

Food sovereignty practices among smallholder farming households along the staple food crop value chain in western Kenya.

¹Owino Harriet Nyakecho; ²Mugalavai Violet Kadenyeka, ¹Tsawe-Munga Chidongo; & ¹Joshua Stephen Muoki

¹Pwani University;
²University of Eldoret

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Abstract- This study was designed to highlight the food sovereignty practices of the respondents in the context of African spirituality of smallholder farmers in Matayos Sub-County of Busia County Kenya, and its impact on their food security status. Quantitative survey data was collected from 399 households' using self-administered questionnaires, whereas qualitative data was derived from focus group discussions and case studies and reported verbatim. The results indicated that being custodians of the culture and traditions in African spirituality through the staple food crop value chain, the elders cared for the environment and passed the knowledge to younger generations in various food sovereignty practices through both learned modern and traditional farm practices including land preparation, planting, harvesting, post-harvest handling, processing and utilization of food for a better food security of the farm households. The size of land was a limiting factor in attaining food security as the family size increased. There is need to address challenges in resource poor households and also engage in positive integration of food sovereignty and African spirituality practices for a better food system environment, consciousness and perception towards food secure rural households and the Nation at large.

Index Terms- Food systems, food sovereignty, African spirituality, food security

I. FOOD SOVEREIGNTY: A SNAPSHOT

Food sovereignty addresses food systems including the means of production and how the means of production either result in boosting of produce or creates a loss of production. According to Altieri, 1993 and Gliessman, 1998 high vegetational diversity and a multifaceted system of indigenous knowledge are the salient features of traditional farming systems and food sovereignty in developing countries. On the other hand, Holt and Gimenez (2006) in their book, *Campesio a Campesio: Voices from Latin America's Farmer to Farmer Movement for Sustainable Agriculture* discusses how in Central America, tens of thousands of peasants have recovered eroded hillsides and restored and boosted

productivity through the farmer to farmer agroecology movement. Agroecological methods in farming can be an indicator of food sovereignty since agroecology is restorative and draws from a respect of the land in its natural form and develops it to its optimum level since modern industrial monoculture degrades soils and drives the loss of productivity.

The Action group on Erosion, Technology and Concentration- ETC (2009), focuses on the population of peasants or smallholder farmers on the planet and establishes that there are 1.5 billion peasants on 380 million farms; 800 million more growing urban gardens; 410 million gathering the hidden harvests of our forests and savannas; 190 million pastoralists and well over 100 million are peasant fishers and at least 370 million of these are also indigenous peoples. They illustrate how together these peasants make up almost half the world's peoples and they grow at least 70% of the world's food. ETC (2009) is relevant because they provide a statistical background on the importance of smallholder farmers in establishing food sovereignty in their communities.

Statistics from Brazil by *La Via Campesina* (2008) show that despite the fact that agribusiness controls the majority of arable land and especially of good quality land, in almost every country in the world it is due largely to peasants and family farmers that we have food that is available today where rural farmers continue the food sovereignty practices as passed down by their elders and continue to be recognized as the custodians of natural resources including biodiversity (Chhatre and Agrawal 2008). It is farmers who continue to preserve the best seed genotypes through unique and valuable traits within their herds and traditional crop varieties that tolerate environmental stresses including climate change (Gonzalez 2010). In country after country, smallholder farmers control less than half of the farm and yet produce the majority of the food that is consumed. Smallholder farmers produce most of the food that is available.

FAO (2010) makes remarks on the global food crisis of 2007-2008 which was marked by skyrocketing food prices, urban food riots and the continued displacement of the rural poor. All this was a clear indication that the dominant model of agricultural

development had not succeeded in eradicating poverty or world hunger. Some countries like Haiti, Bangladesh, Egypt, West and Central Africa and countless other locations saw hundreds of thousands of people taking to the streets demanding affordable food. The more recent figures from FAO of the UN (2019) indicate that the ranks of the hungry are continuing to swell and now encompass more than one billion people, an increase of over 25 % in the number of people without food since the mid-1990s. The information from the study by FAO (2019) shows that there has to be a different approach to ending hunger and malnutrition on the planet which includes looking back at cultural and spiritual values that ensured that communities were able to sustainably feed themselves. In the recent past, food security was not an issue because many communities were in control of their food production.

Another ecological intervention on farming systems is illustrated by Teodoro Mendoza (2002) in a research done in the Philippines which shows that rice yields in organic farms are 37.4% higher than in conventional farms during the dry season. The research shows that not only is the yield in tons per ha higher on organic farms, but the grains in the panicle are also heavier. Filled grains per panicle were the highest in organic farms while percent unfilled grains were comparable in organic and conventional farms. Mendoza (2008) study shows that organic farming could be a more sustainable farming system for cereals and legumes and is relevant to the study since the focus of the food sovereignty will be on the staple food crop value chain. Peter Rosset (1999) in his study titled *The Multiple Functions and Benefits of Small Farm Agriculture in the Context of Global Trade Negotiations* also argues that despite the common misconception that the industrial farming systems of agribusiness are the most productive, many studies have shown in recent years that small farms are more productive than large farms. Badgley et al., (2007), Pretty and Hine (2001) and Pretty et al., (2003) also posit that agroecological, sustainable and/or organic systems are as productive and, in many cases, more productive than chemical dependent monocultures because the most productive systems per unit area are highly integrated agroecological systems on small farms. Their arguments are relevant to this study because these organic, agroecological and sustainable ways of farming are systems used by smallholder farmers to produce food and might provide information on the spirituality of smallholder farmers through the staple food crop value chain. Badgley et al (2007), highlights research which shows that in developing countries organic farming systems on the average yield 2.7 % times more per hectare than do non organic systems. In developing countries, they yield about the same while on a global level they yield 1.3 times as much. This information is important to the study because it shows how indigenous farming systems are a vehicle towards recognizing the democratic ownership of food systems through food sovereignty.

According to *La Via Campesina*, (2008) agroecological farms are substantially more productive both per unit area and per amount of labor. Machin Sosa et al. (2010), further illustrates that a more integrated farm is one that combines crops and livestock, inter-crops, rotates crops, employs agroforestry and generally exhibits a higher level of functional biodiversity. Such systems are seen as not only more productive but have far lower costs especially in terms of expensive farm chemicals and machinery.

Their study argues that smallholder households and their farming systems are an important aspect of food sovereignty.

