




Understanding the traditional kitchen space in a gendered Zimbabwean society for sustainable development in a troubled Mother Earth

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Abstract

This study is centred on Sustainable Development Goals (SDGs) (especially goal number 11 focusing on sustainable communities), Mother Earth, pandemics and religion using gender lenses. It examines the African built environment in rural communities with a special focus on Shona people's traditional kitchen hut which is owned and managed by women. Though there are some changes, the traditional preferred building style in the Shona cosmology is that they are usually round, with a grass thatched peaked roof. This architectural design has come under attack from praise singers of modernisation, who argue that the architectural design and material used are now backward. It is against this backdrop that the scope of the problem in this research hinges on the effect of the gendering of architectural design of the traditional kitchen hut and its religiousness on sustainable societies in relation to Mother Earth. Using secondary sources, this qualitative study adopts an interpretive approach in examining how the traditional kitchen is resiliently capable of responding to, and accommodative to a wide range of climatic changes. This makes it ecologically responsive to Mother Earth. A circular economy (CE) as a conceptual framework is recommended by this study to reclaim the sacred traditional kitchen hut prototype of infrastructure for women space in line with SDGs under adverse climatic conditions.

Keywords: Gender, Sankofa, Shona people, Sustainable Development Goals, Traditional kitchen hut.

Introduction

African dwelling consists of a scattered layout of separate huts around an open living space (Talib, 1984). These huts are products of historical, ecological, cultural and economic circumstances. Indeed, huts have been the defining architectural hallmark of Africa, and throughout the continent, they have been the preferred building style. Huts are a form of living space. So, they are widely appreciated by Africans for their human scale, aesthetic clarity and harmony with nature. In this study, focus is on built environment, the traditional rondavel hut in particular in the absence of official assistance programmes. This 'natural sequence of development' can be deliberately harnessed within the huts model specifically aimed at shelter improvement (United Nations Centre for Human Settlement, 1995). In Zimbabwe, the Shona people constitute the largest ethnic group. They believe that a traditional kitchen hut is sacred. It is this sacredness that is of valuable utility in responding to the challenges faced by Mother Earth due to climate change. Besides, its architectural design is ecologically responsive. The other reason is that women use Indigenous Knowledge Systems (IKS) which have proved very beneficial to the ecosystem, for example using smoke in the kitchen huts for sustainable agricultural practices. So, there is a web of intertwinement between women, their religio-



cultural beliefs, their kitchen huts and the environment. This comes to the fore upon the realisation that adaptation of modern western built environments has resulted in inattentive plunder of Mother Earth's resources without pondering on replenishing the exploited ecosystem. Responding to climate stress has become a priority for countries which are vulnerable to disasters and thus more negatively impacted by climate shifts (Pamela, 2023). Thus, this study regards the traditional kitchen hut as a model for how contemporary indigenous communities can live a sustainable lifestyle. Re-thinking traditional models and practices especially as embodied in the kitchen hut should help in climate recovery as well as serving as a sustainable resource for development not only for the current communities but even the future generations as well.

Methodology

This qualitative research used primary sources of information drawn from fieldwork carried out between 2019 and 2020 during this researcher's PhD studies. Prioritising ethical considerations, 20 participants were recruited purposively. Their identity in the study was concealed through using pseudo names. Semi-structured interviews which lasted for about 30 minutes per session and observations in the rural district of Buhera south were utilised as data gathering tools. Besides, the study also utilised Focus Group Discussions (FGDs) which were divided into two (FGD1 and FGD2) with 20 members per group. The study employed an interpretive approach to assign meanings to the utility of a rondavel traditional kitchen hut in a bid to have sustainable development in rural communities which are ravaged by climate change. Since the study used interpretivism, the interpretation was subjective. The study also exploited information from secondary sources like books, newspapers, journals and websites.

