
**PEDAGOGICAL VALUE OF INDIGENOUS KNOWLEDGE
FOR FOOD SECURITY:**

Learning from Women Farmers in Homa Bay County, Kenya

HUMPHREY JEREMIAH OJWANG

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the Degree of Doctor of Philosophy in African Women's Studies,
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DECLARATION

This PhD Thesis is my original work and has not been presented for the award of a degree in any other University.

Candidate:

Humphrey Jeremiah Ojwang _____
Signature Date

This thesis has been submitted with our approval as the University supervisors.

Supervisors

Prof. Wanjiku Mukabi Kabira _____
Signature Date

Dr. Penninah A. Ogada  _____
Signature Date

DEDICATION

This work is dedicated to the memory of my father, Charles Isaiah Otieno Ojwang (1924-1999) and my mother, Yucabed Obuya Otieno (1929-2001), who both served the land of Kenya with distinction in education, community development and public service. They trained me to be productive in terms of food security for the household. My parents also encouraged me to use my imagination and hands on the farm in order to develop a strong work ethic in agricultural production.

I recall the agricultural activities of my youth when, alongside hired farm workers, I participated in ploughing the land, planting the seeds, weeding, harvesting and storing the produce to ensure food security for the family. In our homestead, hunger was to be kept at bay through sheer hard work on the land. We all tried to achieve that goal as best as we could. I owe it all to my parents who taught me the virtues of working upon the land and growing a variety of foods for the family.

I also dedicate this work to my own family in the hope that the tradition of narrative pedagogy will help in grounding my children and children's children in African indigenous knowledge for food security. They should seek to learn from our rich traditional practices for agroecological sustainability. Indeed, we can rightly say that ethnography of food security begins at home. Agriculture and food production must be learnt from environmental activities during early childhood all the way through the educational system. Learning is a lifelong process.

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I wish to state categorically that I take full responsibility for this work and any infelicities therein. May the God of all creation bless this land and nation of Kenya so that plenty may be found within our borders!

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ABBREVIATIONS AND ACRONYMS

AGRISS	Agriculture Improvement Support Services
AAWORD	Association of African Women for Research and Development
AWSC	African Women Studies Centre
CDA	Critical Discourse Analysis
CIP	Critical Indigenous Pedagogy
CIPP	Critical Indigenous Pedagogy of Place
DIG	Development in Gardening
ECDC	Early Childhood Development
FAO	Food Agricultural Organization
FRN	Farmer Research Network
GOK	Government of Kenya
ICIPE	International Centre for Insect Physiology and Ecology
ICRAF	International Council for Research in Agroforestry
IDRC	International Development Research Centre
IKS	Indigenous Knowledge Systems
KALRO	Kenya Agricultural and Livestock Research Organization
KICD	Kenya Institute of Curriculum Development
KLB	Kenya Literature Bureau
KNEC	Kenya National Examinations Council
MT	Mother Tongue
NACOSTI	National Council for Science and Technology Institute
NGO	Non-Governmental Organizations
OTC	Overseas Trading Corporation
SCC	Small Christian Communities
SDA	Seventh-day Adventists
UNESCO	United Nations Scientific, Cultural and Organization

ABSTRACT

The study explores the pedagogical value of African women's indigenous knowledge for food security with specific reference to Kanyada and Kabuoch in Homa Bay County, Kenya. The objectives of this study were to: identify women's indigenous knowledge, skills and experiences in relation to food security in rural households in Homa Bay County; examine the use of discourse analysis in the study of women's indigenous knowledge for food security; consider integrating discourse analysis in understanding and mainstreaming women's knowledge in agricultural extension programmes. The methodology adopted in the study is that of African narrative pedagogy which takes into account the genres of oral testimonies and life-stories of women farmers; key informant interviews; field visits and observations; and reading archival and library materials. The major findings in this ethnographic study of African women are as follows: that women play a critical role in the entire management of local agroecological resources which ensure food security and safety in rural households; women are the custodians of indigenous knowledge systems including land preparation, cultivation, planting, weeding, harvesting and storage of food crops and food plants as part of managing their agroecological resources in rural households and communities; women farmers are also the narrators of food-stories handed down from one generation to the next as a way of preserving and codifying indigenous knowledge systems for food security and safety in rural households and local communities. There is also need for the mainstreaming of core indigenous knowledge of African women farmers in agricultural extension programmes. The reclamation and documentation of indigenous knowledge should include traditional food plants, both wild and cultivated; the reclaiming of the knowledge is vital for sustainable agricultural practices and rural development. Finally, the study recommends that sensitization and public policy frameworks in agricultural extension need to take into account African feminist epistemological insights by incorporating rural women farmers' indigenous knowledge for food security in formal and non-formal agricultural extension programmes. Further ethnographic research is recommended along the same lines in other communities in Kenya and East Africa. Contextualizing and mainstreaming African women's epistemological discourses, life-stories and testimonies at national and international forums should be encouraged. It is recommended that the vanishing indigenous knowledge systems for food security be reclaimed and documented by doing further research into women farmers' indigenous knowledge, skills and experiences in rural Kenya.

PROLOGUE

Dholuo: Bedo kod chiemo moromo = English: Food Security

“Food security means having enough cereals and grains for grain-meal (Luo: kuon-cham) which is the staple diet, a variety of accompaniments such as vegetables, meats, chicken, and fish among other foods to accompany grain-meal on a regular basis; food security is producing enough crops to feed the parents and their children for sustainable periods; food security is having enough food for guests who might visit the homestead for prolonged periods; food security is producing surplus crops to sell in the local markets for cash; food security is giving food relief rations to less fortunate members of society who may be deserving; food security is keeping livestock such as goats, sheep, and cattle for dairy products; food security is raring chicken and other birds for poultry products; food security includes any other meaty accompaniment to grain-meal which might be stewed such as dry fish with long shelf life; food security is having enough variety of requirements for the whole household.”

(Voice of Angelina Ogina Omuga, 82 from Rodi Kopany, Homa Bay County: 04/11/2018, Oral Testimony of Informant No.30).

CHAPTER 1: BACKGROUND TO THE STUDY

1.1 Introduction

The history of Luo migration and settlement is deeply related to environmental and agricultural factors. According to oral tradition, the Luo-speaking people practiced mixed economy from time immemorial. That meant they were both pastoralists and agriculturalists in their cradle land in Southern Sudan along the Nile River Basin. However, their neighbours were largely pastoralists and this brought about a lot of conflict as there was competition for pasture and cultivation (Ogot, 2004: 43-46). According to oral history, the Dinka to the West; the Nuer to the North and the Azande to the South put a lot of pressure on Luo settlements (Othieno-Ochieng', 1968:1). Ecological reasons and socio-cultural factors may lead people to migrate from one place to another (Ogot, 1979). The Luo speaking people migrated in large numbers to acquire more agricultural land away from their pastoralist neighbours in Southern Sudan (Onyango-Ogutu, 1974; Odongo and Webster, 1976; Perener, 1997).

The migration history of the Luo-speaking people has been ably documented by Ogot (1967). A more detailed historical account of Luo migration and settlement in Eastern Africa gives the narrative of how they dispersed to Southern Sudan, Gambella Region in Ethiopia, Northern and Eastern Uganda, the Congo, Western Kenya and Northern Tanzania (Ogot, 2009). In what is presently known as Kenya, the Luo people occupied the Lake Victoria Basin which includes Siaya County; Kisumu County; Homa Bay County; and Migori County. The whole migration history lasted some three hundred years and was not completed by the time the British colonialists arrived and took over

East Africa. The Luo people still moved into Tanzania and desired to settle in the North Mara Region long after the partition of Africa (Othieno-Ochieng', 1968:1).

In Luo society as in many other African cultural contexts, distinct gender roles assign to women and girls socio-economic career path which has more or less been retained over the last century. Traditionally issues of identity arise when one meets a young Luo woman for the first time; three questions are usually asked as part of the introduction as follows: *Where do you come from? Where do you cook? Where do you work?*

Hypothetically, the answer to the first question might be Kanyada. The answer to the second question might be Kabuoch. The answer to the third question might be that the woman works as a Lecturer in Linguistics at the University of Nairobi or as a civil servant in the Government of Kenya. In most African exogamous societies, marriage to members of clans of all four grandparents is prohibited. When young Luo men and women meet for the first time, tradition requires that they ask questions about kinship affiliation just in case they are related on the paternal or maternal sides of their families. Take the example of a young man who meets a young woman in a large city such as Nairobi and is interested in a serious relationship leading to marriage; he would have to ask her about her kinship affiliation on both her paternal and maternal sides of the family. If for instance, one's paternal grandmother comes from Kanyamkago-Katieno clan, he is considered a kinsman and can therefore not marry from there. The prohibition would also apply to the clan of the maternal grandmother if, for instance, she comes from Sakwa-Kamasoga. The young man would have to do due diligence and find out all these clan networks before considering any further customary arrangements towards marriage. Once it is established that there is no blood relationship, consent from clan elders is granted for

marriage negotiations to go ahead. Once the bride arrives in her new home, her otherness is constantly emphasized in social interactions. She is not called by name out of politeness. The prefix “*Nya-*” is usually added to the name of clan or place from where she came, for instance: *Nya-Kanyamkago* which means “Daughter of Kanyamkago.” In social interactions, a woman’s clan identification is most explicit in a man’s homestead which is often resounding with the names of other clans represented by the wives and daughters-in-law (Whyte, 1997: 110).

The Luo society is largely polygamous in nature and organization; even if a man is the husband of one wife, it is most likely that his father or grandfather was a polygamist. That reality does determine a lot of issues with regard to access to land allocation to different units of the extended family network. The situation becomes more complex in large polygamous homes as was the case with a legendary Luo elder from Kanyamwa in Homa Bay County known as Ancentus Akuku Danger. The patriarch became a popular media figure in Kenya and beyond because he married 134 wives from different Luo clans. It was reported that when he died at the ripe old age of 94 in October 2010, he left behind 134 wives, 210 children and 1,276 grandchildren. The number of great grandchildren was not given. The media reported that over 10, 000 guests attended the burial ceremony of this Luo elder and as tradition expected of such a unique legendary figure, “the family had to slaughter over 30 bulls to feed the mourners” (Firstbook, 2010: 203).

In the story of Akuku Danger, all the 134 wives would be referred to by their respective clan names in the homesteads of the patriarch dotting different parts of Ndhiwa Constituency where he also built schools and churches to cater for the needs of his extra-

ordinarily large family. The story goes that Akuku Danger did not identify his children by their personal names but only referred to them by the names of the clans of their mothers for instance “The Son/Daughter of Nya-Kanyada.” The case of Akuku Danger can be described as a family community descended from one “common ancestor, alive or dead, co-operating and sharing responsibilities between households” (Kisembo, Magesa and Shorter, 1998: 243). The use of a mother’s clan name enabled him to specifically identify his children according to particular houses. This was a subtle manner of expressing the reality matriarchy as a dominant factor in household management. In Luo society, food security at the level of the extended family is the responsibility of the mother. The patriarch, Akuku Danger, practiced “simultaneous polygamy” by having many wives at the same time as opposed to “successive polygamy” in which a man deserts the first wife in order to live with another wife (Kisembo, Magesa and Shorter, 1998, 244-245).

The layers of social identity for the Luo woman are reflected in place of birth: “Daughter of Kanyada”; place of marriage: “Wife of Kabuoch,” and place of work which in the above illustration, University of Nairobi (Lecturer in Linguistics). Getting married in a place is symbolically equivalent to “Going to Cook” (Luo: *Dhi Tedo*) which requires a long process of preparation in African society. There are several ethnographic accounts such as Paul Mboya’s *Luo: Kitgi Gi Timbegi* (1938); and Paul Mboya’s *Richo Ema Kelo Chira* (1978) which both refers to social structure in the Luo community. One of the seminal works on oral sources of Luo cosmology is Ogutu and Roscoe’s *Bury my Bones but Keep My Words* (1974) which documents their oral culture and indigenous knowledge gathered by means of transmission from the ancestors since time immemorial.

During his early days as a scholar in education at the then Makerere College, Simeon Ominde compiled an ethnography of the Luo Girl. The field work was carried out among the Luo in Nyahera around the African Inland Mission settlement in Kisumu County. He was then pursuing a Diploma in Education; his mentor at Makerere College, A W Southhall, commended the ethnographic work on the Luo girl from infancy to marriage by stating that Ominde had “the great advantage of experience derived from his own childhood upbringing” (Southhall, [1952] 1987). The view that an ethnographer can have the advantage of experience from childhood when writing about his or her own culture was also shared by Bronislaw Malinowski (1938) when he commended a similar ethnographic work by Jomo Kenyatta based on his recollections and experience of the Gikuyu people’s way of life in their settlements around Mount Kenya.

Simeon Ominde’s ethnographic work was completed in 1949; the monograph was published two years later with several reprints following under the title *The Luo Girl: From Infancy to Marriage*. A critical reading of the work shows the Luo girl’s socially determined path to womanhood and marriage with the central role of being the main custodian of food security in the rural household, a tradition which has withstood the test of time:

Since the introduction of the plough, the part played by men in the cultivation of the fields has greatly increased. Clearing and ploughing are now done by men, but planting and harvesting are still carried on largely by women (Ominde, 1952; 1987:53).

1.1.1 Women Farmers and Food Security among the Luo People

The role of women farmers in ensuring food security for the household in society is captured in the history of Luo migration and settlement in Homa Bay County and other areas of similar cultural landscapes in Eastern Africa. Luo women are known to form social support groups and organizations like communal dancing troupes and extended family networks which enhance their role in sharing indigenous knowledge for health and food security activities. The British colonial administration in Kenya impacted upon the larger South Nyanza District then which today consists of Homa Bay County; Migori County; Kisii County; and Nyamira County. This part of Kenya produced young men who enlisted in the service of the colonial regime during the First World War (1914 – 1918) and the Second World War (1939 – 1945). During the First World War, a Luo man would leave his young wife at home and enlist as one of the African soldiers to fight in defense of the British Empire. Upon their return home from World War I, the men brought along with them modern things like hurricane lamps and ox-ploughs. Some of the returning Luo soldiers became prominent farmers and cattle keepers in their localities with songs composed in their honour. A popular Luo song in praise of a returning soldier early days went as follows:

*The women of Ogiti Oyiro the warrior are neatly dressed
The women of Ogiti Oyiro the warrior are neatly dressed
They wear spotlessly white clothes, spotlessly white clothes
They wear spotlessly clean clothes, spotlessly white clothes
The oxen of Ogiti Oyiro plough the land for the women
The oxen of Ogiti Oyiro plough the land for the women
The warrior Ogiti Oyiro became a member of the Club
The warrior Ogiti Oyiro became a member of the Club*

The oxen of Ogiti Oyiro plough the land for the women
The oxen of Ogiti Oyiro plough the land for the women
The father of Oyiro, oxen plough the land for the women
The father of Oyiro, oxen plough the land for the women
The warrior Ogiti Oyiro became a member of the Club
The warrior Ogiti Oyiro became a member of the Club
The oxen of Ogiti Oyiro plough the land for the women
The oxen of Ogiti Oyiro plough the land for the women
The women of Ogiti Oyiro the warrior are neatly dressed
The women of Ogiti Oyiro the warrior are neatly dressed.

The Luo song lyric given above is an adaptation from the recollections of a ninety year old woman oral artist and folk singer called Awino Nyamolo from Sakwa-Waora (Personal Communication, July 1987). She narrated to this researcher how her uncle, Ogiti Wuon Oyiro was conscripted by the British to fight in World War I (1914-1918). The British were fighting the Germans in what has been described by military historians as *The East African Campaign* (Anderson, 2004). Awino narrated the story of her uncle who returned to their village in South Nyanza with some European things: ox-plough; hurricane lamp; metal box; clothes and shoes among other items. He could also mutter a few English phrases learnt at the battlefield around what is today known as Voi Town in Taita-Taveta County. When he returned to his home in South Nyanza, he was sort of a celebrity having survived the war to tell his people stories of the horrifying experiences of many pitched battles against the German forces from Tanganyika. Ogiti Wuod Oyiro fought on the side of the military forces of British East Africa as Kenya was then known. What is significant in the song is that the ox-plough the returning soldier acquired after the war changed the the working conditions of women as primary cultivators of the land in his village.

This folk song of the Luo depicts how the ox-drawn plough liberated the women from tilling the land with hoes and jembes. Elsewhere in South Nyanza, the First World War removed the able-bodied young men from their homeland to far off places leaving behind the women to till the land and provide food for their households.

According to the local histories of Luo-speaking peoples in this region, the agricultural resources were scanty after the war. World War II (1939 – 1945) did not make matters better either (Omolo, 2017:209). This socio-economic trend of deprivation continued throughout the history of European colonialism with able-bodied Luo men leaving home for either military service in the two world wars or large-scale European farms in the so-called White Highlands leading to: “the mass exodus of the Luo men from South Nyanza, leaving women behind to care for everything” (Omolo, 2017:213). Food security was, therefore, one of the principal responsibilities of Luo women during pre-colonial and colonial periods; the trend has continued during post-colonial period. Traditionally, women were generally responsible for agricultural produce while men took care of livestock (animal husbandry) in Luo society. According to Luo custom of hospitality and caring for the needy, no one is left to starve as long as there was enough food to share (Hauge, 1974:17).

Food security was largely a community affair but that has changed in the post-colonial context because of increased individuality in contemporary Kenyan history. Premium is presently being placed on upward mobility based on individual achievement through education and work in formal sectors of the economy. The vulnerability of rural subsistence farmers in Homa Bay County should be researched with specific reference to women farmers. This study is significant because it seeks to tap the indigenous

knowledge of women farmers in Homa Bay County and regions which have ecosystems and cultures similar to the Lake Victoria Basin in the East African region and beyond:

Women in Western Kenya like their counterparts elsewhere have over the years amassed wealth of information on sustainable food production and health systems (Opole, 1991:86).

Critical pedagogy as an approach to cultural studies takes into account the fact that the woman farmer must necessarily be listened to and allowed to voice her experiences which can be put to great use in agricultural education and extension for the rural development. According to ethnographic observations, traditional communal organizations of Luo women have tended to become weaker “with the growing family individuality introduced by modern conditions” (Ominde, 1952; 1987:53). Documenting indigenous agricultural knowledge and the role of women farmers in food security cover the following areas:

- i) Land preparation, including tilling and harrowing, known in Luo society as *golo pur*; though ploughing with oxen is largely a male-dominated activity, women participation in a limited way has been observed;
- ii) Planting seeds known in Luo society as *golo kodhi* or *komo kodhi* is largely done by women and children but men have been observed to offer their assistance;
- iii) Weeding is usually done by women but men are also involved in this activity; it is known as *doyo cham*;
- iv) Harvesting crops is known in the Luo speech community as *kayo cham*; it is usually done by women and is closely followed by processing and storage which is known as *kano cham e dero* which is also dominated by women.

- v) Preparing and cooking a variety of foods for nutritional needs of different members of the household (children and adults).

The role of religious organizations in bringing women into small Christian communities will become significant in the ethnographic study since traditional clan-based organizations are not as strong as church-based groups. The Government of Homa Bay County has created the docket of Agriculture, Livestock Development and Fisheries to deal with sustainable food security for domestic consumption and cash economy. During the third Devolution Conference, the Council of Governors in Kenya (2016) recommended that:

Women and youth should be placed at the centre of policy formation on agricultural production, by providing them with resources and decision-making opportunities at all levels of agriculture (Council of Governors, 2016:33).

In the devolved system of government introduced by the Constitution of Kenya 2010, an attempt has been made to listen to voices of grassroots communities in different sectors of the economy. However, voices of women on devolution at the grassroots level in terms of managing indigenous knowledge has not been given the necessary attention, though comprehensive reports on food security in Kenya have been undertaken by the University of Nairobi's African Women's Studies Centre in a research project entitled 'Zero Tolerance to Hunger' (UoN/AWSC, 2014).

In African contexts, food security is still a community affair with women playing a leading role. This study uses a narrative approach based on life-stories and oral testimonies of women farmers in documenting their indigenous knowledge for food security. As Angelina Ogina Omuga, an 82 year old matriarch states:

Food security entails agricultural activities in crop production and animal husbandry which will enable the household to have enough food for the whole family, guests and those in need of assistance in the community” (Oral Testimony of Informant No.30).

The choice of study site in Homa Bay County with specific focus on Kanyada and Kabuoch is significant because of the diverse agroecological landscapes of the two locations. The ethnography of womanhood, indigenous knowledge and food security in rural households with their distinct gender role in agricultural production still rests with women farmers in East Africa.

1.2 Statement of the Problem

The problem of vanishing indigenous ecological knowledge is a big concern in social research. In many African contexts, there is no clear-cut policy on how knowing the natural resources can be systematically managed in formal and non-formal educational programmes in Kenya. There is no systematic curriculum planning and policy framework for the pedagogical treatment of indigenous ecological knowledge in Kenyan educational institutions. Formal and non-formal agricultural educational programmes have tended to continue following agricultural systems imposed by the British colonial regime long after the attainment of Independence. Knowledge needs to be decolonized by finding solutions to food security for rural-based small-scale farmers especially women who play a major role in food production. Indigenous and local knowledge of agriculture in Kenya should be moved from the periphery to the core of curriculum planning in both formal and non-formal educational programmes.

The Ministry of Education, through the Kenya Institute of Curriculum Development (KICD) and other relevant research bodies such as Kenya Agricultural and Research Organization (KALRO) need to collaborate by creating a research environment that will focus on the pedagogical value of indigenous ecological knowledge for food security in rural households. Research into indigenous knowledge systems should be made accessible to curriculum planners in both formal and non-formal educational programmes related to agriculture.

1.3 Objectives of the Study

1.3.1 General Objective

To determine the pedagogical value of indigenous knowledge for food security and learning from women farmers in Homa Bay County, Kenya. The study explores the narrative of indigenous knowledge production by adopting discourse approaches which promote sustainable policy on African women's contribution as custodians of food security in rural households.

1.3.2 Specific Objectives of the Study

The specific objectives of the study are to:

- i) Identify women's indigenous knowledge, skills and experiences in relation to food security in rural households in Homa Bay County.
- ii) Examine the use of discourse analysis in the study of women's indigenous knowledge for food security.
- iii) Consider integration of discourse analysis and mainstreaming women's knowledge in agricultural extension programs.

1.4 Research Questions

- i) What constitutes women's indigenous knowledge, skills and experiences in relation to food security in rural households?
- ii) How can discourse analysis be used in the study of women's indigenous knowledge for food security?
- iii) How can discourse analysis and mainstreaming of women's indigenous knowledge be integrated in agricultural extension programs?

1.5 Justification and Significance of the Study

The justification of this study is due to the fact that women farmers in rural African communities are the custodians of traditional food crops and indigenous ecological knowledge. This study seeks to move indigenous knowledge for food security from the periphery to the centre of agricultural education and extension programmes. Analysing the life-stories of women farmers in rural Kenya has pedagogical value in formal and non-formal education for both the young people and the adults in society. The indigenous knowledge of Kenyan women farmers need to be reclaimed and documented as has been done elsewhere in North America among the indigenous peoples of Canada (cf. Martha Johnson, 1995: 116-117). In Canada for instance, there is a movement towards reclaiming the indigenous knowledge of the Dene people who were colonized by the Europeans. It is now acknowledged that traditional ecological knowledge of the African indigenous peoples is useful in natural resource mobilization to ensure food security in rural households.

The justification of studying the life-stories of African women farmers lies in the well-known fact that they are also the custodians of African family traditions and customs; myths and legends; moral education and work ethic as they bring up the children from their tender age (Kayongo-Male and Onyango, 1984; Ominde, 1987; Wright, 1993; Cummings, 1991; Cohen and Odhiambo, 1989; Oyweka, 2000).

The genre of life-story is indeed a gift to posterity; it is deeply embedded in the cultural context of a people (Wright, 1993; Ngaiza and Koda); the rural woman farmer telling her life-story has justification in the fact that the in the narratives are encoded life-skills for survival within the environment (Wanjiku Kabira, 1992). Learning from the life-stories entails decoding the messages by the listeners who might include literacy teachers and adult learners in non-formal education programmes. Women farmers may also be useful resource persons in primary schools during environmental activities; and at secondary school level during agriculture classes. By bringing African women farmers to the centre of agricultural education and extension programmes, their life-stories can have pedagogical value across the curriculum in formal and non-formal educational contexts. African women farmers telling their life-stories can be used, for instance, in speaking and writing skills training which in ethnography of communication can be seen as a productive aspect of language learning. The pedagogical aspects of ethnography of communication in agricultural education and extension programmes would necessarily include listening and reading skills training in functional literacy programmes. The young learners in schools might be tasked to engage in environmental learning activities based on listening to life-stories of ageing women famers in their eighties or nineties; they can be invited as resource persons from local communities or catchment areas of the schools.

Given that this study looks at the pedagogical value of indigenous knowledge of women farmers for food security, inviting ageing women farmers to tell their life-stories to school children would facilitate cross-generational transfer of knowledge in formally structured school context.

Another justification of researching life-stories of women farmers is the African philosophical basis of nature and environmental ethics in local resource utilization by indigenous communities. The traditional methods of food production which preserve and conserve the environment can be enhanced by reclaiming vanishing indigenous knowledge (Oruka, 1991; 1992; 1994).

The extension of sage philosophy to include the pedagogical value of the indigenous knowledge of women farmers for human survival can reach out to grassroots communities in the production of authentic agricultural knowledge and food security. This can bring about the inclusion of useful practical knowledge accumulated from the folkways of a people; with agricultural extension workers incorporating the indigenous knowledge of women farmers in adult learning in non-formal educational programmes (cf. Batwa, Fordham, Fox and Mlekwa, 1989).

There is need to research into the training programmes of agricultural extension workers as social change agents who can actively listen to women farmers empathetically. It has been observed in Kenyan rural communities that agricultural extension workers are highly trained in technical skills but they do not adopt culturally relevant ways of communicating with farmers; they simply pass technical messages in non-empathetic ways. It has been argued that Government of Kenya agricultural extension workers tend

to display paternalistic arrogance as they deal with non-literate farmers in rural communities (Mbithi, 1974: 59-60). There is justification for this study into the pedagogical value of indigenous knowledge of women farmers to correct the situation. Agricultural education and extension programmes need to change so that rural communities can benefit from being listened to by Government employed Agricultural Officers at County grassroots levels (Slim and Thompson, 1995).

Listening to the oral testimonies and life-stories of women farmers can go a long way in teaching school children about food and nutrition based on indigenous knowledge. Researching indigenous knowledge of women farmers is necessary for the documentation and preservation of traditional foods in Homa Bay County, Kenya. This is a way of reclaiming the vanishing indigenous knowledge for food security in rural households. The ethnographic approach in this study is based on qualitative research at grassroots level. It seeks to help the woman farmer to regain her voice and the agricultural extension worker to listen actively to the woman farmer based on her age-old indigenous knowledge for food security.

The role of traditional food plants is so critical to the survival of humanity anywhere in the world. It is therefore justifiable to research into indigenous knowledge systems and document the life-stories of women farmers as managers of natural resources in their localities and custodians of food security in their rural contexts (cf Khasiani, 1992; Khasiani and Njiro, 1993; Maundu, Ngugi and Kabuye, 1999). This study seeks to learn lessons from life-stories and oral testimonies, and documenting the pedagogical value of indigenous knowledge of women farmers for food security in Homa Bay County, Kenya.

1.6 Problem Areas and Research Gaps

This study is concerned with the relationship between indigenous knowledge and sustainable food production among women farmers in Homa Bay County, Kenya. Over the past two decades the role of rural women farmers has been recognized as essential to agricultural development efforts generally and environmental strategies particularly. Although previous research has been consistent in recommending that women's experiences of managing the local environment be taken into account in formulating strategies for sustainable development, not enough attention has been paid to the substance, preservation and transmission of traditional cultural knowledge pertaining to food production and consumption, and to the interface between this knowledge and policy making. Despite its potential importance, the culturally derived expertise required by subsistence farming has been supplanted or ignored by formal educational networks in favour of scientific, Western-based knowledge oriented to the practitioners of cash-crop farming. Historically, this neglect has its roots in the legacy of colonialism. Recent work indicates that one consequence is that the division of labour and resources by sex among African farmers has been poorly understood. For example, agricultural extension efforts have frequently been ineffective because of an assumption that households can be treated as a single unitary production entity for the purposes of communicating information (Blumberg, 1992). Failure to target education towards women specifically is consequential yet few studies have explored the extent to which the gendered division of traditional knowledge could be used as a complementary resource (rather than regarded as an obstacle) to development efforts.

This study seeks to address the gap in access to and valuation of traditional, environmental knowledge with the aim of providing an empirical basis on which to make recommendations with respect to how the holistic approach to environmental management exemplified in women's knowledge can best be incorporated into existing channels of education for sustainable development.

There are many other aspects of the nature and role of indigenous farming knowledge that have not been adequately studied. How and why women use food production in the way they do has been inadequately documented as has the value of such practice to women, their families and their communities. Studying such issues necessarily involves identifying the process of learning and transmitting knowledge within the cultural web of social networks as decontextualized knowledge loses its meaning, purpose and power. This study addresses the need to understand women's knowledge and the power associated with sharing it through examining situated practices of use in local agrarian contexts.

Studying women farmers among the Luo in Kenya is a research priority not only because of changing local conditions such as environmental degradation of the Lake Victoria region and rapid population growth in the area but also because of rural women's increased marginalization from access to and participation in development processes. An important reason for this is because women's knowledge and experience as environmental managers has been either neglected altogether or treated as an obstacle in the path of social transformation. Empirically, such neglect is linked with poverty and cultural degradation. The Luo concepts of poverty (*chan*) and hunger (*kech*) need to be understood in the cultural context of this particular study. *Jachan* is a poor person who

cannot simply make ends meet (Capen, 1999: 21). In Luo society, *jakech* is a starving person due to food insecurity. According to a World Bank report, poverty and hunger mean the same thing in socio-economic contexts according to the explanation given below:

Poverty is hunger. Poverty is lack of shelter. Poverty is being sick and not being able to see a doctor. Poverty is not being able to go to school and knowing how to read. Poverty is not having a job, is fear for the future, living one day at a time. Poverty is losing a child brought about by unclean water. Poverty is powerlessness, lack of representation and freedom (World Bank Group, 2002).

A poor person is a starving person and that situation calls the whole community to action for transformative change from powerlessness. In Luo understanding of poverty, the state of powerlessness is a call to action by all human beings whether they are poor or wealthy in their contexts. There is a Luo saying that the poverty in a neighbour's homestead might not give one sleepless nights; however, it should be a matter of concern that the neighbour does not have enough to eat, which is a call to some kind of action to remedy the situation of hunger and deprivation. In Luo society, a poor person is one who is in dire need of food, water and shelter. The poor person has no possession. The concept of “*chan*” is relative poverty but “*dhier*” is extreme poverty; the cultural meaning of “*dhier*” is the stark reality of poverty in its raw and naked form (Aseto, Ong'ang'a and Awange, 2003: 15).

Luo narratives of hunger and poverty are couched in allegorical language use. Luo people give seasons of hunger names to remind them of what transpired. There was an outbreak of famine in Siaya County in the early 1980s which is captured in a story titled “The Hunger of Obalo” (Cohen and Odhiambo, 1989: 61-62). The story is about a little boy called Obalo from Liganua Village who fainted from extreme hunger. It became the

concern of the entire village. That season of extreme famine was named after the boy who fainted out of hunger. The two historical anthropologists state that in Siaya County and adjoining Luo-speaking areas of the Nyanza Region, in every two years out of five or seven, there is poor rainfall resulting in crop failure and severe food shortages. There is a need to preserve and record cultural knowledge and memory of the environmental disasters such as “The Hunger of Obalo” as a reminder that strategic action is necessary to ensure food security in the rural household. Poverty, hunger, famine and drought in Luo society determine interpersonal relationships in families and the local community. According to traditions of some Luo-speaking groups, children may be named after agroecological disasters (Paul Mboya, 1938). Some examples of names derived from ecological disasters found in Luo society (Capen, 1998) are given below:

Luo Names	Cultural Meanings
<i>Ochan/Achan</i>	Child born into poverty
<i>Okech/Akech</i>	Child born during hunger/famine
<i>Ooro/Aoro</i>	Child born during drought
<i>Opee/Apee</i>	Child born during rains and hailstorms
<i>Obonyo/Abonyo</i>	Child born during a locust attack

Table 1.1 Names Derived From Disasters (Source: Capen, 1998)

The naming of children in this manner is an extended metanarrative of the world of food production exploring its role in maintaining levels household food reserves. The Ministry of Agriculture and corporations such as Maize and Produce Board given the mandate to regulate the grain markets have been criticized for formulating policies that severely limit the movement of grain supplies from one county to another thereby leading to food shortages in Western Kenya. Regularly experienced poverty, hunger and famine in the Lake Victoria Basin have reinvigorated the utilization of indigenous knowledge systems through innovative agroecological activities of supplementing the staple grain diet in Luo

society by collecting “wild vegetables, seeds, small animals and insects” (Cohen and Odhiambo, 1989: 63).

In this study, the working conception of traditional environmental knowledge and indigenous ecological knowledge are used interchangeably. The categories indigenous ecological knowledge and traditional environmental knowledge with regard to the so-called native peoples around the world also connote the same epistemological meaning in this study (Johnson, 1995). There is also evidence that the effectiveness of agricultural extension education intended to promote production strategies is undermined by the communication strategies used. This suggests that it will be useful to explore both the implicit conceptions of knowledge production and transmission employed by both parties and the explicit means by which new information is conveyed to women. Identifying variations between the two can provide a crucial resource for training and policy implementation.

1.7 Scope of the Study

The research project adopted purely qualitative and ethnographic approaches to information gathering in Kanyada and Kabuoch areas of Homa Bay County. The informants were mainly women farmer. However, some men were also interviewed because of the specialized knowledge they possessed with regard to agricultural education and extension programmes. They were included out of necessity but the focus on women farmers was maintained throughout the study. The small sample of informants was purposively chosen to enable the researcher to gain detailed insights into the domains on agricultural practices of women farmers in the county. The ethnographic and

qualitative approach could only enable the researcher to concentrate on two local areas of the expansive Homa Bay County within the stipulated time-frame for the study.

This meant that other areas could not be included or covered by this study. The areas not included in this study were: Kasipul-Kabondo; Karachuonyo; and large areas of Ndhiwa such as: Kwabwayi; Kanyidoto; and Kanyamwa. Other areas not included were: Gem-Asumbi; Kochia; Kagan and Gongo, Rangwe Sub-county. The limitations were, however, compensated for by the fact that the women farmers held dual-identities which gave them the advantage of drawing from what they learnt from their natal homes before getting married and establishing their own homes and families. That meant that a woman farmer born and raised up in Kochia, for instance, brought her knowledge to her marital home in Kanyada. The duality of self-identification of women farmers was advantageous, thus enabling the researcher to capture indigenous ecological knowledge from two localities through the life-story interviews. This researcher engaged in life-story interviews of women farmers in the contexts of their homes and market places to recollect what indigenous agroecological knowledge for food security they had acquired over time.

1.8 Definition of Technical Terms

African Feminist Epistemology: The theory of knowledge production from the African woman's perspective.

African Sage Philosophy: Reflections of indigenous critical thinkers in Africa.