1.2 Food sovereignty in Kenya

A study by World Bank (2013) shows that agriculture is the backbone of the economy in Kenya with 61.1% of Kenyans living in rural areas and engaged in agriculture. This shows that Kenya highly relies on smallholder farmers to produce their food. IPCC (2014, 2007) FAO (2020) Toulmin (2009) and UNDP (2021) also assert that Kenya is largely dependent on output from small-scale rain-fed farming and livestock production. According to Sperling et al. (2008), the challenges to food production in Kenya is affected by the geographical location of the country which is situated in sub-Saharan Africa (SSA). The geographical location of the country means that Kenya is significantly exposed to the increasing effects of climate change and forecasts for increased food insecurity, potentially affecting up to 250 million people by 2020. He continues to argue that because of the food insecurity, giving seed aid specifically, has become a notable feature of the seed systems of many African countries over the decades (ibid). He gives an example of FAO which has implemented 400 seed relief projects in Africa between 2001 and 2003 and parts of eastern Kenya have received seed aid almost continuously since the early 1990s (ibid). Sperling (2008) gives crucial information towards the study on how smallholder farmers in western Kenya are able to determine their own seed systems towards food sovereignty or not. Despite the important study by Sperling (2008), there still is very little information on food sovereignty in Kenya and in particular, western Kenya.

Brownhill (2008) in her study *The Struggle for the Gendered Commons: Food Sovereignty in Kenyan Social Movements* states that the struggle for food sovereignty in Kenya is for many a struggle to re-invent the commons, to secure land on which to produce food, sustain a family, build community and engage in self-directed livelihoods. She further describes that the Kenyan food sovereignty movement in some regions of the country includes a wide range of actors and peasant farmers organized to oppose neo-liberal trade agendas, impromptu defiance of government regulations by pulling up coffee trees and planting organic food crops (ibid). Through the movement, Brownhill (2008) illustrates that they include groups engaged in rural land occupations, dispossessed urban gardeners and sidewalk food hawkers, slum housing activists, transport workers whose work includes, importantly, the transport of smallholder farmers foodstuffs to markets, and host of others. She concludes by asserting that the struggle for food sovereignty in Kenya unites a range of activists and elaborates a subsistence perspective which: (1) critiques neo-liberal globalization's capacity to alleviate hunger and malnutrition.; (2) centralizes direct action by farmers, peasants and slum dwellers in local and international social movements; (3) assesses the enhancement of life-centered subsistence alternatives within communities and in connection with counterparts abroad (ibid). Her study is relevant to this research because it highlights the different phases of how food sovereignty is actualized and how smallholder farmers can integrate these aspects while combining African spirituality.

According to Khan et al. (2008) by restoring soils and agro-systems, agro-ecology is also a reliable way to control the outbreak of pests which might be a challenge when employing

organic food systems towards food sovereignty. For instance, in East Africa the push-pull poly-culture system is very effective for control of Lepidopteran stemborers and it uses other plants in the borders of maize fields, which act as trap crops attracting stemborer colonization away from the maize (the pull) and other plants intercropped with maize that repel the stemborers (the push). Khan et al. (2008) also highlights that participating farmer in Kenya are reporting a 37% to 129% percent increase in maize yield without chemical pesticides. This research is applicable to the study because it shows that SHF can utilize agro-ecological systems for an increased food production without relying heavily on chemicals and pesticides which many not be culturally and spiritually beneficial in food production. Climate smart agriculture is also a useful approach that enhances food production, biodiversity, environmental quality, agroecosystem resilience, livelihoods and economic development while addressing the climate change impacts (Olayide et al., 2016 and Singh and Singh, 2017).

1.3 Major challenges in achieving food sovereignty

Thomson et al. (2011) and Skinner et al. (2006) argue that food sovereignty challenges still exist for indigenous communities today with relatively high food prices. Other challenges facing food sovereignty include industry related contamination of foods, landscape changes and disruption of the environment through deforestation as expounded by Thomson et al. (2011) and MacLachlan (2014). Some of these challenges are going to be highlighted during the present study as observed in Matayos Sub-County, Busia County, Western Kenya and thus the studies of Thomson et al. (2011), Skinner et al. (2006) and MacLachlan (2014) are relevant in establishing the challenges towards achieving food sovereignty. They affirm that the power in food systems needs to be addressed with and by the SHF (ibid). Rudolph & MacLachlan (2013) further elaborate that in general, indigenous communities need to address their food systems. Some of the ways towards addressing the power in food systems is asserted by Morrison (2011) who argued in the People's Food Policy Project that in linking food production with consumption, and presenting food as sacred, indigenous people are able to address their food sovereignty challenges. Furthermore, Morrison (2011) states that smallholder farmers can establish policy reforms as they address their food systems. All these studies are useful because they map out challenges that smallholder farmers in Matayos sub-County, Busia County, western Kenya may face in attaining food sovereignty and how they can overcome them.

1.4 African spirituality along the staple food crop value chain

Gumo et al. (2012) shows how African spirituality is practiced along the staple food crop value chain by emphasizing that African spirituality has been enhanced through the environment where humanity worshiped and venerated everything under the earth, on earth, between the earth and heavens and in the heavens above. Bayers (2017) also states that traditional African and religious belief systems were practiced concurrently during planting. Fisher et al. (2009) also elaborated that African spirituality is also linked to traditional agriculture, which highlights old practices through which humans have been interacting with nature and managing ecosystem services.

Consequently, various methods to restrict the utilization of certain natural resources are employed as a way of conserving the environment and continuing the relationship between the African person and their environment which is an ecological perspective and thus lends an ecological angle to this study. The smallholder farmers are part and parcel of their environment even as they practice African spirituality.

Mbiti (1969), supports the ecological view by stating that Africans exercise their spirituality in all of their daily activities as he notes that Africans are notoriously religious. Wherever the African is, there is spirituality and he carries it to the fields where he is sowing seeds or harvesting a new crop; he takes it with him to the beer party, or to attend a funeral ceremony; and if he is educated, he takes religion with him to the examination room at school or in the university (ibid). Spirituality deeply permeates society that it is further carried into the political realm where if an African is a politician, he takes it to the House of Parliament where policies are made (ibid). Mbiti (1969) is relevant in bringing the ecological angle to the study as well as illuminating how spirituality is present when policies are made concerning the governing and utilization of land as an aspect that brings about the nexus between African spirituality and food sovereignty.

Gumo et al. (2012) continues to set the ecological dimension by saying that humankind, according to African thought and belief, is not an isolated creature. Humanity is only part of the universe which is full of animals, plants and inanimate objects, and is not isolated and all these components are relayed to each other in various ways since they are dependent on the supreme God for their appearance and continued existence (ibid). Gumo et al. (2012) further highlights that African philosophy on resource utilization and environment protection is spiritually based and thus major conservation efforts and control of resources are influenced by spirituality. The African spiritual worldviews create respect to nature, reverence of hills, forests, animals and rivers and this practice is still held by some African communities, especially among the Luhya of Kenya who use their spirituality for example to conserve Kakamega Forest (ibid). Gumo et al. (2012) contributes to this study by giving the perspective of ecology as an aspect of food sovereignty and how a SHF integrates African spirituality in their farming systems.