Circular Economy (CE) and sustainable development as conceptual framework

While buildings provide the essential infrastructure for civilization and people's need for shelter, they also create an ecological threat in terms of resource consumption and depletion, air quality, and pollution of soil and water (Pomponi and Moncaster, 2017). It is against this background that this study adopts a Circular Economy (CE) conceptual framework. At its simplest, the circular economy prioritises the reuse of materials, preventing the over extraction of natural resources and the number of usable materials that end up in a landfill (<https://ukgbc.org/our-work/topics/circular-economy/>). Its visionary principles place more importance on regenerating nature, carbon reduction and sustainable resource management. The practices at the core of a CE are quite simple like repairing, recycling, refurbishing, or repurposing, and all of these strategies have the central aim to keep materials in use, whether as objects or as their raw components for as long as possible (WomenforIndia, <https://womenforindia.org/earthen-pots/>). Sustainable development, as it is generally understood, entails the sound use and management of environmental resources in the process of development implementation. The environment which encompasses the natural elements of land, water and air, as well as physical and biological elements with them, plays two vital roles in development. Firstly, it provides material and energy inputs for the development process. Secondly, it absorbs or assimilates the waste by-products resulting from the development process (United Nations Centre for Human Settlement, 1995). In Zimbabwe, the rural population for 2022 was 11,033,499 out of a total population of 17 million (https://www.worldometers.info/world-population/zimbabwe-population/#google_vignette). Basing on the large numbers of people who reside in rural areas where a traditional kitchen hut thrives, it can be readapted and readopted as a model in climate recovery to achieve smart communities in rural sustainable development. This is because preference of western type houses has degraded the environmental ecosystem since the material used in building is not eco-friendly. So, failure to re-use the indigenous architectural knowledge of the past will result in the contemporary rural communities failing to restore a viable and sustainable future for generations to come. At the meso-level (building), CE identifies three main strands which are



essential in this study: first is post-occupancy evaluation (POE) which considers the effectiveness of occupied environments for humans as users, second is life cycle assessment (LCA) which aims to understand the impacts of human activities on the environment, lastly is how people actually live in and use the buildings (WomenforIndia, <https://womenforindia.org/earthen-pots/>). Furthermore, religio-cultural beliefs about the strong association between the hut and women produce an everlasting positive impact on the substance of the environment. The CE contributes to the improvement in well-being of the society and the planet. This conceptual framework relevantly fits into this study because its goal is to resolve the struggle between environmental protection and human socio-economic development which has a bearing on sustainable development.

Research gap and objective

There is a great desire for western type buildings in the rural communities in Africa, Zimbabwe in particular, due to the influence of globalisation. But some of the challenges associated with the western type of shelter are that it is not adaptable to climate change in impoverished rural contexts. According to Pamela (2023), those who suffer the most from the effects of climate change remain the least responsible for its occurrence. This means the elite are some of the perpetrators, yet the elite-driven governance does not always promote rural development (Li et al, 2023). This 'elite capture' has isolated the socio-cultural and religious resources which are vital in the implementation of development strategies in rural areas thereby harming the ecosystem. The gap to be filled by this study is to use a bottom-top approach by prioritizing the traditional architectural practices as the starting point in development. The study looks at some traditional religious and cultural belief systems as the main ingredients in sustaining the much-needed development which is eco-friendly. The main objective is to place women and their owned built environment at the centre to achieve smart communities. This is because, for quite a long time, women and the built environment have been located on the margins of sustainable development discourse. Subsequently, this study finds it prudent to popularize the positive attributes of the rondavel kitchen hut which is owned and manned by women since it is now on the brink of abandonment due to modernity.

Buhera climatic conditions and the Traditional Kitchen Hut: its architectural design

The area under study is one of the Manicaland Province's 7 districts in Zimbabwe. It is largely a rural district which is hard hit by climate change. It falls within the country's Agro-ecological Zone Region Five which receives an average of 450–600 mm rainfall per annum. This is because Buhera south is in the rain shadow of the south-east trade winds from the Indian Ocean which blow over the eastern border highlands (Lindahl and Matenga, 1995:15). In addition to aridity, the district is also characterized by summer maximum temperatures of around 40 degrees Celsius and mid-winters of 6-25 degrees Celsius. The Buhera communities rely on subsistence farming which is mainly done by women. However, temperature increases and a general decline in rainfall are thought to be the two most important climate factors that have harmed women subsistence farmers and created a complicated web of the never-ending cycle of poverty (Chinokwetu et al 2023). The pace of modernization in Buhera District in response to the introduction of European civilization has been very gradual for lack of immediate commercial and industrial interests. Hence, Buhera district has retained its "rustic" character and remains patriarchal (Humbe, 2021). The reason for having a special interest in Buhera South was because there is vitality of Shona traditional religion. Whether one is a Christian or not, he/she is aware of the existence of the tripartite Shona cosmology which consists of the spiritual world (God/Mwari, ancestral spirits, alien spirits), physical world (human beings, flora, fauna, mountains, etc) and the underworld (where the deceased are buried). Since everyone has some contact with traditional religion, the study of the lives of the Buhera community can indeed provide important general insights about the traditional kitchen



hut which has a special status in traditional religion. It is a community with traditional values such as taboos which I am versed with, because I was born and bred in this district.