Critical Indigenous Pedagogy: Engaging indigenous peoples in critical thinking about the environment and knowing their natural world.

Critical Pedagogy: Theoretical framework proposed by Brazilian educator Paulo Freire through teaching approach which helps learners to be critically conscious of their environment and challenge oppressive cultural practices.

Culture: The whole way of a people's life, material and non-material, as part of an interactive

Discourse Analysis: An approach which explains oral or written narratives in the context of language use as in the case of story-telling.

Food Security: Having adequate supply of food for human consumption in terms of quantity and quality of material containing nutrients such as carbohydrates, proteins, fats, vitamins and minerals in order to obtain energy for growth and maintenance.

Formal Education: Teaching and learning programmes provided in primary, secondary and tertiary educational institutions.

Indigenous Ecological Knowledge: Study of interrelationships between indigenous African peoples and their environment including the sustainable utilization of their natural resources.

Learning: Process of acquiring knowledge and skills through study or experience during the process of socialization in the community or cultural institution.

Life-Story: The personal narrative an individual chooses to tell about the type of life he or she has lived and role played in the community. The term life-story and life history are used interchangeably including narratives about work-life including farming activities and food production in agrarian contexts.

Narrative Pedagogy: The use of oral literature and folklore for teaching purposes in formal, informal and non-formal contexts including forms and genres such as stories, myths, legends, proverbs, sayings, and songs in their historical and cultural contexts.

Natural Resources: The soil, water, climate, vegetation and animals within the environment which humans can utilize for ecological survival and sustainability.

Non-Formal Education: This is the approach to education outside the formal school system as found in adult and continuing education offered by governmental as well as non-governmental organizations to promote functional literacy in the community.

Oral Literature: Folk stories expressed by word of mouth.

Oral communicative genres include: myths and legends; songs and poems; verbal art and orature.

Orature: The compound word formed by Ugandan folklorists Austin Bukonya and Pio Zirimu in the 1970s to mean Oral Literature.

Structural Analysis: Theoretical approach of studying culture popularized by French linguist and anthropologist who understood symbolic systems as having subconscious meanings as in kinship terminology, folk-stories, myths and legends. The semiotic theory arising from this approach is known as structuralism in cultural studies.

Traditional Ecological Knowledge: The term indigenous knowledge (also known as traditional knowledge) has been used to refer to what is known by ethnic groups in their local environments and socially distributed to other members of the groups across generations.

Traditional Food Plants: These are cultivated crops as well as wild plants from which different ethnic groups rely on as sources of food and nutrition for their sustenance. Western science and technology have encroached upon traditional culinary practices of African communities who came under European colonial domination. There is also the reality of Oriental influences mainly from the Indian and Chinese culinary practices penetrating East Africa. As a consequence, traditional foods are disappearing thereby leading to food insecurity in rural households in Kenya.

Womanhood: The peculiarity of being a woman in the community with the holistic consciousness of physical, psychical and spiritual self-identification as a living soul. The role of womanhood is based on the original feminine principle of being epistemologically intimate with nature for the purpose of sustenance of human life by being custodians of water, fire and food in African cosmology.

1.9 Thesis Organization and Structure

Chapter 1 is the introductory aspect of the study. It includes research problem; research gaps; significance of study; literature review and theoretical framework. It also includes the contribution to resolution; research objectives; research questions; and research methodology used in the study. Background information about the research location has been included with specific reference to Kanyada and Kabuoch in Homa Bay County, Kenya.

Chapter 2 deals with the literature review on women, food and culture in an African context. The overview of the relevant literature is interdisciplinary in approach. It draws from various sources of African philosophical foundations of and the environment by

exploring the cultural basis of indigenous critical thinking. This chapter also reviews trends in sound research-driven food security policy in African contexts by putting weight upon indigenous knowledge systems and the production of drought-resilient crops which could go a long way in eradicating hunger in rural agrarian households.

Chapter 3 focusses on the methodological framework used in researching women's indigenous knowledge with implications for agricultural education and extension by using the oral testimony and the life-story approach in ethnographic research. The contexts of indigenous knowledge systems and how the tools are applied in gleaning information from the life-stories of women farmers in Homa Bay County, Kenya are interpreted using the cultural heritage as the backdrop of the deeper. A narrative pedagogical approach in agricultural education and extension programmes which uses life-stories as case studies of women farmers in rural contexts has been adopted in the methodology.

Chapter 4 deals with discussion of findings from oral testimonies and life-story interviews from informants and a critical discourse analysis of their life-stories. The chapter also contextualizes the indigenous knowledge for food security in rural households in Homa Bay County, Kenya. The voices of the women farmers are highlighted for pedagogical purposes in agricultural extension and non-formal educational contexts. Curriculum policy implications in Kenya and design of textbooks for learning agriculture at secondary school level are also reviewed in context. Critical discourse analysis is used to evaluate the content of selected course materials and their socio-cultural relevance.

Chapter 5 explores ways of integrating women's indigenous knowledge in agricultural education and extension programmes using the cultural domains and themes emerging from the oral testimonies and life-stories of women farmers in a rural Kenyan context. It also discusses the perceptions of community leaders and agricultural extension workers on the pedagogical value of indigenous knowledge of women farmers in Homa Bay County, Kenya.

Chapter 6 presents the conclusions from findings in this study; summary of the major ideas of indigenous knowledge of women farmers; and specific recommendations for formal, non-formal and informal agricultural education programmes in Kenya at large. Recommendations for curriculum planning for both formal and non-formal agricultural education and models are given in this concluding chapter. Areas for further research are suggested for the future. The production of indigenous ecological knowledge and implications for agricultural extension work in this study should be beneficial to other African contexts as well.

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

This chapter deals with the literature and epistemological background of research into women's indigenous knowledge for food security which has been relegated to the fringes of mainstream African scholarship. The chapter covers the following areas: agroecological literature on African cultural landscapes, land rights, women farmers, and food security; designing and developing agriculture learning materials for schools; philosophical foundations of African women's indigenous ecological knowledge; African sagacity, food security, and narrative pedagogy; African cultural knowledge and natural resources; language, folklore, and ecology; theoretical framework which includes structuralism and critical pedagogy; and an overview of the conceptual framework used in this particular study.

2.2 Agroecological Literature on African Cultural Landscapes

Agroecological literature tends to favour formal systems at the international level such as work done by the International Council for Research in Agroforestry (ICRAF) and International Development Research Centre (IDRC) on "Trees, Food and People" (Bjorn Lundgren, 1987: 197). There remains glaring gaps in research and training leading to the epistemological need to reclaim vanishing indigenous knowledge systems in African ethnographic settings. There is interdependence between agriculture and ecology in tropical Africa. Knowing the natural resources in Kenya should be a top priority in areas such as soils, water, climate, vegetation and fauna within the environment for sustainable agricultural production (Martina Backes et al, 1998: 2-3). Research in agroforestry with

the aim of increasing food security must necessarily involve the whole family for ecological sustainability (Maydell, 1987: 19-195).

Agroecological possibilities for various peoples of Africa can only be meaningfully explored by reclaiming their indigenous heritage through research into their biological knowledge of the realities and potentials of their tropical climatic conditions (Gholtz, 1987). The paradox of hunger amidst plenty in tropical ecosystems can be eliminated by knowing more about the traditional foods of the people rather than imposing exotic food plants alien to the African world (Maundu et al, 1999). Indigenous knowledge of the biodiversity and ecosystems of tropical Africa must be factored into the scientific research and policy frameworks for the grassroots people's initiatives by state and non-state actors involved in food security management (Roue et al, 2017). Much of what is known in Luo society about the use of biodiversity and natural resource management has been based on ethnographic research about men (Whisson, 1964; Ndisi, 1973; Ogot 1979).

One consequence has been that despite the fact that the activities of African women determine the amount of food available for their households. The problems, priorities and strategies of women for coping with changing environmental conditions have been neglected as objects of inquiry integral to issues of resource management in their own right (Mascarenhas and Mbilinyi, 1983). Despite the positive contribution of women's knowledge to the conservation of natural resources, the impact of environmental degradation has had disproportionately negative consequences on the material conditions of household production. In short, for those whose daily contacts with the environment

are taken-for-granted feature of their lives, it is difficult to separate management of production from management of the environment (Gideon S. Were, 1991).

In this study, the working conception of traditional environmental knowledge is shared by a group of people through generations of living in close contact:

It includes a system of system of classification, a set of empirical observations about the local environment, and a system of self-management that governs resource use. The quantity and quality of traditional environmental knowledge varies among community members depending upon gender, age social status, intellectual capability and profession. With its roots firmly in the past, traditional environmental knowledge is commutative and dynamic, building upon the experience of previous generations and adapting to new technological and socio-economic changes of the present (Johnson 1992:4).

Traditional environmental knowledge is part and parcel of a people's culture. As Kenyan cultural anthropologist Ocholla-Ayayo (1976) has noted, the Luo society has developed survival strategies based on ecological circumstances and settings. Knowledge, thus, derived from the environment is imparted through cultural sensitive forms of discourse, namely: language use, proverbs, signs, gestures, idioms, stories, riddles and forms of observation. These methods of communication constitute the substance of traditional knowledge. In subsistence farming among Luo women, agricultural knowledge is mainly shared within the family context hence its acquisition is through a protracted form of generational succession.

In the Kenyan educational system, agriculture is one of the subjects offered at the secondary school level (KNEC, 2014) but indigenous ecological knowledge from grassroots communities does not seem to be given any attention in the curriculum. A critical review of *Secondary Agriculture* students' books (Form I, II, III and IV) reveals that more emphasis is placed on agricultural knowledge which evolved from colonial and

post-colonial government institutions with little regard to what emanates from the indigenous communities at the grassroots level. Critical pedagogy seeks to raise the consciousness of people to draw from the traditional resources available for community empowerment by critically being aware with ever-expanding curiosity about the environment (Freire, 2001:27).

Historically, the neglect of indigenous forms of knowledge regarding the environment has been due to part of the misconception that the unwaged activities which traditionally comprise women's agricultural work are of relatively less significance to the formal economy than activities such as cash crop farming which are quantifiably productive. Kettel (1992) observes that though women have been marginalized by the development process, they have developed a knowledge based of sustainable resource management accumulated over generations that has been constantly tested by experience. In this respect, women's knowledge is a category of knowledge possessed by small-scale societies which Feyerabend (1987) describes as characterized by 'historical traditions'. In this tradition, 'the objects already have a language of their own and the object of inquiry is to understand this language which, over the course of time, has been encoded in cultural and linguistic practices of everyday life' (294). Unlike a system epistemology which separates 'culture' from 'science,' such practices are frequently the key to the way environmental knowledge is used in rural societies (Redclift, 1992). These same practices have been devalued in the context of 'developmental' models (Mshana, 1992) which aim to replace traditional practices with those more appropriate to Western conceptions of efficiency and rationality.

Sustainable development which meets the needs of the present without compromising the ability of future generations to meet their own needs entails a variety of considerations including use of appropriate technologies and behavioural change (cf. Uphoff, 1992:3). However, it is the local participation of the target population that is paramount if resources are to be mobilized and regulated with a view to maintaining a long-range base for productive activity. With respect to popular participation in sustainable agriculture and indigenous knowledge systems, the compendium “Knowing Our Lands and Resources” captures the worldviews of local communities across Africa calling upon the international community to:

“Recognize and respect the contribution of indigenous and local knowledge to the conservation and sustainable use of biodiversity and ecosystems” (UNESCO, 2017: 4).

Despite the implication that sustainable development can only be ensured through the articulation of popular rights to know and be consulted, the knowledge, experience and priorities of rural women continue to be marginalized and overlooked. Nzoma (1992) observes that despite a thirty page discussion of sound environmental management practices in the GOK Development Plan (1989 – 1993), “women are nowhere mentioned let alone acknowledged in environmental policy statements of official Kenyan documents” (:108), despite governments being under an obligation with respect to sustainable development to place special attention on participation by women in policy and planning discussions (:138). In Tanzania for instance, despite more explicit commitment to the preservation of traditional agricultural knowledge and skills since the Arusha Declaration, Mshana (1992) notes that, in practice, low priority has been placed on integrating women into the agricultural establishment. Studies from East Africa

consistently indicate that extension services are more easily accessed by ‘progressive’ farmers, usually those with large farms rather than subsistence farmers (Pala, 1974; Khasiani, 1992; Nkoma et al, 1993). Because of lack of access to inputs (fertilizers, extension services, etc) women’s productivity remains lower than men’s (Moock, 1978), although in Western Kenya Staudt’s research (1975-76, 1978, 1985) found that despite such disadvantages, women appear more likely to innovate by adopting improved maize earlier and growing more diversified crops than men.

Given that women spend between 60 – 80% of their time on farm activities (Khasiani, 1992), their contextualized knowledge of farming practices and the means by which they maintain and transmit this knowledge through the internalization of community norms is fundamental to mobilizing local resources for efficient use.

The potential for integrating practices which are derived from a holistic conception of environmental management with ‘new’ approaches, however, presupposes the necessity of preserving and valuing such knowledge as an accessible resource for both the community which produces it and those policy makers whose decisions affect that community. One such attempt has been Mshana’s (1992) extensive analyses of the role of traditional knowledge among the Pare in Tanzania. However, a gender analysis of the differential distribution of knowledge between men and women and the implications of devaluing the latter in favour of the former is absent from the study.

In light of the significance that oral transmission holds in conveying traditional forms of environmental knowledge, the proposed research focuses on the social organization of discourse involved in the agricultural practices of women farmers. Research on Luo

language, culture and society in Eastern Africa has focused on the study of elementary grammar and vocabulary (Gregerson, 1962; Stafford, 1967), Luo as a Nilotic language (Odhiambo, 1981) and syntactical structures (Okombo, 1982, Omondi, 1982). In Kenyan oral literature and folklore, Wanjiku Kabira (1992) in her discussion of the relationship between interactional activities in oral narratives and environmental management suggests that the cultural importance of women's story-telling derives from its effectiveness in situating and preserving knowledge about food crops. Little attempt has been made to utilize applied sociolinguistics and specifically discourse analysis to systematically examine the substance and transmission of traditional knowledge.

One sociolinguistic exception is Omondi's (1992) analysis of the role of language in rural development in which she illustrates the need for further study by noting that one consequence of neglecting interactional processes as a topic of study is the resulting gap between the language of extension officers and rural women farmers in Siaya area; at the micro-interactional level of communicating strategies for change, extension is often ineffective because workers are unfamiliar with and unresponsive to the locally derived cultural meanings associated with farming terminology in Luo society (Omondi, 1992: 78).

Discourse practices are of sociolinguistic and developmental importance in that they are the means through which environmental knowledge is transmitted, preserved and maintained. Because rural women that are producers of food for their families and therefore responsible for planting, weeding, harvesting, storage and use of crops, considerable practical knowledge is necessarily incorporated into their daily activities

with respect to seed selection, fertilizing the soil, controlling insects and pests, harvesting fish, preventing spoilage and storing crops effectively:

These activities are constituted by forms of knowledge that are crucial to food security and hence survival; more overarchingly, transmission of such knowledge is central to the social organization of the community. As a community, it follows that appropriate media selection for the dissemination of development based information/education must necessarily take into account the “cultural landscape” of the target population (cf. George, 1991).

The history of migration and ecology of the Luo-speaking people from Kenya into Tanzania has been given a literary rendition by Grace Ogot in her novel, *The Promised Land*, (1966) where her protagonist leaves his native land of Seme in Kenya for the fertile lands of Northern Tanzania to establish a new homestead. His fortunes get better and better; with plenty of food after cultivating the fertile lands of Mara Region and bumper harvests; he celebrates with beer-parties to which he invites the local dignitaries. The Luo immigrant becomes something of a celebrity in the locality but that is only for a short while; he develops a strange illness allegedly caused by evil intentioned neighbours in Tanzania. The European doctor attributes the illness to the superstitions of native Africans since modern medicine cannot help Ochola in his affliction. After much soul-searching and traditional therapy, the man returns to his native land of Seme in Kisumu.

In her autobiography, Grace Ogot re-tells the story of a character called Ochola based on the dominant motif of Luo migration and settlement in Kenya and Tanzania. Grace Ogot based the narrative on a story she heard from the people of Seme-Kowe where, as a small girl, she lived with her elder sister. The story of Ochola in Grace Ogot's novel is part of the local oral tradition of the people. Though Grace Ogot was born into Nyanduga Onyuna's family in Asembo, Rarieda Sub-County, she spent part of her youth growing

up in the household of her elder sister Rosa Abidha who was married to a school teacher known as James Orondo from a small village called Jusa in Seme-Kowe, Kisumu County (Grace Ogot, 2012: 106-107).

The narrative of Grace Ogot captures the history of Luo migration and settlement on both sides of Winam Gulf. Her thematic concerns are rooted in life-stories about ambition for greater acquisition of lands, wealth and bumper harvests; life-stories about agricultural production and power in African landscapes; and also life-stories on religion and traditional medicine. Grace Ogot tells life-stories about people struggling to attain sustainable livelihoods and food security based on the indigenous agricultural knowledge; she tells the life-stories of her own kinsfolk who migrated to Mara Region in Tanzania. In her autobiography, she captures the theme of pastoralism as a way of life among the Luo before they became sedentary agriculturalists (Grace Ogot, 2012: 6).

The Kenyan woman writer in her autobiographical narrative also captures the family context of indigenous knowledge transfer from one generation to the next. Knowledge of various traditional food crops and how they were used came with the socialization of the girlchild from infancy. The story-teller captures the crops grown by the Luo people: crops for subsistence and surplus for barter trade in dried cereals and grains were dried, stored and traded in exchange for other items in the local market place. In her autobiographical narrative, Grace Ogot itemizes some of the traditional food crops of the Luo-speaking peoples as follows:

Luo	English
<i>Bel</i>	Sorghum/millet
<i>Rabuon</i>	Sweet potatoes
<i>Budho</i>	Pumpkins
<i>Rabolo</i>	Bananas
<i>Oganda</i>	Beans
<i>Ng'or</i>	Peas
<i>Nyim</i>	Simsim
<i>Oduma/bando</i>	Maize

Table 2.1 Traditional Food Crops (Source: Grace Ogot, 2012-7-8)

Grace Ogot (2012) reckons that in the Luo cultural landscape, maize only arrived in the 1870s from external influences during that period in East African history. The Luo also grew the following drug plants mainly used for recreational purposes (Capen, 1999):

Luo	English
<i>Ndawa</i>	Tobacco
<i>Njaga</i>	Hemp

Table 2.2 Drug Plants for Recreation (Source: Capen, 1999)

The following leafy vegetables were commonly eaten in traditional Luo society (Kokwaro, 1998):

Luo	English
<i>Dek</i>	Spider flower, green leafy vegetable
<i>Osuga</i>	Black nightshade, edible vegetable
<i>Bo</i>	Cowpea, edible leafy vegetable
<i>Mito</i>	Edible small-leafed vegetable/herb
<i>Susa</i>	Pumpkin leaves, edible vegetable
<i>Odielo</i>	Blue Spiderwort, Wandering Jew

Table 2.3 Traditional Vegetables (Source: Kokwaro and Johns, 1998)

The sources of meat among the Luo people came from domesticated animals which Ogot in her autobiographical narrative gives as follows:

Luo	English
<i>Dhok</i>	Cattle
<i>Rombe</i>	Sheep
<i>Diek</i>	Goats

Table 2.4 Animal Sources of Meat (Source: Grace Ogot, 2012: 7)

These domesticated birds (poultry) traditionally found in Luo homesteads according to research done by Kokwaro and Johns (1998) include various species used for food. Grace Ogot in her autobiographical narrative tells of how she witnessed the breeding of poultry in Luo homes which included the domesticated birds such as:

Luo	English
<i>Gweno</i>	Chicken
<i>Atudo</i>	Duck
<i>Awendo</i>	Fowl
<i>Aluru</i>	Quail

Table 2.5 Domesticated Birds (Source: Grace Ogot, 2012)

Luo migration and settlement in Kenya and Tanzania continues to be anthropologically intriguing; with Ochola leaving his village in Seme for new lands and coming back home after losing his health and wealth owing to witchcraft, sorcery and magical arts from evil forces of darkness. The interesting bit of the history of Luo migration and settlement in both Kenya and Tanzania is that people continue moving with no end to the folk narrations (Ogot, 1966; Ojwang, 2010).

In the history of Luo migration and settlement, the power of womanhood is given ethnographic attention in different contexts. The portrayal of Luo women as having mystical powers for survival, which ensures food security and good health in the household, is common in local histories and folktales. Folk-stories are commonly told about interventions of powerful portions and magic in the relationships between women and men (Cohen and Odhiambo, 1989: 86). How African music can be used as an effective pedagogical tool is illustrated by Tanzanian Luo singer, Daniel Owino Misiani of Shirati Jazz Band, who composed a narrative song in praise of a woman traditional healer who saved his life when envious people bewitched him in Nairobi. This narrative

song is reminiscent of the life-story of another Tanzanian from the Sukuma ethnic group who was a very successful leader of the Bagalu Dance Group which was in competition with the rival Bagika Dance Group.

The narrative which was documented by Fr Joseph G. Healey (1996: 86-87) goes that the rival Bagika troupe members allegedly “became jealous and envious” of Samike and sought ways to eliminate him by whatever means. When this did not seem feasible, the jealous Bagika enemies reportedly “bewitched Samike and he became seriously ill.” He moved from one diviner-healer to the next but he could not get cured of the mysterious illness. He could neither eat nor walk; after a while, Samike’s companions carried him to the homestead of of a great diviner-healer Luhumbika who was able to neutralize the witchcraft and sorcery which led to his total recovery from the stange ailment. He was completely cured and went back to what he knew best; leading his Bagalu Dance Group in performing at various musical events. Samike composed a song thanking the great diviner-healer for restoring his health.

The title of the praise song was “Thanksgiving to Luhumbika” (Healey, 1996: 86). It was his way of telling people what great things Luhumbika had done for him by making him whole; he could eat, walk and sing once again. The redemptive figure of Lukumbika is also found in Daniel Owino Misioni’s narrative song about a female diviner-healer who restored his health when he suffered the same fate as Samike from Sukuma in Tanzania. The only difference this time round was that Daniel Owino Misioni was reportedly bewitched in Nairobi by jealous artists in the music industry. The narrative goes that he was also very ill and could neither eat nor walk. His family took him to a feminine therapist by the name Isabella Muga from Asego-Kanyada in Homa Bay who treated his

condition and neutralized the witchcraft and sorcery; he resumed his musical career and composed a praise song to thank the diviner-healer, Isabella Muga, who had played a redemptive role in his life.

The artistic space carved by Daniel Owino Misioni in political discourse has played a critical role in narrative pedagogy and homiletics in contemporary Africa when he raises pertinent social, political and economic issues affecting the oppressed in society (Ogude, 2007; Oloo, 2007; Ojwang, 2010).

Daniel Owino Misioni's song *Janawi Ma Dhako* (The Feminine Therapist) was very popular in the 1980s. In musical circles "The Feminine Therapist" became part of East African "urban legends" with compositions using "allegory and allusion" to pass subtle messages to their audiences when dealing with hegemonic systems which "shape capitalist class formation" in post-colonial African political economies such as Kenya (Ogude and Nyairo, 2007: 10). The narrative song tells the life-story of the singer who leaves his home village in Shirati, Tanzania for a musical career in Kenya. He becomes very successful to the chagrin of his fellow artists who then conspire to bewitch him; the singer develops a strange disease which no hospital in Kenya can diagnose or treat. It is because of this strange disease that Owino the singer embarks on a therapeutic journey which takes him to a traditional medicine woman from Asego-Kanyada in Homa Bay County. The singer calls the medicine woman *Nyasego* which is the short form for *Nyar Asego* (Daughter of Asego).

In local toponymy, Asego is the mystical hill which overlooks Homa Bay Town. The medicine woman (*Janawi Madhako*) with her mystical powers of a diviner-healer, diagnoses the strange illness of Owino Misiani the singer by attributing it to sorcery and witchcraft from malevolent forces in the the local music industry not so happy with his success as a performing artist in Kenya (Ojwang, 2010). Apart from belief in the magical powers possessed by women in Luo society, there are songs composed in praise of powerful women who establish homes on their own without the support of men; bringing up families on their own as single parents, engaging in development projects and offering themselves for leadership positions in the public sphere. The popular Luo song *Orego to Ogwe Mach* (Grinding Grains and Kicking the Fire) is itself a musical rendition of the different tasks a woman has in order to balance her activities by ensuring food security in the household. Narrative song-forms in praise of womanhood celebrate different aspects of working life in Luo society (Cohen and Odhiambo, 1989: 85).

Transmission of indigenous cultural knowledge is also captured in literary works like Grace Ogot's *Miaha* which was translated by Duncan Okoth Okombo as the *Strange Bride* and Margaret Ogola's *The River and the Source* which capture the transmission of indigenous cultural knowledge from one generation to the next. Among the Luo people of Kenya, *Pim* (old woman) is tasked with the informal and non-formal education of both the girl child and the boy child:

She lived with and nurtured the young girls and boys of the household, compound or enclosure, and sometimes the neighbourhood. Boys stayed with the Pim for several years, leaving her charge when it was seen that they were too old to sleep among the young girls. Girls stayed much longer, often going from the Pim's care directly into marriage (Cohen and Odhiambo, 1989:92).

As the *Pim* grew older, it was the responsibility of the younger women and men in the community to take care of her needs in terms of shelter, food, support, safety and constant care.

2.2 Land Rights, Women Farmers and Food Security

The history of Luo agricultural and ecological landscapes in the Nyanza Region of Kenya has been captured in historical studies by Ogot (1967); Ochieng' (1974); Ayot (1987). Clearly, the Luo settlements were along sub-ethnicities which were distinct from one another as they looked for land for cultivation and pasture. In traditional Luo society, land as an economic resource was a communal and not individual's property. Land was allocated to families and clans according to their needs. Historically, land could be acquired through the following methods:

- i) Conquest of a territory during the migration and settlement;
- ii) Occupation of uninhabited land; and
- iii) Inheritance from parents and forefathers

According to Luo culture, ancestral land belongs to all members of the clan who were alive, dead or children yet to be born (cf. Ndisi, 1973:16). Being a partriachal system, land allocation among the Luo was made to the male descendants. The Luo family structure had implications for land rights. It was a rather complex system which emphasized affinal and consanguinal kinship networks:

The Luo people are strongly patrilineal in their family and lineage system. But within this strong patrilineal structure there is a very influential matrilineal implication. The extended family groupings are therefore according to: (a) patrilineal kinship and (b) matrilineal kinship (Othieno-Ochieng', 1968: 11-12).

The implication here is that women have traditionally been regarded as guests in the homes into which they were born. The Luo people traditionally expected their daughters to get married into another clan where they would get children and gain land rights. The marriage bonds tied the woman down especially where there were children born of the marriage. It is traditionally understood that for a Luo man, *pacho* (home) is the place where he has a piece of land and a house; for many Luo people, *pacho* is also the burial place (Okullu, 1976:15). In contemporary society, many Luo migrant workers leave their wives to work the land while they go to urban centres in search of work. The cultural bonds in Luo society are so strong that marriage can only “break down but does not break up” (Okullu, 1976:26). The women carry weight where they are married especially when they get male children: “their belongingness is wherever they are or will be married,” (Othieno-Ochieng, 1968:12). The Luo saying that a son is the centre pole that holds the house together is therefore symbolic of the status accorded the male child in the family since he will stay while the female child will leave for another home when she gets married (Ominde, 1987).

The traditional Luo family structure thrives on polygamy. This has implications for land rights food production in the household for the women and their children who help in cultivating the fields (Erasto Muga, 1975: 46). Some ethnographers have stated that polygamous family structures in agrarian communities are advantageous because of increased labour force in agriculture (Kisembo, Magesa and Shorter, 1998: 90). Other ethnographers think that the African polygamous family structure often leads to unhealthy competition over land and other resources among male descendants of different co-wives (Cummings, 1991). Traditionally, young Luo women know they will

not inherit land from their fathers but this is changing in contemporary society. Though Luo society is patriarchal, there is also the subtle matriarchal element which co-exists alongside hegemonic patriarchy. This is reinforced by sub-identifications within the homestead where there are two or more wives. In this context, the children grow up with “many mothers, one father, and many aunts and uncles” (Cummings, 1991:117). The Luo social system is normally organized according to homes and houses according to the co-wives who share a common husband within the extended family structure:

Within each extended family grouping there is segmentation of matrilineal structure. The descendants are grouped according to their maternal origin. This segmentation is very significant as the maternal ancestry is always referred to by mother's confiding family name (Othieno, 1968:12).

Research on Luo customary laws regarding land tenure and family structure has had a long history. British ethnographer Gordon Wilson together with Shadrack Malo compiled a government report for the Colony and Protectorate of Kenya in 1961 on Luo marriage and family laws which had implications for land tenure and food production. There were two versions in Dholuo and English. In the report, the ethnographers identified the complications of polygamous family structures lead to land use rights: the collective approach to food production in Luo society meant that the Senior Wife, *Mikayi*, wielded significant influence on which women in the family were assigned what portions of land for cultivation:

The Mikayi will vet the girl and in many cases she will choose one from her own lineage, Anyuola... the Mikayi will give her a garden in addition to one given to her husband by her husband (Wilson and Malo, (1961 [1968]).

The structure of the polygamous Luo family typically had three wives; any additional *nyi udi* were attached to the houses of the *Mikayi* (first wife); *Nyachira* (second wife); and *Reru* (third wife). The husband was the overall head of the homestead while each house was headed by a woman in a polygamous context. The co-wives in the homestead cooperated in daily tasks of food production and land cultivation: the junior wives (Luo: *nyi udi*) in most cases competed in “acquiring land, marketing and cultivating” (Wilson and Malo, ([1961], 1968:7). Though there are councils of elders of the extended family, *Anyuola*, to settle land disputes, the stiff competition for cultivation rights of women often led to stand-offs and paralysis in agricultural activity. The rules of land tenure in Luo areas of Homa Bay County have been made even more complex and dispute-prone owing to the continued fragmentation of lands originally owned by a common ancestor in the lineage formation of *Libamba* with the implication that land disputes might lead to non-cultivation (when agricultural land stays idle while the dispute is being handled in local courts) which then compromises food security as elders and civil authorities try to resolve the disputes (Wilson and Malo, [1961] 1968).

According to oral history, the Luo had land dispute resolution systems before the arrival of the European colonial administration. In fact disputes led to warfare between different clans and sub-groups of the Luo people. It is true that disputes and conflicts between different sub-groups were the main cause of internecine fighting which was a basic reason for excessive Luo migration and segmentation in East Africa (Mayor [1938], 1984; Wilson and Malo, [1961], 1968). The Luo migration from Central Nyanza to South Nyanza was due to ecological factors; tsetse fly infestation of some areas like Sakwa-Bondo; land pressure because of increase in population; and conflicts of different clans as

they competed for the ever increasingly scarce land and other natural resources around the lake (Mayor [1938], 1984:44-45; Ogot, 1979: 22-23). That explains why there are Gem, Alego and Sakwa clans on both sides of Winam Gulf; these were members of same clans who parted ways owing to excessive fragmentation and segmentation as the Luo people looked for greener pastures all the way to North Mara Region in Tanzania.

The southward movement of the Luo-speaking people from Kenya into Tanzania was forcefully brought to a halt “by the German guns in North Mara” (Ogot, 2009: 867). Meanwhile, the British colonial rulers also drew locational boundaries in South Nyanza which restricted further mass migration of the Luo as they freely did before the scramble and partition of Africa. The major sub-groups of the Luo-speaking peoples in South Nyanza identified by British anthropologists were: Karachuonyo; Kasipul; Kanyamwa; Kabuoch; Karungu; Kasigunga; Kaksingri; Kamagambo; Gem; Kanyada; Kochia; Kagan; Sakwa; Gwassi; Kwabwayi; Kanyamkago; Kadem; and Kanyidoto (cf Wilson and Malo, [1961], 1968: 95-96). Oral tradition has it that the Wanjare sub-group of the Luo came from the lakeside; they were absorbed by the neighbouring Gusii people. They are known as the Abanchari and the land they occupy around Suneka Town is called Bonchari after the eponymous ancestor Monchari whose name came from the hippopotamus known in Ekegusii as *enchari* (Bosire and Machogu, 2013: 754).

In Luo oral tradition, Wanjare mistakenly killed his father with a spear when he and his brother Rachuonyo were guarding the crops by the lakeside. Wanjare reportedly mistook their father for a hippopotamus since it was very dark at night. Rachuonyo and Wanjare were very sorry for what happened. The clan members could easily say that it was a conspiracy. Wanjare had to find a way out of the dilemma. Upon the advice of their

mother, Wanjare had to leave home quickly and seek refuge in a strange land before he could be lynched. When he arrived among the neighbouring Gusii people, they welcomed him and gave him the name *Monchari* which means “The Hippopotamus Man”. In Gusii folklore, the hippopotamus then became a totemic symbol of the *Abanchari* (Ochieng’, 1974: 58-59; Bosire and Machogu, 2013: 375). It would appear that Wanjare opted for self-imposed exile among the Bantu-speaking Gusii neighbours for his own safety. That meant Wanjare lost his right to inherit any land among his kinsfolk. To the Luo-speaking people, “banishment and expulsion” are extreme legal sanctions invoked by members of the same family against perpetrators of crimes such as “homicide or fratricide, whether intentional or accidental” (Wilson, [1961], 1968: 88).

The descendants of Wanjare were completely assimilated by the Gusii and are a farming community producing a variety of food crops the most significant one being bananas known locally by the people as *amatoke* (Buruchara, 1986: 71). The Wanjare people in Bonchari also engage in trading with their Luo neighbours by selling different food crops in neighbouring Homa Bay County. Though in folklore, the Wanjare and Rachuonyo people were said to be kinsfolk, the estrangement dissolved the common bond of agnatic lineage; they cannot go back and claim land rights among Rachuonyo people since they are now strangers. However, the Wanjare people enjoy brisk trade in food crops with the rest of the Abagusii and their Luo-speaking neighbours in the Lake Victoria Basin (Buruchara, 1986: 81).

The *Libamba* is an agnatic lineage in traditional Luo society whose members “share an agricultural area and within which the members share sacrifice frequently,” (Wilson and Malo, ([1961], 1968:6) since agricultural production is closely tied to religious rituals in

Luo society. The hierarchical order within the *Libamba* descending down to extended polygamous families, *keyo*; and people belonging to same grandfathers, *kwaro*; and those from the same father, *wuoro*; and finally to those from the same mother, *jokamiyo*, often leads to stiff competitions which cause disharmony and impacts negatively on food security in the household owing to paralysis in food production in the households (Othieno-Ochieng', 1968).

In contemporary Luo society, women who have obtained good education and have some income from formal employment in modern economic set-ups prefer to buy their own pieces of land where they can practice modern agricultural production as in the case of Mary Ochieng-Mayende, a 60 year old retired civil servant. She practices small-scale farming on a three-acre plot in Opapo area along the Rongo-Homa Bay Highway which makes transportation of her farm produce to different markets quite easy. She is not bound by the cultural prohibitions of the *Anyuola* agnatic lineages of the Luo people since she has established herself as the matriarch of her own household. As for the women farmers staying on communally owned ancestral lands, the rituals are bound to regulate food production owing to Luo traditions and practices which require the head of the homestead lead the way with others following (Ndisi, 1973: 25).

