get a flat rock which we work on it make it round. Since this involves a lot of work, we brew beer and hire labor to pull the flat stone home. Then people help each other to place the flat stone on four big rocks to build the granary. The flat stone will be the "*hwaro*" (raised floor of granary). Then we built using bricks or poles onto which we smear mud. On roofing we built "*hwikwiyo*" (plastered roof of granary). We close the granary opening using "*gwandefa*" or "*fendefa*" (flat light stone). Some use gwandefa of "*mufandichimuka*" (small shrub: resurrection plant or myrothamnus flabellifolius) plant on their plastered roof granary. This plastered roof offers maximum security against rats; moisture, and destruction by fire." The Murambwi people practice what may be thought of as cold-room technology, as what literature says [1]. This Murambwi technology involves keeping cool temperatures for crops including pumpkins and watermelons to remain fresh after harvesting. In these technological practices, the person learns from the elder; and teaching is largely through observation.

How the community members work together is presented as follows:

7.3 Common good practices

Most of the elders expressed their sense of belonging with reference to collective pronouns, for example, "our" homes and land. Since IK is not linear and its essence is shared by community whose world views engage and embrace the totality of being and living [30]. When asked who does the preserving of foods at their homes, elders said it is the mother's responsibility and the fathers will be doing other jobs. As a result of this gender differentiation and specialisation, the IK and skills held by women on food security often differ from those of men [18]. However, they agreed that the homes belong to the family and the land is communally owned. This collective ownership of resources was emphasized when we asked about the role of children, women and men in the area on food preservation. The Ward councilor, VaManyoni (not her real name), from which Dzivaguru falls, commented:

"the land belongs to all of us which means that it is the duty of everyone from grassroots level up to the Chief of the area to ensure that resources of the area are safeguarded." The elders interviewed were found to have a common agenda of solving their societal problems.

The elders in Murambwi communities emphasize activities they regard as a common good. A case in point is community involved in marriage parties. In these parties, staple food that people feed on "sadza" is prepared from rapoko, sorghum, and millet. On such occasions, a goat or a beast is slaughtered for families to celebrate in unison. Interestingly, in Dzivaguru village, one visit on the 15th of April 2022 was cancelled when all village members were involved in the receiving of the new bride when the son of the village head got married. On this occasion, all community members were involved in teaching the bride how to maintain good community relationships. The bride was taught how to share food with and take care of others in the community. For celebrations, people cook sadza prepared from sorghum, rapoko, and millet. These elders reported that they entertain themselves by drinking "*maheu*" (sweet beer), and "*masvusvu*" (boiled mixture of malt and water) brewed in their communities. In explaining how they brew them, VaMaSiziva said that she uses millet, rapoko or sorghum as powder for preparing beer in "*makate*" (large earthenware pot in which beer is set to ferment). Since it was the Shumba clan family occasion, elders had the following to sayings: "You should say to your husband, "*Maita Shumba*" (thank you of the Lion clan), those from the Mhungudza Mountain, who frighten others by their body size. This is done to please their traditional practices. Even if he wanted to ill-treat you he would not since he had been pleased already." Such form of respect is also bestowed upon other community members and other cultural practices as well.

7.4 Respect of some cultural practices

In the Murambwi communities, respect of sacred places and cultural taboos were emphasized. Community elders have sacred places where they store their grain food (millet and rapoko) in caves they call "Nyaningwe" Mountains. Elders also said that they have sites they visit for their "*mutoro*" (rain-making ceremonies). In these ceremonies, elders said had a rainmaker; they call "'nyusa," whom they begged for the rains through singing at the sacred place until rains come. In this regard, elders cited their ceremonial site as "Matonjeni" at Matopos in the Southern part of Zimbabwe for rain making. In relation to the community practices regarding taboos, VaMadhlovu (not her real name) commented: "If we have mushrooms which as a gatherer you are not supposed to gather before thanking the Spirits for their generosity; and if you find Mopani caterpillars, they were not supposed to be cooked in a closed "hadyana" (cooking pot for side dish) for the spirits of the forest to continue providing." As knowledge is about wholeness and interconnection, the elders related their knowledge production to both the tangible and spiritual realm as well [6]. In the traditional Shona societies, there is an association between the spirits and the land is expressed in the tradition of "chisi" (days sacred to the spirits, on which people should not work the soil in any way). The practice of chisi is prevalent among the Shona people in Zimbabwe, including the Murambwi communities as well. Most significant here is that community members in the Murambwi locality have their way of sacred life which they collectively uphold. They also had community sayings for food preservation.