Observations made during the research showed that the traditional rondavel kitchen space serves so many functions which range from social, economic, political to religious ones. Materials used in the construction, decorations as well as its physical artefacts express the Shona people's way of life especially with particular attention to the practical and spiritual needs, and tastes. This actualises the crucial constituent of women empowerment which has been given little attention in sustainable development in gender studies of traditional religions and Mother Earth. Construed also are gendered non-informative and non-discursive spiritual and religious symbols of the Shona people's inner feelings, attitudes, or existential orientations (Harrison, 2006:3) associated with the traditional kitchen hut which can be utilised in sustainable development discourse.

In Zimbabwe, just like in other places in Africa, it was observed that a kitchen was archetypally a round construction made of straight wood posts of about the same length and thickness (which is on average 200mm thick and 250 cm long). Both FGDs agreed that in Buhera, the villagers preferred *mopane* poles to any other type of wood because they are strong and resistant to termites. Roofs are assembled with poles of about 100mm in diameter with forked top ends which are arranged in a cone form. The barks of roof poles are burnt off to secure them from termites' harm. In his explanations, KH8, a male expert in hut thatching, responded saying "The pointed top ends meet in a centre ring, producing inward and outward pressure which hold the roof in a state of compression. The roof is usually thatched using narrow-leaved turpentine (*Cymbopogon excavatus*) grass" (Interview with Participant KH8, Buhera, 17 February 2019). The thatching is intricately woven using sisal and the bark of trees. The process of erecting the walls and roofing is done by men. When there is need, the men re-thatch the kitchen, recycling the grass or new grass which was mostly cut by the women. In FGD1, it was raised that walls of the kitchen are mud plastered by women. The mud is extracted from termite mounds, which had a near cement-like hardness when dry. Occasionally, maybe once a year, the walls were renovated, plastering with mud mixture (*kudzura dzimba*).

The Shona women do some decorations of the huts, by making some drawings of the sun, stars, moon, clouds, animals, trees and mountains on the walls. According to Onyejegbu et al (2023), drawings on the body of walls, pottery or human skin are first done to beautify; but underlying the beautification, in most cases, there are deep philosophical meanings. In the context of this study, the drawings express women's thoughts and beliefs about their homes as women in relation to the sustainability of the environment. According to KH20, a female expert in kitchen hut renovations, "Flooring is done by women using clay. They use a specially designed hand wood tool called *chikuvauro* to ram the wet clay, creating a hard-core earthen floor surface" (Interview with Participant KH20, Buhera, 20 August 2020). The FGDs described ramming process as *kurovera mumba*. After *kurovera* then comes *kukuyira* whereby the floor is smoothed to come up with a fine finish using a stone quern called *huyo*. Participants emphasised that when the hard surface of the floor shows signs of disintegration, the women use white clay known as *chivhuvhurwe* for renovation. The floor is left natural, hard and simply smooth when sweeping.

It was observed that in the kitchen, opposite to the doorway, there is a raised earthen shelf known as "*chikuva*" which is believed to be the abode of family ancestral spirits. This is where the eldest family members kneel and do incantations communicating with family ancestors. Thus, the traditional kitchen is a scared place in African Traditional Religion. Acknowledging the vitality of this religion is very critical because to realise smart communities in rural areas, religion and cultural values must not be side-lined.