2.3 Designing Agriculture Learning Materials for Secondary Schools

The Kenya Literature Bureau is a parastatal organization of the Ministry of Education and is responsible for publishing educational textbooks for use in schools and colleges. It takes institutional responsibility for developing materials for learning different subjects including agriculture. The cultural context of education whether formal, non-formal or informal, is of paramount importance when developing learning materials.

In curriculum planning, background information for agriculture and food security in Kenya is necessary. It is acknowledged that agriculture is regarded as an important factor in Kenya's national economy. More than 80% of the Kenyan population is dependent on agriculture. In the Secondary Agriculture learning materials, it is stated that since most Kenyans continue to live in rural areas, the dependence on agricultural activities in the economy will continue to rise. Both the national and county governments have a duty to feed the people. Food security is an agenda item which must always be at the top of any government's priority programmes.

The Secondary Agriculture syllabus is meant to expose learners to: "the basic principles of agriculture that can be put into practice for the benefit of the individual and community in general" (Kenya Literature Bureau, 1987; Kenya National Examinations Council, 2014). Developing programmes and materials for learning agriculture in Kenya have involved subject panels with experts drawn from different institutions including: Ministry of Education, University of Nairobi; Secondary Schools and Teacher Training Colleges in Kenya; the Kenya National Examinations Council; the Kenya Literature Bureau; and the Kenya Institute for Curriculum Development. The content of the secondary agriculture curriculum is, therefore, an institutionally approved and authoritative programme for use in the Republic of Kenya.

2.4 Developing Agriculture Learning Materials for Secondary Schools

The basis for critical review of materials for learning agriculture calls for an ethnographic framework. The elements in the discourse structure come into mind such as Scene or Setting(S). The documents stating national priorities in agricultural education define the pedagogic goals in broad terms. This kind of broad view to the agriculture curriculum at

secondary school level is captured in the general objective of the syllabus in the Kenyan context: “develop an understanding of agriculture and its importance to the family and the nation,” (Kenya National Examinations Council, 2014). The structure of discourse further includes Participants (P) who in this case are individuals and institutions with a stake in social discourse strategies in agricultural education and extension services. For the production of agricultural knowledge, the Government of Kenya relies on experts and practitioners with knowledge skills and experience in course design.

Identifying the course writers is important in critical discourse analysis because it illuminates the interpretation of cultural meaning in the textbook which should have a wider appeal in all schools which offer agriculture at secondary school level. Kenyan ethno-cultural groups number more than 40 and, agriculture can be very specific to geographical locations. The Ministry of Education should attempt to have a more representative choice of panelists from wider geographical locations and agro-climatic zones of the Republic of Kenya. The other elements of participants are, of course the students as the main consumers of the product. Texts are written to be studied; the readers in this case are the learners whose aim is to understand the main concepts in agriculture as an examinable subject at the end of the course.

From the foregoing, the Ends (E) represents the outcomes of a discourse process (cf. Hymes, 1974; Wardhaugh, 1992:245). The recognized outcomes of the discourse process in an instructional framework can be explained in the illustration given below:

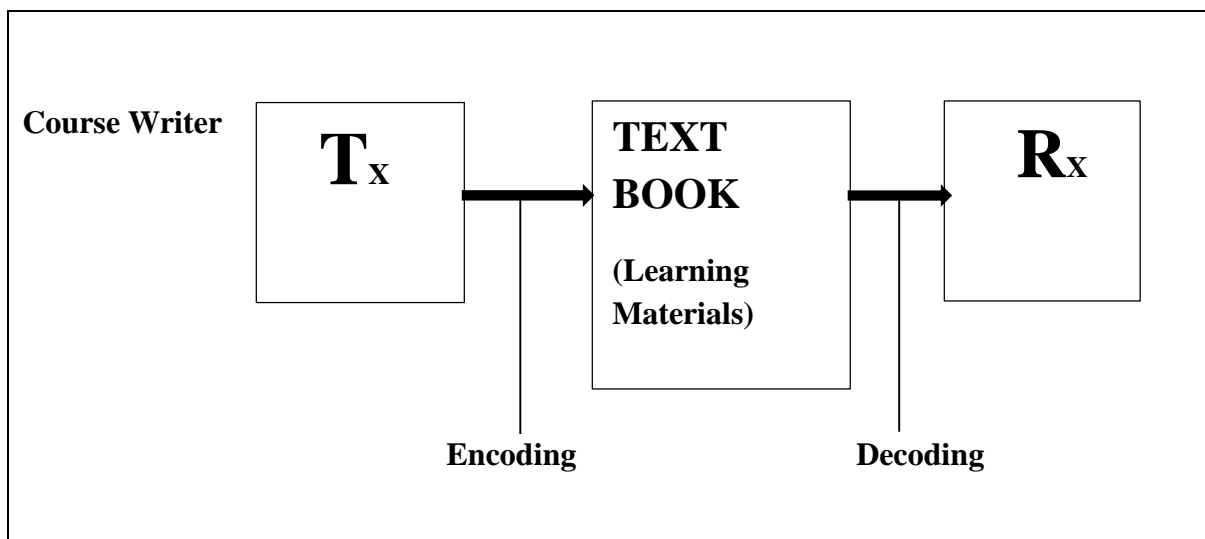


Figure 2.1 Course Design and Development (Source: Humphrey J. Ojwang, 2019)

The above model of an instructional discourse process depicts T_x as the course writer (in this case a trained teacher of agriculture) to the left and the R_x as the reader/learner who uses the agriculture textbook. In general communication processes, T_x represents the Transmitter while R_x represents the Receiver when information is shared (cf. Christine Nuttall, 1983:4). The T_x may be a single author or a panel of authors as is the case in the Kenya Literature Bureau panel of course writers who developed the Secondary Agriculture Form One Students' Book. Language use, curriculum development and agroecology play a role in power relations as in teacher-learner interactions within educational institutions. The contextual meanings in learning materials and purposes of the course writers must necessarily be culturally authentic. To that extent authorial stances in the discourse structure are equally significant in course design.

This leads to Act sequence (A) which actually refers to both form and content in pedagogic discourse (cf. Wardhaugh, 1992:245). For refers to the discourse structure of pedagogic materials and in typical learning materials for agriculture, there are: General Objectives of Discourse; Specific Objective of Discourse; and Content of Discourse.

Critical Discourse Analysis (CDA) in the understanding of Teun A. van Dijk (1995:17-27) may be summarized as the study of texts from the socially and politically conscious way of investigating language use and communication. Work in the area of CDA enables the researcher to study social problems and economic inequalities, including agricultural production for food security in the household.

An analysis of agriculture textbooks takes an interdisciplinary approach to discourse and society, including social cognition, politics and culture (van Dijk, 1995:17). The form and content of statutory documents of Government of Kenya necessarily depict public policy touching on agriculture, education and politics, hence the inter-relationship between discourse, culture and society. The role of discourse in society with specific reference to agricultural production and food security focusses on ethnic groups, classes, and gender relations. In such circumstances, the concepts of power, dominance and inequality come into play (van Dijk, 1995:18).

Content analysis in agricultural education is a thematic concern. The structure of information in the discourse can be imagined in the context of Themes and Domains of agricultural activity (cf. Kirwen, 2008:1; Kirwen, 2010:4). Specification of learning objectives (general and specific) and the clear identification of content of materials for teaching agriculture are important in determining the Act sequence informal, non-formal as well as informal contexts. Social scientists like communication theorists and psychologists have also shown an interest in content analysis (cf. Wardhaugh, 1992:246). A critical analysis of the Act sequence in Secondary Agriculture Form One Students' Book for instance include themes and domains in macro-structure covering areas summarized below:

- (i) Introduction to Agriculture, which takes a cultural and historical perspective of how humanity evolved crop production practices and other foods derived from birds and animals (both domesticated and wild), (cf. Kenya Literature Bureau, 2016:1-10).
- (ii) Factors Influencing Agriculture, which cover human geography, biotic activities of pests, parasites, pathogens, predators and other natural processes which may be destructive to agricultural production, (cf. Kenya Literature Bureau, 2016:1-57).
- (iii) Farm Tools and Equipment, which are instruments held with human hands to make agricultural work more efficient: “with improved technology, more and better tools are being introduced into the market, thus enabling faster progress,” (cf. Kenya Literature Bureau, 2016:58-114).
- (iv) Crop Production (Land Preparation), which entails operations of clearing land before cultivation; primary cultivation; secondary cultivation; and other tertiary agricultural activities in readiness for planting or sowing, (cf. Kenya Literature Bureau, 2016:109-114).
- (v) Water Supply, Irrigation and Drainage, play a major role in agriculture; whether the farmer relies on rain-fed agricultural practices, or a more sophisticated use of water from lakes, rivers, streams and dams. Water resources include: springs; wells; boreholes; among others. Rain water harvested by farmers for strategic use in future fall under this thematic area as part of content, (cf. Kenya Literature Bureau, 2016:115-141).

- (vi) Soil Fertility (Both Organic Manures and Inorganic Fertilizers), including control of soil erosions crop rotation control of soil PH; drainage; weed control; inter-cropping; minimum tillage; use of manure; and use inorganic fertilizers to maintain fertility. The use of organic manure including: green manures; farm yard manures; compost manure; and other organic material which improve soil fertility (cf. Kenya Literature Bureau, 2016:142-154).
- (vii) Livestock Production: Common Breeds of Animals on the Farm, which directly benefit the family and which have been domesticated since time immemorial which include cattle, sheep, goats, pigs, poultry, rabbits, camels, fish and bees. Animals are significant to human beings as sources of food, income, ritual, aesthetic and customary purposes. They may also be used for farm power as in ploughing the land using oxen-power (cf. Kenya Literature Bureau, 2016:155-188).

The form and content of the learners' book is covered by the Act sequence which progresses to another ethnographic level of communication when we move to Key(K) which refers to: "tone, manner or spirit" in which an act or event is performed (cf. Coulthard, 1977:45-46; Wardhaugh, 1992:246; Bauman, 1972:160); the description and analysis of discourse in this case include the tone or mood or manner in which instructional texts are encoded in a manner that makes the information to be in "readable writing" (Williams, 1985:2). The Key is necessarily an ally of both the form and content in a textual narrative in order to facilitate accessibility of cultural meaning; the "goals and consequences of the process should yield understanding by the reader or learner who is trying to get the "message from the text" (Nuttall, 1983:4-5).

In CDA, another important feature of textual expression in a pedagogic context is the application of the Instrumentalities (I) which refers to the choice of channel: “choice of oral, written, telegraphic, semaphore, or other mediums of transmission of speech” (Coulthard, 1977:46). Textbooks used for instructional purposes as a genre of communication are obviously associated with one channel, which is the written text. This is a form of one type of “instrumentality” which is different from “spoken” or “telegraphic” expression of “instrumentality” (cf. Wardhaugh, 1992:246).

Clearly, CDA takes into account the Norms of interaction and interpretation (N) in a communicative event (cf. Bauman, 1972:160; Coulthard, 1977:48-49; Wardhaugh, 1992:246). According to CDA, Norms are cultural and non-linguistic rules which govern how discourse is realized, whether as “interaction” or “interpretation” in a communicative process; there is also the “transactions” which in instructional contexts are marked by “frames” where textbooks are structured into pedagogical units of “lesson” (cf. Coulthard, 1975). The non-linguistic aspects of Norms in pedagogical context include: course, period and topic followed discourse levels of: lesson, transaction, exchange, move and act:

Teachers very frequently follow a frame, which dictates to the pupils that one transaction has ended and another is beginning, with a focus, a metastatement which tells them what the transaction is going to be about (Coulthard, 1977:102).

In developing programmes and materials for learning agricultural practices, the course writers engage in the same strategy of discourse by arranging the material into pedagogical units, for example:

Course	Agriculture
Period	Factors Influencing Agriculture
Topic	Human Factors

Table 2.6 Pedagogical Units (Source: Coulthard, 1977)

At the discourse level, the course writer introduces the lesson by stating that by the end of this topic the learner will be able:

To explain the human factors influencing agriculture (cf. KCSE, 2014:312).

In pedagogical contexts, whether the instrumentalities used are spoken or written language, the discourse structure follow a predictable pattern which learners always expect as they need the textbook or listen to an oral presentation in the classroom by the teacher. The ethnographic framework proposed by Hymes (1974) and built upon by Wardhaugh (1992:246-247) has been applied in the context of CDA with Genre (G) as the focus (Coulthard, 1977:102). The term Genre refers to “clearly demarcated types of utterance” (Wardhaugh 1992:246-247). The term Genre could also be explained as part of message-form and event of a communicative event “within which a genre may be embedded” (Brown and Yule, 1983:38).

Among the “demarcated types of utterance” are instructional texts lectures, and teaching lesson plans among other educational materials used in schools A Critical Discourse Analysis of the Secondary Agriculture Students’ Book for Form Two; Form Three; and Form Four all fit within the same ethnographic framework using the formula: SPEAKING, an acronym proposal by Hymes (1974). Suffice is to also note that the format used in the four course books for Secondary Agriculture is derived from the Regulations for KCSE (Revised 2014 Edition) published by the Kenya National Examinations Council, a body which operates under the Ministry of Education.

It should be noted that the content of the curriculum for Secondary Agriculture has not injected the traditional crops of the indigenous peoples of Kenya. The curriculum planners have tended to remain loyal to a form of agricultural education which was inherited from British colonialism which tended to emphasize cash crops rather than subsistence agriculture in rural communities. Small-scale agriculture for subsistence has been in the domain of women farmers in the colonial period as well as in post-independence Kenya.

Critical Discourse Analysis, as suggested by Norman Fairclough who, for many years, was Professor of Language in Social Life at Lancaster University, U.K., addressed macro-structural issues like colonialism, capitalism, ideologies, and other political issues which affect society at large (cf. Fairclough, 2003:1-18). In addition to macro-structural issues dealing with politics, there are also relevant topics like women and gender studies which have occupied social science research for the last three decades or so. The African woman has also come into greater focus in the context of agriculture and food security.

The final chapter of Secondary Agriculture Form One Students' Book deals with Agricultural Economics. Themes covered include definition of economics, with an outline of basic concepts such as (a) scarcity, (b) preference and choice (c) opportunity cost (d) farm records. In a sense the agricultural economics domain seeks to empower the farmer to have an entrepreneurial approach to agriculture as a business activity. This is a modern approach to agriculture which the Government of Kenya approved, seeks to inculcate in secondary school students who opt to take a course in agriculture.

The knowledge and skills must necessarily be contextualized within the women's movement in Kenya since they are an integral part of the national framework under the devolved constitutional order; the women have their rights and duties spelt out in the constitutional; legal and policy framework in the same way their male counterparts also have their rights and duties spelt out. Women are no lesser creatures of nature; culture; and the law of the land. For that reason, there must be a struggle for justice through civic education in order to empower the women farmers and traders at grassroots level within the counties; sub-counties; locations and wards; sub-locations; villages; hamlets and homesteads in rural farming communities. This study has identified agricultural education and extension programmes as being critical in empowering the women farmers with the belief that if you educate a woman, you educate the whole community.

- i) Formal education; non-formal education; and informal education programmes can go a long way in incorporating researched indigenous ecological knowledge, including traditional food plants of the people, in the Secondary Agriculture syllabuses from Form I to Form 4 so that authentic cultural knowledge can be treated as part of the core curriculum.

A critical look at selected agriculture textbooks reveals that the course designers still follow the rubric of British colonial education which dismissed indigenous agricultural methods as primitive. As one ecological historian has argued, colonial agricultural policy disrupted African food production methods by imposing alien ways of doing agriculture and this led to environmental degradation in some parts of Kenya such as Kitui (Bowles, 1979: 195-215).

He asks whether the people in those areas were made poor by colonial agricultural policy and argues that climate change is not the only factor unless it has been due to human-induced change in climate. Questions must be asked about what has caused the degradation of soil in different parts of Kenya: “the old colonial answer that people knew no better is no longer acceptable” (Bowles, 1979: 195).

- ii) The Secondary Agriculture Syllabus designed by the Kenya Institute of Curriculum Development should incorporate indigenous food plants in the curriculum. Agriculture curriculum specialists and course designers in the Ministry of Education have not incorporated indigenous agricultural knowledge into formal education programmes (cf. Maundu, Ngugi and Kabuye, 1999: 255-259). There should be more co-ordination between teachers of Secondary Agriculture; middle-level Colleges dealing with the subject; Universities offering BSc (Agricultural Education and Extension) Degree Programmes such as Rongo University in Migori County; Egerton University, Njoro in Nakuru County; University of Nairobi, College of Agriculture and Veterinary Sciences at Kabete Campus to, decolonize the teaching of Agriculture in Kenyan educational institutions.

Critical Discourse Analysis of the agriculture learning materials and Critical Indigenous Pedagogy should be based on socio-culturally appropriate content for the learners in any educational context (Dubin and Olshtain, 1986: 135). Among the educational resources reviewed for this research was Anna P. Obura’s work on the portrayal of girls and women in Kenyan textbooks in which she states that the content in the female gender has been rendered “invisible” by the course writers: girls and women are therefore not seen as potential or active farmers in Kenya’s formal schooling system (Obura, 1999:50).

Works in agricultural botany such as John Kokwaro's (2013) typology of crops in East Africa rely heavily on knowledge produced the Herbarium at the National Museums of Kenya: the classification of crops strictly follows British colonial standards with Type A Classes and Type B Classes; a review of the whole sector of research; production; and extension in Kenyan universities should look into indigenous food plants which seem to be marginalized in agricultural economic policy. John kokwaro seems to echo the European settlerist classification of so-called major cash crops such as: tea; coffee; rice; wheat; cotton; sisal; sugar; pythrethrum; tobacco; and forestry products (Kokwaro 2013: 14-20). Terms like horticultural crops also tend to marginalize the pedagogy of indigenous knowledge for food security.

Learning from women farmers in Homa Bay County specifically and Kenya generally would entail looking for new lessons from traditional food plants: modern innovations in crop science and technology are encroaching on traditional practices and eroding the local knowledge base of indigenous peoples. Modern times have brought new food habits and even new food crops. The plants from which foods were obtained are now sufferering a double tragedy: genetic erosion and loss of indigenous ecological knowledge on how to grow and use them (Maundu et al, 1991).

2.5 Philosophical Foundations of African Women's Indigenous Ecological Knowledge

The philosophy of science and feminist epistemology view "situated knowledge" from the perspective of the indigenous woman farmer as the primary knower of her situation and social reality (Anderson, 2020). In African culture, women play a critical role in agriculture and food production. Culture and food are always tied together and work out

in tandem. The cultural knowledge of a people involves their interaction with the environment holistically. In his philosophic approach to the understanding of nature and environmental ethics, Henry Odera Oruka brought together a large team of scholars to debate on the general themes of philosophy, humanity and ecology at the World Philosophy Conference in Nairobi, Kenya (July 21- 25, 1991). This researcher had the good fortune of attending this important conference which brought together scholars from different branches of humanities and social sciences with interest in philosophy, humanity and ecology. Different themes emerged which Thomas R. Odhiambo (Odhiambo, 1994:50), summarized under the following scientific notions of:

- (i) Agricultural sustainability
- (ii) Global warming
- (iii) Technology transfer
- (iv) Industrial competitive edge

He further underscored the fact that a new paradigm of agricultural sustainability and development must adopt four critical themes in Africa, namely:

- (i) Food Security;
- (ii) Economic Security;
- (iii) National Institutional Security; and
- (iv) Vibrant Productive Knowledge Industry (Odhiambo, 1994:51).

Critical indigenous pedagogy of women farmers in cultural landscapes needs incorporation in national as well as local agenda in different institutional frameworks.

The agro-ecology and food processing domains need to take cognizance of production of

knowledge by tapping into traditions and customs which dictate agricultural practices. The role of women farmers is, therefore, critical in designing the inputs and extending the outputs of indigenous knowledge systems applicable in agricultural practices for food security in the household (African Women's Studies Report, 2014: 4-5).

There are many challenges facing Africa, but one of the most critical one is the determination to feed the ever growing populations: how governments go about this is the big question. Odhiambo (1994:51-52) proposes an approach which should transform age-old self-sufficient traditional farming systems of African Communities. The cultural landscapes are created out of the natural histories of Tropical Africa which guaranteed sustainability within the indigenous peoples' ecological domains. Odhiambo advocates for an integrated farming systems. This kind of approach would, of necessity, include: food plants (both wild and cultivated), forests, livestock, fisheries, bee-keeping, and much more (Odhiambo, 1994:52). By diversification of agriculture, forestry, animal husbandry, fisheries and other culture-specific practices, grassroots communities in Africa can engage in a new pedagogy of hope for self-determination in terms of agricultural sustainability and food security in the households. What is not mentioned by these food discourses is the role of African women's indigenous knowledge in farming activities. Africa needs a new paradigm by decolonizing the mind by recognizing the epistemologies of women and other marginalized groups in the production of knowledge (Ngugi wa Thiong'o, 1986).

The process of decolonization of agricultural practices must necessarily adopt fresh thinking and the removal of Western prejudices inculcated in Eurocentric education systems which saw African folkways as "primitive" (Okot p'Bitek, 1970). European

colonial attitudes which must be banished by indigenous critical pedagogy can be demonstrated in negative descriptions of Africans as “primitive” people who lived in “villages of mud huts thatched with grass or leaves, whose pattern varies with tribe” (Stembridge, 1964: 82). The European colonial ethnography saw the African family as belonging to a “tiny world of mud huts” where life revolved around father, mother, children and possibly a few relatives nearby:

The youngster helps his father tend the flocks, and assists him to spread out the hunting nets in the bush and to drive away buck and other animals into them. The mother sows and gathers the crops as well as attending to her household duties (Stembridge, 1964:83).

It is this simplistic view of African cultural landscapes which Ugandan anthropologist, Okot p’Bitek, protested against in his seminal work *African Religions in Western Scholarship* (1970) when he stated that cultural anthropology was a handmaiden of European colonialism in Africa which perpetuated the myth of the “primitive”. The view that African cultural practices and food production methods are “primitive” persisted during the post-colonial era with some intellectuals holding the same view (Ojany and Ogendo, 1987: 122-124).

French anthropologist, Claude Levi-Strauss, was also critical of the idea of “primitive” versus “civilized” minds; he said that it was discriminatory to look down upon cultures “without writing” by dismissing these cultures as being of “somewhat coarser quality” of human survival (Levi-Strauss, 1978: 15). The anthropological debate on “primitive” versus “civilized” mind/thinking set Levi-Strauss against Malinowski who wrote the introduction to Jomo Kenyatta’s intimate account of Gikuyu traditional society under the title “Facing Mount Kenya” (1938). Malinowski stated that “anthropology begins at

home”; before European and American ethnographers could proceed to document other cultures of “exotic savages” they first needed to start by knowing themselves first (Malinowski, 1938).

This researcher takes the Afrocentric approach that decolonization of the mind has to: “confront this threat with the higher and more creative culture of resolute struggle” (Ngugi wa Thiong’o, 1986:3). Critical pedagogy which seeks to liberate minds in the post-colony must drink from the old wells which have watered agricultural sustainability since time imemorial in Africa. Recent research by historical anthropologists has revealed that the beginnings of agriculture and food production dates back to pre-historic times in Africa. Agriculture is fundamentally an attempt at human survival; it is a process of cultivating food plants so that greater quantities of their leaves, fruits or roots which are edible to humans and their livestock are available for domestic use. Grains and cereals were domesticated by Luo-speaking peoples of Eastern Africa many centuries ago; the centrality of grains in human affairs is not just for consumptions – grains are also used for the manufacture of yeast which is critical in alcohol production (Onjala, 2019: 118).

A visit to local market places such as Rodi Kopany in Homa Bay County reveals displays of grain products such as yeast (Luo: *thowi*) spread out on mats for potential buyers to make their choice. Millet and sorghum are considered to be indigenous crops in Luo society. In a study of Kenya’s physical and human geography, Ojany and Ogendo (1988) give sorghum, finger millet and bulrush millet as staple crops which have survived in East Africa since time immemorial. They observe that these grains are drought tolerant crops, they withstand poor soils and rainfall; and they can endure high temperatures.

Sorghum is a climate resilient crop which is widespread around the southern part of the Gulf of Nyanza (Luo: *Winam*) in Homa Bay County, Kenya.

The indigenous knowledge of women farmers in Luo-speaking communities is traditionally packaged in folk stories, proverbs and sayings handed down from one generation to the next by old women who are the custodians of folk ways (Luo: *pim*). The gift of story is usually a preserve of these old women who educate the children and grandchildren on old traditions and customs regarding food security and human survival (Cohen and Odhiambo, 1989: 92-95).

In the geographical region around the Gulf of Nyanza in which Homa Bay County lies to the South, old agricultural practices with regard to “subsistence economy’ and “shifting cultivation” are still practically deployed by subsistence farmers: “on the whole, the cultivated fields are very small averaging half an acre, 0.2 hectare each” (Ojany and Ogendo, 1988:122). The major subsistence crops in the Nyanza Region are dependent on the farmers’ indigenous knowledge on rainfall patterns and soil fertility; the indigenous women farmers through informal education and socialization in their communities make choices of climate resilient crops suited for different agro-ecological zones around Lake Victoria. The farmers from experience know what to plant where based on the natural vegetation in those local landscapes. The wild plants are known as ‘safe tellers’ (Ojany and Ogendo, 1988:125) which means that even plants have the gift of story-telling as to what crops should be planted where the wild grasses, trees and shrubs can be found; the indigenous knowledge of the plant geographies in the landscapes and ecosystems. Human beings learn to survive in extreme circumstances even when they are left to their own devices with little or no support. A parallel of indigenous ecological knowledge can be

drawn from Velma Wallis (1994) in her narrative of *Two Old Women* (An Alaska Legend of Betrayal, Courage and Survival).

The story-teller was born in a large family of thirteen children. They lived and were raised according to Athabascan values which enabled them to cope with extreme Northern ice-frozen winters most part of the year. Stories of courage, survival and resilience were told to instruct the children and youth on ways to survive the extreme weather conditions of North America. The story-teller, Velma Wallis, re-tells an old Athabascan Indian Legend handed down from one generation to the next, from mothers to daughters along the Yukon River in Alaska. It is the tale hunger and cold taking their toll upon an indigenous Athabascan Indian Community, their faces: “stricken with looks of hopelessness as they faced starvation, and the future held little promise of better days” (Velma Wallis, 1994:2). The two old women who had been cared by the people in the band for many years were left to die. The younger people thought that it was a waste to feed these two old women who did not have long to live anyway. The two old women left to the vagaries of harsh winter cold said: “let us die trying.” And try, they did by recalling old skills which they learnt from their childhood:

The women went back in time to recall the skills and knowledge that they had been taught from early childhood (Velma Wallis, 1994:43).

The skills and knowledge which they had acquired from their elders during childhood kept them going: gathering food from the frosty wilderness and building shelters which kept them going, and telling stories around the campfire – of two old women who were not expected to survive another Alaska winter. Then the band returned, they were surprised that the two old women did not die; they were still alive because of the

indigenous “skills and knowledge” they had acquired in their early childhood: fishing, hunting rabbits, and sleeping in warm tents they had made from hides and skins of animals: “the men realized that these two women not only had survived but also sat before them in good health while they, the strongest men of the band, were half starved ” (Velma Wallis, 1994:113).

When the men of the band which abandoned the women woke up in the morning to return with the good news that the two old women had survived they were sent off with “packed bundles of dry fish, enough to restore the people’s energy for travel” (Velma Wallis, 1994:123). The skills and knowledge of these two old women, which they were taught in their early childhood, saved the band; the story was told and retold to younger generations in that Athabascan Indian community:

They never again abandoned any elderly person. They had learned a lesson taught by two whom they came to love and care for until each died a truly happy old woman (Velma Wallis, 1994:140).

Learning lessons from old women’s stories has pedagogical value in different cultures of the world; whether among the indigenous Americans of Alaska in the North or the Luo people around the Gulf of Nyanza on the shores of Lake Victoria in Homa Bay County. The resilience of food customs of Indian vegetarian cooking is well celebrated globally and in East Africa (Adiraja Dasa, 1989).

Among the Luo-speaking peoples of East Africa, the oral narrative tradition has been kept alive by women story-tellers such as Grace Ogot (1930-2015); Marjorie Oludhe-Macgoye (1928-2015); and Asenath Bole Odaga (1938-2014). These women story-tellers relied on Luo oral literature and folklore to teach their audiences useful lessons as

members of society. The story-telling tradition was a useful tool for teachers in the the lower primary classes. Teachers such as Yukabed Obuya Otieno (1929-2001) used folk songs and storytelling in Dholuo as she taught many generations of children at Kamagambo Primary School in South Nyanza for almost four decades from mid-1950s to mid-1980s. This was the generation of teachers who valued Mother Tongue Education in the mid-1960s and early 1970s. A dedicated breed of educationalists such as E. W. Gachukia; S. S. Gachuhi; A. Nimrod; E. Gatua; M. Muhoro; A. Odundo; S. Dulo; and D. Ongile worked tirelessly under the Ministry of Education's Curriculum Development Centre which evolved into the Kenya Institute of Education. An example of the supplementary readers was the TKK Dholuo Kenya Primary Course (1967). There were titles such as *Akeyo Olal E Chiro* (Akeyo Gets Lost at the Market) under the TKK series. The course materials were developed in various indigenous Kenyan languages. A critical evaluation of school textbooks reveals that books were grounded in culturally relevant contexts and they incorporated grammars of social norms (Dubin and Olshtain, 1986: 122-124).

Kenyan woman writer and folklorist Asenath Bole Odaga (1994) captures the Luo proverb on food security which declares that: *Jakech ok or e dero* (A person subjected to prolonged hunger is never allowed in a storehouse for grain). If the person suffering from hunger is allowed access into the granary, then the strategic food reserve might be depleted to the nutritional disadvantage of the entire household. The storehouse for grain is guarded jealously and only members of the household are allowed access. The Luo proverb: *Jakisuma ok or e dero* (A person begging for some grain is never sent to the storehouse for grain). This proverb has the same pragmatic meaning of jealously

guarding the storehouse for grain in a Luo homestead (Odaga, 1994:30). When hungry relatives arrive in a Luo homestead to seek food relief, they are never given free access to granaries. Food rationing is part and parcel of indigenous knowledge for food security.

Luo proverbs on food security need to be incorporated into formal agricultural education and extension programmes in order to dealing with food insecurity in rural households by avoiding wastage. The deeper meaning of these proverbs reveals that those in authority should not abuse their positions when they have access to strategic food reserves. Systemic corruption in East Africa with regard to storehouses for grain is captured by Joseph G. Healey in his narratives of wisdom and joy in East Africa. He tells the story of President Julius Nyerere of Tanzania who disguised himself as a begger during a national food crisis in 1974. President Nyerere put on tattered clothes and wore an old hat; he then went to the offices of the National Milling Company of Tanzania and asked for some grain from the manager who did not recognize him. The manager told the strange looking old man to go away and stop bothering him. Meanwhile, the corrupt staff continued with their corrupt deals as Mwalimu Nyerere observed them; he cried out for help but nobody in the office paid attention to his plea for food relief.

There is an African proverb which states that the hunger in a neighbour's house does not bother someone: "A satisfied person does not know a hungry person" (Healey, [2004], 2010: 69). As the old strange looking begger cried out, the manager continued to do business with corrupt traders who were buying the famine relief food meant for poor Tanzanians. In this narrative of the wisdom, President Julius Nyerere eventually removes his old hat and reveals himself to the corrupt officials who were abusing their positions of access to the storehouses of grain meant for food relief to the hungry. President Julius

Nyerere fired the corrupt manager and all the assistants who were engaged in selling food relief supplies to corrupt traders. The moral of the story is that some people should not be entrusted with storehouses for food because they might abuse that privilege (Odaga, 1994: 31).

Oral testimonies and life-stories are an integral part of African indigenous education. African narrative traditions use stylistic techniques of stories within stories or flashbacks as depicted in Ngugi wa Thiong'o's novel "Petals of Blood" in which the writer borrows from the African oral narrative tradition of life-stories. A textual demonstration of the genre of life-story is that of the tribute to Grace Ogot during her funeral ceremony where little narratives were printed alongside the main biographical narrative. One of her nephews wrote a brief testimony (a story within a story) narrating the following: "Mama Grace Ogot was my mother's younger sister. I only got to know her well in 1955 when I was seven years old. She was part of our family; she would always ensure that we remained clean and happy" (Fred Ogumbo, 2015: 12).

In celebrating the life and times of his aunt, the nephew recalls that Grace Ogot bought him an *Abisidi* (a small foot-ball) in the area of Seme-Kowe which made him the envy of many boys among his peers in the entire Jusa Village. The little boy recalls how he walked eight miles from his village in Seme-Kowe to the Maseno School Chapel to witness the wedding of Grace Akinyi and Bethwell Allan Ogot in 1959; during the wedding reception, the little boy ate as much cake as his appetite could allow him. The nephew to Grace Ogot concludes his testimony by saying that during his adulthood, she became a role model of African motherhood: "her kindness was beyond reproach. She was a diplomat and always remained firm" (Ogumbo, 2015: 12). From this testimony of a

close relative of an internationally acclaimed African woman story-teller, lessons are learnt from her hospitality and motherly care; loving kindness of an aunt; and diplomacy tempered with firm leadership in the family, the Luo community and Kenya at large.

In pedagogical contexts, Fr Joseph G. Healey (2010) states that stories about people, places and events within the community can deepen identity and belonging by helping individuals, families and nations. He gives the pedagogical term story a wider contextual meaning to include: oral and written narrative forms; folktales; historical fiction; legends; myths; parables; poems; prayers; proverbs; sayings; and songs. He also includes true stories from the African experience; his own and that of others people. They all have pedagogical value since stories are so designed to empower and challenge the people; to inspire, uplift and motivate listeners to greater levels of human achievement.

In Luo society, stories are told of days of plenty and days of hunger; days of joy and days of sorrow as we can see in *Ahero Dhowa: Sigandwa* (I Love Our Language, Our Folklore) (cf. Dulo, 1980: 15-18). Stories about food security are often told in order to teach people about survival during hard times. The eponymous character Okal Tako in Dulo's short story is symbolic of extreme greed; the man went into a home then ate too much of everything offered to him resulting in his untimely and tragic death. In Luo folklore there is the saying: *Ich lach ne onego Okal Tako* (Greed led to Okal Tako's tragic death). People are advised to eat just enough to keep healthy and strong; over-indulging in food and drink is frowned upon as can be learnt from this pithy saying about Okal Tako (Dulo, 1980: 19).

Learning lessons from documented/written and non-documented/oral sources happens often in African scholarship. The production of African indigenous knowledge by women story-tellers such as Asenath Bole Odaga needs a brief mention at this point. She is seen through the eyes of a former colleague, Chris L. Wanjala, who depicted her in a narrative as “an Africanist and a prototype worker in African studies” (Tribute by C. L. Wanjala: Friday 26th December, 2014). He was of course looking at contemporary scholars associated with the then Institute of African Studies of the University of Nairobi over the years from its inception in 1970 to the present; the tribute had rich life-stories of an institutional establishment dealing with African scholarship. It has kept mutating into different life-forms but retaining the original folk resilience encapsulated in narrations of indigenous knowledge systems in “the eternal quest of meaning,” (Healey, 2010).