7.5 Community sayings on food preservation

The Murambwi elders provide guidance on community practices through traditional sayings, for example, "*Pasina nzombe hapana dura*" (If you do not have oxen

you cannot expect to harvest). VaZimuto (not his real name) explained that this saying is similar to a homestead without a granary which cannot be called a home. Furthermore, he said that if a household does not have a granary no one will pay a visit to it. These sayings serve to inculcate a sense of responsibility [19], and respect among the villagers in Murambwi locality.

As a respect for their family members both living and dead, the elders give names to the children derived from these departed or living members. However, they value names that have meanings to their lives. For example, one person is called "*Harubvi*" meaning death continues to haunt the same family. This naming happens when a family continues to lose its young ones through deaths. Similarly, the name "*Tapiwa,*" mean a family has been given a child given by the almighty. "*Farai*" is a name referring to a situation when family members become happy for the blessings. "*Hapazari*" meaning the ground continues to accommodate the dead. This means that deaths continue to be experienced without ceasing. "*Munhuwei*" means what kind of a person are you, which implies that if one is married at a "*barika*" (polygamous relationship), one wife may be neglected by the husband so in the event that she delivers a child, a name may be used showing her disgruntlement emanating from the relationship. Although elders embrace this idea of giving their children family names, they wished that to happen if the forebear had impeccable behavior. Elders said such sayings are important with regards to food preferences in their villages.

7.6 Food preferences

All elders indicated that they prefer traditional over commercially-preserved foods. In the case of milk, they said that traditionally-processed milk tastes better than the commercial one. VaMusaigwa$_1$ commented that: "after milking cows into a "*hwedza*" (milking vessel), we place it in a "*chingo*" (pot for storage). As we continue milking, we mix milk in a continuous cycle of five days. Some may remove "*ruraza*" (cream) and mix them." VaChihera concurs with the views given by VaMusagwa$_1$ and further elaborate that after removing the cream from stored milk, some people may place milk without "*ruraza*" in a pot with small cracks at the bottom to drain off the "*mutuvi*" (the whey) leaving "*mahorakora*" or "*mashoronga*" (curds of very thick sour milk). This type of sour milk does not shake easily like "*zifa*" (day old sour milk)." It is this traditional thick sour milk with cream that VaShumba said is cool and nicer to drink than a commercial-processed one. When milk is commercially preserved, cream is removed [31]. This removal of cream from sour milk, elders in Murambwi locality believe reduces the good quality of milk. Similarly, the community elders also indicated that they prefer traditionally preserved vegetables as relish. For example, VaChihera commented: "We take wild vegetables from the bush including "*chirevereve*" (senecio embescens), "*muvhunzandady*a" (cheopodium album), "*mhuu*" (bidens biternata), and "*musemwasemwa*" (deome monophylla) to dry them in direct sunlight." This implies that most community members interviewed prefer traditionally preserved foods.

8. Conclusions

These collective responsibilities were a key feature for IK of food preservations in the communities. The results also have shown that the elders displayed a collective sense of belonging, as manifested in their use of collective pronouns when referring to their homes and the land, ownership of resources, working together, close family

relationships, and respect of sacred places. Therefore, relationships were at the center of the communities, and they manifested through emphasis on sharing, caring and respect, and common good. These relationships give a sense to how preserving food not only sustains lives but is central to communally-based knowledge and belonging. These collective responsibilities are a key feature for IK of food preservations in their communities. The results also have shown that the elders displayed a collective sense of belonging, as manifested in their use of collective pronouns when referring to their homes and the land, ownership of resources, working together, close family relationships, and respect of sacred places. Therefore, relationships were at the center of the communities, and they manifested through emphasis on sharing, caring and respect, and common good. These relationships give a sense to how preserving food not only sustains lives but is central to communally-based knowledge and belongin**g.**

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Conflict of interest

The author declares no conflict of interest.

Appendix

See **Figure 1**.

Figure 1.
Elders collectively harvesting groundnuts in the Murambwi locality.

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