The rondavel traditional kitchen hut at crossroads in the contemporary world



Shelter constitutes one of the basic needs of any nation (United Nations Centre for Human Settlement, 1995) rural communities included. Despite continual improvements in the quality of life of rural populations, social inequality, poverty, hunger, and preventable illness are still widely observed in rural areas around the world (Li, et al, 2023) especially due to climate change. Apparently, the negative effects of climate change disproportionately affect women since the majority of the poor who are women, are dependent for their livelihoods on natural resources that are threatened by climate change (UN Women, 2022). An increase in frequency and intensity of extreme weather events has resulted in water shortages, food insecurity, economic instability, ill-health, loss of jobs, malnutrition, loss of life, injury and population displacement. This is happening at a time when rural communities are readily replacing traditional kitchen huts with western type houses. Despite their rich history and cultural heritage, huts have come under attack from modernisation and its praise singers, who argue that the round structure, usually made of mud or clay, with a peaked roof, is backward and primitive. Few participants who condemned traditional kitchen huts argued that the kitchen huts are no longer suitable housing options for human beings since they are archaic and incompatible with the use of electricity. This is well supported by Onyejebu (2023) who avers that houses built using concrete and cement are understood to be a symbol of modern life. Besides, grass used for roofing is considered highly flammable. Also, if constructed poorly, traditional kitchen huts can be easily affected by floods and dampness. Also, they need frequent care and maintenance (Chauhan, 2022).

However, there are several challenges associated with the so called western modern houses. Through observations, in most parts of the rural communities in Buhera, there has been deterioration in the physical quantity of the environment, degradation and impoverishment of soils, and pollution of the atmosphere and aquatic environments. Additionally, there is also impoverishment of human welfare, including poor health (United Nations Centre for Human Settlement, 1995), caused by excessive heat and pollution. For example, the use of cement generates a lot of carbon dioxide. Exposure to CO₂ can produce a variety of health effects such as headaches, dizziness, restlessness, a tingling or pins or needles feeling, difficulty breathing, sweating, tiredness, increased heart rate, elevated blood pressure, coma, asphyxia, and convulsions (Wisconsin Department of Health Services, <https://www.dhs.wisconsin.gov/chemical/carbondioxide.htm>). Information from gathered from both FGDs showed that in many places in the Buhera district, there is environmental degradation due to massive use of pit sand as raw materials needed for construction of buildings with concrete. Besides polluting water bodies, concrete consumes large quantities of water which strains water bodies (Babor and Ioredana Judele 2009).

With all these challenges in mind, this study maintains that prioritising the use of a traditional rondavel kitchen hut will reduce harm to the environment and its living creatures. Edwards and Du Plessis (2001: 10) are of the view that there are "pockets of good sustainable practice" in rural communities in Africa. The kitchen is completely inexpensive in both materials and labour. With mud being a widely abundant and locally sourced material, usually there are no transportation costs for raw material. The villagers are left with some resources which can be used to improve other spheres of life. Du Plessis adds (2001: 47):

“Historically, both the indigenous and the settler homesteads were characterised by climate conscious design, the efficient use of local materials and the use of agglomerations of small individual huts and delineated outdoor spaces to house the various functions of a household. The building and its environment were not seen as separate entities, but as integrated, though different, aspects of a holistic lifestyle. In a sense, this early architecture of grass or mud huts



can be seen as the ultimate in green architecture” (Du Plessis, 2001: 47).

A reflection on Du Plessis’ view shows that ethno-science makes round buildings more comfortable, more energy-efficient and safer for human habitation. This gives this study the green light to explore the characteristic features of traditional kitchen huts which are a pointer towards sustainability associated with the environment, bearing in mind the Shona’s religio-cultural values.

Maintenance of the traditional kitchen hut contributes to smart communities

KH6, a woman elderly, had the following to say, “Cleaning of the traditional kitchen is a woman’s duty, and it is taken as seriously as caring for her own body. Regularly, the women spread cow dung mixture over the floor” (Interview with Participant KH6, Buhera, 17 April 2020). An explanation of the importance of the cow dung is given by Saif-UI-Haq (1994:31) who thinks that because of its fibrous properties, cow dung acts as a sealant that helps keep the hut and its surroundings clean. FGD2 participants made it clear that renovation of the hut with clay also serves an important hygienic function as clay is a very clean and wholesome material that discourages the breeding of insects and other pests. During the fieldwork, it was observed that traditional kitchen structures are traditionally positioned facing east or west to guarantee a full spectrum of streaming sunlight during sunrise and sunset. The sufficient sunlight ensures that the floors and walls are always dry.