2.6 African Sagacity, Food Security and Narrative Pedagogy

In African narrative pedagogy, there is need for “creative imagination” and “critical thinking” across the curriculum in Kenyan formal, informal and non-formal educational programmes (Kemoli, 1978; Indangasi, 2018). Agricultural extension and sustainable development discourse on food security can benefit from adopting the “golden mean: a non-antagonistic combination of indigenous and non- resources” (Okoth Okombo, 2001: 8) while embarking on the epistemological task of knowledge production.

The place of women in agroecological conservation is paramount in epistemological contexts. The significance of women in agricultural production, environmental conservation and food security based on indigenous knowledge systems must necessarily be reclaimed for sustainable community development (Maathai, 2006; 2009; 2010). The feminine principle of productivity is well rooted; the mythic consciousness as witnessed

in many folk stories is the basis of situated indigenous knowledge. In Luo society, the folk story of Nyanam who made Nyamgondho Wuod Ombare fabulously wealthy comes to mind. In Luo mythology, the feminine principle works in critical areas of human survival such as food and nutrition but healing also derives synergy from the same source (Onyango Ogutu and Rosceo, (1992; 1974, 139-143).

In different cultures of the world, woman engaged in a journey to the inner-self passing through several stations in life by nurturing her own household from conception to gestation, from birth to adulthood; with the bread for life, meat for strength and the ever-nourishing spiritual milk of sustenance:

She is not just a fertility deity whose emblem is the ever replenished storehouse of the harvest home, but wields the double-axe symbol of earth and sky, matter and spirit (Begg, 1984: 81).

Woman always presides over the moral economy and ethical boundaries as the foolish legendary character, Nyamgondho Wuod Ombare, soon discovers when he treats the mystical Nyanam with didsdain. As moral retribution, the mysterious woman who was fished out of the water withdraws from Nyamgondho's homestead with all the wealth which she helped to accumulate; she disappears into the depths of lake never to be seen again. Nyamgondho watches in disbelief and dies a poverty-stricken and heart-broken man. In Luo mythology, the lake holds a lot of mystical secrets about life and death; food and hunger; wealth and poverty. The secret struggles of womanhood in a narrative approach to social transformation can be gleaned in the character Nyanam; she is indeed a critical archetype in folk media inquiry into holistic survival of humanity. A narrative approach to pedagogy of social transformation enables communities to come to terms

with their development priorities. Bruce Bradshaw (2002: 24-30) has outlined major functions of cultural narratives deciphered from oral literature and folklore as follows:

- i) Explaining and legitimizing human behavior
- ii) Cultivating individual self-concept
- iii) Fostering collective identity
- iv) Empowering people to shape their histories
- v) Fostering the creation of traditions and customs
- vi) Communicating beliefs, virtues and values
- vii) Providing a basis for evaluating morality and ethics
- vii) Providing a vision for the future

From the above outline, it can be said that indigenous knowledge systems and food security provide opportunities for cultural narratives of human survival. The cultural narratives of food and nutrition help in understanding how society operates in terms of gender roles: women and men; girls and boys; mothers and fathers; sisters and brothers all have roles to play in African family settings. From Bruce Bradshaw's outline of cultural narratives, food and nutrition legitimizes certain human behaviours; helping individuals to develop self-concept by socialization through food production activities; and fostering family identity in terms of what roles people play in ensuring food security in the household.

The cultural narrative approach to critical pedagogy helps the people to shape their histories in terms of what their ancestors used to eat several generations ago and the culture shift leading to what the contemporary society relies upon as staple diets. Cultural

narratives help in pedagogical reflections on whether or not contemporary Kenyan families are food secure changing their dietary habits from traditional to exotic foods (Maundu, Ngugi and Kabuye, 1999: 3). Cultural narratives foster food traditions and customs by transmitting beliefs, virtues and values to the next generation. The cultural narratives of food and nutrition provide an ethical basis for natural resource utilization in communities. The cultural narratives of food security provide a vision for the future (Bradshaw, 2002: 30).

Indigenous Oriental philosophies have given rise to a global awareness of spiritual ecology which has gained ground in the New Age Movement based on the feminine principle (Duerk, 1989; Estes, 1993). Critical discourse analysis of feminisms and power relations from the African world and spiritual ecology in the context of New Age Movement have emphasized the feminine principle both explicitly and implicitly (Nnaemeka, 1998). The feminine principle is from the wisdom of indigenous African thinkers (Oruka, 1991). Agricultural extension workers can learn from African women sages about the wisdom, knowledge and skills of past generations; the cultural heritage of a people can be retrieved from the custodians of old food traditions and then retold to the younger generations for their own survival. This is what is echoed by Thomas R. Odhiambo, formerly of ICIPE, when he states that research and development programmes in the knowledge industry must be designed with the “problem of sustainable tropical agriculture in mind” and with emphasis upon “the new imperative for Africa’s agricultural production, to create long-term security in food and nutrition,” (Odhiambo, 1994:54).

Since women are critical in food production in Africa, as they are in indigenous contexts elsewhere, their narratives of resistance to oppression and role in food security need to be collected, documented, analyzed and used in educational contexts to bring about liberation and hope. The younger generations in urban and rural Kenya need to learn lessons from the life-stories of older women farmers operating within the cultural landscapes of the devolved units of governance structures like Homa Bay County. The younger people need to learn lessons from the older women farmers who are the custodians of food and subsistence crops namely: “millet, cassava, sweet potatoes, maize, bananas, beans, groundnuts, and vegetables of which there are numerous wild varieties,” (Ojany and Ogendo, 1988:125).

It should be noted that landscapes are not limited to physical terrain only; cultural landscapes evoke the land to be cultivated by specific people in the community, and traditions which guide how people work on the land. It refers to *piny* (territory) *thur* (home ground) and *lowo* (reproductive soil (cf. Cohen and Odhiambo, 1989:9). Traditional food plants are therefore an integral part of the cultural landscape of a people. Women farmers operating within cultural landscapes in Luo society can be understood not only in contemporary folklore, but also in oral tradition captured by story-tellers. Paul Mboya captured Luo cultural landscapes in his ethnographic works: *Luo Kitgi Gi Timbegi* (1938) and *Richo Ema Kelo Chira* (1978). He also wrote a memoir which detailed his visit to the United Kingdom; the narrative was entitled *Wadhi E Coronation* (1953).

In the memoir, Paul Mboya compares agriculture in Britain and in South Nyanza concluding that Luo people had a lot to learn from British colonial agriculture. Paul Mboya’s appreciation of British agriculture was understandable given the fact that the

Queen of England decorated him with the prestigious Member of the British Empire (MBE) medal of honour. The man who had trained as a teacher and evangelist in Adventist institutions served as a local pastor in the Seventh day-Aventist Church. He was installed as Senior Chief of Karachonyo people in the early 1930s; ultimately, he became the Secretary of the South Nyanza African District Council in 1946. It was in this capacity that Paul Mboya and other eminent Africans attended the Coronation of Queen Elizabeth II of England; as a loyal subject to the British Crown and civil administrator in South Nyanza District, with his headquarters based in Kisii Town, Paul Mboya travelled to all parts of his jurisdiction to preach the gospel of colonial agricultural practices (Mboya, 1953).

British Council organized field trips through the Study Tours and Courses Section which was headed by Mr. H.J.Boote: he organized all the educational tours for African colonial administrators to learn from British agriculture. Paul Mboya states in his memoir written in Dholuo that: *Naneno kendo napuonjora gik ma wiya ok nowilgo e ngimana duto*. This translates as: “I saw and learnt things I will never forget all the days of my life” (Mboya, 1953: 8-10).

The ethnographic narratives of Paul Mboya based on Luo cultural landscapes have pedagogical value in the codification and transfer of indigenous knowledge for food security. These narratives or stories he tells touch on most aspects of anthropological locations; grounds and fields which are of interest in this research project on food security and indigenous knowledge of women farmers in Homa Bay County.

There is the contextual dilemma of the old and the new, however, since a balance in blending tradition and modernity is necessary. How can African women farmers keep old wine with all the traditions and customs of indigenous agricultural knowledge in new wineskins of modern agricultural methods in rural Kenya? How can agricultural extension workers in rural Kenya draw waters of indigenous knowledge from the old springs and fountains of past generations? John Gatu of the Presbyterian Church of East Africa believed that it was possible to be “joyfully modern and truly African” in cultural adaptations to globalization. He advocated for a social gospel which preached “The Old Truth” in an increasingly globalizing world which he calls a “New Age” (Gatu, 2006: 52). This would mean that African women farmers and extension workers would have to find ways of resolving the contextual dilemmas in African cultural landscapes (Scharfstein, 1989). This is indeed the struggle for epistemological freedoms to know and practice what is relevant to the local people; but this would have to be actualized in a global context since the world is becoming a global village (Ngugi, 1993).

2.7 African Cultural Knowledge and Natural Resources

The ethnographic work of Paul Mboya entitled *Luo Kitgi Gi Timbegi* is probably the most influential book by indigenous thinker and sage ever to emerge from Luo society since 1938 when it was first published. It covers different facets of Luo cultural knowledge ranging from motherhood to child rearing; marriage and family life to customary laws and religious beliefs; agriculture; livestock; and fisheries to traditional medicines; witchcraft and exorcism, among others. The work looks at culture as knowledge in terms of possibilities and limitations of space for both individuals and the community in general. The ethnographic narrative gives the processes which a young woman goes

through from the time she is a dependent daughter-in-law to the time when she becomes the owner of her own house who could make decisions on what to cook for her husband and children:

*When a woman went to cook on her own, her mother-in-law gave her the following: a pot for cooking ugali, a pot for porridge; a dish for serving fish, a dish for serving general food, a winnowing tray; a food basket; a flour basket; a pot for collecting water; a cooking stick for ugali and other things she may need. The winnowing tray was given out with millet.
(Translation of Luo Kitgi Gi Timbegi by Jane Achieng, 2001:78).*

This excerpt from Jane Achieng's translation of Paul Mboya's work depicts the transition from semi-autonomous status of a daughter-in-law to being a fully autonomous head of her own household as far as food security is concerned; the mother-in-law is still the recognized mentor but she must take charge of food matters in her own household according to cultural norms in Luo society. The young woman is traditionally apprenticed to her ageing mother-in-law who guides her on how to ensure food safety and security but she must take charge in her new kitchen after the ceremony of *keto kendo* (establishing the fireplace).

Paul Mboya was a multi-talented leader of Luo Union (East Africa). According to Odera Oruka (1991:37), Paul Mboya served the Luo society in different capacities as teacher, pastor and Chief of Karachuonyo in Southern Nyanza region. He was regarded as a sage and spiritual leader of the Luo Union (East Africa) with the title of *Ker* (elder) whose work was held in high esteem when it came to traditions and customs. In Luo cultural contexts, polygamy was the norm, but the first wife (Luo: *Mikayi*) was given her rightful place of pre-eminence in all cultural matters (including agriculture and food production). Paul Mboya in his book *Richo Ema Kelo Chira* (1978) states what the cultural context of

Luo family structure. The food security narrative is also captured and contextualized by Oginga Odinga who was a political personality and ethnographer in his own right as follows:

The women were ready with food at about seven o'clock and the elders sat in their respective offices to be served with it. The children from each hut had to carry the food to the elder and this was the time that the sons joined their fathers to enjoy the food prepared in various huts. Some women had cooked vegetables, others fish, meat or chicken. But the elders were strict about our eating, encouraging us to eat more kuon or cassava, rather than meat, and reprimanding the boys who ate greedily (Oginga Odinga, 1967: 8-9).

The role of women in food security in traditional Luo society is captured in Oginga Odinga's autobiographical narrative. In the Luo polygamous homestead which he describes, there are distinct gender roles of each member of an extended family. The narrative describes the cultural context of food production in an extended family and the community as a whole. In Luo mythical representation, women were the first to cultivate the land; culturally-speaking, women were the custodians of food security in the household. In Luo mythology, there is a parallel of an Edenic era when people did not have to work the land; everything happened miraculously if customary procedures were followed correctly. Before cultivation was introduced into the Luo agricultural landscape, people used to enjoy a life free of labour in a pristine Edenic world quite similar to what is described in Genesis 1:27-29. In this excerpt which narrates the creation of Adam and Eve we are told:

God created man in his own image, in the image of God created He him; male and female created He them.

And God blessed them, and God said unto them, be fruitful, and multiply, and replenish the earth, and subdue it: and have dominion over the fish of the sea, and over the fowl of the air, and over every living thing that moveth upon the earth.

And God said, Behold, I have given you every herb bearing seed, which is upon the face of all the earth, and every tree, in which is the fruit of a tree yielding seed; to you it shall be meat.

(The Original African Heritage Study Bible, 1993).

In Luo folklore, the story is told of those days long time ago when God spoke to human beings and guided them in all their affairs:

Men and women got their food and satisfied their needs with scarcely any suffering, and often with no suffering at all (Onyango-Ogututu and Roscoe, 1974; 2011:47).

This situation changed when God spoke to the newly married Bride, a young woman who was told:

Take your hoe to the garden.....when you get there, cut the ground once and leave the hoe alone. Your garden will then look after itself, digging, weeding, and finally, even harvesting itself, (Onyango-Ogututu and Roscoe, 1974; 2011:47).

The young woman, who was a newly married bride, did not obey the voice of God. She took the hoe to the garden and cultivated the land by cutting the ground herself without letting the magical hoe to do its work. In hegemonic patriarchal hermeneutics, this act was interpreted as disobedience in the eyes of God who then pronounced His verdict on the newly married bride that from that time hence, she would have to till the land without the help of the magical hoe doing the work of cultivation:

Now you must dig for the rest of your life and your food will grow as a result of your sweat. Woe to your children and your great-great grandchildren! They must all from on labour for their food (Onyango-Ogututu and Roscoe, 1974; 2011:47).

In Luo folklore, this narrative is often on the lips of people when they explain the mythological origin of land cultivation which is attributed to a young bride who did not follow the instructions of God concerning the miraculous hoe which could do all the cultivation on the land on behalf of the people (Taban lo Liyong, 1972: 58). The version of Taban lo Liyong tells the story of people who lived in an idyllic context where manual labour of cultivation was unheard of; all that the people needed to do was to take their hoes to the garden and leave them there over night till the next day and they would find the cultivation already done. The same applied to weeding; harvesting; and even bringing the harvested crop home for storage: things used to happen miraculously but only if one obeyed the voice of God. This trend continued till a new bride arrived in the village. The Luo people have the saying: *Osioko ni ngenya nyar kawuono* meaning that: “The new bride comes into the scene without any clue and spoils everything” (interpretation my own). The new bride thought she knew what to do but she ended up messing up the entire humanity who now have to eat from the sweat of their brow: she struck the ground several times then left the hoe there on the ground over night but when people came in the morning, they found out that the ground was still intact. No cultivation had miraculously taken place as before; soon it was discovered that the young bride did not do as she was told.

This Luo folktale seems to suggest that there was an equivalent of the Garden of Eden when human beings did not have to work; food plants were provided miraculously which means they did not have to sweat in order to eat. This folktale of how human beings were forced into working the land has preoccupied cultural anthropologists for a long time. In Africa, there are numerous proverbs and sayings to the effect that women are the source

of all human suffering: if they are the cause of all evil in the world, then how come women are the ones who nurture young lives from infancy to a state of relative autonomy? Why must they go through the pain of birthing every new life? The answer lies in archetypal symbolism in the discipline of mythology which tries to explain things which have no direct answers. Anthropologists seem to think that proverbs if analyzed in context can help in confirming norms and values in a given society (Schipper, 1991:3).

The philosophy and wisdom based on time tested teachings about myths and parables rely on metaphorical meaning; parables and myths are stories about reality and are meant to have pedagogical value in society (Wanjohi, 200: 66). In many different cultures of the world as expressed in proverbs and sayings; myths and legends; parables and metaphors, women are depicted as subordinate to men and yet they are also seen to command the wrath of nature and mete out punishment or grant reward as witnessed in the folktale of *Simbi Nyaima* in Karachuonyo where a whole village perished because they did not extend hospitality to an old woman in need. Only one family who hosted the strange woman got saved from the deluge. This family offered hospitality to the strange old woman in need and comforted her; all the carousing villagers who sent the old woman away drowned in what is today Lake Simbi Nyaima in Karachuonyo (cf. Ogutu and Roscoe, 1974: 138-139).

The Biblical narrative gives reason for the fall of humanity in the Garden of Eden as disobedience to His command against partaking of the forbidden tree when God told Adam:

*Cursed is the ground for thy sake; in sorrow shalt thou eat of it all the days of thy life;
Thorns also and thistles shall it bring forth to thee; and thou shalt eat the herb of the field;
In the sweat of thy face shalt thou eat bread, till thou return unto the ground; for out of it thou were taken; for dust thou art, and unto dust shall thou return (Genesis 3:17-19).*

The Original African Heritage Study Bible (King James Version, 1993) from which the narrative is based is an interpretive version of Biblical texts from an African perspective. The basis of this interpretation comes from the ideological position that the Bible is as much African as it is Western in both form and content; it locates the Garden of Eden in the Nile River Basin stretching to Ethiopian Highlands which is equated to Gihon River (Blue Nile) and Lake Victoria in East Africa which is the source of Pison River (White Nile). It should be noted that these are interpretations by African-American theological scholars based at Howard University in America seeking to appropriate some of the Biblical narratives for identification purposes. Be that as it may, the mythical significance of the creation story in African Christianity is not in doubt. The power of Biblical narratives helps in understanding human experience; however, Occidental literatures and folklores which used to include Hebrew, Greek and Latin were dropped from the curriculum in most institutions which means that a whole tradition of “mythological information was lost” (Campbell, 1991 [1988]:2).

In Biblical as well as African folk narratives, it is evident that the back-breaking hard work of land cultivation is mythically attributed to the disobedience of the woman. Could this be the patriarchal explanation for women and the children who are the offsprings of their wombs being assigned the role of digging, weeding and even harvesting crops in most African societies? Kenyan writer, Grace Ogot, in her Luo novel *Miaha*, translated

by Duncan Okoth Okombo as “The Strange Bride” tells the story of how people started cultivation of the land owing to the disobedience of a newly married woman. The main character, Nyawir nyar Opolo, is a dazzling beauty but she is headstrong. She never listens to her husband, Owiny, and even her mother-in-law Lwak, who is the custodian of the golden hoe which worked magic by simply being placed on the garden overnight and the land would cultivate itself. Nyawir nyar Opolo did not do as instructed; she dug the land several times, consequently earning the wrath of God, *Were Nyakalaga*; and to the chagrin of the people of Got Owaga.

In most folk tales of the world, the pedagogic value is to “instruct, renew and heal” the people:

The story is not told to lift you up, to make you feel better, or to entertain you, although these things of course can be true. The story is meant to take the spirit into a descent to find something that is lost or missing and to bring it back to consciousness again. (Source: Clarissa Pinkola Estes’ interview with Isabella Wylde for Radiancance Online Magazine, Winter 1994 Issue).

The Jungian-trained psychoanalyst and cantadora in the Latina tradition says that:

The ultimate gift of story is two-fold; that at least one soul remains who can tell the story and that by recounting the tale, the greater forces of love, mercy, generosity and strength are continuously called into being in the world (Estes, 1993:3).

In Eastern and Central Africa, stories (whether fiction or non-fiction) have been used to depict cultural landscapes and the management of natural resources. This includes the pedagogy of indigenous knowledge for food security with women farmers as the main actors. In work done by the African Centre for Technology Studies in the 1990s, the role of women as managers of natural resources was a major area of concern. Women as

custodians of natural resources and food security are an integral part of the cultural landscapes which determine possibilities and limitations of spaces in rural Africa. Kenyan cantadora and oral artist, Wanjiku Kabira, examines the role of storytellers in environmental management when she declares that:

The woman storyteller preserves the environment through her stories, and these stories can be revisited for use in re-construction of the environment (Wanjiku Kabira, 1992:67).

In her article “Storytellers and the Environment,” she states that through oral culture, one can “rediscover the types of herbs, bushes, trees and food crops that are no longer tendered in communities” but need to be reclaimed for rehabilitation, preservation and conservation by future generations. Wanjiku Kabira narrates the life-story of one environmental manager, Alice Wanjira wa Rukenya, who was then aged 54 and had a family of six children (four girls and two boys). Her husband, Jason Rukenya, was about 60 years of age at the time the story was recorded. Wanjira was acknowledged as an educator through storytelling in the community, always imparting critical information about agriculture and food production to her children and grandchildren. Living on a three-acre farm in Kirinyaga, Central Region of Kenya, the family could grow a variety of food crops namely: maize, beans, potatoes, pumpkins, cassava, guavas, arrow roots and sugarcane. In addition to being a successful farmer using age-old agricultural knowledge she acquired from her parents, Wanjira is often called upon as a resource person in local schools within Baricho area of Kirinyaga County.

In one of Wanjira’s stories, there are two brothers (from one father but different mothers). This is a common cultural motif in African folklore where the mother of one of the boys dies when he is still very young. He is left under the care of his step-mother who is very

harsh to the young boy. Her hostility to the boy whose mother died is not known to the father for she keeps her feelings secret. Since Muciimi, for that is his name, has no protection from his dead mother and his clueless father, he has to take refuge in Nature which offers him protection. Nature is ever benevolent to the herd's boy who learns many secrets from the plants, animals, rivers and even salt-licks used by both human beings and livestock. The step-brother, Kathanji, does not get the benefit of learning from the environment because the jealous mother shields him from tasks like tending the cows. The narrative touches on different aspects of the environment through the experiences of the herd's boy, Muciimi. Wanjiku Kabira (1992:3) concludes that such stories with environmental thematic concerns should be documented and preserved for use in the education of future generations. She further states that the indigenous knowledge of oral artists like Alice Wanjira wa Rukenya, especially on the ethnobotanical nomenclature (local names of plants), should be documented and the vanishing plants named and rehabilitated for agricultural production in the community.

2.8 Language, Folklore and Ecology

The word folklore according to Charlotte Burne's definition in the *Handbook of Folklore* (1913) is:

The generic term under which the traditional beliefs; customs; stories; songs; and sayings; current among backward peoples, or retained by the uncultured classes of the more advanced peoples...It is not the form of the plough which excites the attention of the folklorist, but the rites practiced by the ploughman when putting it into the soil.

(Oxford Dictionary of English Folklore, 2000; 2003:130).

In the class conscious British society, this term folklore was reserved for the so-called “uncultured” classes and “backward” peoples of the world. These are the people who Paulo Freire many decades later would seek to empower through his seminal work *Pedagogy of the Oppressed* and Franz Fannon would seek to uplift in his narrative *Wretched of the Earth*. In intellectual history, social class struggles were politically triggered by the publication of *The Manifesto of the Communist Party* in 1848 in London by Karl Marx and Frederick Engels. History has witnessed many struggles in different cultures of the world with working class peoples of all countries being called upon to unite, for they have nothing to lose except their chains. This spirit of revolution is captured by Paulo Freire in his many critiques of oppressive systems which subjugate all peoples (African women included) against their will by labelling their folk ways “backward” and “uncultured;” the oppressed people of the world must be allowed the right to explore the role of their indigenous customs and traditions in a global politico-economic order. The competing power interests which call indigenous agricultural practices “primitive” seek to impose the will of dominant Western interests upon local populations and obliterate their cultures. Ngugi wa Thiong’o has observed this scenario and encourages the use of indigenous languages which he calls the “National Heritages of Africa” (1986: 22).

Indigenous knowledge for food security is best understood in African languages of the community. A number of cultural and linguistic resources are increasingly available in African languages can aid the study of pedagogy, indigenous knowledge and food security both locally and globally. These indigenous resources include Okumba Miruka’s *Oral Literature of the Luo* (2001); *Encounter with Oral Literature* (1994); *Studying Oral*

Literature (1999); among many other works on oral testimonies and life-stories in Luo-speaking regions of East Africa. Other resources which inform the landscapes include Asenath Bole Odaga's *English-Dholuo Dictionary* (1997); John O. Kokwaro's *Luo-English Botanical Dictionary* (1972); John O. Kokwaro's and Timothy Johns' *Luo Biological Dictionary* (1998); and Carole A. Capen's *Bilingual Dholuo-English Dictionary/Kenya* (1998).

The best example of how linguistics, especially pragmatics, can be applied in agriculture and rural development is a study conducted by Lucia Omondi (1992:75) in Siaya County. This was an attempt at applying pragmatics, as a branch of linguistics, in the area of agricultural extension. She proposes that agricultural development strategies involving women farmers should take into account effective communication methods using local languages in the catchment areas. She postulates that communication is usually a problem in these contexts when rural women farmers do not understand English or Kiswahili in some parts of Siaya County:

There is usually a gap between the people involved in rural farming and the people with the message and the ideas necessary to effect development (Omondi, 1992:78).

It is ironical that the British Colonial Administration in Kenya paid a lot of attention to indigenous language through missionaries in different parts of the county. In the Nyanza Region, Catholic, Anglican and Adventist missionaries published a lot of oral literature and folklore materials which were used in schools to promote vernacular education. After the New Primary Approach was launched by the Ominde Commission of 1963, vernacular languages were more or less outlawed in schools. The Kenya Institute of

Curriculum Development has in the recent years made feeble attempts at re-introducing what is called Mother Tongue in the lower primary school curriculum, but no attempts have been made to upgrade its teaching to upper primary and secondary school levels.

Reference materials such as encyclopaedia and dictionaries in local languages based on agroecological zones would be necessary in educational programmes. Bilingual dictionaries in Luo/English, for example, have been compiled by John Kokwaro (Luo-English Biology Dictionary, 2013); Odaga (English-Dholuo, 1997); and Capen (Dholuo/English-Kenya, 1998). These lexicographic resources can be great pedagogical value for agricultural education and extension workers in Luo-speaking areas of the Nyanza Region of Kenya and beyond. In curriculum innovation for non-formal education, indigenous knowledge has a critical role to play in competence-based adult learning programmes. Non-formal education is as old as education itself. In African folklore, non-formal education is encapsulated in oral narratives, proverbs and sayings, religious beliefs and moral values, local histories and ecologies were handed down to younger generations by word-of-mouth, observation and participation in community life (Thompson, 1995: 1-2). In non-formal educational programmes, various folk media such as songs and dances can be used during agricultural demonstration events at grassroots levels; critical indigenous pedagogical tools such as narrative songs to the accompaniment of Nyatiti musical tunes can be very effective in dissemination of information about agricultural practices and local ecological knowledge (Dakwa, 1986: 150-151).

Informal education is part of socialization as we have seen in the narrative of the Luo girl from infancy to marriage (Ominde, 1987:51) when life changes for her as she assumes responsibilities of womanhood; the task of helping a bride into her new family is a community affair but under the authority of her mother-in-law (Luo: *dayo*) who in turn is subject to censure from her peers if she is deemed to be harsh when inducting the new daughter-in-law into the family. It is a period of learning and adaptation for the young woman: indigenous ecological knowledge is at the core of the food security in the rural African family at this particular point in time.

In the critical pedagogical model of placing indigenous knowledge at the centre, all the formal education; non-formal education and informal education systems have to meet at the core: the indigeneity of womanhood and food security are located in the very soul of human survival (Wallis, 1993) as we saw in a tale of two old women who were the custodians of indigenous ecological knowledge in the Alaskan legend reviewed earlier in this study. Learning lessons from experiences narrated by elderly women farmers by girls and young women can be encouraged in both formal and non-formal educational contexts. There is need to draw from the sagacious reasoning and traditional wisdom of such custodians of ethnophilosophies and indigenous ecological knowledge (Oruka and Juma, 1994:115-129) in the African epistemological context based on the life-stories of women farmers in this study.

In the 1990s, the African Centre for Technology Studies and the African Academy of Sciences laid the philosophical foundations for research-driven production of knowledge, documentation and dissemination of information through a series of international conferences, seminars and workshops held in Nairobi, Kenya. During that epoch of

African intellectual history, the women's movement engaged in both advocacy and production of knowledge through close interaction of national, regional and international networks; the Association of African Women for Research and Development (AAWORD) for instance, was at the vanguard of the cultural struggles in the final decade of the 20th Century.

The collective synergies of the women's movement of the 1990s was personified in the archetypal mother, Wanjiku, who in Kenyan contemporary folklore, fought for a new political dispensation leading to the promulgation of the Constitution of Kenya 2010; the basic law document took many years of struggle to write and complete with a comprehensive Bill of Rights enjoyed by all citizens. The history of constitution-making has witnessed the recognition of cultural heritage as the foundation of the modern nation-state of Kenya.

In Chapter 2 of the Constitution of Kenya 2010 Section (11) dealing with culture as the cumulative civilization of the people, it is stated that the State shall in Section (2) (a) promote all forms of national and cultural expression and in Section (2) (b) recognize science and indigenous technologies in the development of the nation (Constitution of Kenya, 2010: 24-25). The Constitution further provides for Parliament to legislate on the recognition and protection of indigenous seeds and plant varieties, their genetic and diverse characteristics and their use by the communities of Kenya. The legislative agenda of Parliament after the promulgation of the Constitution of Kenya 2010 has been a long one; freedom from hunger which is a euphemism for food security is prominently anchored in Article 43 (1) (c) which states that every person has the right to: "adequate food of acceptable quality" (cf. AWSC, University of Nairobi, 2014: xv).

The attempt by Omondi (1992:81-83) to work out a word list along semantic fields such as the items given below are pragmatically in agricultural extension work:

Luo	English
<i>Lowo</i>	Land
<i>Tich e Puodho</i>	Farm Activities
<i>Gige Tich</i>	Farm Implements
<i>Cham</i>	Crops
<i>Buya</i>	Weeds

Table 2.7 Sample of Agricultural Terms (Source: Omondi, 1992)

As a sociolinguistic approach, it becomes necessary that the agricultural extension worker and the farmer work together in a manner that creates conceptual understanding where there is no translator available. The challenge is that the county governments in Kenya have not addressed themselves to the need for adequate agricultural extension workers in the counties.

The biggest challenge is that there are a few extension officers, which often results in poor disease management. These pests and diseases can wipe out the entire crop in days if no proper measures are put in place. We need counties to employ more extension officers who will help to identify, monitor and recommend the best control mechanisms. (cf. Joakim Samoei, a Farmer from Uasin Gishu County by Stanley Kimuge, Daily Nation, Saturday December 29, 2018 “Seed of Gold Magazine” p.22).

The challenge of having shortage of extension workers who are socio-linguistically competent to handle complex agricultural issues requiring environmental problems is something which may need critical policy interventions at national and county levels. This study of the pedagogical value of indigenous knowledge for food security with women farmers in Homa Bay County in mind is largely a sociolinguistic endeavor; the genre of life stories of the women farmers are important for textual and discourse purposes (cf. Omondi, 1992:78).

Among the Luo-speaking people of East Africa, agriculture is a highly ritualized activity. A ritual in religious or secular contexts as activities repeated in regular and predictable ways as in agricultural practices. This includes land cultivation; seed preparation; planting and propagation; weed control; harvesting crops; and storage of the harvested crops. Ritualized activities in food production may include handling and cooking of food to be served to different categories of members of the family and/or guests in the household. Grace Ogot (2012:7) in her autobiography talks of *simsim* (Luo: *nyim*) as being a food of ritual significance in the offering of sacrifices to ancestral spirits and in traditional Luo wedding ceremonies.

Indigenous knowledge on traditional agriculture was transmitted from one generation to the next through informal channels: “people who gathered around the fireplaces learnt a variety of things such as instruction on how to be a successful rarer of animals” (Oruka, 1991:120). Traditional education on poultry keeping included feeding chickens with ants trapped in special ways. This was a skill which needed expertise gained after prolonged apprenticeship under the mentorship of older members of the family or local community. Indigenous thinkers like Oruka Rang’inya hold the view that folk sages are consulted because they were wise: “people showed immense gratitude for the pieces of advice which they received from the sages” (Oruka, 1991:120).

Agricultural rituals in Luo society are based on gender roles. The indigenous knowledge for food security should be addressed in educational institutions. There is need for critical thinking which seems to be lacking in the Kenyan educational system according to Kenyan professor of literature based at the University of Nairobi and social critic, Henry Indangasi (2018). In a personal literary essay, he reflects upon the Kenyan intellectual

history which he finds to be lacking in skills-related development in areas such as creative thinking, critical thinking and problem-solving in practical situations in and out of school. Indangasi laments that the discrepancy is a shameful feature of our educational system which needs to encourage independence of thought and higher order cognition of issues affecting the Kenyan society (Indangasi, 2018: 9-15).

Reflections by African women sages can help address the gap by incorporating indigenous epistemologies in problem-solving situations of agricultural education and food security in rural households. A Luo woman sage, Doris Gwako Arodi, aged 89 who was interviewed by Prof Gail Presbey (March 1999) during the Sage Sage Philosophy Project reasoned that social harmony healing can only be attained in areas of food, health, nutrition and spirituality in family and community settings when both women and men work together based on mutual respect. Another Luo woman sage, Julia Ouko (aged 61) was interviewed by Prof Gail Presbey (March 1999) during the Sage Philosophy Project declared that indigenous knowledge called for the practical virtues and values of communal approach to work particularly in agricultural production in order to support the physically weak; both women and men combined efforts in collective work on the farms known as 'saga' in the local Southern Nyanza Luo dialect. This application of feminine/masculine principles for balance and social harmony helps in making people do things they are expected to do such as production of knowledge through combined energies with greater efficiency for the common good (Kaplan, 1999: 131-132).

According to these two Luo women sages Julia Ouko and Doris Gwako Arodi, both women and men also have indigenous knowledge and traditional practical things society assigns to them in food production and other forms of agricultural practices for collective

survival. This study seeks to connect the thinking of women farmers and their practical knowledge for food security in the rural household (Presby, March 1999).

2.9 Theoretical Framework

2.9.1 Structuralism and Critical Pedagogy

The study of indigenous ecological knowledge of women farmers in rural East Africa is an important epistemological endeavor. The study adopts a theoretical blend of the critical pedagogy and structuralism in the context of indigenous knowledge for food security. Structuralism as a theoretical framework was developed by French anthropologist Claude Levi-Strauss (Duranti, 1997: 33-36; McGee and Warm, 2000[1996]: 330-332) and critical pedagogical theory was championed by Paulo Freire, a Brazilian educational philosopher who confronted oppressive cultural structures in literacy programmes for farm workers (Freire, 1993 [1970]; Freire, 1998 [1992]; and Freire, 2001 [1998]). Other leading exponents of structuralism as a theoretical framework include Edmund Leach who analyzed the mythological features of the Biblical narrative of creation (Leach, 2000 [1996]: 347-355); and Sherry B. Ortner who analyzed the meaning of femaleness and maleness in the context of nature and culture with implications for the universality of women's subordination to men (Ortner, 2000 [1996]: 356-368).

Claude Levi-Strauss (1908-2009) worked in interdisciplinary contexts by synthesizing different aspects of law, philosophy, anthropology and linguistics in his research work. He had a complex cultural heritage, having been born in 1908 of Jewish parents living in Brussels at the time; he later in life settled in Paris where he associated with French existentialist philosopher Jean-Paul Sartre and his circle of philosophers and literary

scholars who became quite influential in 20th Century European intellectual history. As an ethnographer, Claude Levi-Stauss did ethnographic field-work among Brazilian native Indians where he focused on the analysis of cultural systems, totemism and animal fables (cf Encyclopaedia Britannica (<https://www.britanica.com>). This ethnographic research took place while he also worked at the University of Saulo Paulo in Brazil.