Galli (1973) asserts that among most of our African people, there exist strong beliefs, fears and respect for the spirits of the ancestors. Animals are used for ritual sacrifices to appease the ancestors and deceased spirits who guard the destiny of the living (ibid). The use of animals for spiritual rituals and sacrifices is part of the nexus between African spirituality and food sovereignty. Galli (1973) gives the example of the Nguni of South Africa who sacrifice a goat and consumed it on the arrival of a new baby (ibid), part of an illustration of the nexus of African spirituality and food sovereignty. He highlights that if the ritual goat sacrifice was omitted, the anger and punishment of the ancestors would be apparent by their 'burning' the child and the consequent failure of the child to grow and thrive (ibid). To restore equilibrium would then call for elaborate rituals, animal sacrifices and services of traditional practitioners and spiritual elders (ibid). Galli (1973) furthermore shows how African spiritual beliefs concerning food are handed down through the ages and are passed from one generation to another and these beliefs transcend education or social status. Furthermore Shazali et al. (2013) illustrates that the

beliefs concerning food can occur and be transferred spontaneously without intent thus with little encouragement and motivation from the surrounding, from the known to the unknown as community members get engulfed in the festivities and spiritual practices that accompany the practices. Galli (1973) also offers practical examples of how African spirituality and food sovereignty are intertwined in indigenous societies in Africa and therefore contribute towards practical examples in this present study in Matayos Sub-County.

II. RESEARCH DESIGN

The study was a cross-sectional survey design. This design was chosen because it enabled first hand perception of the experiences of the participants while allowing the use of qualitative techniques of data collection. The cross-sectional survey enabled the researcher to obtain information that described African spirituality in the context of food sovereignty among SHF, by asking individuals about their perceptions, attitudes, behavior and values. Apart from collecting quantitative data, the qualitative data collected during the survey was used for explaining or exploring the existing status among the variables of food sovereignty and African spirituality. The target population for this study was the smallholder farming households in Matayos Sub-County, Busia County, Western Kenya. This Sub- County was selected purposively as majority of the smallholder households produce and process SFC for household consumption and sale.

2.1 Data collection methods, tools and procedures:

A variety of data collection methods were used in order to improve the sampling accuracy. These included self administered questionnaires, interviews, observations, and focus group discussions (FGD). Data collection tools included an interview schedule, a questionnaire, a voice recorder, an observation checklist and a video camera which allowed for the gathering of comprehensive information. The choice of these methods and tools was guided by the depth of information required to answer the study objectives.

III. RESULTS

3 Characteristics of respondents by education level, marital status and family members

Sex: Out of the N=399 who responded to the self-administered questionnaires, a majority of them were female (n=211, 52.9%) and the rest were male respondents (n=188, 47.1%). Of the informants included in the 3 focus groups there were 10 participants each comprised of male (n=10), female (n=10), and mixed gender (male=5; female=5) as well as six case studies of 3 males and 3 females with rich descriptive information in regard to the study objectives.

Age: A majority of the respondents were aged between 26-35 years (32.1%) of the total sample size, whereas those between 36 – 45 were 24.3 % and the two least represented groups were those between 46-55 and those above 56, each at 16.8 %. The informants in the focus group discussion sessions were all above 18 years of age, while the informants for the case studies were purposefully selected, targeting men and women who had information on African spirituality from past to present between the ages of 67 to 83.

Education level: A majority of the respondents n=242 (60.7%), dropped out of school at Primary level, whereby more females (n=132, 54.5%) than males (n=110, 15%) dropped out. Only n=98 (24.6%) of the respondents had attained Secondary level education, whereby the males (55.1%) were more than females (44.9%), whereas those who had attained post- Secondary education were only n=25, 6.28%, with more males (n=17, 68%), than females (n=8, 32%) having completed education at this level.

Marital status and family members: The total population of respondents who were married were n= 311 (80%) out of which n= 167 (53.7%) were male whereas n= 144 (46.3%) were female. The total population of the single headed families were n= 26 (6.5%). The total population of widowers and widows were n= 62 (15.6%) out of which the majority were females n=50 (80.6%) and the males were n=12 (19.4%). There were more male headed households (56.7% & 50.7%) than female (43.3% and 49.3%) who had family members of the age group between 5-18 years and above 18 years.

Ethnicity and religion: A majority of the respondents were Christians (98 %), whereas Muslims and other religions were represented by only 2%. (see Table 1). On the other hand, ethnicity played a major role in the African spirituality and food sovereignty practices the informants in the case studies as well as the FGD's who were from various clans from the Luhya Ethnic group, while a small number said that they were Luos.

Table 1: Distribution of respondents by demographic characteristics.

Variables	Number of respondents	Percentage (%)
Sex		
Male	188	47.1
Female	211	52.9
Total	399	100
Age		
18-25	40	10.0
26-35	128	32.1
36-45	97	24.3
46-55	67	16.8
56 and Above	67	16.8
Total	399	100

Religion				
Christians	391		98	
Muslims	4		1	
Other	4		1	
Total	399		100	

N=399

Table 2. Characteristics of respondents by education level, marital status and family members.

Variable	Total Population	Males	Females	Total %
Education level				
Pre-primary	34(8.5%)	7(20.6%)	27(79.4%)	100
Primary	242(60.6%)	110(45.5%)	132(54.5%)	100
Secondary	98(24.6%)	54(55.1%)	44(44.9%)	100
Post-secondary	25(6.28%)	17(68%)	8(32%)	100
Total	399(100%)			
Marital status				
Married	311(80%)	167 (53.7%)	144(46.3%)	100
Single	26(6.5%)	9(34.6%)	17(65.4%)	100
Widow/er	62(15.6%)	12(19.4%)	50(80.6%)	100
Total	399(100%)	188(100%)	211(100%)	

Gender	Age category (%)			Those in school (%)	Working on farm (%)
	< 5 Years	5-18 Years	> 18 Years		
Total population					
Male	54.9	56.7	50.7	53.8	31.5
Female	45.1	43.3	49.3	46.2	68.5
	100.0	100.0	100.0	100.0	100.0

N=399

3.1 Food sovereignty practices of smallholder farmers

Food sovereignty is achieved when smallholder farmers are able to access culturally appropriate food that is produced through ecologically sound and sustainable methods. Protection of natural resources enhances access to food as expounded in the case studies. The men and women in the FGDs and case studies highlighted that taking care of the environment not only was it an act of African spirituality but that of food sovereignty. The two are intertwined. One cannot separate the smallholder farmer from their spirituality or their food sovereignty. The environment was key in signifying the onset of the planting season and symbolically illustrated that it was time to plant, or weed, or harvest so observing the environment and nature was an integral aspect in food sovereignty of the small holder farmer. The elders observed the rain patterns, the birds, the rivers, the way the sun rose and set, the phase of the moon, the insects and more. Nature had a non-verbal language that it used to communicate with the smallholder farmers about what season they were in and what practices they should embark on. Below is a story from one of the case studies. Before embarking on land preparation, elder members of the clan looked at several factors to help them know that the planting season was almost starting. These factors include the movement of birds, the movement of winds, the levels of water in the river

beds and the cloud pattern. In cases where these factors were favorable, the old men would announce to the people to start preparing the land for the planting season. (79-year-old-male farmer, Case Study 3)