The corn shaped roof as a panacea to strong winds and storms

Several participants were of the view that climate change has resulted in the occurrence of storms and strong winds which have destroyed a lot of the western type roofs in Buhera south district. KH13 argued saying “The roof of the kitchen is the ideal structure in resisting strong winds” (Interview with Participant KH13, Buhera, 19 December 2019). The roof is thatched and intricately woven with sisal and bark of trees and hard to lift off during bad weather with the singular centre pole providing support against gravity (Ross, 20217). A rounded roof avoids ‘air-planning’, a situation where a strong wind lifts the roof structure up and off the building structure. Roof timber meets in a centre ring, producing inward and outward pressure which holds the roof in a state of compression (Interview with Participant KH13, Buhera, 19 December 2019). The interconnected tension in the building goes all the way to the ground and uses gravity and compression to hold it together with incredible strength (Ross, 2017). Grass is a good insulator, but is porous, so it allows a free flow of air. It is often very hot during the afternoons in Buhera. My own experience with kitchen huts is that it remains cool in hot temperatures and is a welcome resting place. At night, when temperatures fall, the kitchen retains its daytime temperature, keeping the inhabitants warm. Participants emphasised the grass is locally available in the communities.

Traditional kitchen hut as religious resource for environmental preservation

Both the elderly women and men confirmed that the kitchen hut is associated with religio-cultural symbolisms. The symbolisms associated with the traditional kitchen hut were handy in constructing the essence of sustainable development in a troubled mother earth. The social dimension of the architecture and the Shona people’s religious worldview are very important in this regard. The people’s worldview in this regard is objectified by some portions of the kitchen hut and its utensils.

The Shona believe that the symbolism of the kitchen hut can be drawn from the idea that in so many ways the building reflects an embodied space. Anchored in this understanding, Seda (2000:163) draws a fascinating analogy between the architectural structure of the Shona hut



and the female breast. In the analogy, the round and peaked roof of the hut is not an architectural accident, it is an intuitive language, mimesis or transportation of natural growth as exemplified by the breast and womb of a woman. The nipple that is sucked by a new-born baby on the female breast may be compared to the apex or *chiruvi* of the traditional Shona hut.

This study found this analogy plausible. The breast is a central matter (*materia*) in the mammalian evolution of the human species which is a powerfully saturated “cultural imaginary” (Gripsrud, 2018:210). “A woman’s breast is shrouded with sacrality. The Shona ensure that the breast is always covered to the public even when the Shona women are suckling babies, they do not expose their breasts. Breasts of a pregnant mother should not be fondled by a man who’s not the father of the unborn baby. In Buhera, the baby will refuse suckling till a ritual of confession is performed by the mother” Interview with Participant KH19, Buhera, 10 June 2020). The act of fondling a pregnant married woman’s breast is an out-of-bounds act which angers the spirits of the foetus in the womb. According to KH3, a male traditional healer, “It is believed that the milk will be dirtied or corrupted because of the fondling. So, confession is a rite of purifying spoiled milk” Interview with Participant KH3, Buhera, 11 May 2020). The foregoing views show that the breast serves to sustain the life of a baby who is an innocent creature which is strongly connected to the ancestral world. Thus, the importance of the breast is articulated by Seda (2000:163) when he says that “at birth the female breast is a person’s first source of nourishment”. So, in this line of thinking, the spiritual world sets some taboos which are meant to keep such body parts revered because of their roles. The metaphoric link between the kitchen’s roof and the woman’s breast has established some permanent reverence of the kitchen’s roof. All participants concurred that in Buhera communities, the roof of a kitchen hut should be always covered by grass. An old kitchen with a roof which is left uncovered with grass is described as *chongo*, and failure to cover the roof by grass attracts a heavy fine from the traditional chiefs. Additionally, torching a woman’s kitchen with fire is a serious offence which attracts a heavy penalty of not less than one cow beast by the traditional leaders. So, just like a woman’s breast, the kitchen hut is understood by this study as a life nourishing phenomenon.