As for Brazilian educator Paulo Freire (1921-1997), he worked at the Pontifical University of Saulo Paulo where he dedicated much of his research work among the oppressed classes in Brazil including farm workers whom he taught functional literacy (Freire, 1970). In studying social phenomena such as the food culture of ethnic groups, an interdisciplinary approach to research is necessary. The study of food culture of a given community is a “conscious” effort to understand the underlying epistemological infrastructure in practical activities of social relationships as people engage in agricultural production. As already stated above, the philosophical foundations of the study draws from the theoretical framework of Paulo Freire (1970) which emphasized the fact that education, whether formal or non-formal, must draw from the material conditions of the learners, in this case: women farmers as a target population. He argues that education of the community is a process of humanization “which leads at once to the recognition of dehumanization” (Freire, 1970:25).

In many rural communities, womanhood is a reflection of dehumanization and non-recognition in socio-economic contexts. Though women are the main producers of food in rural East African settings, their indigenous knowledge is often unrecognized and undocumented. Paulo Freire followed up “Pedagogy of the Oppressed” (Freire, 1970) by further asserting that “Pedagogy of Freedom” (1998) means that there is no teaching

without learning. In this theoretical approach, the women farmers in Luo-speaking areas of Homa Bay County in Kenya are considered as grassroots knowledgeable people with time tested indigenous agricultural practices which can be accessed and utilized to enhance food security for the household. The African narrative approach to pedagogy of women's indigenous knowledge for food security can empower households to find authority in their actions (Cummings, 1991; Bradshaw, 2002; Healey, 2004).

2.9.2 Cultural Theory of Critical Pedagogy

Critical indigenous pedagogy as a theoretical framework is contextualized in social struggles against hegemonic systems of male dominance; critical pedagogy is understood as a cultural confrontation by women farmers in an otherwise male-dominated society. When women farmers take control of agricultural production and food security, their narrative discourses and life stories of struggles are theoretically underpinned by cultural confrontation which “occurs through the change in the way the oppressed perceive the world of oppression” (Freire, 1970: 36-37). Theoretically speaking, the critical pedagogy is about the “liberation of women and men, not things” (Freire, 1970:48). When women take up farming activities to boost food security, they not only get empowered as women; their womanhood is also enhanced which human phenomenon ensures the very survival of men and children within the household and community at large.

Through appropriate discourse strategies in the utilization of indigenous agricultural knowledge, dialogical methods can be adopted to liberate the moral women folk in their quest to actors rather than victims of their natural and cultural environments; “the correct method lies in dialogue” (Freire, 1970:49). The African women farmers must not be seen as occupying positions of servitude, with men as the “narrating subjects” with women as

the “patient listening objects” (Freire, 1970:49); rather, women farmers with their wealth of knowledge about food production must necessarily be given the space and latitude to take their turn in engaging in the dialogue with the rest of society about food security for the rural household.

In this theoretical approach of critical pedagogy, the essence of discourse strategies in the utilization of indigenous agricultural knowledge is “the word” (Freire, 1970:68). The word is not simply a lexical item to be understood grammatically:

Within the word, we find two dimensions, reflection and action, in such radical interaction that if one is sacrificed – even in part – the other immediately suffers. There is no true word that is not at the same time praxis. Thus, to speak a true word is to transform the world (Freire, 1970:68).

In the Freirean approach, pragmatic meaning of the word is more important than the grammatical meaning hence: word=work=praxis. He dichotomizes verbalism as mere words on the one hand; and activism taking action to make the world a better place for all women, men and children as members of the household and the larger community: “dialogue is thus an existential necessity” (Freire, 1970:69).

In a subsequent expansion of his critical pedagogy as a theoretical approach to human development, Paulo Freire (1994) explored what is known as pedagogy of hope. In this treatise, he relieves the condition of “the oppressed” by giving “hope” a chance in human endeavor:

Without a minimum of hope, we cannot so much as start the struggle. But without the struggle, hope as an ontological need, dissipates, loses its bearings, and turns into hopelessness. And hopelessness can become tragic despair (Freire, 1994:3).

The role of critical pedagogy in community development can help theoretically in our attempt to access indigenous agricultural knowledge of African women farmers. The oral narrative about the past and present praxis in food production for the household may:

Provide points of entry into the wider, deeper and more complex workings of community, economy, and society (Wright, 1993:10).

Paulo Freire's critical pedagogy as a theoretical framework, using the dialogical approach in this ethnography of women farmers in Homa Bay County, Kenya will go a long way in the production of knowledge in the emerging area of African women studies especially in food security for the household and the larger community. Since women in Africa are critical in household economy and community development generally, their participation in agricultural and other socio-economic activities needs greater focus (Koda and Omari, 1991:118). Mainstreaming of women's agricultural activities need to be translated into concrete terms of developmental projects in rural communities: "effective communication occurs frequently between people of the same sex and with a common understanding of their problems and handicaps" (Endely, 1991:135).

In Tanzania some agricultural projects included women's groups sharing resources including farm inputs, extension services and training in agricultural activities which generated incomes for the groups. The political, economic and socio-cultural context of adult education with implications for rural agrarian societies in East Africa can benefit both theoretically and practically from critical pedagogical approach in community development (cf. Bwatwa, et al., 1989).

Critical pedagogy as a theoretical framework employed in the present study provides an understanding of how African women farmers have ‘hope’ and seek ‘freedom’ in terms of the utilization of land as a factor of production and food security in their communities (cf. Freire, 1994; Freire, 1998).

2.9.3 Cultural Theory of Indigenous Knowledge

Cultural theories from different perspectives of indigenous knowledge for food security have been used in this study. The main cultural ideas relied upon in this study are: Brazilian educator Paulo Freire’s theory of critical pedagogy (as already outlined above); and complemented by French anthropologist Claude Levi-Strauss (1969) whose structuralist theory was an attempt to understand how human cognition works in cultural context. Levi-Strauss developed a theoretical framework of structuralism which another theoretician, American anthropologist Sherry B. Ortner (2000, [1996]) adopted. In her structuralist analysis, Sherry B. Ortner equates what the “female” is to “nature” to what the “male” is to “culture” in the ecological struggles for human survival.

The cultural theory advanced by Sherry B. Ortner had a feminist orientation; she reasoned that women as a social category are either oppressed or subordinated by men owing to the socially constructed roles given to women because of their biological constitution. She builds her argument on the earlier works of Claude Levi-Strauss whose ethnographic fieldwork in Brazil led to two influential publications on structuralism namely: “The Raw and The Cooked” (Levi-Strauss, 1969) and “The Elementary Structures of Kinship” (Levi-Strauss, 1969 [1949]). In this understanding, culture is seen as having deeper underlying logical processes which shape human cognition in different social contexts (McGee and Warms, 2000 [1996]). What emerges from the blending of

cultural theories is a structuralist interpretive approach to narrative pedagogies of womanhood, food security and agroecological sustainability in rural African landscapes.

The cultural status of womanhood bestows the nurturing role of “females” who take care of children as they grow up while “males” wield power over the “females” who are then domesticated and subordinated in traditional structural contexts. A blend of cultural theories which help in explaining meanings of arbitrary symbols; recognizing different elements of the whole structure; and uncovering the inner workings of social institutions like families or grassroots communities will shed more light on people cope with food security matters and agroecological sustainability. Culture is a shared way of life by a group of people (Oswalt, 1986:25). Indigenous knowledge as a product of culture is a shared phenomenon of the group. Culture has two properties of durability and motivational force which ensure continuity in the manner people conduct their economic activities such as agriculture and food production. In these processes, sharedness is what defines culture through schemas learned from practical experiences (Strauss and Quinn, 1997:122).

2.9.4 Culture as Codification of Indigenous Knowledge

Language and culture are intrinsically interconnected. To know the culture of a people is like knowing their language (Duranti, 1997:27). The end product of learning language is the same same thing acquiring cultural knowledge of speakers of the target language. The cognitive view of the cultural learning process explains being educated acquiring both propositional knowledge and procedural knowledge (Duranti, 1997:28).

In cognitive categorization we may add to propositional knowledge based on values and beliefs, the practical procedural knowledge in performing tasks like preparing food, preserving food, planting seeds, and cooking among others in agricultural contexts. Through language, different cultures have folk biological taxonomies to categorize different aspects of the natural environment including food crops and other aspects of the world in which people live, (Wardhaugh, [1986], 1992:229).

In this study, knowing the agroecological activities of women farmers relating to food security in the household involves identification of indigenous food plants (both cultivated and wild); which is concretely embedded in the cultural landscape. The procedural skills in practical knowledge of traditional food crops entails a protracted cultural process of cultivating; weeding; harvesting; preserving; and processing food for human consumption. All these fall within the domain of African feminine epistemology since the focus of our study is the pedagogical value of women's indigenous knowledge for food security in the rural household and cultural ecology (Oke, 1984: 73; Cohen and Odhiambo, 1989: 192).

2.9.5 Culture as Socially Distributed Indigenous Knowledge

To say that cultural knowledge is socially distributed is to admit that an individual is not an island; the community is the consumer of indigenous knowledge handed down from one generation to the next. Thus, indigenous knowledge as cultural expression is found in the foods and tools used in human society. Collectively, cultural knowledge manifests in procedural practices, (Duranti, 1997: 30-31).

The most common way of acquiring indigenous agricultural knowledge is by socialization, participation and observation as girls and women learn from older more experienced members of society (Ominde, [1952], 1987:26-30); Odaga, 1986:71-75).

2.9.6 Culture as Indigenous Knowledge System of Mediation

Tools and other objects are part of cultural mediational objects handed down in the household; tools help in agricultural production and food processing. Tooling of farm activities help to mediate between the person and work:

The earth itself is an instrument of labour, but when used as such in agriculture implies a whole series of other instruments and a comparatively high development of labour, ([Marx 1960:199] cited by Duranti, 1987:39).

Thus, agricultural production tools play a mediating role between human beings and the environment. Material culture invented by human beings to help them cope with their environment. From pre-historic times, archaeological discoveries have been made of the emergence of tool culture ranging from “stone-technologies,” to the more elaborate material culture in the contemporary world (Leakey and Lewin, 1978: 97-103). The tool metaphor is significant in agriculture.

2.9.7 Culture as Participation in Indigenous Knowledge Production

Since humans are social beings by nature, the shared cultural knowledge enables them to participate collectively in the production of food for their survival. Institutions such as family, schools and communities help in participation of the production of knowledge by different actors. Sharing of natural resources within the environment only confirms that farmers and other members of society have symbiotic relationships, (cf. Duranti, 1987:46).

Participation in agricultural production has been in farming communities with more diversification of crops and animals used for subsistence and trade. The evolution of material culture interacts with the process knowledge production in society for human survival (cf. Eriksen, 2004:146).

2.9.8 Culture as System of Transmission of Indigenous Knowledge

If culture is to be understood as a communicative process, the indigenous knowledge of farmers can be transmitted from one group of people to another or one generation to the next using different genres such as: “legends, narratives, proverbs, riddles, tongue twisters and praise names,” (Taban lo Liyong, 1972:1).

Verbal testimony and the life-story narrative are one way of explicit or implicit sharing of indigenous knowledge. The sum of utterances made by members of a given cultural group, concerning a theme or topic, may be useful in the transmission of indigenous knowledge from one generation to the next (cf. Vansina, 1965:21-22). If culture is a system of signs and symbols, then the semiotic theory does apply here in the sense that it helps to interpret the inherent symbolism by objectifying culture in stories, myths, descriptions, proverbs and performances (Duranti, 1987:33). The oral narrative is therefore significant in the study.

2.9.9 Culture as System of Indigenous Knowledge Utilization

The agricultural practices to which indigenous knowledge of women farmers may be put to use for food security should be the ultimate end or outcome of the theoretical framework. By the agricultural extension programmes adopting Duranti’s (1997:28) approach of propositional knowledge and procedural knowledge in food production, a

blending of the traditional and modern techniques will go a long way in integrating the two systems. Theoretically speaking, blending the old and the new can be useful for food security in rural households with small-scale farms. Appreciating the value of traditional food plants will enhance food security (cf. Maundu, Ngugi and Kabuye, 1999:3).

2.9.10 Relevance of Cultural Theories Used in the Study

The relevance of the combined pedagogical and cultural theoretical framework is found in the context of women farmer's indigenous knowledge for food security. A study of the pedagogical value of women's indigenous knowledge is relevant because it will help in innovation, extension, documentation and policy formulation. The combined pedagogical and cultural theoretical framework locates women as custodians of seed, food and indigenous ecological knowledge (cf. Birnie, 1997; Teel, 1984; Maundu, Ngugi and Kabuye, 1999). In the larger African context, the pedagogical and cultural theories find relevance in critical indigenous pedagogy and women empowerment in the global gender discourse (cf. Mascarenhas and Mbilinyi, 1983; Ngaiza and Koda, 1991; and Wright, 1993).

Knowing the lands and resources available to African women farmers is in itself a pedagogical and cultural process; documenting indigenous and local knowledge of food plants is relevant in the quest for sustainability in agricultural development in rural Africa, (cf. Roue; Cesard; Adou Yao; and Oteng-Yeboah, 2017).

More specifically, the pedagogical and cultural theoretical framework derives relevance from the fact that women's indigenous knowledge as the basis for translating nutritional value of local food plants in the Luo-speaking areas of Homa Bay County, Kenya can be

brought to the core of agricultural education and extension programmes and replicated elsewhere in similar agroecological zones in Eastern Africa. Since women form the “back-bone of the agricultural economy” in African contexts, their indigenous knowledge base should be given pedagogical and cultural value in formal education programmes and agricultural extension services (cf. Opole, 1991:81-82).

The pedagogical and cultural theoretical framework should also help in the formulation of both propositional knowledge and procedural knowledge in contextualizing the dissemination of relevant agro-ecological messages. Women farmers through their cooperative movements, community-based organizations and local government structures through appropriate agricultural extension programmes can benefit from this approach to indigenous knowledge for food security and rural development (cf. Mbithi, 1974; Meghji, Kwayu, and Meghji, 1985).

The roles of the oral testimony and the life-story as genres worthy of methodological attention are significantly contextualized in the pedagogical and cultural theoretical framework of this study. Active listening to the voices of African women farmers a theoretical quest for relevance; the study uses of the life-story are numerous including cosmological and philosophical issues regarding indigenous knowledge systems (cf. Slim and Thompson, 1995; and Atkinson, 2002).

2.10 Conceptual Framework

Food is central to human survival. Different foods are treated differently by different cultures of the world. Some foods are eaten raw while other foods are cooked before being eaten. Food production in any culture depends on the tools of mediation between human beings and the environment. The Luo concept of “cooking” can be given both literal and metaphorical meaning. The girl-child is traditionally prepared through indigenous education and socialization from infancy to marriage which has a culinary role: cooking (Luo: *tedo*) in the household. The woman is the custodian of food security in the African household. The conceptual framework adopted in this study is from the process of cooking as procedural knowledge illustrated by the “culinary triangle” in which the three states during preparation are: (a) raw food before preparation (b) cooked food ready for consumption (c) and lastly, rotten food which is unsafe for human consumption, the latter being due to wastage or spoilage (Levi-Strauss, 1965; Duranti, 1997).

African women’s indigenous knowledge for food security encompasses all the stages of cultivation, planting, weeding, harvesting, storing, preparing, cooking and consuming different types of nutritious and healthy foods and ensuring minimum wastage and spoilage. The instrumentalities of food production in rural households are various agricultural tools which mediate between human beings and the environment. The production process entails: cultivating the land; planting the seeds; controlling the weeds; harvesting the crops; preserving and storing the harvested crops; preparing food for human consumption. In African agrarian contexts, crops and livestock are seen as indicators of prosperity (Whyte, 1997: 39). Typically in many different rural African

communities, agricultural and food production activities pervade the daily lives of the people. The same situation applies to Luo women farmers in Homa Bay County, Kenya.

The life-story of Olivia Atieno, 37 who is a project coordinator for an agricultural NGO operating in Homa Bay County narrates her main task as an agronomist in testing the suitability of different soils for various seeds. As an extension worker her role is empowering local women farmers by improving their knowledge and skills in food production. She promotes the use of “Garden Tools” which make farming for women to be less “back-breaking” by encouraging them to acquire appropriate tools they can use for cultivation purposes. The NGO known as Agricultural Improvement Support Services (AGRISS) provides tool sets to women farmers which are sourced from artisans working in the production of indigenous knowledge in local cottage industries. The basic farm tools include: rakes; shovels; picks; pitchforks; machetes; hoes; small spades; rice sacks; jembes; and wheel burrows among others. These tools and artifacts are products of human labour which mediate between the women farmers and their environment.

People try to be self-sufficient in terms of domestic food requirements; however, those with cash incomes from employment as teachers and other occupations also buy foods to supplement what they produce on their farms. Farmers with surplus crops sell the produce at local markets for cash which they use to pay school fees for their children; buying other foods they do not produce; seeking medical and health care in local hospitals and other survival requirements in the rural households.

2.11 Conclusion

The life-stories of women farmers give pedagogical and cultural context to indigenous ecological knowledge. According to Battista Mondin (2016 [1985]), this kind of “sensitive knowledge” is obtained through physical bodily senses: seeing; touching; hearing; tasting; and smelling as the basic means of learning about the environment. The women farmer’s knowledge of their fruit trees, their vegetables and herbs, and their grasses which they use as sources of traditional foods form part of the wider environmental adaptation. The epistemological ownership of food plants is through acquisition of “sensitive knowledge” achieved via both external bodily senses named above and internal senses which include memory; imagination and instinct.

Indigenous ecological knowledge calls for the reclaiming of past memories of traditional food plants used by older generations; reminiscences and recollections from life-stories of women sages can be an innovative way of accessing the vanishing past food heritage of a people. Documenting the life-stories of women farmers in their contexts of situation; expressing themselves in their indigenous languages; and expressing their cultural knowledge of their own traditional foods can go a long way in establishing their food sovereignty. Ethnographic research work in the pedagogy of indigenous ecological knowledge for food security is important for the revitalization of cultural practices (Slim and Thompson, 1995; Kirwen, 2011).

There are major epistemological gaps in the design of formal secondary agriculture learning materials approved by the Kenya Institute of Curriculum Development. What has been designated as indigenous knowledge of women farmers has not been incorporated in the curriculum. The formal crop husbandry methods introduced by British colonial

agriculturalists still seem to enjoy pedagogical dominance in Kenyan educational institutions to the exclusion of indigenous agroecological knowledge on traditional food crops. A critical discourse analysis of the Secondary Agriculture Student's Books (Forms One-Four) reveals that indigenous knowledge on crop production and food security has been excluded from the school curriculum. The tragedy with this kind of approach is that the memory of African women sages will be erased from communal knowledge banks at grassroots levels; with natural attrition of African women sages, and lack of codification of indigenous knowledge, the Kenyan society will be the poorer, which would be epistemologically tragic. This study is a response to this kind of potential epistemological injustice which can be addressed by inclusion of indigenous knowledge systems in formal, informal and non-formal educational programmes specifically in rural agrarian communities and the larger Kenyan society for sustainable development (cf. Thematic Paper: WCIP, June 2014).

CHAPTER 3: METHODOLOGY

3.1 Introduction

This chapter deals with the research design; research location and sites, study population, methods of data collection, data analysis, ethnographic framework and contribution of ethnomethodology to resolution of problems related to women's agricultural activities and food security. The chapter further delves into the ethical considerations governing social research within legal and policy provisions in the Republic of Kenya.

3.2 Ethnographic Study in and Agrarian Context

The ethnographic study, which focussed on an agrarian context, was carried out in three phases, each relying on a specific methodology. These three phases consisted of: establishment of a base-line collection of existing materials, a data collection phase involving ethnographic fieldwork and a data analysis and reporting phase. The purpose of the initial phase was to provide a basis for comparison between formal, institutionalized knowledge and informal indigenous knowledge collected in phase two. The data was then analyzed and a technical report written and communicated in the third phase of the project which is this final thesis as the production of indigenous agricultural knowledge of women farmers in Kanyada and Kabuoch in Homa Bay County. The approach taken is a critical analysis of information on indigenous knowledge revealed in the life-story interviews and oral testimonies of women farmers in Kanyada and Kabuoch in Homa Bay County.

The project's focus on knowledge production necessarily involves a concern with meaning and interpretation, thus, a qualitative approach to data collection and analysis is appropriate in the circumstances following ethnomethodological model of Norman

Fairclough (2003:16-17). The approach looks at concrete cultural events in which women farmers are engaged; social structures as in family organization; the place of women in agricultural practices; oral testimony and the genre of life-story of women farmers in local landscapes; and the contextualization of indigenous knowledge systems in pedagogical contexts with implications for food security in rural households.

3.2 Research Design

The research design and particular techniques involved in achieving the specified research objectives are as follows:

- 1) In the initial stage of the research project, the first objective was met by identifying formal and informal networks involved in education with respect to sustainable agricultural development (including agricultural extension curriculum, non-governmental organizations (NGO's), churches and women's co-operative groups). A representative collection of documents was identified analyzed through content analysis with respect to discourse structure of materials and the organization's stated objectives, intended target groups and the access of the target groups to information available. One NGO which stands out in this regard is AGRISS which is based in Homa Bay County and will be dealt with in detail in a subsequent section of this technical report (thesis).
- 2) The second stage of this ethnographic research project was intended to meet research objective (2). In order to facilitate comparability sites were carefully and deliberately selected for fieldwork. These were Luo-speaking sub-groups in Kanyada and Kabuoch areas of Homa Bay County. Contacts established with

women farmers in both areas in Homa Bay agreed to lend their assistance in facilitating the fieldwork by providing a base from which to work. Rodi Kopany Trading Centre was the place of choice because of its strategic location. Rodi Kopany gave the researcher easy access to homesteads in both Kabuoch and Kanyada areas in Homa Bay County. Given that the knowledge is differentially distributed according to community norms and circumstances, sampling of target groups had been chosen to identify social networks within the community which were defined as such by participants. This phase of the research project involved hiring research assistants who are first language Dholuo speakers to help this researcher with conducting the fieldwork in Homa Bay County.

Ethnographic methods used included participant observation and informal life-story interviewing together with oral testimonies. Detailed notes were taken with the consent of those being interviewed after the purpose of research was explained to the informants. Towards the end of this phase of data collection one Focus Group Session involving an ethnographic guideline designed to elicit oral traditions through story-telling and narration was used as an ethnographic approach to data collection. The substance of life-stories and culture-specific knowledge elicited by these techniques form the corpus of oral narratives systematically examined through Critical Discourse Analysis (CDA) (cf. van Dijk, 1977; van Dijk, 1995; Fairclough, 2003; Horvath, 2009); (Freire, 1967; Freire, 1970; Freire, 1994; Freire, 1998) in the context of agricultural education and rural development. Particular emphasis was placed on the social organization,

production and transmission of gendered agricultural knowledge by contextualizing its development and use historically.

The life-story interview method (Ngaiza and Koda, 1991; Wright, 1993; Atkinson, 2002) took centre stage since in Luo social discourse strategies, narrative-forms dominate in the transmission of information and knowledge (Ogot, 1967; Ogot, 2009). The place of the African family in social organization (Kayongo-Male and Onyango, 1984; Cumming, 1991) distilled through individual life-stories of women farmers became the most effective tool in a largely oral cultural setting of rural households in Homa Bay County. The spoken word is captured in Luo oral tradition: “So They Say” (Oguda K’Okiri, 1970); and to cap it all, the spoken word must be kept in collective memory and transmitted to children and grand children by parents and grandparents (Onyango Ogutu and Roscoe, 1974) in African cultural landscapes. The textual analysis of life-stories of women farmers in this study, therefore, explains how women are custodians of indigenous knowledge for food security. The ethnomethodological framework used in this study is embedded in African cultural domains and indigenous knowledge systems (Kirwen, 2005; Kirwen, 2008; 2010).

- 3) The third and final phase of the ethnographic research has involved synthesis of the initial two phases of data analysis and reporting of results. Comparative analysis of the formal data collected in the first phase with the corpus of traditional knowledge collected in the second phase from sagacious indigenous thinkers and pragmatic women farmers form the basis for policy recommendations regarding incorporation of indigenous agricultural knowledge

into existing educational channels for sustainable development. Differences in terminology and meaning of particular practices have been identified, gaps between practices actually used and those recommended for use established and problems involving access and evaluation are explored in subsequent sections and chapters in this study.

3.3 Research Location and Sites

The research location for fieldwork was Kanyada and Kabuoch areas in Homa Bay County in the Republic of Kenya. Under the devolved system of government, Homa Bay County is listed as one of the 47 devolved units of governance in the Constitution of the Republic of Kenya (2010) (Appendix 8: Map of Kanyada and Kabuoch in Homa Bay County).

The Kanyada people live around Homa Bay Town and its environs on the shores of Lake Victoria while the Kabuoch people live in the hinterland. The Kanyada people are believed to have migrated from Alego in Siaya County. According to community oral history, the Kanyada people are sub-divided into following clans: Kothidha; Kanya; Katuma; Kanyabala; Kotieno; Kanyadier; Kanyango; Kanyach; and Kachar (Julius Oracha, November, 2018: Pers/Com, Homa Bay).

The Kabuoch people belong to the larger Jokonyango Rabala clusture of the larger Luo-speaking people in Southern Nyanza. According to oral tradition, modern day Kabuoch people are sub-divided into the following clans: Karading'; Kawere; Konyango; Kobita; and Kabonyo (Awiti Kaumba, November, 2018: Pers/Com, Homa Bay).

The administrative centre is Homa Bay Town which is cosmopolitan in nature and local market places such as Rodi Kopany also gave the ethnographic study some insights into the rapid urbanization taking place in the county and changing economic patterns in terms of food security and local cultural landscapes.

3.4 Study Population: Details of Informants

In this study, a total of 32 informants from Kanyada and Kabuoch in Homa Bay County were interviewed using an ethnographic guideline (Appendixes I and II). Though the study focusses on the pedagogical value of women's indigenous knowledge for food security, some men were also interviewed on the same to give the cultural narrative a holistic perspective. The men who were interviewed were professionals involved in agricultural education and extension with direct bearing on the activities of women farmers in Homa Bay County.

The personal profiles of listed informants (Appendix II) indicate that the women farmers in Kanyada and Kabuoch in Homa Bay County were picked from the locality after careful consultation with community leaders. Their ages ranged from 28 years to 95 years. Almost all the women farmers also doubled as small-scale traders in food products in the local markets. A few were professionals, mainly teachers, but they were also farmers in their own right in the community. Some men were also interviewed, but that was because of the work they were doing and the value they added to the study. These men included the Member of Executive Committee (Minister) in charge of Agriculture, Livestock, Fisheries and Food Security in Homa Bay County; a former Project Coordinator with World Vision International, who is now retired and farms in Homa Bay County; a Member of the County Assembly in Homa Bay representing one of the wards

in Kanyada Area, a Human Rights Activist and Member of the local Catholic Church in Rodi Kopany, and a leader of Roho Msalaba Church in the locality. A man who is a lecturer in agricultural education and extension at Rongo University was also interviewed. A woman who trained in agronomy at Egerton University and now works with an NGO in the community was also included to give both the agronomist's and women's perspective in the study..

In both Kanyada and Kabuoch areas, local chiefs helped the researcher to identify key women farmers with sound knowledge of traditional foods and agricultural practices in their respective localities. In this way, it was possible to reconstruct indigenous agricultural knowledge from the experiences of these women farmers when they gave their oral testimonies and told their own life-stories in the context of food security in their households and communities. The life-stories of these women farmers (Appendix III) give a representative picture of the pedagogical value of indigenous knowledge in agricultural extension work in Homa Bay County.

3.5 Methods of Data Collection

The study relied on oral testimonies and life-story interviews of women farmers. Some men involved in leadership positions in the community were also interviewed since they worked with women farmers at grassroots level as extension educators. The men were interviewed to complement the information collected from women informants in order to have a culturally holistic view of women's indigenous ecological knowledge for food security. The study relied on seven main sources of information, namely:

- (i) Library and Archival Materials;

- (ii) Oral Testimony Interviews;
- (iii) Life-Story Interviews ;
- (iv) Conversational Encounters;
- (v) Visitation of Homesteads and Farms;
- (vi) Observation of Foods at Local Markets;
- (vii) Local history and Folklore.

Each key informant was asked questions concerning indigenous knowledge for food security. The ethnographic fieldwork took place between October 2018 and March 2019. The actual interview sessions lasted between 4-8 hours with breaks in-between interviews to avoid physical and mental fatigue. The medium of communication was Dholuo but those with formal education also found themselves expressing some ideas in English which is Kenya's official language.

This researcher and the research assistants made extensive field-notes both in English and Dholuo. The notes were later translated into English and reconstructed into first person narrative voices telling their life-stories about indigenous knowledge and food security in rural households. There were other members of the family and local community who would walk in and listen keenly, occasionally interjecting to fill in gaps of information during the oral testimony and life-story interview sessions. These interjections enriched the cultural narratives since testimonies and life-stories reinforce the participants' socially shared epistemologies of food security. Life-stories brought out social structures and communal identities of the Luo people in Kanyada and Kabuoch, Homa Bay County. The life-story interviews sometimes turned conversational, given the fact that Luo social discourse (*goyo mbaka*) often takes the story-form.

3.5.1 Key Informant Interviews

The study relied on life-story interviews of key informants to capture narratives of local cultural landscapes. The life-stories had benefits and uses in this study in that the key informants told of their family food trees: what they used to eat when they were children and what they eat in old age. In this way the life-story interviews captured the agricultural themes and seasons such as: land preparation; planting; weeding; harvesting; and storing crops. The key informants narrated life-stories and named specific traditional food plants they knew from childhood but which are now vanishing because of Kenya's culture shift from traditional food plants to new crops introduced from other parts of the world. The key informants were chosen carefully due to the fact that they are knowledgeable in indigenous agricultural practices and traditional food plants available in the community. The life-story interviews elicited information about: age; gender; locality; level of education; indigenous knowledge of crops and field practices; and any other culture-specific information on food security in the rural household.

3.5.2 Field Visits and Observations

The study collected data from participants on observations of activities in homesteads, farms, market places, demonstration gardens, social gatherings and religious organizations at which women were major participants. The field visits and observations revealed the types of traditional and modern food crops cultivated in the locality of Kanyada and Kabuoch, Homa Bay County. Further visits to eating places in urban centres such as Homa Bay Town and Rodi Kopany Trading Centre revealed the culture shift in dietary habits of inhabitants of the area judging from the menus displayed for customers from which they could choose what to eat. Conversational encounters added to

oral testimonies and complemented life-story telling sessions and group discussions during the ethnographic research.

3.5.3 Life-Story Telling and Group Discussions

The ethnographic study collected data from life-story telling sessions and group discussions on thematic areas of agricultural activities in Luo society. The group discussions were held in Kanyada with a predominately Catholic community and in Kabuoch with a predominantly Roho Msalaba community. The two methods of story-telling and group discussions were used for purposes of authenticity and relevance. During field-work, a democratic approach was necessary in order to enhance information flow from the informants and discussants had to be accommodated in the process of indigenous knowledge production. As the life-story telling was in progress, comments from members of the group were accommodated as the discussants authenticated the process of knowledge production. Memory gaps were filled by listeners of the life-stories being told in terms of knowledge about traditional foods and how women handled agricultural activities in the community.

3.5.4 Secondary Sources: Archival and Library Materials

The study relied on published sources such as secondary agriculture student's textbooks approved by the Kenya Institute of Curriculum Development/Ministry of Education, articles, government reports, magazines, newspapers and internet to supplement the primary sources of data obtained during fieldwork. The status report on Kenya's food security conducted by the African Women's Studies Centre/University of Nairobi in collaboration with the Kenya National Bureau of Statistics (2014) gave a global picture of the national situation. In Southern Nyanza, the status report on food security research

findings and recommendations in Migori County by the same African Women's Studies Centre/University of Nairobi also informed this ethnographic study since Migori County shares similar agroecological conditions and cultural landscapes of Homa Bay County and the larger Lake Victoria Basin in the Republic of Kenya.

A critical reading of annual reports of the Council of Governors, their devolution conferences, food and agricultural production narratives, and recorded experiences from county governments informed the background of this ethnographic study. A review of public communication materials from the Council of Governors' Maarifa Centre, a knowledge sharing and learning platform, which documents experiences from the 47 counties within the Republic of Kenya. Published archival reports on Homa Bay County specifically were also reviewed for background information including the socio-cultural profile of the defunct South Nyanza District published by the Institute of African Studies/University of Nairobi and Ministry of Planning and National Development (1986). The Government of Kenya reports and other published sources gave background information to this ethnographic study of the pedagogical value of women's indigenous knowledge for food security in Homa Bay County, Kenya.

3.6 Data Analysis: Oral Testimonies and Life-Story Interviews

A critical discourse approach to the study of life-stories, oral testimonies and cultural narratives may include the following components of ethnographic organization and structure of information in a pedagogical context (cf Ojwang, 1994: 100):

Narrator	The life stories of the narrators (catadora) who are the keepers of old folkways; they share information based on indigenous ecological knowledge about agricultural practices in the community for food security and human survival.
Purpose	The life-stories of women farmers give younger generations of sons and daughters; and grandchildren the necessary indigenous knowledge for human survival.
Message	The life-stories of elderly women farmers about traditional foods when told young people is a way of making sure that the living food traditions are not erased from the collective memory of the people.
Method	The life-stories of women farmers told through the utility of the oral narrative methods and backed with written records for future archival researchers to learn lessons from in the eternal quest of knowing the natural resources and indigenous foods available at the rural household level.
Context	The life-stories of women farmers told in non-formal learning contexts can help in adding pedagogical value in agricultural education and extension programmes.
Audience	The life-stories of women in agricultural education and extension programmes can be of great benefit to audiences in schools and colleges. When women sages are invited to tell their own stories as resource persons, it would be an effective way of transmitting cultural knowledge from one generation to the next. Documentaries based on life-stories of women farmers can also be produced and used to reach wider audiences in society for pedagogical purposes.

Table 3.1 Oral Narrative as Discourse (Source: Humphrey J. Ojwang, 1994)

As the women farmers tell their life-stories the researcher listens actively in order to understand the information being transmitted. The researcher uses the interactive discourse model given above. The questions of pedagogical value being asked to access the indigenous ecological knowledge of the women farmers are the following: Who is telling the life-story? What is the purpose of the life-story? What is the message of the life-story? What is the method used in narrating the life-story? What are the circumstances of the narrative act in a particular life-story? Who is the audience of the life-story being told?

The life-story teller is asked when they were born if they know the date or year or a local event like famine or floods or any natural calamity. The older ones who are non-literate might say they were born when locusts caused havoc on the land. In Luo society, names might reveal the season when someone was born: land preparation; planting; weeding; harvesting; and storage. The life-story teller is then engaged on their social backgrounds and implications these had for food security during their childhood; youth and adulthood; they are engaged on how food narratives have changed during their life-time and how indigenous knowledge can be reclaimed and integrated in formal educational programmes in modern Kenyan society.