3.2. Respondents and informants land ownership

Out of the population of N=399 respondents, those who owned more than one acre of land were n210 (52.6%) whereas those who owned less than an acre were n189(47.4%). (see Table 3). More men (53.3%) than women (46.7%) owned more than one acre of land. During the FGDs with the three different groups, it was evident that smallholder farmers mostly own and farm on small-based plots of land. One informant described land ownership among small holder farmers as follows: "Smallholder farmers have big, and others smaller lands. Some have less than half an acre of land." (Rosemary, 36 years)

Smallholder farmers are also resource poor and therefore unable to acquire large pieces of land and are also often times called peasant farmers. One of the informants mentioned this by saying

“Nowadays there is a land problem where land is scarce and people are more and we do not have money to buy more land since it is very expensive. We are depending on our husband’s land that was inherited from their parents which was passed down to them by their own parents. (Catherine, 56 years)

“Those of us who are widowed have been allowed to maintain the land because we have to take care of the children. Infact those whose husbands died before they got male children are sidelined” (Anyango, 54)

Table 2: Respondents land ownership

Land Acreage	Number of respondents	Percentage %
Total Population		
Less than an acre	189	47.4
More than an acre	210	52.6
Total	399	100
By Gender		
Less than 1 acre		
Males	76	40.2
Females	113	59.8
Total	189	100
More than 1 acre		
Males	112	53.3
Females	98	46.7
Total	210	100

N=399

3.3 Land acquisition through inheritance

During the all-male FGD interview, the men expressed that one of the factors that contribute to the dwindling acreage of land for small holder farmers is acquisition through inheritance as quoted below.

“Land size has reduced for most households because of inheritance which causes divisions of the land into smaller pieces.” (Caroline, 34 years)

Furthermore, there are certain spiritual beliefs that governed the division of land among different ethnicities in Matayos Sub-County. These beliefs can be categorized as gendered beliefs, chronological beliefs and spiritual custodian beliefs. In gendered beliefs the FGD interviews highlighted how some ethnicities only recognize inheritance of land through the patriarchal line as quoted below from a male farmer below.

“The Samia ethnic group in Matayos sub county only recognizes the males in the family as eligible to inherit land from their fathers.” (Chrispinus, 27 years)

Not only was your position at birth in relation to your siblings a factor in chronological beliefs affecting land ownership, but also age was an important factor that contributed to ownership of land among small holder farmers as discussed in the FGD. During the FGDs it was discussed that inheriting land when someone was young was problematic and that is why it was mostly older people who inherited land or your clan would inherit land in your stead until you attained a legal age to own the land. Below is a quote from a female farmer.

“You cannot inherit land if you are young.” (Wilkister, 33 years)

Finally land custody was also affected by spiritual beliefs that governed how land was to be managed. The main belief as discussed in the FGD was that ancestral land was not to be sold but only divided within the clan. One could not just go behind the back of the clan and sell the land because a whole ritual needed to be done before one was given approval. The ritual of dividing land among the clan also had a protocol involving inviting the spiritual clan elders to start the process of division as quoted below from a male farmer in the all-male FGD interview.

“Land remains in the clan. During land division, one invites the clansmen (Omwami) for a party to divide the land in acres and according to the children.” (Vincent, 37 years)

In some cases process of land division brought about issues related to sustainable farming because not all land was suitable for smallholder farming according to the FGD interviews. Below is a quote from a male farmer.

“Land division brings issues with the eldest staying furthest while the youngest stays nearest the head of the household’s home. Unfortunately, one does not always get the best piece of land for small scale farming because some inherited land is rocky and not for ploughing, yet you cannot do anything about it if that is the piece of land that you are given. Sometimes parents divide the land according to their own preferences and not so much what you desire as the one inheriting so you have to make do with what you receive. Inherited land can also be sold but it has limitations. You cannot sell inherited land that has burial sites. This land has to remain as ancestral land and you can only till on it.” (Peter, 52 years)

Another issue in land acquisition that is gendered and affected women mostly is the case where the husband and wife are smallholder farmers but do not have any children as quoted below from the all-female FGD interview.

“If a father has no children it brings issues in inheritance. Often times the in-laws disturb the widows. Nonetheless, if women who are widowed or without children have land problems, they go to the government offices for help. To avoid problems of inheritance when a living father is still alive, it is best that he divides the land early and he remains with a piece of land his own use and for his wife.” (Elizabeth, 53 years)

In conclusion, inheriting land for smallholder farming was not all about its disadvantages. One major advantage of inheriting land as highlighted in the FGD interview is quoted below.

“Inherited land is good because you can do what you want with it after inheriting it.” (David, 46 years)

3.4 Land acquisition through buying

Smallholder farmers are able to acquire land through buying which comes with its advantages and disadvantages. During the FGD it was highlighted that some of the disadvantages involved the quality of land as expressed in the quote below from a female farmer.

“Bought land is many times overused because some people sell land after they have eroded and exhausted its fertility. Sometimes buying land is also constrained by finances because you can only buy a piece of land according to how much money

you have so you can never buy as much as you may desire." (Faith, 25 years)

The main advantage of buying land for small holder farming had a spiritual angle to it as discussed in the FGD interviews and quoted below from a male farmer.

"Bought land can be best because you have no ancestral ties and restrictions to it so you can do whatever you want with it." (Mourice, 57 years)

3.5 Land acquisition through renting

Small holder farmers are also able to acquire land for farming by renting pieces of land either seasonally or annually. Renting also comes with its benefits as discussed in the FGD interviews. Here is a quote from a male farmer.

"Renting has profits because you can put your hard work in it compared inherited land which comes with many restrictions. Furthermore, a piece of land that is rented can be more profitable because you have to work to get results unlike inherited land where you always feel like it will be there. All farms are equal but what matters is the hard work that you put on it. You can also rent land which has access to land thus have more control on how you utilize your small farms produce." (Mark, 31 years)

3.6 Food sovereignty during land preparation

Smallholder farmers are defined as a category of farmers who basically utilize family labor and little or no mechanization (FAO, 2020), when they are preparing their land for the planting season and all through the staple food crop value chain. An exploration of the tools used in land preparation during the FGD interviews and discussion illustrated that tools used for land preparation included the *Jembe* (Hoe). The *jembes* were highly coveted and kept clean and safe so that they did not get stolen or lost, usually on top of the house on a flat roof or in the rafters so that it didn't get misplaced. The FGD discussion also elaborated that keeping tools away from the reach of children was a safety precaution that was achieved by placing the *jembes* on top of the roof.