On the same token, in environmental matters, the image of trees in a forest is idealized in a shape of a kitchen hut roof. The complete hut symbolises a forest covering Mother Earth. Deforestation leaving Mother Earth exposed is a punishable offense by traditional leaders in Buhera rural communities. Furthermore, gutting the forest with fire is another severe offense which is punishable by payment of a heavy fine. All these belief systems and practices are meant to protect Mother Earth so as to have sustainable communities in the era of climate change. The communities’ tacit knowledge about the woman’s breast, traditional kitchen and the environment shows that these phenomena are sacred. They are defended organs. Any unlawful conduct with them results in conflict and anxiety due to gendered and sexed investments in them as a religio-cultural trope (Gripsrud 2018:210). So, symbolism of the traditional kitchen hut has the function of transmitting knowledge of the preservation of Mother Earth. In the modern period, a traditional kitchen hut refers to that which symbolises, expresses, represents, reveals and indicates the sacredness of Mother Earth.

The mud material and its utility

The study established through observations that clay is a strong, durable material that can be used to build structures that are stable, durable and aesthetic without necessitating the use of paint and cement. KH5 responded saying “Most important of all, clay is healthy. It filters out toxins from the environment. Modern building materials like cement, paint, fillers, asbestos and metals release toxins that compromise human health and well-being”. Buttressing this view Chauhan (2022) thinks that a building made of clay or mud is completely eco-friendly. It has high heat resisting capacity and slow the rate of temperature changes in the ambient air. Observations made were that the walls and floors of kitchen huts are naturally insulated, which



provides thermal comfort inside the kitchen hut. Discussants in FGD1 informed the study that the temperatures in the kitchen hut decrease during the scorching summers, while the mud walls keep the house warm in winters. The mud walls are porous and can breathe, which helps in maintaining a comfortable temperature.

In both FGDs, the discussants affirmed that the mud and clay used in plastering the kitchen huts is recyclable and biodegradable. The basic construction material, that is wood, mud, clay, grass are reusable. This study note that they are excellent when it comes to a circular economy, as they easily go back to nature, from where they came at the end of their life. In support of these research findings, Chauhan (2022) argues that when they are dismantled, the raw materials can be recycled and reused. In most cases, as was observed during the fieldwork, when the mud is dismantled from the walls, it is spread in the fields to enrich the soils for agriculture, and that is repurposing. This was noted by Seda (2000:164), who thinks that the Shona people have a strong dependence on the soil for their sustenance in a predominantly agricultural and pastoral economy.

Utility of the fireplace waste in sustainable development

Several interviewees acknowledged that indigenous knowledge systems help them in utilising cooking-fire ash and charcoal from non-poisonous burnt wood in traditional healing and sanitizing as alternatives for toothpaste. For example, women who happen to be involved in healing of family members use charcoal to treat snake bites, running stomach, acids just to mention but a few. The ash is also used as a substitute for soda. Only approved firewood is used to make fire in the kitchen. KH17, a traditional healer, rejoined saying; “The smoke that collects on the inside of the roof is used to treat sexually transmitted diseases” (Interview with Participant KH17, Buhera, 20 August 2020). For agricultural purposes, women take tussles of small grains, sun dried and smoke coat them in kitchens until the next planting season. Smoke produces a bitter taste which deters pests (Mutsa and Mukoni, 2013). Participants in FGD1 highlighted that ash is also spread over grain stored in granaries to protect it from weevils. Meat is also dried in the kitchen over the fireplace for preservation. This means they consume lean meat which helps people to keep their saturated fat intake within guidelines and reduce their risk of chronic diseases (Richards, 2023). Waste produced in these kitchen huts is of high utility value in health matters of the indigenous people.

Natural earth utensils

Another finding by this study was that the indigenous kitchen hut is made of natural 'earth' materials, fitted in with their basic philosophy of drawing on nature for all their needs, and only in the amounts that were needed. For example, it was observed that in the kitchen, calabashes and gourds are used as containers for milk, water, traditional beer and *shupa* (sower porridge). After selecting seeds which are to be used in the following farming season, Shona women safely keep them in clay-pots, calabashes to protect them from pests and harsh weather conditions (Mutsa and Mukoni, 2013). Discussants in FGDs pointed out that when no longer useful, all these utensils decompose when they are thrown back to Mother Earth. The same with *hari* (clay pots) which are used for cooking. A woman who moulds clay is imitating the work of God who is understood as *Muumbi* (Moulder) (Kriel 1989:50). Understanding human beings as creatures fashioned by Mwari points to the strong link which exists between human beings and the earth. So, the earth is revered as sacred.