3.7 Ethnographic Framework

Richard Bauman (1972) proposed an ethnographic framework for the investigation of discourse based on the work of linguistic anthropologist, Dell Hymes. Ethnography as a method of capturing cultural knowledge in this framework entails various elements working holistically, as follows: language use; messages passed from one set of people to another; settings and scenes of interaction; participants in the communicative process; goals and consequences of the communicative activity; norms of interaction and interpretation; and, finally a genre-specific analysis of the texts and discourse patterns in the communicative events. In ethnography, the researcher is involved in a participatory and observational interaction with the informants in authentic contexts; in our case, women farmers in their local situations in Homa Bay County, Kenya. Ronald Wardhaugh (1992:245) in summarizing the model proposed by Hymes (1974) sees ethnography a communicative event as: “a description of all factors that are relevant in understanding how that particular communicative event achieves its objectives.” Hymes

uses the word SPEAKING to help the ethnographer capture relevant cultural knowledge in communicative event (or genre) which is a clearly demarcated type of utterance such as the life-story (of a woman farmer in a rural context). The acronym or formula proposed by Hymes (1974) is summarized below:

Ethnography of Speaking	
S	= Scene and Setting
P	= Participants
E	= Ends
A	= Act Sequence
K	= Key
I	= Instrumentalities
N	= Norms of Interaction and Interpretation
G	= Genre

Table 3.2 Discourse Context (Source: Wardhaugh, 1992)

In ethnography of communication, a critical analysis of all relevant factors must be taken into account in order to process different aspects of cultural knowledge in a pedagogical context (cf. Bauman, 1972:159-160; Coulthard, 1977:41-51; Wardhaugh, 1992:245-247). The components of ethnography of communication are outlined below:

3.7.1 The Setting Scene (S)

The setting refers to the anthropological location of the narrative; the scene entails the observation of time and place which come into play in the concrete physical landscapes interacting with the activities being observed.

3.7.2 The Participants

These are the various combinations of researchers and informants which can be understood in the context of speaker-listener and interviewer-interviewee interactions. A rural woman farmer narrating her life-story to a researcher is quite obviously, a participant in the discourse process of the production of agricultural knowledge.

3.7.3 The Ends (E)

These are the expected outcomes of an exchange - whether oral testimony or interview which the social researcher and informant seek to achieve through their communicative encounter.

3.7.4 The Act Sequence (A)

This refers to the plot of the life-story of the women farmers; what they say and the agricultural knowledge they share with the researcher. The words used to describe the foods in their cultural context; the narratives concerning womanhood and food security in the homestead or household in their locality; and what these mean in terms of relevance to the production knowledge for part of the act sequence in the life-stories and oral testimonies.

3.7.5 Key (K)

The term key here refers to the mood of life-stories as they are told by the women farmers in Kanyada and Kabuoch areas of Homa Bay County. The general non-verbal and verbal aspects of the narration of experiences are significant in conveying the agricultural knowledge of the women farmers. The mode of delivery of the content in a life-story is important in helping in the understanding of indigenous agricultural knowledge.

3.7.6 Instrumentalities (I)

This refers to oral, written or visual channels chosen by the participants and informants in this communicative encounter of interviewing in social research. The two important ways of elicitation used in this study are through the oral testimony and the life-story of the woman farmer which helps the researcher to access local agricultural knowledge.

3.7.7 Norms of interaction and Interpretation (N)

These refer to the specific behaviours and utterances of the women farmers as they tell their life-stories and give oral testimonies on the indigenous agricultural knowledge for food security. The norms of interaction and interpretation as the women farmers tell their life-stories depends on how young or old they are since age is a factor in the kind of socialization the women went through as they were growing up. Social and cultural changes have an effect on how people reconstruct their life-stories for different audiences.

3.7.8 Genre (G)

This is an important concept which refers to clearly demarcated boundaries of utterances, whether as oral testimonies or life-stories. The idea of life-stories arises from the realization that women farmers have a fundamental role to play in the understanding of social development of the Kenyan society. This entails the cultural struggles which women, as a socio-economic category in anthropological inquiry, explain the nature and extent of oppression by patriarchal patterns of agricultural development (cf. Ngaize and Koda, 1991:1). The importance of gender as a social analytical category must be deployed in our quest to gain access to knowledge of the power relations expressed through womanhood and food security in the household:

Genres are conventional text types distinguished on the typical content and internal organization. Particular genres may contain verbal form or style in certain ways (Eckert and McConnell-Ginet, 2003:107).

The oral testimony and life-story as text types are typically weaved together as records of people's lives told and documented by a research "who then edits and writes the life as though it were an autobiography" (Ngaiza and Koda, 1991:1). By writing the life-story in the first person narrative, the marginalization of women farmers is eliminated by giving the voice in social discourse. Patriarchy as it influences the documentation of indigenous knowledge on the basis of women's invisible and voiceless status in development discourse is thus eliminated since:

Under patriarchy, women are politically, economically and socially subordinated as a gender group, (Eckert and McConnell-Ginet, 2003:3).

In patriarchal systems, natural resources are controlled through division of labor along gender or social status lines which include access to land for cultivation and forest resources for collecting foods from the wild; men also control fisheries and livestock production in Luo society with women playing marginal roles in these areas. This kind of marginalization of women farmers, who in most cases are assigned the role of manual labour in land cultivation, planting and harvesting of crops needs to be addressed by a new "pedagogy of the oppressed" (Freire, 1993); "pedagogy of hope" (Freire, 1994); and "pedagogy of freedom" (Freire, 2001). Women farmers life-stories tend to bring into focus their struggles which challenge dominant ideological generalizations; documenting women's life-stories locates them at the centre of food security not just in the household but in the community at large (cf. Ngaiza and Koda, 1991:5).

3.8 Contribution of Ethnomethodology to Resolution of Problem

Historically, there has been a growing recognition within the women in development perspective that variance between the knowledge systems used by traditional societies and those used by proponents of modern agricultural methods has seriously undermined efforts to bring about the social changes deemed desirable by government policy makers. Nowhere does this insight have more serious, long-term implications than in the area of environmental management because of the intimate relations between the environment and food production. Food plants: both wild and domestic, have their own life-stories to tell. In the Luo ecological system, cultural significance is attached to food plants as they are born through planting of seeds; growth of the food plants; and finally maturing and harvesting of crops. Ecologically speaking, the Luo-speaking people of Homa Bay County explain the world of plants, both wild and domestic, in four main categorizations as follows:

Luo	English
<i>Yiende</i>	Trees
<i>Bunge</i>	Shrubs
<i>Yedhe</i>	Herbs
<i>Lumbe</i>	Grasses

Table 3.3 (Source: Angelina Ogina Omuga, Informant No.30)

Human beings use plants for food, medicine, building houses and much more. The use of plants for food (Luo: *cham*) and medicine (Luo: *yath*) takes top priority in knowing the environment; it is noteworthy that the same word (*yath*) is used for both tree and medicine which relate to cultural meaning of human survival in their ecology. This ethnographic research in Homa Bay County provides empirical evidence on the value and use of indigenous ecological knowledge in both habitat and cultural maintenance. The research also provides some indication of social returns of incorporating indigenous

agricultural knowledge into existing formal curricula through examining the extent and the ways in which forms of knowledge are differentially valued, transmitted and accessed. In so doing, the research is intended to support policy emphases on increasing the visibility of women's role in environmental management.

The role of women in food production takes centre stage in this study and how they have managed to take control of food production in an otherwise male-dominated society. Food is a social idea in Luo society about which women have complex ways of control. In Luo social discourse, talk about food is so important in understanding the cultural struggles at family and community levels; food is consequently one very important: "vital means through which women have secured their own identity, and also degrees of control in a male-dominated world" (John Bowker, 2005: 98). Agricultural education and extension programmes have philosophical foundations anchored in the humanities and social sciences mainly concerned with food production. Ethnomethodology as a branch of sociology and rural development can assist in resolution of epistemological gaps in agriculture and food security within grassroots farming communities. Talking about food is therefore an ethnomethodological area of interest in understanding language, gender and power relations. Language is therefore related to power in society (Fairclough, 1989).

In a multilingual situation such as Kenya, the language of agricultural policy represents the hegemonic Government systems which sociolinguistically marginalize the poor rural women farmers and especially those in subsistence agriculture (cf. Omondi, 1992, 75-78). The resolution of the problem of the rural women farmers, therefore, relies on the talk going on between agricultural education and extension service providers for rural development. This is where the rubber meets the road as the saying goes: it is the nexus

between agricultural policy and the local speech community of women farmers. The Critical Discourse Analysis (CDA) follows in the ethnomethodological framework of Fairclough (1989: 9) who says that the production and interpretation of everyday action as skilled accomplishments of social processes of language as a practical tool of human interaction. In ethnomethodology, talk is the most basic method of human communication; it can be looked at as a way of understanding and sustaining reality (Wardhaugh, 1992: 238). Talk can therefore be subjected to interpretation in order to understand the socio-cultural dynamics in a given environmental setting. There are a number of Luo words related to communication which may be rendered as follows:

Luo	English
<i>Wach</i>	Talk
<i>Wacho/wuoyo</i>	To talk
<i>Weche</i>	Talks or words
<i>Wachi koda</i>	Talk to me
<i>Bedo gi wach</i>	Having a word or say

Table 3.4 (Source: Christabel Opiyo Omolo, 85: Life-Story No.1)

An ethnomethodological approach to research is therefore an investigation of what people must know in order to function effectively within the cultural ecology. Practical survival in terms of food production requires indigenous ecological knowledge which is expressed and shared in social contexts of the homestead; the locality or the larger community. Norman Fairclough introduced this social approach in the analysis of language and power; this gave rise to what is known in linguistics as the Lancaster School. This line of research brought together colleagues at the Department of Linguistics, University of Lancaster in England. They see language and social life as working in tandem: the most influential works in CDA include Fairclough (1995) and Fairclough (2001).

3.9 Ethical Considerations

This research project has adhered to the expectations of ethical standards prescribed by the legal framework prescribed in the Science, Technology and Innovation Act No. 28 of 2013 [Revised: 2014] by obtaining research authorization from the National Commission for Science, Technology and Innovation in Homa Bay County within the Republic of Kenya. This researcher has adhered to all the conditions prescribed by the Research License/Permit Number: NACOSTI/P/19/39585/28055.

The research project has maintained the ethical standards required in ethnographic research in the humanities and social sciences to which life-story interviews of African women farmers on the themes on indigenous ecological knowledge and food security belong. The present research project has taken into account the highest level of integrity. The study has not been conducted for expedient or selfish gain, but as an endeavor to extend the frontiers of indigenous ecological knowledge in the humanities and social sciences. The findings of the present research project will be of pedagogical value to African women farmers within the context of agricultural education and extension programmes in Kenya and beyond. The informants and life-story tellers gave their consent to be an integral part of the study and that their identities be given and active voices be heard as the narrators of their situated indigenous knowledge for food security.

Published sources consulted for the purpose of informing the present research project are appropriately acknowledged; the informants who gave their oral testimonies, perceptions and life-stories are also appropriately acknowledged. The research methodology used and findings of the study are reflected in this thesis.

3.10 Conclusion

This ethnographic study has used a purely qualitative methodology based on communication about social life and agricultural activities of women farmers in Homa Bay County. It has relied methods of critical text and discourse analysis proposed by Norman Fairclough (1995; 2001 and 2003) in social research including language use in society. The methodological framework building on the ethnography of communication model which was proposed by linguistic anthropologists interested in studying human activities by relying on texts, conversations and life-story interviews in cultural contexts. This approach draws on transdisciplinary work in food security and role of women farmers by relating discourse forms such as the oral testimony and life-story narrative. The distinct genres of life-stories play a role in social research and communicative contexts of (Hymes 1974; Wardhaugh, 1992; Atkinson, 2002).

The pedagogical value of women's indigenous knowledge for food security in rural households should have core thematic significance in narrative approaches to social transformation based on sound epistemological frameworks with policy implications at national and devolved units of governance structures. The food security narratives should not only be based on what national and international institutions formulate but also culture-specific understanding of what it means to engaged in a pedagogy of liberation and hope. Food safety, food security and food sovereignty can form the basis for learning from women farmers in Homa Bay County, Kenya.

CHAPTER 4: ANALYSIS OF DISCOURSE CONTEXT OF WOMEN'S INDIGENOUS KNOWLEDGE, SKILLS AND EXPERIENCES FOR FOOD SECURITY

4.1 Introduction

This chapter deals with contextualizing discourse analysis in studying indigenous for food security. Among other things it handles epistemological reflections on indigenous knowledge, skills and experiences of women farmers in rural households. The use of oral tradition as way of codification of indigenous knowledge is explored in this chapter. The significance of indigenous knowledge, in culture-sensitive environments can be learnt from women's oral testimonies and life-stories; there are lessons from these women's oral testimonies and life-stories which agricultural ad extension workers need to incorporate into their programmes. The role of small Christian communities in promoting women farmers' participation in food security programmes is also discussed in this chapter. The significance of cross-generational transfer of indigenous knowledge for food security in rural households is also contextualized within the Luo family structure.

4.2 Contextualizing Discourse Analysis in Studying Indigenous for Food Security

4.2.1 Discourse Analysis and Food Security

The term discourse analysis has had prominence in social research for nearly four decades albeit in a variety of contexts. A textual analysis of the context of women's indigenous knowledge for food security includes all cultural knowledge shared in the community. The context of the knowledge includes tangible as well as non-tangible aspects of culture such as "attitudes, beliefs, values, and all the unspoken assumptions" (Nuttall, 1982: 7) of

people belonging to the same society. For our purposes in this study, discourse analysis (DA) is the study of language use beyond the syntactic level (Yule, 1997). Discourse analysis is therefore suprasentential in approach which means it is the study of utterances of language larger than a sentence. It is important to note that discourse analysis is used in the same manner as discourse linguistics (DL) which investigates the organization and structure of communicative notions of textual expressions (Crystal, 1999) such as: narratives; oral testimonies; life-stories; speeches; conversations; lectures; sermons; songs; and folktales including myths and legends.

The critical analytical approach to discourse in this study has been adopted from the theoretical framework of structuralism which was developed by Claude Levi-Strauss, a French linguistic anthropologist, who analyzed the structure of myths and legends of collected from ethnographic fieldwork among indigenous ethnic groups in Brazil, South America (Levi-Strauss 1963; Shorter, 1998; Ericksen, 2004). The oral narratives collected by the ethnographer were subjected to structural analysis both in order to process the deeper meanings of the stories and meanings intended.

We have in this ethnographic study collected information in the form of oral testimonies and life-stories of women farmers in Kanyada and Kabuoch areas of Homa Bay County, Kenya which are textually analyzed as discourse in order to glean the food security messages embedded in indigenous knowledge systems. Since context plays a critical role in creating understanding of cultural meaning, the pedagogical value of knowledge of women farmers is applied to agricultural education and extension programmes in Homa Bay County, Kenya.

Contextualizing African women's indigenous knowledge for food security is a cardinal objective in this study. Women are the traditional custodians of food security in rural households. Culture as indigenous knowledge is transmitted by women story tellers from one generation to the next. The hidden messages encoded in various genres are used to pass messages to audiences across generations. Prominent Ugandan literary scholar Austin Bukonya defines culture as: "the way a given society identifies, regulates, sustains and reflects on itself" (Bukonya, 2019). He sees culture as part of a productive and creative process in human development and the function of culture in society is both regulative and interactive. Aylward Shorter who is a cultural anthropologist trained at Oxford University, England and Gregorian University, Rome and has researched African peoples and societies for nearly three decades has described culture as: "a whole way of life, material and non-material, in society" (Shorter, 1998: 22).

As a cultural activity, food production is a way in which a group of people sustains itself. Agriculture is steeped in a people's cultural activities. Contextualization of women's indigenous knowledge entails situating the cultural relevance of both propositional knowledge and procedural skills in utilizing the natural resources for food security. The women's oral testimonies and life-stories have food messages which need contextualization in formal, informal, and non-formal agricultural education programmes. This is based on African narrative pedagogy which is inspired by the local histories, oral literatures and folklores of rural agrarian communities engaged in survival struggles for ecological sustainability (Ogot, 1979; Healey 1996; Shorter, 1998).

Cultural contexts in this study are the ecological settings and circumstances in which the indigenous knowledge systems are produced; African women's oral testimonies and life-stories about food security are told for pedagogical purposes. The reference point is specifically the African narrative tradition with its wide range of artistic expressive forms: proverbs, sayings, life-stories, myths, legends, and songs explained in their historical, ethnographic and cultural settings (Healey, 1996: 28).

Food security cannot be conceptualized without the cultural context in the same manner in which social discourse cannot be analyzed without cultural considerations. The indigenous ecological knowledge as gleaned from the oral testimonies and life-stories of women farmers is relevant in understanding the context of situation of food security. The women's propositional and procedural knowledge for food security in rural households reflects their contexts of situation which can be beneficial in agricultural education and extension programmes. The voices of women farmers should not be dissociated from the social context in which they function but should rather be integrated in the pedagogical discourses of agricultural extension work. The ethnographic settings of the oral testimonies and life-stories of women farmers have "the implication of utterance" (Brown and Yule, 1983: 37).

Contextualizing the oral narratives of women farmers in formal, informal and non-formal educational programmes is significant in the sense that they will have a voice in community development discourse. Oral testimonies and life-stories of women farmers are vital in community development discourse since: "speaking out is an act of power and the act of listening demands respect for the speaker" (Slim and Thompson, 1995: 3). The voices of women farmers need to be treated with patience and humility from social

researchers and agricultural extension workers; the pedagogical value of indigenous knowledge systems for food security calls for respect for cultural values, beliefs and views the ethnographer might not necessarily share. The women farmers are living people; they are not dead archival documents, cultural artefacts or inanimate objects of anthropological inquiry. The ethnographer must look at the living traditions in an empathetic manner and see the women farmers as research partners with whom he or she have to work together (Slim and Thompson, 1995: 4).

Food security is a human concern since time immemorial and is part of the the cultural knowledge production of any given society. The Constitution of Kenya 2010 Article 43 (1) (c) has expressly stated that in order to enjoy food security, “every person has a right to be free from hunger, and have adequate food of acceptable quantity” (Republic of Kenya, 2010). Women in Kenya are generally the custodians of food in rural households and yet a status report of a research conducted nationally by the African Women Studies Centre at the University of Nairobi in collaboration with the Kenya National Bureau of Statistics highlights the reality on the ground that most Kenyan women in rural areas hold an exceptionally small proportion of registered titles for arable lands in the country and “since women seldom purchase land, inheritance from men remains the principal manner in which women access land” (AWSC/UON Report, 2014 : 8).

African widows who inherit agricultural land from their deceased husbands customarily do so as trustees with the right of usage for the rest of their lives as long as they do not re-marry into another clan or community different from the agnatic lineage of their husbands. The Luo leviratic tradition which is similar to the Judaic tradition in Old Testament narrative of Ruth and Boaz has the advantage of retaining the ownership of the

lands and other forms of wealth within the patrilineal systems (Deuteronomy 25: 5-10; and Ruth 4: 18-22). By handing over ownership of the lands to the sons of the dead man when they become of age, patriarchy is perpetuated in terms of succession and inheritance. African widows in polygamous settings continue to stay in the homesteads of their dead husbands and may enter into leviratic unions with a brother of the husband therefore, keeping the name of the patriarch of family alive (Kirwen, 1979: 30-34; Cummings, 1991: 9-11; Ojwang, 2005: 58-77).

The tradition is problematic in contexts where there are only daughters and no sons left behind to assume ownership of the father's land. Luo customary law emphasizes patriarchy to the exclusion of women when it comes to land rights. Married sisters and daughters are collectively called "*Wagogni*" (plural) and are expected to inherit land through their sons wherever they are married (Wilson and Malo [1961], 1968: 13). This goes against the Bill of Rights which generally provides that any citizen can acquire and own property in any part of the country (Constitution of Kenya, 2010 Article 40 (1) (a) (b)). This constitutional provision apparently does not preclude married sisters and daughters from returning to their father's homes where they were born and raised to seek inheritance of agricultural land if they have no land to cultivate in their matrimonial homes.

However, the same Constitution of Kenya, 2010 Article 11 (1) "recognizes culture as the foundation of the nation and as the cumulative civilization of Kenyan people and nation." The anthropological knowledge of customary land law together with traditional marriage customs and African family structure will continue to be of interest to researchers in the

humanities and social sciences for many years to come (Othieno-Ochieng', 1968; Wilson and Malo, [1961, 1968]).

Epistemology is the branch of philosophy which deals with the nature and origin of knowledge (Trinidad, 2012:2). The pedagogical value of what the women farmers of Homa Bay County know has an epistemological basis which goes beyond mere belief; their agricultural knowledge is experiential and justifiable as an object of inquiry having been handed down over many generations. The history of agriculture and the sociology of knowledge in Luo society from British colonial days can be contextualized in the ethnographic accounts of *Ker* Paul Mboya of Luo Union East Africa, who blended indigenous knowledge of the Luo people and English mannerisms which he documented in his diary *Going to the Coronation* (Mboya, 1953).

The British Council was created in 1934 and granted a Royal Charter in 1940 to “promote British ideas, talents and education and training, books and periodicals, the English language, the arts, sciences and technology (Stallworthy, 1988:3). It would appear that Paul Mboya, after his many years of serving the British colonial administration in Kenya, still returned to his native land of South Nyanza and documented Luo cultural knowledge of which he was very proud. The Queen of England is the Patron of the British Council which has a network of offices in over eighty countries worldwide: its funding comes from British Government sources but is autonomous and works as a non-political organization dedicated to promoting ideas aimed at short-term and long-term educational goals throughout the Commonwealth and outside of British influence (Stallworthy, 1988). Paul Mboya is, therefore, the perfect example of an African boy who left home to be socialized in the British colonial

education system; being trained under European missionaries and rising to become the Secretary of the South Nyanza African District Council.

The subjective autobiographical style also brings out some of the nuances which can only be accessed as valid knowledge in social research which he gained from his several decades of folklore research. Jomo Kenyatta's *Facing Mount Kenya* (1938) was a typical example of auto-ethnography where the researcher was writing about his own people, the Gikuyu of Central Kenya. An auto-ethnography is to ethnography what an autobiography is to biography. The autobiography is an attempt at scripting the self-narrative from as far back as early one's childhood memories. Oginga Odinga's *Not Yet Uhuru* (1967) is a good example of a life-story which captures the political, economic, social aspects of life in Kenya from British colonialism to the first few years of the post-colonial period. The cultural struggles which Ngugi wa Thiong'o also grapples with in his works on decolonization have their roots in hegemonic systems created by colonialism including modes of agriculture in which African peasants did not have the right to food sovereignty (1986; 1993). Works of Odinga and Ngugi wa Thiong'o dealing with critical indigenous pedagogy seek to change hegemonic social institutions of post-colonial Kenya in the same manner Paulo Freire in his day, sought to correct the inequalities in his native country of Brazil through cultural *Pedagogy of the Oppressed* (1970); *Pedagogy of Hope* (1994); and *Pedagogy of Freedom* (1998).

There are different ways of accessing indigenous knowledge for food security as part of the cultural struggles of African women farmers. A framework of CIPP entails the following discourse features of the life-stories of women farmers in Kenyan cultural landscapes. This contextualizes the ethnographic concept of the "family food tree" which

includes accessing and reclaiming information about what older kinsfolk from both maternal and paternal sides used to eat in the past (FAO, 2007: 14). The life-story of the woman farmer helps in explaining whether the community traditionally used to: grow, gather, hunt or fish what formed their staple foods. The life-story also helps in explaining the methods of storing, preserving and preparing a variety of foods and whether all members of the family had enough to eat. Since food availability depends on many ecological and climatic factors, African women's indigenous knowledge is important in specifying the location and place of farming what crops.

Food security in the household entails knowledge of planning for seasons of hunger and seasons of plenty; the African woman's ability to tell when to utilize the food plants which are available in the immediate agroecological zones is of paramount importance for the survival of the household. The family organizational structure in Luo society may delimit the agricultural requirements of the farmer and specify the roles of women and men in their farming activities. The symbolism of community "Food Tree" in itself is a revelation of the traditions and customs of food varieties which "family members ate in the past" (FAO, 2007: 14). The life-story narrative invites researchers and discourse participants to learning experiences by evaluating the benefits of indigenous knowledge exchange and food production through agricultural extension programmes in rural communities.

4.2.2 Oral Tradition and Women's Indigenous Knowledge

Education of women farmers in rural communities, whether formal, non-formal or informal, at the theoretical level and in praxis, requires a heavy dose of hope which is the essence of human existence in the past, present and future. Indigenous agricultural

knowledge and food security in the household are important ingredients of individual and communal existence.

Discourse strategies deploying “the word” in its pragmatic meaning in the context of African women farmers call for ethical behaviour, liberty of the individual and courage as integral members of the larger community. The different genres deployed in transmission of the indigenous agricultural knowledge will necessarily draw from what has come to be known as *Pedagogy of Freedom* (Paulo Freire, 1998). In this theoretical approach: “to teach is not to transfer knowledge but to create possibilities for the production or construction of knowledge (Freire, 1998:30).

In rural contexts, Government Agricultural Extension Officers and other experts from Non-Governmental Organizations can listen to and learn from African women farmers for a change. This theoretical approach deploys “oral testimony” in the context of “community development” by “listening for a change” to the oppressed and marginalized groups like women (Slim and Thompson, 1995):

Speaking out is an act of power, and the act of listening demands respect for the speaker. But listening is also an art, based on certain fundamental principles which are also at the heart of any notion of just and cooperative development.

African women farmers have accumulated indigenous knowledge from their community settings from genres such as: stories, songs, proverbs, experiences, and socialization processes as producers of food for the household since time immemorial. The indigenous agricultural knowledge need to be understood, and where it is found to be deficient, improved upon; where indigenous knowledge is more effective, the word from African women farmers should be carefully listened to for a change. This ethnographic approach

to the study of indigenous agricultural knowledge in the context of community development requires the vital human skills of patience, humility, willingness to learn from other people and respect their values which the researcher may not necessarily share:

As a listener, your sources are not dead documents of statistics, but living people and you have to be able to work together (Sim and Thompson, 1995:3-4).

In a critical discourse approach to understanding indigenous knowledge, the oral narration or testimony puts emphasis on the spoken word which might be documented and processed into text; it also takes into account the social purpose and cultural context in which human interaction is realized (Ojwang, 1994:97). This approach takes into account the understanding of oral tradition and the constituents of knowledge for self-identity in a concrete ecological environment. The personhood of the solid body called a human being originates from the spoken word. The spoken word reinforces self-identity of the narrator who in telling the life-story to the researcher uses a text. When the researcher sits down and reconstructs the life-story of a woman farmer (from the detailed fieldwork notes) in first person narrative, for instance, that is yet another text. It means that one narrative can have multiple layers or variants told and retold to different audiences.

Oral testimonies can therefore, be seen as multiple layers of texts within texts; they are stories within stories and narratives within narratives. Orality which is the spoken word is the primary form of communication while literacy is a secondary form of communication; “the written word may not exist without the oral base” (Amuka, 2016:14). That is why the whole idea of women farmers telling their stories about the

environmental management and food production becomes even more critical in reclaiming indigenous knowledge. The role of African women in agricultural production and food security at the household level is increasingly being recognized. African women have always produced and marketed food in the local marketplace; they are not only farmers but are traders in food products (Chiuri and Nzioki, 1992: 20). Orality as a primary source of knowledge from life-stories of women farmers is of paramount importance in agricultural education and extension programmes in Africa. Different discourse strategies of women farmers deployed in different contexts are holistically examined in a theoretical model which recognizes them as narrators of their life-stories and experiences in food production.

4.2.3 Oral Narratives of Women's Indigenous Knowledge for Food Security

The terms critical discourse analysis (CDA) and critical indigenous pedagogy (CIP) should be examined before their application in this social context. They hold the key to understanding the pedagogical value of women's life-stories in the context of the production of agricultural knowledge in local rural landscapes of Homa Bay County, Kenya.

The framework of Critical Indigenous Pedagogy of Place (CIPP) was proposed by Alma Trinidad (2012); it promotes a sense of agency by using contextual epistemology. CIPP as a process is an effective approach in indigenizing a community – based food movement: it motivates young people to learn about agricultural knowledge, oral histories, communal values and socio-economic development. The CIPP approach in this study necessarily incorporates women farmers to learn more about the local agricultural knowledge, life-stories and social change. The role of place as an anthropological

location is important in knowledge production and production for the benefit of agricultural development.

Integrating women's indigenous knowledge in agricultural education programmes requires policy formulation both at county and national levels of governance. Women farmer's engaged in food production need to be visible in community-based programmes of sustainable development. A conversation with Gladys Wanga, 37, reveals the cultural struggles young women in leadership positions face. A graduate of Kenyatta University with a B.Sc. degree in Appropriate Technology, the Member of Kenya's National Assembly also holds an MSc degree in Health Management from the same institution. At the time of the conversation, she was planning to register for her Ph.D degree programme in the middle of her busy legislative work. With regard to food security, she says:

I am married and a mother of three; what worries me is that we are not doing enough on the reclamation of our indigenous knowledge systems. There is a shift in food culture in the sense that my daughters and girls of their generation do not know our traditional vegetables. They only know sukuma wiki; cabbages; tomatoes; and onions. Beyond that, their knowledge of alote nyaluo (indigenous vegetables) is almost non-existent. I partly blame the socialization process in the rapidly urbanization with the demands placed upon the young mothers who are also engaged in professional careers which demand most of their time and attention. My young daughters do not get the time to be with old women to tell them stories in our rural community. The cultural dynamics have changed from the socialization our grandmothers had during their childhood.

However, all is not lost; the young girls of my daughters' generation can be taught about indigenous vegetables in formal educational contexts. Their male counterparts can also be taught about the traditional food plants so that we do not lose our indigenous knowledge for food security in the rural Kenyan households. This can only be done with deliberate policy formulation both at national and county level. The role of women in political leadership is therefore an important ingredient of creating a food security framework which will integrate women's agricultural cultural knowledge in research, production and extension programmes (Gladys Wanga, 37: Pers/Com, 2019).

Mainstreaming African women's indigenous knowledge in agricultural extension programmes is in agreement with what the United Nations entities mandated to gender mainstreaming and women's empowerment are doing at the global level. At the national level, the UN Women Kenya Country Office based in Nairobi, has documented the life-stories of women political leaders highlighting their cultural struggles, courage, resilience, and transformative activities over the last seven decades; the 50 stories tell of the struggles women political leaders have engaged in to expand their spaces in political, economic, social and cultural spheres in Kenyan society. The life-stories in *50 Journeys* capture the role of Kenyan women governance, economy, social justice, food security, peace-building, conflict resolution, mitigation of ecological disaster and humanitarian action to ensure survival of the people in their natural habitats (cf. UN Women Kenya Country Office, 2018).

The life-stories documented depict the role of women political leaders in Kenya who struggle to give voices to rural grassroots champions of sustainable development. The life-story of Hon. Gladys Wanga is one of the *50 Journeys*. She says that she gets her inspiration from older women in her county such as Hon. Phoebe Asiyu, a long standing politician to stand firm against all odds caused by culturally embedded patriarchy. She has words of wisdom for other women:

Never give up. People will try and run you over but do not at any one time give up (UN Women Kenya Country Office, 2018).

In her documented life-story, Gladys Wanga identifies issues in her critical narrative pedagogy as: equipping women and youth for sustainable development; initiating projects, for instance, savings and credit co-operative organizations, which will

emancipate women and youth from oppressive cultural systems at grassroots level; and engaging in sustainable development discourses in the Kenyan society. A firm believer in the restoration of indigenous knowledge systems, she advocates for the integration of traditional food plants in agricultural policy-making frameworks at national and county levels. Prof. Wangari Mathai, Nobel Laureate, environmentlist and Kenyan political activist who also founded the Green Belt Movement once gave some words of wisdom thus:

African women, in general, need to know that it is OK for them to be the way they are – to see the way they are as strength and to be liberated from fear and from silence (UN Women Kenya Country Office, 2018:89).

The Kenyan woman in particular can draw from the sagacity of Wangari Mathai who believed in a critical pedagogy of the African woman's indigenous ecological knowledge; and her self-worth as she makes her journey to the ultimate destination of self-realization. The recognition of the African woman's indigenous knowledge is a movement in self-liberation, food security and cultural sovereignty both at national and county levels of government.

4.2.4 Ethnography of Communication and Its Application to Women's Indigenous Knowledge for Food Security

This is a typical life-story of the woman farmer starts with where she was born. It is a narrative of the female life-cycle with a motif running from birth, infancy, childhood, girlhood and ultimately womanhood and marriage. This motif is captured in Simeon H. Ominde's ethnographic study which led to the publication of *The Luo Girl from Infancy to Marriage* (1987 [1952]). The ethnographic writer approached the narrative with the advantage of his experiences during a childhood upbringing in Luo society. Ethnographic

encounters with agroecological activities begin at home and this kind of exploration of self-identification usually starts with where one was born (Malinowski, 1938). The Luo girl upon marriage adopts a duality of self-identity.

The introduction of a typical woman farmer's life-story is anchored on a common motif but there is a considerable divergence of detail in terms of the experiences of the narrators. The ethnographic approach brings out the particular procedural skills and propositional knowledge of the women farmers but cannot avoid generalizations based on cultural commonalities of foods in rural households. The study uses concrete descriptions and discourse analysis of the oral narratives and life-stories of informants to contextualize the indigenous knowledge for food security. Take the life-story of a woman farmer from Kanyada in Homa Bay County, but has a very rich cultural heritage covering different Kenyan spaces as a public servant in environmental conservation and management.