Smallholder farmers are still marginalized in Matayos Sub-County and do not have access to highly mechanized ploughing tools, still in agreement with FAO, (2020), who describe small holder farmers as marginal with less than two acres of farmland. Some households still use the traditional plough especially those who had larger pieces of land of around 2 acres. The traditional plough is an upgrade from trees and twigs which were initially used to prepare the land. The ox-drawn ploughs were used as a source of income and moved from one homestead to the other under the protection of the household head or their older sons who were of age to direct the plough and the oxen during the land preparation stage. Activities in the indigenous system that persist include the use of hoe digging. It was noted that traditional tilling is held in the spiritual realm and the tools and the use of ox-drawn ploughs in land preparation are highly guarded and protected by each household. Other tools highlighted in the case studies included the mallot, the spade, slasher, long sticks, fire and an iron cutting plate. Those who used mechanized agriculture were very few since the land has been fragmented over time due to expanded families and land inheritance being highly observed. Below are two accounts from the case studies.

The Abhakayo mainly use the traditional plough because it provides favorable conditions for the seed placement and plant growth. In ancestral times they ploughed using a twig of a tree or a crooked twig. Khayo also used a mallot or a spade which has a handle and iron cutting plate. (73-year old male farmer, Case Study 1)

During land preparation, tools like slasher (*Luvero*), A long stick to support slashing (*Shiholo*), a hoe (*Imbako*), and fire (*Mulilo*) were used simultaneously. (82-year-old-female farmer, Case Study 2)

Livestock like cows were coveted in smallholder farming households in Matayos Sub-County because they could be used to drive the plough during land preparation. Access to livestock was a food sovereignty practice as discussed in the FGD interviews. There are also farmers who organized themselves in clan level and hired a tractor for ploughing the land, while others hired hand labor for the land preparation. Some believed that using a plough could bring pests and diseases so either used the hand labor or tractors. Below is a quote from a female farmer.

"Cows are used for ploughing and some farmers also use a tractor. Some people do not plough with cows because they spread the striga weed which affects their crops." (Pamela, 42 years)

The majority of African farmers still use some traditional tools, and have them repaired by village blacksmiths whenever they breakdown. The Cows used for ploughing are also revered and well taken care of. The belief system and attitudes are developed from time to time depending on past experiences such as the striga weed consequence cited by one of the FGD participant. Modernization of agriculture has brought about the use of tractors which very few small holders are able to afford.

3.7 Food Sovereignty During Planting Staple food crops cultivated by respondents

The cereal crops that were cultivated by the respondents included maize (94.7%) which was practiced by the majority whereas only 33.3% and 6.8% of them cultivated sorghum and millet respectively. Legumes were also grown by the respondents and these included beans by the majority (87.7%), and cowpeas which were grown by only 15%. Sweet potato and banana farming was practiced by 49.1% and 22.1% respondents respectively whereas fruits and vegetables were grown by 14.5% and 58.9% of the respondents respectively (see Fig 1)..

During the FGD interviews, the men and the women mentioned the different types of staple food crops that they grew which included roots, tubers, legumes, fruits, herbs, and cereals. The variety of staple food crops ensured that the households had access to sufficient food and that food was available at all times in levels suitable for consumption. Below is a quote from one of the female farmers.

"Crops that we plant include sweet potatoes, cassava, arrow roots, sorghum, millet, maize, soya, groundnuts, simsim, Mfenesi', passion fruit, avocado, mango, pawpaw, watermelon, oranges, bananas, sunflower seeds for oil and for selling, 'Sukuma wiki', 'managu' and 'mukombero'." (Devilline, 34 years)

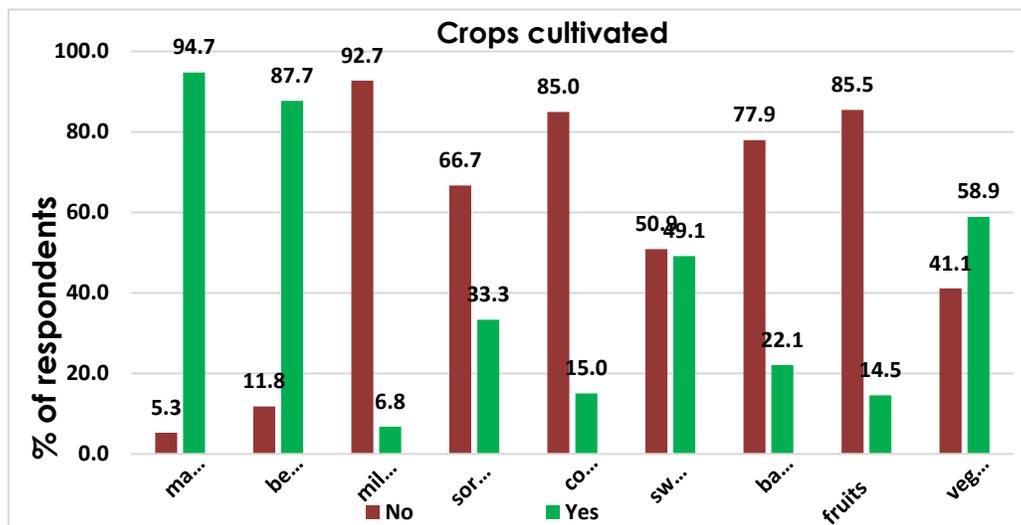


Figure 1: Staple food crops grown by respondents

Smallholder farmers (SHF) in Matayos Sub-County generally use broadcasting by hand as a method of planting as illustrated in the case study. The reasons for broadcasting were varied but the main one was that when the plants compete, one would be able to get good harvest when one plants more crops than few. The SHFs were interested in quantity and not quality of the harvest. The farmers chose seeds from the best grain crops from the previous harvest. The seeds were usually dusted with ashes from burnt animal wastes for consumption, although some farmers dried the chosen seed cobs by hanging over the fire place.

There was a definite farming pattern and this followed a regular calendar where the farmers knew that January was the digging period, February the planting period, April to May the weeding period and July to August as the harvesting period for the long season. The planting season was identified by the nature of the clouds and winds and also by the movement of the birds. However, the fall of the first rains was the confirmation of the onset of the planting season. There were some staple food crops (SFC) that were mainly for the short rains season and those for the long rains according to the FGDs. Some of the men and the women also listed some of the ways that they fertilized their farms for planting by mainly using organic manure from chicken and cows which was mixed with the soil before the rains to fertilize the crops. Most of the respondents were not financially able to buy inorganic fertilizers to supplement the harvested manure and thus the low crop yield. However, they still practiced organic agriculture and believed in the fact that it kept their ancestral rich heritage of traditional knowledge and traditional agricultural varieties which are transmitted through farmyard manure, animal manure from cows and chicken waste and therefore automatically recycling the resources for continuity and sustainability of seed and crop diversity. Taken together, these traditional practices create an ecological balance, which ensures rational use of animals and plants for food and other purposes. They guide the philosophy of resource utilization, conservation, thus environmental protection and food sovereignty in the food system as people work towards owning their own right to food. A place, practice or a natural phenomenon is declared sacred and worth practicing for sustainability.