Pottery is among the most lasting living craft traditions of the Shona people. Earthen ware is sustainable as the material decomposes back to nature without polluting the environment. With growing concern for the environment, instead of relying on steel/aluminum cookware this study suggests inclusion of traditional vessels made of clay in the traditional hut just like what used to be done before modernity. From cooking food to setting curd and storing water, clay



pots are self-sustainable and eco-friendly (WomenforIndia, <https://womenforindia.org/earthen-pots/>). Water stored in clay pots and has a pleasant, natural coolness, and smells of earth. Cooking in earthen pots and utensils also has additional benefits. These are: first, clay is alkaline and when it interacts with the acidity in the food, it neutralizes the pH balance eventually, making it healthier. Second, due to its heat resistance, the food retains all the natural oils and moisture while slow-cooking, hence, extra oil need not be added. Third, food cooked in a clay pot over a wood fire retains an inimitable earthy aroma, especially fresh beans or meat dishes. Fourth, earthen utensils are not very expensive and cost-efficient compared to other types of utensils. Fifth, cooking in a clay vessel infuses the food with many important nutrients like calcium, phosphorous, iron, magnesium, and sulphur. Sixth, clay is a porous material that allows heat and moisture to circulate evenly through the pot during cooking, unlike metal or stainless-steel pots. This superior form of heat circulation helps in cooking vegetables and meat evenly. When women cook using clay pots, it reflects the entire Shona traditional culture and religion, a component which is vital for sustainable development in smart communities.

Circular economy key in replenishing the ecosystem and some recommendations

In the absence of government-implemented shelter strategies and programmes in rural communities like Buhera, the enabling approach should be based on a reorientation of the role of the traditional kitchen hut in sustainable development (United Nations Centre for Human Settlement, 1995). This is because there is an urgent need for the implementation of adaptation measures now to mitigate disaster as climate change heightens. Utilising traditional religious belief systems and indigenous knowledge associated with the traditional kitchen hut, it is the responsibility of the indigenous people to upkeep the ecosystem. This is done bearing in mind the role their fore-fathers and fore-mothers played in the past to preserve the environment so as to continue using the same knowledge responsibly in relation to adaptations for the sustainable development goals to be achieved as recommended by the international community (Pamela, 2023). It is imperative to point out that in the contemporary world, the traditional kitchen hut can function as a repository of critical information on the work of health professions, agronomists and climate scientists. Accessing the knowledge on the utility of the traditional kitchen hut can become the springboard from which recovery from the effects of climate change may emanate.

Another important issue to consider concerns Construction and Demolition (C&D) materials which consist of the debris generated during the construction, renovation and demolition of hut buildings. Circular economy promotes a Sustainable Materials Management (SMM) approach that identifies certain C&D materials as commodities that can be used in new projects (EPA, <https://www.epa.gov/smm/sustainable-management-construction-and-demolition-materials>). All traditional kitchen huts need maintenance, where especially the grass and clay products are removed and replaced by new stuff. The dismantled rubbles are spread in the fields providing manure to the soil for crop cultivation. This helps in ensuring that the ecosystem replenishes while benefiting from it. Use of cost-effective structures will not drain both financial and material resources of poor people in the rural communities.

This study recommends designing and building with more sustainable structures which are ecologically responsive in the model of a rondavel traditional kitchen hut to help protect our Mother Earth. These buildings have a high level of recyclability. Sustainable architecture has several advantages including energy savings, fewer carbon emissions, and more comfortable environments for people to live in and work. The western model depicts an egocentric view whereby there is exploitation of the earth's resources without returning anything beneficial to the ecosystem. The remedial approach should be shunning the egocentric practice creating space for a balance between humans and the Mother Earth in providing and being provided through the ingenious engineering prowess of Mother Earth.



Conclusion

In conclusion, the study has shown the centrality of the traditional kitchen hut in sustainable development and in the context of climate change. It showed that sustainable development is a comprehensive approach to development which aims at improving the quality of rural life without 'biting the hand which feeds that process' (United Nations Centre for Human Settlement, 1995). The importance of traditional African kitchens in smart communities must not be underestimated because the study clearly showed that the physical configuration has the inherent capability to respond to and accommodate a wide range of environmental and cultural contexts.

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