Ethnography of Communication

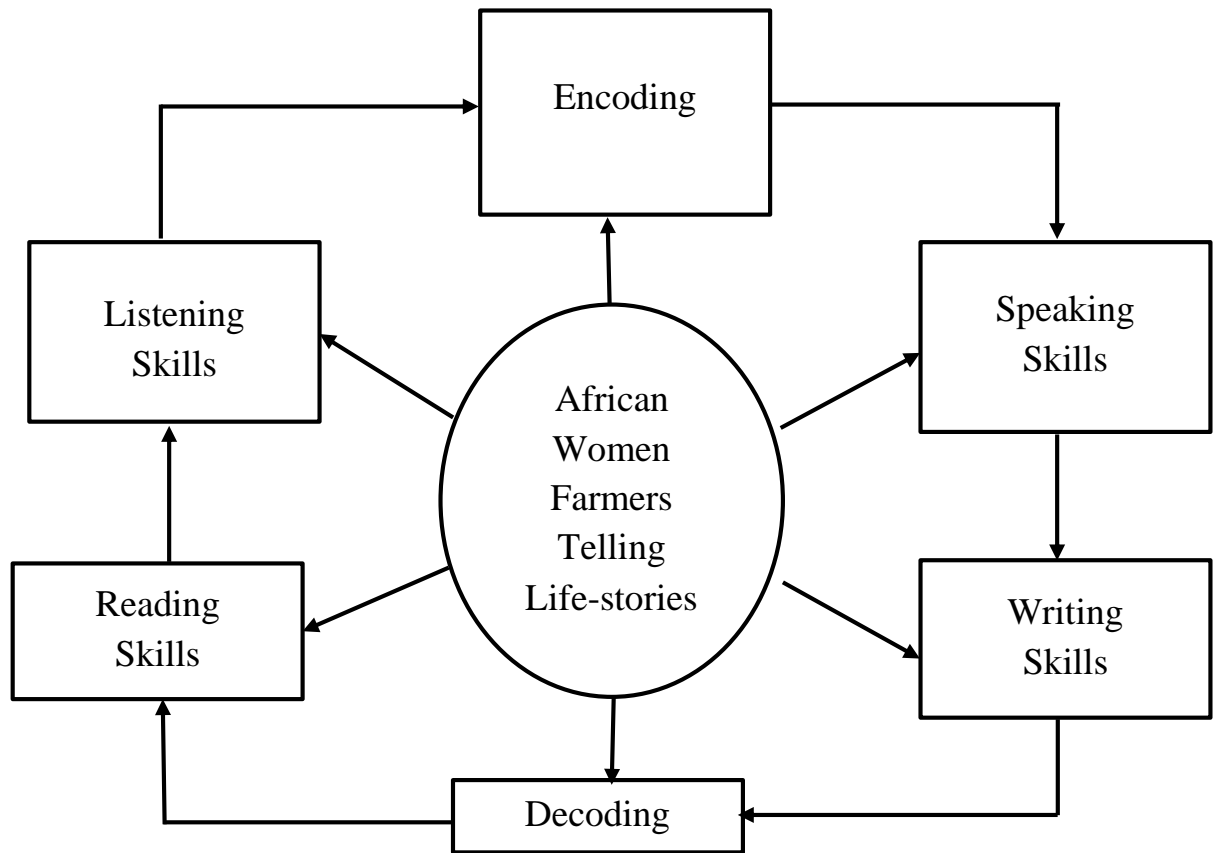


Figure 4.1: A Model of African Feminist Narratology

The life-story of Mary Ochieng'-Mayende is one of the examples of an African woman farmer who combines tradition and modernity. In her story, she captures her experiences as a small girl growing up in Nairobi and Homa Bay: a complex blend of urban and rural settings which enrich her knowledge. Her educational journey takes her to different schools and colleges; she eventually joins civil service for which she works until her retirement at age 60 when she settles down as a farmer and businesswoman. Her voice represents many resilient African women farmers in the epistemological quest for food security in rural households:

My name is Mary Ochieng'-Mayende. I come from the Kothidha clan of the Kanyada people, Homa Bay County. I was actually born in Ofafa Maringo, Nairobi 60 years ago. My father was working in Nairobi with a multinational company known as Magnam International. He was a painter. My mother was a

house wife and a small scale-trader. Though my parents lived in Nairobi, they decided that I should go back home and live with my paternal grandmother at Kanyada-Kothidha in Homa Bay County. I attended local primary schools; I later went to Rapogi Girls Boarding School where I sat for my Certificate of Primary Education. I then proceeded to Pangani Girls High School, Nairobi where I sat my East African Certificate of Education 'O' levels in 1977. During most of my school holidays, I went and stayed with my grandmother in Kanyada and she taught me what a girl and young woman needed to know. It was a parallel non-formal/informal educational system which complemented my formal school education.

4.2.4.1 Specifying the Critical Pedagogy of Location and Place

The story of Mary Ochieng⁷-Mayende, 60 years (a retired civil servant, businesswoman and small-scale farmer) depicts a background which is rather complex. Quite noticeable is the variety of cultural landscapes including both urban and rural settings: Nairobi, a cosmopolitan city on the one and Homa Bay County, a rural landscape with a kinship network of sisters, brothers, cousins and grandparents. The family seeks to balance urban and rural; town and county; modernity and traditions; it is a narrative that attempts to blend socio-economic forces which contend for centrality in the life-story of a girl/woman who has to cope with all these many cultural demands. The narrative continues:

After my 'O' levels at Pangani Girls High School in Nairobi, I went to Lwak Girls High School, Nyilima in Asembo, Siaya County between 197-1979 for Kenya Advanced Certificate of Education. In 1980, I was recruited into the Kenya Civil Service and posted to the Ministry of Tourism and Wildlife. I was mainly an arts student; I was not very interested in the sciences. However, an opportunity presented itself for further training at the African Wildlife Training Institute in Mweka-Moshi, Tanzania.

For my 'A' levels, I had studied literature in English; Geography; History and General Studies (the first three being principal subjects and the last one was offered at subsidiary level). At college, I enrolled for a Diploma in Wildlife Management which needed a lot of biological and environmental knowledge. When I came back to Kenya from my training two and half years later, I was given further on-the-job training which also included security matters relating to the National Parks and Game Reserves in Kenya. Initially, worked for the Department of Wildlife Conservation and Management but in 1990, these

departments amalgamated to establish Kenya Wildlife Service under the leadership of Dr. Richard Leakey who had earlier on been the Director of the National Museums of Kenya. My tour of duty took me to various parts of the county as a Game Warden: Garissa in North Eastern Region; Nakuru, Kitale and Lodwar in the Rift Valley Region; Marsabit and Isiolo in the Eastern Region; Amboseli in Kajiado and Tsavo West in the Coastal Region of Kenya. I also worked in Nairobi and its environs which has a national park. Eventually, I worked in my home area of Homa Bay County from where I retired when I attained the mandatory retirement of 60 in the year 2018.

4.2.4.2 Describing the Family Structure and Organization

The educational and professional training of this woman farmer gave her exposure in wildlife, tourism and environmental and natural resource management in different parts of the Republic of Kenya as a conservationist working with a parastatal organization. It was however, not without its challenges since she also had a person life involving marriage and the family. Professional women have to juggle several roles: wife, mother and bread-winner which all need attention. Our informant speaks for herself once again:

I was married into the famous Umira Kager Clan of the Alego people in Siaya County. You will recall that Kager Clan in Alego is the clan of the famous lawyer Silvanus Mela Otieno who was married to the equally famous Virginia Wambui Waiyaki-Otieno from Kiambu County.

She fought to bury her late husbands S.M. Otieno at Upper Matasia near Ngong Town, but the courts ruled against her. The remains of S.M. Otieno were eventually buried at Nyamila in Nyalgunga Siaya County. In Luo kinship network, I would address the late S.M. Otieno as my bother-in-law (Luo: yuora). Members of the Ger Union (East Africa) are scattered all over Luo-speaking settlements in Gem, Alego, and Uganda in Siaya County; and Butere-Mumias in Kakamega County.

I had 5 children (4 boys and 1 girls) with my first husband (a policeman) who died and was buried at his father's homestead in Nyadhi-Alego, Siaya County. He never established his own homestead. I decided to move on and re-married a Teso man from Amagoro in Busia County. We had two children (1 boy and 1 girl). We built a house together in his village on family land. He was a married man already with other children. After some time, he married a third wife. That meant that I now had to contend with sharing a husband with two other women: the First Wife; I was the Second Wife and there was a new addition the Third Wife. There were cross-cultural complications since my five children were of Luo

paternal origin while the last two were of Teso paternity. I pulled out of that Teso arrangement but I could not go back to Umira Kager in Alego, Siaya County and resettle there with my now blended family. It was then I decided to establish myself in a neutral place where I would bring up all my children together without any cultural demands from the Umira Kager people in Alego-Nyadhi or Teso people in Busia.

I knew that my retirement would come sooner than later; planning for my children's future was my top priority. I looked for a piece of land in a place called Winyo Village in Kamagambo, not far away from Opapo Tradng Centre. It is a high agricultural potential area; that is where I built my homestead and started intensive farming. I consider myself a Matriarch and head of my household. We have a total of three acres.

I have educated all my children up to university level; some of them are engaged in gainful employment and they help finance the agricultural projects on the farm.

My family is growing since I am now a grandmother of five children. At age 60, I am a matriarch and I am happy to be one.

4.2.4.3 Delimiting the Agricultural Requirements

The contextual meaning of family structure and agricultural activities in Luo society can be derived from the life-story of Mary Ochieng'-Mayende who recollects how the patriachal systems worked in her grandfather's homestead and today in her own homestead where she has the power as matriarch:

Indigenous Ecological Knowledge is a blend of the cultural practices I got from my paternal grandmother in Kanyada. It was a large home with Mikayi; Nyachira; and Reru. My grandfather and his three wives were farmers. I learnt the skills and acquired the agricultural knowledge from them during school holidays. Indeed, the things I do today were imparted to me by my grandparents.

After retirement, I have come back to the land. I also do business and rent out houses to tenants in the local trading centre where I have built an estate. What I love most is farming on my three acre piece of land. I have a borehole which supplies the farm with water; I also harvest water from the roofs of the building on the farm. We have a constant supply of water all the year round. We keep cross-breed cattle which yield milk for sale; we grow vegetables; maize; beans; peas; napier grass; tomatoes; fruits like mangoes; pawpaw; and avocados. In addition to these modern crops, we also grow indigenous crops and I draw from

the knowledge I got from my grandparents: millet; sorghum; and various indigenous leafy vegetables.

The agricultural and animal husbandry requirements dictate that I get the services of veterinary experts and extension workers. My farm is, therefore, a blend between the traditional and the modern agricultural practices.

4.2.4.4 Specifying the Farming Activities

A British anthropologist whose study of the social and economic changes among the Luo of Kenya looked at different aspects of agricultural development and land tenure (Whisson, 1964:229-234) found that food insecurity or famine was not experienced because of lack of food; it was caused by lack of transport to local markets and money to buy a variety of food products. More than 50 years after independence, Kenya is still grappling with transport and marketing of agricultural products. Another factor observed by Michael Whisson was the land tenure system and ownership:

One of the major problems in development has been fragmented smallholdings scattered over several miles of land, costly in terms of labour to work (Whisson, 1964:232).

Consolidation of fragmented pieces was the land policy at independence; however, further sub-division has continued throughout the post-colonial period which has affected farming activities in the Nyanza region of Kenya (cf. Gordon Wilson's *Luo Customary Law and Marriage Laws/Customs*, 1961). Large polygamous families will continue to have further fragmentation of land. The informant, Mary A. Mayende, specified some of the farming activities she observed as a girl while growing up in Kothidha-Kanyada, Homa Bay County thus:

My grandfather had a large family. He had three wives. The ploughing was done after the land was cleared. The men in the family would wake up very early in the morning. Ploughing followed clearing the plot of land, and burning of the trees and grass cleared from the field. This made it easier for the ploughing with oxen

to take place. The oxen were either four or six depending on how hard the soil was.

After the initial ploughing was done, the land would wait for sometime before the repeat performance (Luo: yoro puodho) which would be followed by planting when the rains came. The kinsfolk in the village would help each other in communal work groups (Luo: Yworo ng'ato pur) because they would say that: "many hands make the work lighter.

I always heard the villagers say: "Kawuono wadhi yworo ng'ane doyo" (today, we are going to help so-and-so to weed his gardens). During all these activities, traditions and customs were observed: "Jaduong' wuok e od Mikayi," (The Elder would emerge from the house of the First Wife). This tradition followed all the major activities of cultivation; weeding; harvesting; and storage of crops.

4.2.5 Translating and Interpreting Language of Agroecology

This ethnographic study has mainly focused on two main sources of information on women's indigenous knowledge for food security in Luo society. These are oral testimonies and life-stories of women farmers in Homa Bay County. Dholuo is the main language spoken in the Nyanza Region of Kenya. *The Oxford Concise Dictionary of Linguistics* classifies Dholuo as a Nilotic language which is one of the largest in East Africa (Matthews, 2007:263). British linguist, David Crystal, in *The Penguin Dictionary of Language* describes Dholuo as a Nilotic language spoken by more than 3 million people, "mainly in Kenya, with some speakers in Uganda and Tanzania" (Crystal, 1999:204). The orthography used in the written form of Dholuo is based on the Roman alphabet which was introduced by British colonialism in Kenya.

The Roman Empire passed on alphabetic writing to Western Europe which in turn passed it to the colonized world after "several modifications to fit the requirements of the spoken languages encountered" (Yule, 1997:13). In a multilingual context such as Kenya, the task of translating is a daily activity. The term translation is technically understood in linguistics as the task of turning "meaning of expressions" in the source language into

meaning of the target language (Crystal, 2005:417). In this ethnographic research, the source language is Dholuo and the target language is English, the official medium of communication in Kenya's educational system.

The term interpretation is used in social discourse when people from different language backgrounds meet; the services of interpreters are frequently required at such encounters (cf. Crystal, 2005:419). At the local level in Homa Bay County, there was no need for an interpreter to help in communicating with the women farmers since this researcher and the assistants were native speakers of Dholuo. The few informants who were non-Luo speakers were fluent in either English or Kiswahili, which are the official languages in Kenya.

Detailed ethnographic notes were taken both in English and Dholuo during life-story interviews and oral testimonies. The narratives were mainly conducted in the language of the local areas of Kanyada and Kabuoch in Homa Bay County which is Dholuo. It is almost impossible to access indigenous knowledge based on oral tradition unless one goes out into the field to do research; that is collecting life-stories and oral testimonies of the folk sages who are custodians of the cultural practices of the local people. The researchers use the local languages, through translators and interpreters if they do not have a working knowledge of the source language.

Ethnographic research, therefore, is a process of "collecting and recording oral material" (cf. Bukenya, Gachanja and Nandwa, 1997:25). It ought to be noted that oral narratives may be based on folk tales (fiction) or true life-stories (non-fiction). In our case, we are interested in true life-stories of women farmers and the pedagogical value of their

indigenous knowledge for food security. Our focus is therefore, more specific than that of oral literature and folklore in general: the “Oral Tradition” which Ngugi wa Thiong’o and his colleagues referred to in their proposal (cf. *Homecoming*, 1972:147). Both fiction in oral literature and non-fiction in ethnographic writing draw from a common cultural landscape; they both draw from old wells by reclaiming what might have been lost treasure hidden in the annals of oral history (cf. Ogot, 1967; Vansina, 1961; Vansina, 1985; and Simiyu, 2016).

The study of oral culture in East African continues to be of interest to different researchers in the humanities and social sciences. Oral historians suggest that: “oral traditions deal with material that goes back at least one generation before the present” (Simiyu, 2016:150). The approach in oral history recommends that the sources of information must be 50 years and above to be considered as authorities. This approach to Oral Tradition as a study of historical methodology was popularized by Jan Vansina who mainly worked in French. The materials he gathered and published were later translated into English by H.M. Wright, who notes that the term oral testimony is used in the technical sense of “to make a testimony,” the word in common usage means “to testify” (cf. Vansina, 1965:22).

Translation and interpretation of life-stories and oral testimonies in ethnographic research can bring different challenges because life-stories are narrated by people who are experiencing the events and cultural practices in real time and space; life-stories are current, though they also draw from memory of the past. The folk-sage or story-teller draws upon experiences from the past, the present and projects into the future. Such folk-sages or story-tellers are thought of as prophets in Africa. In African philosophy, “a sage

may be a prophet and a prophet may be a sage” (Oruka, 1991:2). This Orukan dictum arises out of the reality in non-literate cultures that those who do not know how to read and write in the Western European tradition of the Roman alphabet, can still be knowledgeable and wise in their cultural contexts. African philosopher Henry Odera Oruka had this to say:

A prophet predicts to the community about the future. Some do this as a result of a flash of insight or revelation into which they may not always be able to repeat (Oruka, 1991:2).

Prophets from Biblical narratives could predict that there would be no rain and famine would sweep across the land (cf. Story of Joseph: Genesis 41:1-47). In the Biblical narrative, Joseph gave an interpretation of Pharaoh’s dreams which helped the entire land of Egypt from the famine of seven years because of the strategic grain reserves; people came from as far as Israel to buy grain from Egypt (Genesis:42:1-38). While Biblical narratives cannot be treated as actual histories in a technical or literal sense, they can be applied in interpreting human experiences in different cultural contexts. Prophets in both African and Biblical narrative traditions played the role of teaching people about agroecological conditions relating to human survival (Healey, 1996: 87-88).

Some of the African oral narratives have uncanny similarities with Biblical folklore. In Luo society, there were seers who could also predict the future: whether there would be rain or drought; whether there would be a bumper harvest or crop failure. The indigenous ecological knowledge would use certain cues to predict weather patterns. A good example is “The Legend of Nganyi” who was a famous rain-maker and well known among the Luo and Luhyia people of Western Kenya (Translation of “*Thuond Luo*”, Ojwang and Okungu, 2003: 47-50).

This oral narrative of rain-making among the Luo and their neighbours originated from a mystical woman from Karachuonyo who caused a thriving village to sink and become Simbi Nyaima when they did not welcome her into their midst during a beer-drinking party after a bountiful millet harvest. From Karachuonyo in South Nyanza, she journeyed to different parts of Central Nyanza and beyond in an attempt to pass on her indigenous ecological knowledge of rain-making in Alego, Sakwa, Alego and Gem from where the mystical woman journeyed to Luhya territory and settled among the Abasiakwe in Bunyore where she passed on her secret knowledge of rain-making to an equally mystical man known as Nganyi.

According to a narrative in “Luo Legends” (Mayor, 1938: 17-21), the legendary character Nganyi was also the custodian of indigenous ecological knowledge and secret ancient stories of rain-making. He learnt the secrets from the mystical woman from Simbi Nyaima in Karachuonyo near Nam Lolwe which the British colonialists later named Lake Victoria. Though the legendary Nganyi was from a Bantu-speaking clan of the Abasiakwe, the Luo-speaking peoples in Nyanza elevated him to a ritual leadership position; he became the chief advisor to the whole community on agriculture and food production. He would tell them when to plant crops, how to guard against hail-stones and other natural calamities. It was said that when it was about to rain, Nganyi could see visions of lightning flashing across the sky and large snakes crawling from their hide-outs on the land. This is reminiscent of the appearing of the legendary Luo serpent known as Omieri which was associated with good grain harvests whenever it was sighted in the neighbourhood by the lakeside dwellers. It was believed that the appearance of the mystical serpent was a sign of glad tidings; it was given goats, sheep and chickens to eat

whenever she visited the village. No harm was to be done to her since she was believed to connect the physical and spiritual realms in Luo cosmology. With time the legendary serpent would slither quietly into the lake and rain would follow with a good harvest (Cohen and Odhiambo, 1992: 76-77).

Similarly, the mystical character Nganyi could predict that the rains would come soon when he made ecological observations which were tell-tale signs for him to inform the people to be ready for the planting season. These tell-tale signs were definitely ecological which could lead him to make accurate predictions of the onset of rain; the ecological signals included the sightings of certain species of serpents and other creeping creatures which signalled that the rains were almost due and people needed to prepare for planting (Mayor, 1984 [1938]: 19).

The ethnographer who compiled the enchanting narratives of “Luo Legends” was an Anglican Church missionary in Western Kenya; he taught at CMS Maseno School when the book was published in 1938 and Ng’iya School when the book was revised in 1955. The supplementary reader in Dholuo was known as “Thuond Luo” and was supposed to be used in Standard III and Standard IV. As an ethnographer from another culture, the Anglican educator, A W Mayor, was aware of the fact that his versions of the Luo legendary characters could be different from what other people knew.

However, his interest in documenting the stories was language pedagogy in an authentic cultural environment. He was also interested in the folklore and linguistic ecology of the Luo people since each legendary character came from a major Luo clan. The ethnographer’s aim was to preserve Luo cultural knowledge and to teach basic reading

skills in primary schools using authentic learning materials. He also pointed out that the aim was not to teach about enchanting magical powers such as rain-making since Christianity could not endorse some of those beliefs. He conceded that all cultures of the world used myths and legends as folk media to pass subliminal messages from one generation to the next; moreover, the ethnographer said that the stories did not have to be believed at face value but were interesting to read for entertainment purposes. He recommended that teachers using these enchanting folk narratives in class should make it clear that a large portion of the legends might not necessarily be based on the historicity of the characters. The life-story messages of the legends had deeper pedagogical value which made the collection *Thuond Luo* (Mayor, 1938) important reading in Church Missionary Society educational institutions like Maseno School (Established in 1906).

4.3 Reflections on Indigenous Knowledge, Skills and Experiences of Women for Food Security

This section covers an analysis of indigenous knowledge, skills and experiences for food security by reflecting upon oral testimonies and life-stories of women farmers in Homa Bay County, Kenya.

4.3.1 Women's Knowledge on Food Crops: Vegetables, Root Crops and Grains

In her book *“Reaching Out to the Women of Africa”*, Rosalia Achieng Oyweka, a coordinator with Rural Extension with African's Poor (REAP), explains her conviction that women can share ideas in their localities: topics such as conserving the environment, caring for sick children, or making locally can be part and parcel of the programmes of grassroots women's groups. On issues of health and food security: “indigenous knowledge plays a major factor in addressing the women's needs,” (Oyweka, 2000:53).

In rural areas, different customs and traditions are followed in food production; everyone has a role to play.

Women farmers produce grain, cassava, vegetables: however, *bel* (sorghum) is one of the most resilient grain crops in Luo cultural history. This crop *bel*, sorghum bicolor (Gramineae or Proaceae) is used in various ways as foodstuff. “Sorghum flour is made into porridge and mixed with various herbal medicines for treatment of diarrhea,” (Kokwaro, 1998:30). Another traditional grain with ritual significance is *kal*, Eleusine coracana (Gramineae or Proaceae). The African finger millet is grounded into powder and is usually mixed with cassava to make fine flour used in making porridge (cf. Kokwaro, 1998:43). A third traditional crop which is highly revered in Luo traditions and customs of *golo kodhi* (ritual planting) is *ng’or*, Pisum Sativum (Leguminoceae subfam. Papilionoideae). Seeds and leaves are consumed as vegetable by the Luo people. These three seed-producing crops: *Bel*; *Kal*; and *Ng’or* are ritually significant in Luo agricultural practices. Mary Ochieng’-Mayende reveals the traditionally and customarily significant agricultural crops and some which have been culturally appropriated through indigenization by the Luo people in Homa Bay County in the table below:

Agricultural Crops	Luo	English
Crops	<i>Oduma Mar Nyamula</i>	Yellow maize
	<i>Bend Ochuti Makwar</i>	Sorghum (red in colour)
	<i>Ng’or – Boo</i>	Cow peas (seed/leaves eaten)
	<i>Olayo</i>	Green peas
	<i>Njugu</i>	Groundnuts
	<i>Mogo/mariaba</i>	Cassava
	<i>Rabuon</i>	Sweet potatoes
Vegetables (cultivated)	<i>Mitoo</i>	Bitter vegetable
	<i>Apoth</i>	Slimy vegetable
	<i>Osuga</i>	Traditional vegetable
	<i>Akeyo</i>	Traditional vegetable
	<i>Boo</i>	Cow peas (leaves eaten)

	<i>Oganda</i>	Beans (seeds and leaves eaten)
Vegetables (wild)	<i>Atipa</i>	Wild vegetable
	<i>Odielo</i>	Wild vegetable
	<i>Onyulo</i>	Vegetable Similar to <i>Apoth</i>
Fruits (cultivated)	<i>Machunga</i>	Oranges
	<i>Ndim/Malmao</i>	Lemons/lime
	<i>Maembe</i>	Mangoes
	<i>Apoyo</i>	Pawpaw
	<i>Abukado</i>	Avocado
Fruits (wild)	<i>Mapera</i>	Guava
	<i>Ochuoga</i>	Sour wild fruit
	<i>Chwa</i>	Sour wild fruit
	<i>Powo</i>	Fruit bearing tree
	<i>Sangla</i>	Sour wild fruit

Table 4.1 (Source: Mary Ochieng'-Mayende, 60: Informant No.22)

4.3.2 Regulating Women's Agricultural Activities: Luo Customs and Traditions

Concerning Luo customs and traditions surrounding agricultural activities in Luo society,

Mary Ochieng'-Mayende says:

Harvesting seasons were religiously observed among the Luo people. In our homestead, my grandfather and his wives made sure that the ceremony of gwelruok (First Harvest) was appropriately observed. To my mind, social order was a control mechanism so eating of green maize was prohibited before the elders performed the ritual of gwelruok:

Ka dine onge chik mar gwelruok, to ne nyithindo manyiri kod yawuoyi bulo kata book oduma puodho mangima. (Translation: If there were no traditions and customs to be followed, then the children could roast and boil green maize without any control from the elders.)

In our village strict dietary controls were observed. There were also food taboos of what men, women, boys and girls would eat; this ensured that there were nutritional controls in the household (Mary Ochieng'-Mayende, 60: Informant No.22).

This life-story is a naturalistic one with the narrator telling us about her life and how they raised food from the land as a large polygamous family in Kanyada. The life-story is purely functional and does not seek to entertain the audience; it seeks to pass some messages and impart some agricultural ideas to those who would care to listen. This life-

story is meant for guidance and counselling for the younger generations. The narrator is already 60 years old; she is a grandmother and she has young daughters-in-law who might wish to learn how food security can be achieved through sheer hard work on the land. This life-story helps the audience to understand themselves by asking probing questions: what kind of childhood did they have when it came to food matters? The narrator explores food security in social context. It looks at life subjectively from the narrator's view point. Life-stories are autobiographical as we see in the narratives we are told in this study. In Kenya the genre of autobiographical writing has become fashionable among top public servants; politicians; clergy in the Church; intellectuals who operate in institutions of higher learning and more. The voices of rural communities need to be heard as well; this retired civil servant tells her own life-story after leaving the comfort zone of employment and struggling with a new life after retirement. She settles down among her people and continues from where she left according to what she learnt from her grandparents.

4.3.3 *Dero*: Symbol of Food Security in the Luo Homestead

In the life-story of Mary Ochieng'-Mayende, we continue to learn about the symbolic significance of *Dero* (Luo: granary/food store) when narrates her childhood experiences below:

The Luo people of Homa Bay County used to have dero (granary) for keeping dry cereals and grains. These were traditional food stores. We had many of them in my grandfather's homestead.

When I was growing up, I was taught many things about how to handle food storage in the traditional stores. Dero was a symbol of food security in the homestead. It was weaved in such a manner that allowed aeration so that the grains would not grow mold. Millet and sorghum was preserved in ash which ensured no pests would attack for long period. There were also large pots in my grandmother's house where millet and sorghum was stored:

*“Dhako ka dhako nene nyaka bedi gi deche”
(Each wife was expected to have her own granary).*

In my view as a farmer, I think there should be programmes designed to reclaim our indigenous agricultural knowledge. Some of these traditional crops should be reclaimed and rehabilitated for posterity, because they had very high nutritional value for all in the family. Indigenous leafy vegetables like Onyulo and Apoth should still readily be available around homesteads and kitchen garden. Young women should be taught about these indigenous leafy vegetables and how to harvest or collect them for domestic household use. The same should be done for the fruits which can form critical food forests in the community and around homesteads in Homa Bay County and the Lake Victoria Basin (Mary Ochieng'-Mayende, Informant No.22).

From this life-story which is significant as a learning model, we can appreciate that telling stories is not an idle endeavor, but an educational experience for both the listener and the narrator; it is an activity which lifts up the rural poor and liberates the struggling people engaged in small-scale farming as agribusiness. Telling life-stories has gained respect among social researchers: anthropologists and sociologists; psychologists and educationalists; literary scholars and oral historians; all these disciplines now recognize the life-story approach in collecting vital information for human transformation (cf. Atkinson, 2002).



This is an artist's impression of the traditional Luo grain store known as *DERO* found in South Nyanza District Socio-Cultural Profile (1986:95) Source: Institute of African Studies, Universities of Nairobi

4.3.4 Women's Knowledge and Experiences with Agricultural Activities: Conversation with Christabel Opiyo Omolo, 85 years

Historically, it is believed that human beings started to plant crops around 9000 B.C. with the earliest being cereals such as wheat, barley, sorghum and millet while the earlier animals they kept were cattle and goats (cf. KLB, 2016:1). From the life-stories of women farmers in Kanyada and Kabuoch, sorghum and millet occupy a very important place in crop production for domestic consumption. Land ownership in Homa Bay County is still held by families, with grown sons and their wives being allocated portions for cultivation. Access to land for cultivation has increasingly been a source of conflict

among many Luo farmers generally. Those who live in Homa Bay County in particular are not exempt from this challenge.

The seasonality of food production and the rhythm of agriculture is interpreted in terms of the ecological time “measured by natural phenomena which appear at certain given moments and which regulate human activity,” (Vansina, 1965:101). In many African communities, the year is divided into two broad seasons, namely the rainy season (Luo: *ndalo koth*) and the dry season (Luo: *ndalo oro*) with children born during the rains called Okoth (male) and Akoth female). Identities are given to the children in terms of seasonality of climate circumstances of birth and local ecologies such as: children born during the dry season being given the name Ooro (male) or Aoro (female). Ecological time in Luo society is, therefore, seen in terms of the season (*ndalo*) of land clearing; primary cultivation (*puro puodho*); secondary cultivation (*yoro puodho*) when the land is smoothed for planting season (also called harrowing in agricultural terminology) (cf. Capen, 1998:162; Omondi, 1992:82). Digging the land a second time or even a third time to make the soil soft for planting finger millet (Luo: *Kal*) might also be called *buso puodho* (cf. Omondi, 1992:82). The land tenure system does determine which son (and his wife or wives) will cultivate followed by the second and third as they alternate in the allotment of portions of land for both building houses and cultivation (cf. Gordon Wilson, 1961). The land is divided among the sons traditionally according to the lineage (Luo: *Kakwaro*) and their mothers. Land was further divided among the sons of one mother:

This led to an inevitable process of fragmentation which was slow when the population was growing very slowly (Whisson, 1964:86).

The land tenure system among the Luo of Kenya could result in the marginalization of women farmers since they derived their cultivation rights from the men in traditional society. The Constitution of Kenya, 2010 has attempted to change that position since both men and women are given equal rights to own property, including land which must be used in “equitable, efficient, productive and sustainable” manner and ensuring the elimination of “gender discrimination in law, customs and practices related to land and property in land” (cf. Constitution of Kenya, 2010:60(1) p.68).

Lack of access to land for cultivation by women in rural households has tended to lead to cultural discrimination against women and girls who are expected to leave home and be married elsewhere but the legal framework in Kenya is now changing with women being considered equal with men according to the Bill of Rights enshrined in the Constitution of Kenya 2010. However, women farmers must work hard as an oppressed and marginalized social category. Civic education of the women farmers should empower them to demand their rights at the grassroots, county and national levels. The values of the Kenyan constitution and legal framework, provisions of the Bill of Rights and sharing of resources equitably need to be incorporated into civic education programmes which focus on women farmers at grassroots level of devolved units of governance (cf. Cheboryot, 2014).

The empowerment of women farmers through cultural liberation can be achieved and reclaimed by retracing epistemological footsteps to an archetypical matriarchal state of reality when:

Woman was autonomous, owned property, sat on the council of elders, served in the courts of law, and passed down the sovereign rule, in many lands, through matrilineal descent. The children born to woman were legitimate and

respectable, inheriting her property, name and title, in many places, whether or not she was married. Woman was recognized by her knowledge and sought out for her advice in practical matters. She held jobs alongside men and was valued for her insight and authority in all things seen, (Judith Duerk's Circle of Stones: Woman's Journey to Herself, 1989:33-34).

The narrative journey of the woman farmer into her archetypal selfhood and autonomy; occupying the place of environmental manager; utilizing her indigenous knowledge for food security; and engaging in critical discourse analysis of life-stories, should lead to greater empowerment for the African woman in the 21st Century. The archetypal-matriarchal autonomy is echoed by a woman farmer and trader in Kanyach-Kachar area of Kanyada (cf. Life-Story 1):

I do not wish to lie to you people; I never went to school; I did not even go to adult literacy classes when they were introduced by the government. All I know is pur (cultivation of the land) and ohala or loko (buying and selling; trading; business). When I was still strong, I used to plant different crops: maize; millet; groundnuts; vegetables and more (Christabel Omolo, 85: Life-Story No.1).

In her life-story, we see a woman who is resourceful and attached to the productive land by ensuring food security for the household. The life-story of Christabel Omolo depicts how in traditional Luo society, people think and speak in story form. She narrates stories about land preparation in the homestead of her husband, Philip Omolo Nyadibo; with flashbacks to her early childhood at a small village; her Kwabwayi clan of the Luo people in Ndhiwa Constituency; her kinsfolk including the Hon. Joshua Orwa Ojode who was their local Member of Parliament. He was also an assistant minister for internal security in the Grand Coalition Government of President Mwai Kibaki and Prime Minister Raila Odinga. The narrator says that she is *Nyar gi* Otieno Ogingo, another former Member of Parliament of the same constituency. In her life-story, Christabel Omolo recollects the Luo praise names of women in Kwabwayi like *Achupa; Asande; Atiga; Atayi* among

others. Such praise names were used by women as they boasted during village dances. Her life-story shifts in setting and scene when she gets married to a hard-working farmer in Rodi Kopany, Homa Bay County.

The life-story depicts a typical polygamous Luo family in Kanyach-Kachar in Kanyada area: Christabel Opiyo joins the homestead of Jaduong' Omolo Nyadbo as *Nyachira* (second wife) for there is already a *Mikayi* (first wife) and some years later, the triadic family setting is perfected with a *Reru* (third wife). As the story unfolds, children of the homestead give mothers their new identities as motherhood takes centre stage with Mikayi known as *Min Aluma* (mother of Aluma Omolo who rises to become the Assistant Chief of Kanyach-Kachar sub-location). Out of this lineage emerged the Hon. Peter Opondo Kaluma, Member of Parliament for Homa Bay Town. A distinguished legislator and advocate of the High Court of Kenya, the local M.P. is the step-grandson of Chritabel Omolo, who also boasts that she is *Nyar gi* Hon. Orwa Ojode.

The story form expressed in this Luo landscape indicates the inter-connectedness of the local and national landscapes in Kenya linking the past and the present. The life-story is an ethnographic method that links the past, present and future generations. People are reminded of their identities human beings with biological and cultural roots through life-stories. Cultural history has the African dimension of “looking back” to parenthood and the socializing community of extended family networks and clans like Kwabwayi and Kanyada in Luo society:

Biologically and even socially all living people are inter-related and carry the same set of genes, similar cultural themes i.e., ideas, values and symbols, and similar human activities from birth to death and beyond (Kirwen, 2011:53).

In the life-story, the narrator takes us through different experiences in life: motherhood of 12 children in all, with some still alive and others dead; getting the identity of motherhood by being addressed as *Min Otisi* (the son got the name from a bus company known as OTC (Overseas Trading Corporation) which used to ply between the Capital City of Nairobi and other parts of Kenya such as Homa Bay, Kisii, Kisumu and Siaya in the Nyanza Region. The story-teller links her life as a farmer and trader who during her own youthful days of motherhood worked so hard. As a farmer and trader, who bought things from Homa Bay and used OTC public transport to estates in Nairobi such as Mathare and Kibera informal settlements in the 1960s and 1970s: the inter-connections of cultivation of crops and finding markets for the products from the land is captured by the identity of Christabel Opiyo Omolo who becomes *Min Otisi*.

In the ethnographic life-story approach, the narrator sometimes speaks in the first person when the researcher allows her to have own voice:

The Luo people practice agriculture, livestock keeping and fishing for their daily sustenance. The important agricultural rituals of land preparation and cultivation gives the Head of the homestead and Mikayi to make the first move in starting the season with the subsequent wives, Nyachira and Reru, following so that order could be maintained. We cultivated with our own hands and oxen drawn ploughs; tractors came much later. I, Christabel Opiyo, engaged in the cultivation of many food plants and I still do that today. When you came here to talk to me, you found me in the home garden, weeding and controlling weeds so that my vegetables and maize could not be sufocated by persistent weeds. My grandchildren help me with the work during holidays. I grow osuga; akeyo; mito; and other traditional vegetables. Cultivation of the land is all I know; I hardly do anything else. Cultivation of the land and growing food for my grandchildren is what makes me busy all the time” (Christabel Omolo, 85).