This is a worldwide practice, where rural farmers continue the food sovereignty practices as passed down by their elders and continue to be recognized as the custodians of natural resources including biodiversity (Chhatre and Agrawal 2008, Gumo, 2012). In this study, it is noted that the farmers continued to preserve the best seed genotypes through unique and valuable traits within their herds and traditional crop varieties that tolerate environmental stresses including climate change (Boyce 2006; Gonzalez 2010, 2011; Johns et al. 2013). High vegetational diversity and a multifaceted system of indigenous knowledge are the salient features of traditional farming systems and food sovereignty in developing countries (Altieri, 1993; Gliessman 1998). Due to the low yield of SFC experienced, it was noted that traditional practices coupled with modern sustainable farming practices would be a noble choice for climate change mitigation and adaptation leading to a sustainable food system and hence food security for the smallholder farm households as also noted in the study by Singh, Singh, (2017). Below are some accounts from the case studies on the types of crops grown by SHF in Matayos Sub-County.

My community mainly plants cassava, millet, sorghum, maize, beans, sweet potatoes, banana, vegetables like *sucha* and *chimboko*. (73-year-old male farmer, Case Study 1).

We plant crops such as Sorghum (*Kamaemba*), Finger Millet (*Vulo*), Maize (*Nasima*) as well as vegetables like *Chisaka*, *Namasaka*, *Murere*, *Murende*, *Liseveve* (*Kamaondo*) (79-year-old male farmer, Case Study 5).

We plant several crops like Maize (*Matuma*), Finger Millet (*Vule*), Sorghum (*Mavele*) and vegetables – cowpeas (*Likhuvi*), *Tsisaka*, *Nderema* and pumpkin (*Mahondo*). (82-year-old female farmer, Case Study 2)

.During short rains we plant crops like Maize, Soya Beans, Sweet Potatoes, Beans and vegetables like *Sukuma Wiki*, *Kunde* and *Suja*. During Long rains we plant Sorghum (*Wimbi*) and Millet (*Mtama*). I also plant cotton as a cash crop. (67-year-old male farmer, Case Study 6)

.Crops planted are mainly cereals such as Hard Nuts (*Tsimbande*), Simsim (*Tsinuni*), Sorghum (*Mavera*) and Finger Millet (*Vule*).Crops like finger millets (*Ovule*), Sorghum (*Amavele*) and

many vegetables are planted by broadcasting (*Okhumitsa*). (79, year-old male farmer, Case Study 3).

3.8 Tools used through the staple food crop value chain

Tools are an important aspect of food sovereignty for SHF since one of the ways SHF are defined is by their utility of little or no mechanization. In the case studies it was highlighted that some of the tools used were traditional and made from locally available material from trees and rocks. Below is a story from one of the case studies.

The traditional farmers used the traditional methods for how food was planted, weeded, harvested, processed, and prepared as follows: We prepare the farm using a traditional tool which is made of wood and is called “*Omwolo*” to slash and clear the bushes. We also use the acacia wood as a tool and it is shaped in different sizes and shapes. For weeding we use a tool to remove deep rooted weeds like “*Olumbuku*”. We also have a traditional spade for ridges and furrows especially for those who were in the lower lands. The handle of this spade is made of Acacia wood which is strong and head of the spade is made of iron. During harvesting, crops like millet, cereals and pulses are harvested using a sickle which is designed in a C shape and is called

“*Lukhairo*”. We also used a knife called “*Likhandu*” which is made of iron for crops like sorghum. The Abaluhya believed in using certain tools for different stages of food production would bring them success in their farming. (73 year old farmer case study 1)

3.9 Food sovereignty during harvesting

The harvest stage in the SFC value chain was the culmination of a communal effort of controlling the production of food among small holder farmers in Matayos Sub-County. It was a spiritual time full of celebrations and rituals. The tools used to harvest the crops so that they

could be distributed to the spiritual centers, to the needy and stored up for the household were carefully selected to encourage ease of work. During the case studies, some of the tools revealed were still hand held and primitive and were used as a common practice as passed down by the ancestors in comparison to highly technological and mechanized tools but they were able to accomplish the work of harvesting SFC from a small acreage of land and this helped them to keep busy and guard and monitor the harvest as they worked. Below is a narration from one of the case studies concerning the tools used for harvesting.

For harvesting the Khayo mostly use a small sickle (*Lukharo*), a big sickle (*Lukharo Lukongo*), Knives (*Likhande*) and an axe (*shoka*). On post harvesting the Khayo used the following tools:

1. A wooden stick (*Muswajiru*) which is made of bamboo and is used to remove the covering of the maize cob.
2. A bamboo basket (*Shihinda*) for carrying farm products.
3. A pestle and mortar (*Shinu na Mswajiru*) for grinding groundnuts and simsim into paste.
4. A hand mill for grinding cereals and pulses.
5. The winnower (*Luderu*) for separating the grain from the husk.
6. The sieve (*Shijunji*) which is used for separating the different types of grain.
7. A sack for storing farm products. The traditional sack is made up of the skin from sheep and sometimes cow skin.
8. A store house (*Shiachi*) for storing grain.
9. A wooden container (*Shiiny*) for processing sesame seeds and groundnuts.

Processing tools	
	
<p>Plate 1: Muhuni and Mwikho for Processing Harvested Maize and Sorghum Respectively. Source: Researcher (2020).</p>	<p>Plate 2: Wooden Container (Shiiny) for Processing Harvested Sesame Seeds and Sorghum. Source: Researcher (2020).</p>

	
<p>Plate 3: Luderu- Winnower for Separating the Grain from the Husk. Source: Researcher (2020).</p>	<p>Plate 4: Muhinda for measuring grain. Can be put on the head. Source: Researcher (2020).</p>
	
<p>Plate 5: Muhinda for storing newly hatched chicks. Source: Researcher (2020).</p>	<p>Plate 6: Woman from FGDs Carrying her Harvest of Beans from the Farm to the Homestead. Source: Researcher (2019).</p>

During the FGDs the men and women discussed how storage and harvesting go hand in hand because what is collected from the farms has to be selected and stored appropriately so as to feed the household for longevity. There are different types of storage either made from naturally available material of plants and trees or from animals. Below is a quote from a female farmer in the FGD interviews.

“Mostly food is stored in gunny bags. Sometime stores called Shiachi or Abundu are made before the harvest of crops. We store some food and some first fruits we give to the church and extra food we share with the needy. During the harvest exercise we eat the first eggs of the chicken to have energy for the harvesting work which is usually tedious.” (Elizabeth, 32 years)

The respondents from Matayos believed in storing food for their food security even though the harvest was meager. They were proud of the little that God enabled them to harvest and they preserved it with keen interest and responsibility using both traditional and modern methods. The use of ash from barks and leaves of trees believed to have preservation and medicinal values were identified by the elders for grain preservation, was an inherited food sovereignty practice, that they sprinkled over grain and spread it comprehensively in a *shihinda* before storage in lidded earthenware pots, or woven baskets or sometimes gunny bags. The seeds that were preserved for future planting were preserved separately, well covered with ash and stored in sand in an earthenware pot. All these methods kept the grains dry enough for long and kept the families food secure. These practices are also noted in Awuor (2011) study among the Luo of Nyanza, Kenya.

3.10 Food sovereignty during seed and food preservation

SHFs in Matayos Sub-County illustrated how they are able to control how they prepare themselves for upcoming planting seasons in the preservation of the seeds and in some cases in the preparation to buy seeds that are acknowledged and permitted by the GOK. During the FGD interviews, the ways in which seeds are preserved was discussed exhaustively. Below is a quote from a male farmer on how they preserve their seeds.

“Some people preserve seed from former harvest while others buy the seed for the next harvest. For those who preserve their seeds, the seed is hung in the kitchen for cereals crops like maize, sorghum, and millet. Sometimes one would also put the seeds in a calabash that was a special basket for seeds and kept within until the next planting season. These calabashes were first dried by putting some ash within it. Even those people still use this traditional method to preserve their seed, there is also an option of using chemicals to keep the seeds. However, there is a belief that these chemicals bring disease. Usually when one is sorting out seeds for the next harvest, the type of seeds would determine how it is preserved. For me I cut my sorghum and hung it up in the kitchen to dry while for my maize I take it when it is not shelled and throw it on the roof to dry for the next season.” (Henry, 48 years)

Smallholder farmers provide most of the food available in the community and thus sustainability is an important aspect in their farming systems. According to the case studies, practices utilized for preservation of food was embedded in the belief system of the farming households. If they believed that traditional stores were good for storage, that is what they would use. If they believed that smoke prevented meat from rotting and kept fresh for a week, that is what they would use. If they believed that ash could act as a

pesticide, they would include it in the food sovereignty practice during the storage stage. Below is a narration from one of the case studies.

The Abaluhya preserved their food depending on what they believe in for example the “*Siaki*” are traditional stores which are used for safe keeping of food in the community. The Abaluhya also use smoke to preserve their food. They put their crops on the rafters of their traditional huts, over a three stone fire. The smoke prevents insects from destroying the cereals and food. African traditional rituals for food preservation also includes the belief that adding ash to planting seeds can preserve them for one year without them being damaged by pests. (73-year-old-male farmer, Case Study 1)

Drying, storage & processing	
	
<p>Plate 7: Maize Dried over the Fire Place to Avoid Infestation of Pests. Source: Researcher (2019).</p>	<p>Plate 8: Harvested Beans, Shelled are Ready for Meal Preparation. Source: Researcher (2019).</p>
	
<p>Plate 9: Cassava a Staple Food Preserved through Air Drying. Source: Harriet Nyakecho (2019).</p>	<p>Plate 10: Harvested Sorghum, a Staple Food Crop Stored in a Plastic Container. Source: Researcher (2019).</p>
	
<p>Plate 11: <i>Shibanji</i> for Storing Water and Keeping it Cool. Source: Researcher (2020)</p>	<p>Plate 12: <i>Lushelekho</i>, ash for tenderizing food during cooking. Source: Researcher (2020)</p>

3.11: Food sovereignty in food preparation

Food preparation among SHF in Matayos Sub-County is culturally appropriate as elaborated in the case studies. The tools used are what is readily available. There are ways in which the harvested crop was made suitable for cooking that was particular to the different communities represented in the county. The pulses and cereals were sorted for cooking as described in the story below from one of the case studies.

In the processing of food, we mostly use a stone roller for threshing of pulses and cereals. Threshing with a stone roller is fast and effective. A pulse sieve called “*Sichungo*” is mostly used for separating the full grain from the split grain. It also removes stones and other wastes and is made with iron.

<p>Food preparation</p> 	
<p>Plate 13: Couple Preparing a Meal of Potatoes in their Homestead. Source: Researcher (2018).</p>	<p>Plate 14: Young Girls Preparing a Meal of Traditional Vegetables in their Homestead. Source: Researcher (2018).</p>

3.12 Food security in smallholder farming households

The respondents were asked to state how often they experienced food insecurity in the past one year using nine questions that would determine their food security status so as to determine if their food sovereignty and African spirituality impacted their food security. Household food insecurity status was measured using FANTA HFIAS tool which consists of nine occurrence questions that represent a generally increasing level of severity of food insecurity (access) and nine “frequency-of-occurrence” questions that are asked as a follow-up to each occurrence question to determine how often the condition occurred one year preceding the survey.

Food secure households did not worry about food access; they rarely experienced anxiety about not having enough food. These are households that were able to have a full meal three times a day without food running out, in the past 30 days The mildly food insecure households were anxious about not having sufficient food, they usually consumed inadequate diet, or ate food that they did not prefer. However, these households did not experience the three severe conditions of going a whole day without eating, going to bed hungry or running out of food in the last 30 days. Moderately food insecure households began sacrificing quality on a continuous basis by consuming inadequate diet and eating less preferred food. They started reducing the quality of food intake by decreasing meal sizes and by only eating once or twice a day in the past 30 days. Severe food insecure households experienced high incidences of food insecurity. The condition of reducing meal sizes and the number of meals worsened each day. The three most severe conditions of going a whole day without eating, going to bed hungry or running out of food in the past 30 days occurred ‘often’. Furthermore, households that experienced the three most severe conditions only once or twice in the past 30 days, were also considered as severely food insecure households (Coates et al., 2007).

People experiencing moderate food insecurity face uncertainties about their ability to obtain food and have been forced to reduce, at times during the year, the quality and/or quantity of food they consume due to lack of money or other resources. It thus refers to a lack of consistent access to food, which diminishes dietary quality, disrupts normal eating patterns, and can have negative consequences for nutrition, health and well-being. People facing severe food insecurity, on the other hand, have likely run out of food, experienced hunger and, at the most extreme, gone for days without eating, putting their health and well-being at grave risk.

The respondents were asked whether they worry about food and n=199 (49.9%) indicated that they were not worried, whereas n=190 (47.6%) indicated they were able to eat preferred foods. The study also established that only n=51(12.8%) of the respondents ate a good variety of foods whereas the rest only enjoyed diversity of food eaten inconsistently due to lack of resources.

The study tried to establish if the respondents had to eat some food that they really did not want because of lack of resources and n=197(49.3%) some of the respondents did not experience an instance where they had to be content with smaller meals (22.6%), fewer meals (35.1%) or no food at all (48.6%). (See Table 4).

On whether or not any member of the household slept at night without food or went all day without food n=197(49.3%) and n=198(49.6%) respondents said that they never slept at night without food or went whole day and whole night without food. Those who rarely slept without food or rarely went 24 hours without food were n=99(24.8%) and n=101(25.3%) respectively. Finally, those who sometimes slept at night or went whole day and whole night without food were n=103(25.8%) and n=100 (25.1%) respectively.

An average of the category of food insecurity which would render a household to be food insecure to some degree was taken, where by the respondents that indicated as having experienced food insecurity often, sometimes and rarely were averaged to determine those who were negatively impacted with accessing food due to limited resources sometimes and always. It is noted in Table 4.3 that an average of n=106(26.5%) of the respondents reported to have worried about food shortage during the last one year; whereas n=109(27.3%) reported inability to eat the preferred food; 251 (62.9%) reported to have eaten limited variety of food; n=105(26.4%) ate food that they really do not want to eat and were unable to eat the preferred variety of food due to lack of adequate resources;

n=210(52.6%) reported that their household members had eaten smaller amount of food; 165(41.4%) missed the number of meals per day; n=105(26.4%) reported that they had no food of any kind to eat; n=103(25.9%) reported sleeping without eating food; and n=100(26.5%) reported to have spent the day and night without eating any food.

Table 4: Respondents' household food security status

	Food security variables	No	Rarely	Sometimes	Often	Sometimes, & often
1	Worry about food	199(49.9%)	94(23.6%)	66(16.5%)	40(10%)	106(26.5%)
2	Unable to eat preferred foods	190(47.6%)	100(25.1%)	79(19.8%)	30(7.5%)	109(27.3%)
3	Eat just a few kinds of foods	51(12.8%)	97(24.3%)	101(25.3%)	150(37.6%)	251(62.9%)
4	Eat foods they really do not want to eat	197(49.3%)	97(24.3%)	70(17.5%)	35(8.9%)	105(26.4%)
5	Eat smaller meals	90(22.6%)	99(24.8%)	104(26.1%)	106(26.5%)	210(52.6%)
6	Eat fewer meals in a day	140(35.1%)	94(23.6%)	110(27.5%)	55(13.8%)	165(41.4%)
7	No food of any kind in the household	194(48.6%)	100(25.1%)	70(17.5%)	35(8.8%)	105(26.4%)
8	Go to sleep hungry	197(49.3%)	99(24.8%)	103(25.9%)	-	103(25.1%)
9	Go a whole day and night without eating	98(49.6%)	101(25.3%)	100(25.1%)	-	100(25.1%)
	Average	162(40.6%)	109(27.3%)	82(20.6%)	46(11.5%)	150(37.6%)

N=399

From the total respondent households, it was noted that n=150(37.6%) experienced some degree of food insecurity in the one year preceding the survey despite their food sovereignty practices and African spirituality. Among these households n=109 (27.3%) were mildly food insecure, n=82(20.6%) were moderately food insecure, and n=46 (11.5%) were severely food insecure. (See Table 5).

Table 5: Respondents food insecurity status.

Respondents food insecurity status	Frequency	Percent
Food Secure	162	40.6
Mildly food insecure	109	27.3
Moderately food insecure	82	20.6
Severely food insecure	46	11.5
Total	399	100.0
Average food insecurity	150	37.6

N=399

During the FGDs it was discussed that in an African set up it is always expected that each household ought to have some food to eat after going through the process of planting and harvesting their crop while observing African spirituality. Therefore, they would rather never utter that the food they harvested was not

enough otherwise the gods would not give them favor in any way for not having worked hard enough.

In 2022, Kenya recorded has recorded estimated 3.4 million faced with starvation due to prolonged drought and erratic rains with populations in Semi-arid and arid counties bearing the brunt (USAID, 2022). The Sustainable Development Goals ([SDG](https://www.sdg.org))

[Indicator 2.1.2](#)) framework highlights prevalence of moderate or severe food insecurity based on the Food Insecurity Experience Scale – FIES. In this study, those who suffered from moderate and severe food insecurity were 32.1% and this is unacceptable for a community which is struggling in the midst of poverty and diminishing natural resources despite their effort to use African spirituality to preserve their heritage.

IV. DISCUSSION AND CONCLUSION

Seed preparation and selection is the crux of the nexus between African spirituality and food sovereignty and it is demonstrated by how farmers select their seeds for each planting season, further emphasizing Shiva (2021) who highlights that the seed is the source of life and of food and that to protect food freedom, one must protect seed freedom especially in how one selects seed for the planting season. In this study, it is evident that being custodians of the culture and traditions in African spirituality through the SFC value chain, elders passed on the need to care for the environment to the younger generation through emphasis on hard work and the care for water, soil, trees, and other forms of vegetation, which are used for different purposes as alluded to earlier, especially through initiation ceremonies and day - to - day activities and food utilization by households and food festivals. Elderly women taught the growing girl child whereas elderly men taught the boys all the activities related to conservation of resources required for a good harvest of SFC and they were the watchdogs of the good practices so that anyone who did not adhere to good practices would be punished. This finding is in agreement with the study done in Zambia by Mwale & Chita (2015). Most importantly, in this study, it was also noted that traditional understanding that misfortunes of all kinds including poor harvest, and droughts were as a result of witchcraft, adultery, angering the gods and other social ills was still prevalent in the study area and was echoed by both genders, and would affect food sovereignty and food security negatively in concert with Mwale & Chita (2015) study. Important to note is that taboos, religious beliefs, and sacred rites provide a framework for defining acceptable resource use and that their base is linked to the spiritual world that streamlines these practices, which is in agreement with Gumo et al (2012). *Train up a child in the way he should go: and when he is old, he will not depart from it* (Proverbs 22:6, KJV), and in this context, the same training on good practices will be passed on from generation to generation. Most importantly, taken together, these interrelated practices create an ecological balance, which ensures rational use of animals and plants for food and other purposes. They guide the philosophy of resource utilization, conservation, and environmental (Kaufmann, 2000).

Food Sovereignty is a relatively new concept which despite very little advocacy, is something that is embodied to some extent by SHFs. More and more younger people are going back to working on the land and they have the right to define their agricultural systems in ecologically sound ways. It is the constitutional right for every SHF to produce culturally appropriate food produced through sustainable methods and to utilize their spirituality to achieve this. There needs to be more sensitization on food sovereignty through the Busia County Agricultural Officers and other non-governmental stakeholders. This approach should be replicated throughout the nation since a

climate resilient food system requires local cooperation, knowledge co-production, collective action and the creation of a shared vision of what a socially just and sustainable food system looks like (Drimie & Eichenger, 2022). Advocacy targeting the youth and women while not leaving out the men will ensure that strategies are set out to integrate food sovereignty practices that are sustainable.

There is a need for the government in conjunction with the spiritual and religious centers to institute capacity building programs through workshops to help SHFs to venture into agribusiness and other ways to increase their livelihoods so that they can in turn improve their food sovereignty status. There need for integrating and including African spirituality and food sovereignty practices and the guiding principles in the Kenya national food and nutrition security policy cannot be ignored. Such a policy should state that before any development intervention can be approved by the government, it should clearly outline how the two aspects are to be integrated in every small holder farmers' value chain intervention for a healthier food system environment.

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AUTHORS

First Author – Owino Harriet Nyakecho, Pwani University
Second Author – Mugalavai Violet Kadenyeka, University of Eldoret
Third Author – Tsawe-Munga Chidongo, Pwani University
Fourth Author – Joshua Stephen Muoki, Pwani University

Corresponding author: harriet.scott@gmail.com