4.3.5 African Women's Leadership Role and Knowledge in Food Security

The story of crop production follows the same motif in terms of land preparation as a theme within the cultural domain of food security in the family. Like her contemporaries, Damaris Achola aged 82, is feeling safe and secure as this researcher rides into her compound. The homestead is large with many rectangular houses of concrete cement walls and corrugated iron roof tops. There is plenty of food grown all round the homestead. She is a prominent woman farmer in the neighbourhood of Rodi Kopany Trading Centre, a vibrant township having exceptional expansion of buildings since the arrival of devolution of governance in Homa Bay County and the surrounding Migori County, Kisii County and Nyamira County, a region which was known as South Nyanza during the pre-Independence period in Kenya.

A tour of the homestead of Achola reveals the impact of modern agriculture dating back to British Colonial era; her husband was an agricultural extension worker before Kenya got Independence. He continued to work for the Government in agricultural settlement areas such as Trans-Nzoia County (better known to the locals as Kitale) where many people got large farms under the Settlement Trust. Though her husband worked away from home, Achola narrates how she kept the home in Rodi Kopany going. The husband would come home on week-ends and during his annual leave:

My husband was an agricultural extension officer in Trans-Nzoia where many people got large farms in the settlement scheme. He declined to take up the farm offered to him in Kitale soon after Kenya got Independence. Instead, he established our homestead in Kanyada near Rodi Kopany where the family lives to this day (Damaris Achola, 82: Life-Story No.2).

The life-story of Damaris Achola is typical of many African families in Kenya before and after Independence: the father would be away from home because of a Civil Service job, and the mother would be keeping the home running. It was a complex socio-economic arrangement of the colonial experience. There were other settlement schemes in the Rift Valley, Western and the Nyanza regions which offered the emerging African elite an opportunity to own land which was being vacated by former European settlers. In an autobiographical article, Farming in Koru (October-November, 2016), Richard Pearce tells the story of his family thus:

My father, Reginald Pearce, came to manage a farm in Koru in 1910. He became known as Viazi, and when World War I broke out in 1914, he volunteered.

The inter-connectedness of the former White Highlands and the native reserves of Africans through farm workers and civil servants date back to the first half of the 20th Century in Kenya. The narrative continues:

Koru is on the railway line to Kisumu after Londiani with beautiful mountains and valleys. The terrain was not suited to cereal crops. Coffee would be grown in the valleys but the invasion of couch grass hindered that crop as well. Ultimately, sugar prospered in the area (Pearce, 2016:7).

From Richard Pearce's narrative, it is clear that British colonial agriculture emphasized cash crops in the European settlement areas. This confirms what Achola says: "modernity has changed a lot of things in agriculture." The European settlers mainly concerned themselves with cash crops which the British colonial administration encouraged. These crops were: coffee; tea; sisal; wattle; cotton; sugar cane; wheat and barley; coconuts; and cashew nuts (Ojany and Ogendo, 1988:127-131).

The commercial classification of crops in Kenya was introduced during the colonial period as part of agricultural policy aimed at supporting interests of European farmers in the White Highlands (Kokwaro, 2013:105-108). Crops like sisal were introduced in the Nyanza region by Greek settlers: there was a large farm in Koru which focussed mainly on sisal growing. The sisal estate was possibly the largest in Koru:

It belonged to Mr. Margaritis who as a Greek never really integrated into the Koru settler community (Pearce, 2016:12).

The narrative concludes that a few European settlers like Norman Brooks, who often frequents the exclusive Koru Club, later established himself among the African populace after Independence: “Today, Koru is a sea of small African-owned farms. The Brooks family still live in Koru and their Homa Lime Compound is an excellent example of a successful self-contained farm,” (Pearce, 2016:13).

These narratives of European farmers like the Pearces and the Brooks; and even the Greek sisal farmer, Margaritis, are in sharp contrast to the narratives of the local women farmers in Homa Bay County such as Damaris Achola and Christabel Opiyo. The need for decolonization of agriculture is even more urgent in order to improve food security from the “small African-owned farms” in the Nyanza region of Kenya (Pearce, 2016:13).

The ethnographic fieldwork based on the life-story approach to agricultural practices reveals local knowledge with regard to food production. The indigenous knowledge claims epistemological reality and cultural contexts of the life-stories reveal the juxtaposition of the tradition and the modernity which appear to co-exist in the post-colonial African landscape. As the narrator in Life-Story 2 states that modernity is overtaking tradition in many communities:

Modernity has changed a lot of things. But in Luo society, traditions and customs regarding cultivation and planting area still practiced (Damaris Achola Odindo, 82: Life-Story No.2).

Though Christianity and other forms of European influences continue to change things in Luo society, the cultural values and beliefs are respected. This might be symbolic in different contexts, but the social order is maintained in families and households. The narrators of life-stories use the same motif and, in Luo society, *golo pur* (cultivation) rituals cut across many other lives as that of each narrator. The idea featured in practically all the life-stories which concurred that the Owner of the Homestead and the First Wife (*Mikayi*) were the ritual leaders in the inauguration of any major agricultural season. The narrator in Life-Story 3 states categorically that:

Luo people had their traditions and customs which were religiously followed during: golo pur (land preparation); golo kodhi (planting crops); doyo cham (weeding); kayo cham (harvesting); and kano cham (storage of the harvested crop (Abigail Owenga Odira, 87: Life-Story No.3).

The narrators of these life-stories, ranging from their twenties to their late eighties and nineties as in the case of Kathorina Agunda, 95 years old (cf. Life-Story 11) kept repeating the food security motifs since the cultural narratives and the traditional practices they represented remained the same:

The essences of life-stories told seriously and consciously, in the voices of the persons telling them, are timeless; settings and circumstances change, but motif and the meanings they represent remain constant across lives and time (Robert Atkinson, 2002:137).

The life-story approach to pedagogy of indigenous knowledge for food security as narrated by women farmers in the locality of Homa Bay County may be replicated in many other African communities, though circumstances and settings will be different. The narrator in Life-Story 11 explains her experiences during childhood in Kamagambo-

Kambija before getting married as a young woman in Kanyach-Kachar in Marindi area of Kanyada, Homa Bay County. She narrates how she used to grow *bel* (sorghum); *kal* (finger millet); and *marieba* (cassava) during her younger days when she had the strength to do so: “these days, I feel rather weak because of old age. I was a very active farmer and trader.” The ageing women farmers narrate almost similar activities in their life-stories as if they went to the same “schools” or “colleges” of agriculture and yet they attended no educational institutions. In agricultural practices there are formal education; non-formal education; and informal education contexts in which knowledge is acquired.

Clearly, culture is knowledge of the world which members of a community acquire through social institutions, including the family. Members of a culture are required to know “certain facts” and must also “be able to recognize objects, places, and people.” They must also “share certain patterns of thoughts, ways of understanding the world, making inferences and predictions,” (cf. Duranti, 1997:26-27).

4.3.6 The Luo Girl Must Know How to Cook Before Marriage:

The Life-story of Abigael Owenga Odira, 87 years

The life-stories of women farmers in Homa Bay County confirm the saying that learning culture is like learning language which a child gets to know from the earliest period of formation. Indigenous knowledge is at the centre of the learning process, whether the form and content of the knowledge is formal, non-formal or informal:

To know a culture is like knowing a language. They are both mental realities. Furthermore, to describe a culture is like describing a language (Duranti, 1997:27).

The process of learning language is intricately tied to socialization from early childhood. As children grow up in a community, they also learn about the natural history of the local landscape and acquire strategies of coping. Knowing the lands and resources in local agro-ecological systems is at the core of any educational process. Indigenous agricultural education is necessarily at the centre of the socialization process as can be gleaned from the narratives of women farmers in Homa Bay County. Knowing how to cook is a metaphor which needs contextualization. The Luo girl then becomes part and parcel of the food production process which starts with cultivation of the land; planting seeds on the cultivated land; controlling weeds which compete with crops; harvesting crops when ready; and ultimately storing the harvested crops. The implicature of: “The Luo girl must know how to cook before marriage” is, therefore, a whole socialization process of the girl child from the earliest stages to the time she leaves her maiden home for a new life where she will assume new responsibilities.

The indigenous knowledge of women farmers for food security at home and in the community is, therefore, a competency based approach to the educational process of the girl-child from infancy to the time she gets married and establishes herself in the new home. Engaging in agricultural and environmental activities may take place at home (informal contexts); in playing groups within the community (non-formal contexts). Drawing from the indigenous knowledge base of the learner is an important methodological approach with pedagogical value in the learning process.

In Kenyan schools, for example, agriculture is only introduced formally as an examinable subject at secondary and not primary level. However, that does not preclude the use of agricultural and environmental activities across the curriculum at pre-primary and

primary levels of schooling. With the structural devolution of Early Childhood Development (ECDCs) to the counties, and with Mother Tongue (MT) as the medium of instruction at the pre-primary school stage, creativity may be necessary for teachers and administrators in their respective institutions. They may draw from local knowledge and still engage in universally acceptable “competency-based” educational activities which are relevant to real life situations of the school-going children. MT can be very useful at the pre-primary stages of schooling. The same approach may also be of pedagogical value at lower primary school level where MT has been formally recognized by the Ministry of Education’s institutional and curriculum policy framework. The Ministry of Education’s policy framework recommends that MT be taught as a subject at lower primary school level:

- i) To establish language skills such as listening and understanding, speaking, pre-reading and reading, pre-writing and writing. These should be done in a language that the pupils can speak well.
- ii) To reinforce and develop it as an effective medium of instruction. The use of mother tongue makes what is taught meaningful since it relates to the child’s previous experiences.
- iii) To develop it for greater use since it is the most comprehensive expression of the child’s cultural heritage comprising character, moral and religious values.

(cf. Mother Tongue Syllabus of the Ministry of Education, Republic of Kenya, pp.149-150).

The general aims of education in Mother Tongue seemed to have gained momentum from the late 1960s when African scholars such as Ngugi wa Thiong'o; Henry Owuor Anyumba; and Taban lo Liyong led a revolution at the University of Nairobi by advocating for an Afrocentric rather than a Eurocentric approach to education in Kenya (cf. Taban lo Liyong, 1972: v-xii).

In the preliminary and introductory sections of his work, *Popular Culture of East Africa*, Taban lo Liyong and his oral literature students (who acted as the researchers of their own folklore), the case for African cultural knowledge is strongly recommended. It appears that the seeds of Critical Indigenous Pedagogy of Place were planted in the East African landscape when these pioneers of African Studies categorically stated that:

The study of oral tradition at the University should therefore, lead to a multi-disciplinary outlook: literature, music, linguistics, sociology, anthropology, history, psychology, religion, and philosophy (Ngugi wa Thiong'o, 1972:148).

The oral culture of indigenous peoples of East Africa was recommended to take centre stage in the educational process in the humanities and social sciences, as the educational system was seeking to “decolonize” the minds of the emerging generations of scholars at the time. What Ngugi wa Thiong'o; Henry Owuor Anyumba; and Taban lo Liyong did was to place the Oral Tradition at the centre of humanities and social sciences since it was the “primary root” of the African cultural experience. The oral cultural expressions of tales, dances, songs, myths and other discourses in African communities have not only aesthetic values but also social purposes of transmitting vital messages as part of critical indigenous pedagogy (cf. Ngugi wa Thiong'o, 1972:147).

In this approach to critical pedagogy, both the teachers and the learners are engaged in exploratory cultural apologetics which advocate for reclaiming indigenous knowledge systems. This approach also advocates for the quest for relevance in terms of the form and content of the educational process.

In this critical pedagogy of place, Eurocentric focus of knowledge must be removed and a plurality of places for locating epistemological realities adopted in a globalizing new world order:

The process of cognition begins with noting, observing the particular and then working out what is general from the particular. From the general, a regulating principle, a law emerges which can take the form of the universal (Ngugi wa Thiong'oa, 1993:26).

The context of this cultural discourse advanced by Ngugi wa Thiong'o and his colleagues is based on the doctrine of the universality of local indigenous knowledge which can be replicated in any human ecology. This is because culture and nature always work together in tandem when people come to terms with their environmental realities based on conditions of local landscapes affecting the people inhabiting those places.

4.3.7 African Women's Indigenous Knowledge on Seed Banks and Food Security

The narrator Hon. Aguko Juma a 54 year old anthropologist (Life-Story No.9) reminisces about the indigenous knowledge acquired as he was growing up in Olambwe locality in Homa Bay County. From his elevated position of minister in charge of agriculture, livestock, fisheries and food security in the county, he narrates his own life-story of how he participated in critical agricultural activities which ensured food security in the household. There were Luo customs and traditions which governed agricultural practices including the following:

Luo	English
<i>Beto puodho</i>	Clearing the land
<i>Puro puodho</i>	Ploughing the land
<i>Yoro puodho</i>	Hurrowing the land
<i>Komo kodhi</i>	Planting seeds on the land

Table 4.2 (Source: Aguko Juma, 54: Life-Story No.9)

The narrator then goes on to explain how they attached significance to the activities of planting seeds and propagation of plants in traditional agriculture of the Luo people. There were crops which required broadcasting while others were planted in rows, from his recollection of his growing up in an agricultural community. While he could not tell then, hindsight gives him the advantage of interpreting reasons for broadcasting some seeds and row planting for others as aimed at maximizing yields. The narrator in his life-story also reveals that once the ritual of starting the planting season was performed by the owner of the homestead, together with his senior wife, the others followed the pecking order. The rest of the planting activities were undertaken by women and children:

Many polygamous families in Luo society still observe these traditions to this very day. The indigenous seeds which were considered to have ritual significance were: bel (sorghum/millet); kal (finger millet); and ng'or-boo (cow peas). Every traditional Luo homestead had to stock these seeds from the previous harvest, (Aguko Juma, 54: Life-Story No.9).

The seeds which the narrator refers to were preserved in ash from the fire place. The Luo people have a saying about tenacious and resilient characters as being preserved for future leadership roles as *bend aburu* meaning the “ash-treated-millet-seeds;” figuratively, community leaders who endured the tribulations of political life, including incarceration, such as Prof. Joseph Ouma Muga (1938-2018) were referred to as being resilient like the “ash-treated-millet-seeds;” (Luo: *bend aburu*). This treatment of seeds

with ash has also been documented by ethnographers of Luo people (cf. Ndisi, 1973: 25-26; Wandera, 1986:56-57).

The manner of handling seeds by women farmers in Luo society can also be seen as a major domain of agricultural practice, in the Life-Story No.14 of Philister Akinyi Ndong', 57 years old who styles herself as a farmer; trader; seed custodian; and a community mobilizer in matters related to agriculture. She is an experienced farmer and custodian of indigenous seeds of vegetables which she also sells at Rodi Kopany Trading Centre. Among the seeds she sells are:

Local Name	Botanic Name	Use of Plant
<i>Osuga</i>	Solanum nigrum (Solana ceae)	Leaves used as vegetable
<i>Akeyo; Dek</i>	Cleome gynandra (Capparidaceae)	Leaves used as vegetable
<i>Mitoo</i>	Cratolaria brevidens (Leguminose)	Leaves used as vegetable and medicine
<i>Susa</i>	Cururbita pepo (Cucurbititaceae)	Leaves used as vegetable; fruit is also used as food.
<i>Boo</i>	Vigna unguiculate (Leguminosae)	Leaves used as vegetable; seeds boiled and eaten
<i>Ododo</i>	Amaranthus hibridus (Amaranthaceae)	Leaves used as vegetable; also used to treat stomach ache

Table 4.3 (Source: cf. Kokwaro and Johns, 2013)

The narrator explains how she raises the seeds from the family land, carefully dries them, stores them safely and sells them to customers in the community and beyond, including large urban markets such as Rodi Kopany; Marindi; and Homa Bay Town. The custodian of indigenous seeds narrates how she has become something of a community educator and extension worker:

I have my little corner at Rodi Kopany Trading Centre where I meet all sorts of customers in search of indigenous seeds. They ask me a lot of questons about

how to handle and plant seeds and I try my best to explain to them what I know. Some of them come back and thank me for helng them start home gardens of indigenous leafy vegetables. In Luo society, each homestead must have puoth alote (vegetable garden). It is called orundu when it has fruits like pawpaws and bananas. It is an important aspect of food security in thehousehold, (Philister Akinyi Ndong', 57: Life-Story No.14).

The oral testimony and narrative in the life of a woman in Marindi reveals the survival strategies of rural farmers based on the indigenous knowledge systems of the local cultural landscape.

4.3.8 Selection of Appropriate Seeds and Community-based Seed Banks

In Kenya, some work has been done by Wayne Teel (1984) on the documentation of trees and seeds in a pocket directory which can be used by teachers, extension workers and farmers. Simpler directories, dictionaries and handbooks can be prepared by the relevant institutions of the Government of Kenya and the County Governments at local levels so as to establish community-based seed banks of indigenous food plants with climate change adaptations in mind. These seed banks may also have pedagogical value in terms of promoting indigenous knowledge for food security.

The Luo consider the following as most important seeds, namely: Bel, Kal, and Ng'or in the traditional context. These three seeds have ritual significance. They are used in golo kodhi and gwelruok rituals in most Luo homes where traditional agricultural practices still persist. They are also considered to be drought resistant and highly resilient crops by the Luo people.

The idea of a seed bank based in a community came up as one of the women farmers narrated her life-story of working with her own community, farming and also trading in indigenous seeds which are known to thrive in Kanyada, Homa Bay County. The seeds in the storage facilities within her homestead included the following:

- i. *Koth Kandhira Mayom to Yite Dongo Chalo Sikuma*
- ii. *Koth Osuga*
- iii. *Koth Budho (Orondo)*
- iv. *Koth Budho (Nyasungu)*
- v. *Koth Mitoo Mayom*
- vi. *Koth Boo-Ng'or Ragot (Ogodo) Indigenous*
- vii. *Koth Osuga Mar Nyar ICIPE*
- viii. *Koth Apoth Nyaluo*
- ix. *Koth Dek/Koth Akeyo Nyaluo*
- x. *Koth Sikuma (Nyasungu - Simlo)*

The pictorial images (plates) from field data are given below:

Koth Kandhira Mayom to Yite Dongo Chalo Sikuma

These are seeds of kales also called collards. The green leaves look like sukuma wiki which is a popular vegetable across different ethnic groups in Kenya.



Plate 4.1 (Source: Field Data)

Koth Osuga Ma Yite Dongo

Also known as Nyasungu, which means that it is an exotic breed introduced by the British colonial administration agricultural extension workers.

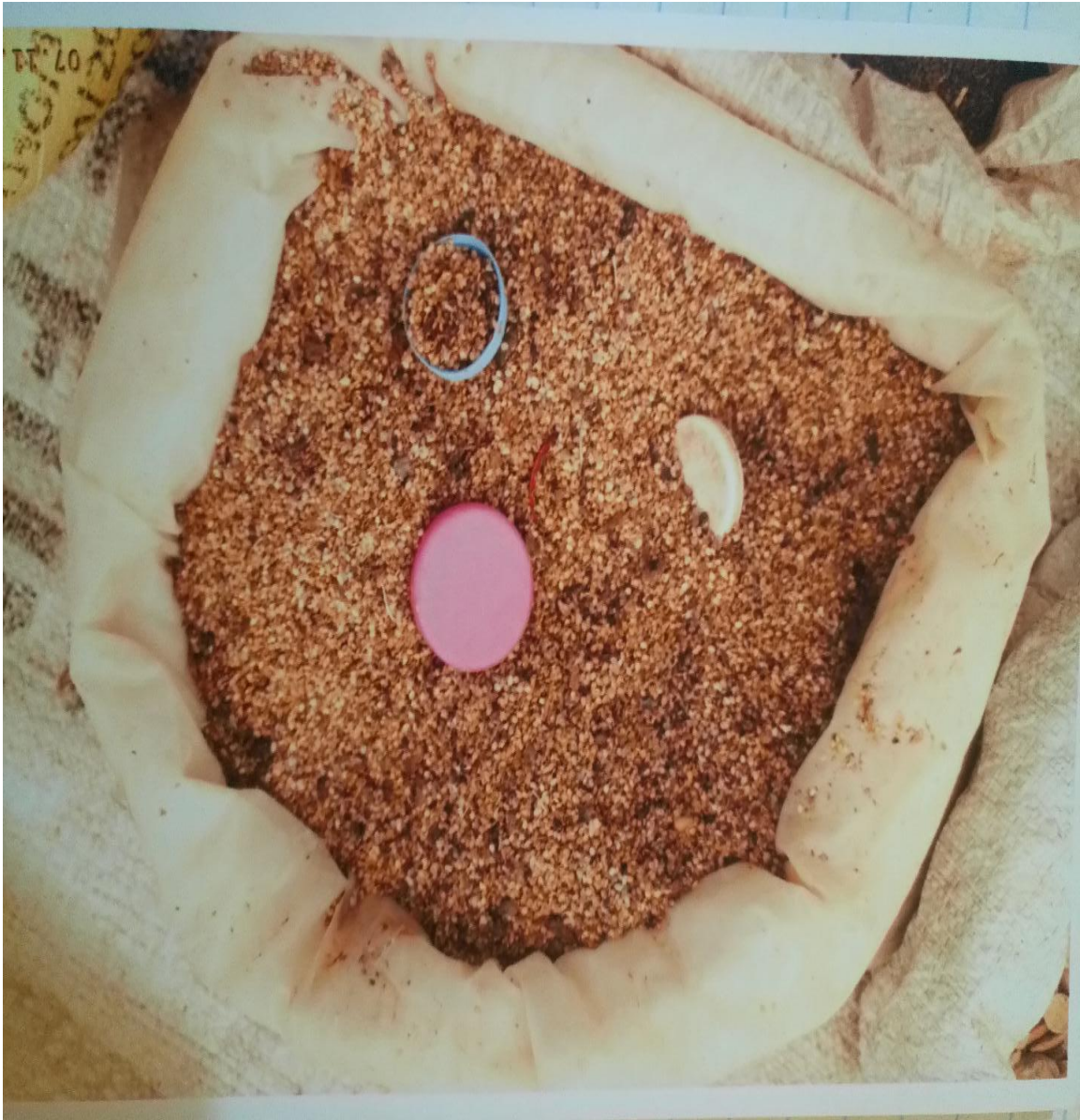


Plate 4.2 (Source: Field Data)

Koth Budho Mar Orondo

These are seeds of pumpkin also known as *Nyaluo* which means that it indigenous and has been known to the Luo women farmers in the locality since time immemorial. The dark green leaves are used as vegetables.



Plate 4.3 (Source: Field Data)

Koth Budho Mar Nyasungu

(There is a distinction between *Nyaluo* which means indigenous and *Nyasungu* which means exotic plant introduced by European colonialists. This species of pumpkin seed is believed to have been introduced by the British colonial government before Independence). It is noteworthy that the *Nyaluo* seeds co-exist side by side with “*Nyasungu*” seeds in the locality of Homa Bay County).



Plate 4.4 (Source: Field Data)

Koth Mitoo Mayom (Ok En Makech Mar Nyaluo)

This is the type which is not bitter; the *mitoo* of this breed is not like the bitter indigenous type which has been grown in Luo areas since time immemorial.



Plate 4.5 (Source: Field Data)

Koth Boo-Ng'or Ragot (Ogodo) Mar Nyaluo

This type of cow peas is also known as *Ragot* and *Ogodo*; and it is well known in indigenous agricultural contexts as one of the ritualized seeds used during the *golo kodhi* ceremonies.



Plate 4.6 (Source: Field Data)

***Koth Osuga Mar Nyar* ICIPE**

This type of *Osuga* is not indigenous but hybrid which came about as a result of research done by the scientists at ICIPE (International Centre for Insect Physiology and Ecology) Mbita Field Station; ICIPE was founded by Prof. Thomas R. Odhiambo. The Luo women farmers identify it as *Nyar* ICIPE, which distinguishes it from the old indigenous cow peas women farmers have known since time immemorial.



Plate 4.7 (Source: Field Data)

Koth Apoth Nyaluo

These are seeds of a slimy vegetable, loved by both Luo and Luhyia neighbours who call it *Mrenda*. It is used to soften the fibrous *Alot Boo* and *Yit Budho (Susa)* among the Luo of Homa Bay County.



Plate 4.8 (Source: Field Data)

Koth Dek/Akeyo Mar Nyaluo

This type of seed is indigenous to Luo settled areas. *Alot Dek* or *Alot Akeyo* is one of the well known traditional vegetables eaten by the Luo-speaking people, not just in Homa Bay County but also the rest of East/Central Africa: Congo, Tanzania, Uganda, Kenya, South Sudan and Gambella, South Western Ethiopia.

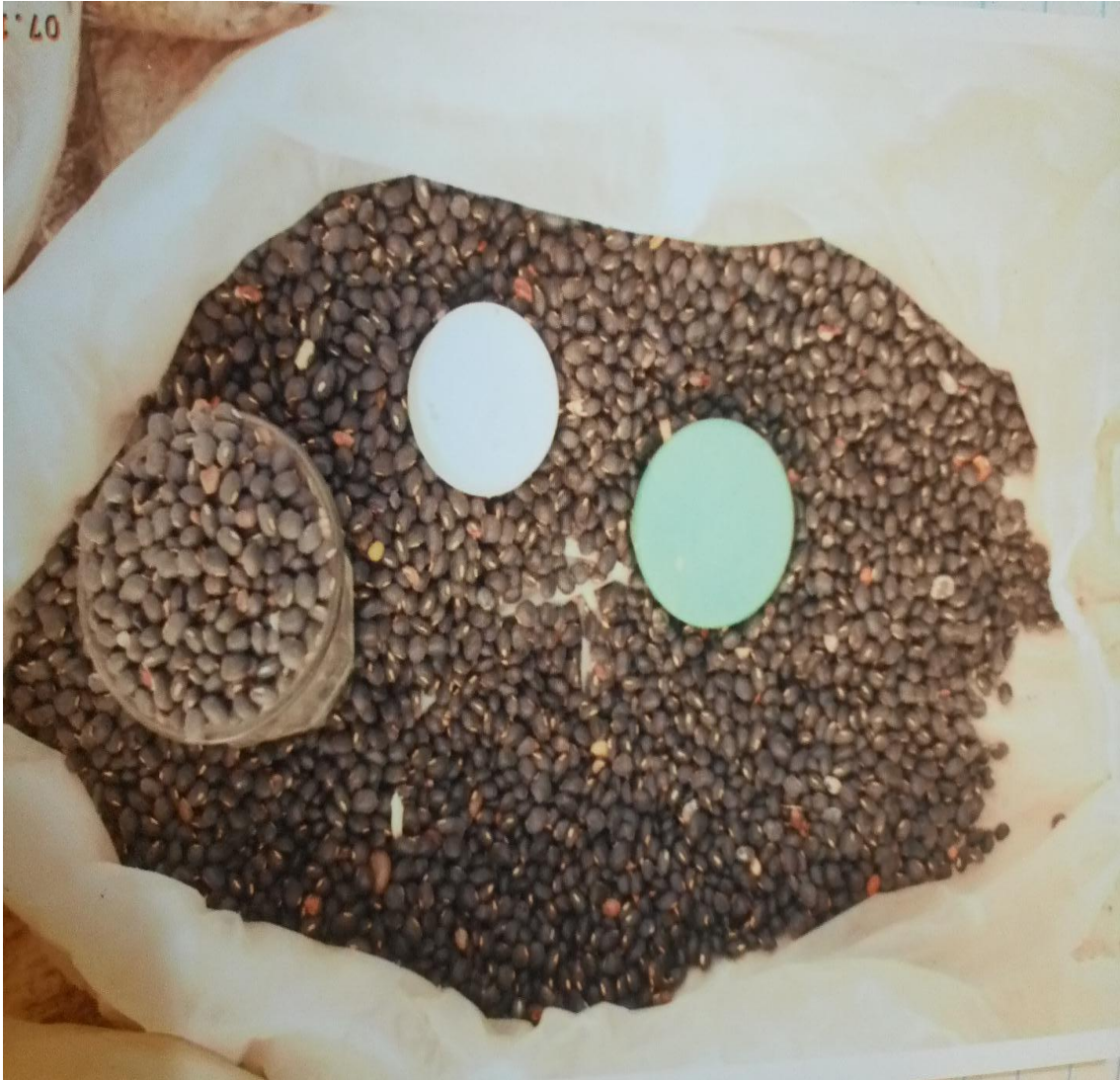


Plate 4.9 (Source: Field Data)

Koth Sikuma Mar Nyasungu (Simlo)

This type of *Sikuma* is identified as *Nyasungu* because it came from the British colonial government. Today, it is supplied by the Simlaw Seed Company, so it is also known as *Nyarsimlo* by the Luo women farmers in Homa Bay.



Plate 4.10 (Source: Field Data)

The narrator in Life-Story No.14 (Philista Akinyi Ndong', 57 years) has gathered a lot of knowledge and experience in seed handling and supply in her community. She is a reference point to the local women farmers and a good resource person whose knowledge can be documented and used by agricultural extension workers from the county of Homa Bay and local NGOs in the area of indigenous knowledge systems. This researcher found her to be quite resourceful and knowledgeable as a custodian of indigenous vegetable

seeds. Such resource persons can be used by researchers, teachers and agricultural extension workers to help educate the younger generations on this vitally important area of seed selection, handling and supplying local networks.

4.4 Oral Tradition and Food Security: The Story of Nyamgondho Wuod Ombare

The woman in different cultures of the world is the custodian of old stories which are transmitted from one generation to the next. Nature has bestowed upon her the biocultural responsibility of womanhood. The woman's special place in the family as the traditional custodian of food security can be gleaned from the folklores of various communities the world over. The Alaska legend of betrayal, courage and survival about two old women who were abandoned by their people during famine in a brutally cold winter but they survived to tell their story of forgiveness. Their lives taught the Athabascan Indians the importance of indigenous ecological knowledge kept in the retentive memory of the two old women. Different generations need each other in order to survive (Wallis, 1994).

The Luo legend of Nyamgondho Wuod Ombare comes to mind as one of betrayal and tragedy for the anti-hero (Ogutu and Roscoe, [1974], 1992: 139-143). It is about poverty, hunger, struggle, ingratitude, and ultimate doom of a poor fisherman. The story goes that Nyamgondho Wuod Ombare was a poor fisherman. He had neither wife nor children. His occupation was fishing in the expansive fresh water lake known as *Nam Lolwe* to the local community. His father Ombare died poor and left him no inheritance of livestock to pay as bride wealth. Every day he would go to the lake and toil but sometimes he would not be so lucky. He would return to his little hut by the lakeshore and sleep hungry on unlucky days. Sometimes the traps could catch just a few fish which he would go and cook for supper. He would eat all by himself before going to sleep.

Every night before going to bed, Nyamgondho would utter fervent prayers to God to get him out of his abject poverty and sharp hunger pangs. He had nobody to turn to for his father and mother had died. He had neither brother nor sister. He was all by himself without kinsfolk to help him out of his poverty. The story of Nyamgondho Wuod Ombare is given below:

One day he went to the lake and set up his fish traps. He then retired to his little hut by the lakeshore hoping to get a catch of assorted fish the next morning. When he went to check the fish traps, he found an old woman trapped and that shocked him. Nyamgondho thought that it was a ghost so he tried to run away but the old woman called him by name saying: "Nyamgondho Wuod Ombare, don't run away from me. Set me free from this trap and take me home with you". The old woman told Nyamgondho that her name was Nyanam which meant: "Daughter of the Lake". From that day on he addressed her as Nyanam. He built her a hut facing the gate and decided to marry her as Mikayi. The woman said Nyamgondho was free to marry other wives as long as her place as the senior wife was assured. He consented to the arrangement; the only problem was that he had no livestock for bridewealth. Nyanam told him not to worry. They lived together sharing whatever little food they could get.

One morning Nyamgondho woke up and found his compound teeming with cattle of all sizes; some were huge bulls while others were lactating cows with calves crying out to be milked. He had no workers in the homestead for they were only the two of them: Nyamgondho and Nyanam. When he looked at another corner of the homestead, he saw several sheep and goats of all sizes; some of them were also lactating with little calves. As if that was not enough, Nyamgondho saw poultry of all types: chickens; ducks; guinea fowls; quails; doves and all sorts of domesticated birds which were a wonder to behold.

The miraculous appearance of wealth in the homestead of Nyamgondho Wuod Ombare attracted attention from near and far. Nyanam told him to employ herdsboys and other workers to help them cope with the wealth he now controlled. There was plenty of food. Since Nyamgondho was now a wealthy man, he married several other wives: Nyachira, Reru and many more. He built a large compound with many houses. Milking the lactating cows would take workers the whole day to complete the task. Nyamgondho Wuod Ombare became the father of many sons and daughters. He was undoubtedly one of the wealthiest men in the land. He was considered to be an Okebe who could throw beer parties. His gardens had all sorts of food crops: cassava; potatoes; arrow roots; millet; sorghum; maize; beans; peas; bananas; oranges; lemons; pumpkins; sugar cane; pawpaw; and a variety of indigenous leafy vegetables. However, when Nyamgondho Wuod Ombare became arrogant and insulted his Nyanam who was

his First Wife, she had her revenge by leaving along with all the wealth she had miraculously brought to her husband's homestead (Adaptation: Retold by Truphena Okech Nyugo, 85).

In the above narrative, the audience is being taught that wealth and food security must be guarded according to traditional norms based on mutual respect and social responsibility. In the Luo history and folklore, life-stories such as Nyamgondho are used to contextualize women's indigenous knowledge for food security. Educational programmes of any kind whether formal, informal and non-formal are highly valued in Luo society. Acquisition of any esoteric cultural knowledge is seen as a double-edged sword which can make or break family life and social order. A narrative approach is often adopted to teach social ethics from one generation to the next. Marriage and family life form the context of food security human survival. The genres of rumour and community grapevine in mythology form powerful symbolic communication strategies with pedagogical value in any human society. In contemporary Luo mythology, there is a rumour about an archetypal, mysterious female character known as Anyango Nyar Loka who has been documented by Ogutu and Roscoe (1992 [1974]: 150-151).

The Luo word *loka* simply means across the lake or river (Capen, 1999:78). This story of Anyango Nyar Loka originated somewhere in Siaya County and has spread like bushfire in Alego, Gem and Ugenya. She is a ghost-woman who looks very attractive; she materializes from nowhere and seeks assistance from strangers. The story goes that most young men cannot decline to grant her request; they often offer her whatever she asks for simply because of her beauty and apparent helplessness. The young man accepts to take her home, offers her some food and hospitality in the spirit of African mutual-social responsibility. After dinner in the young man's hut (Luo: Simba) the host would tell his

guest: “let me now close the door for it is time to go to bed.” The beauty queen would say: “I will close the door by myself.” She would then join the young man in bed and elongate her arm all the way to the door and shut it. Suddenly the beauty queen would also grow long hair and claws just like a hyena. It would then eat up the generous host who had offered her food and hospitality (Onyango Ogutu and Roscoe, 1992 [1974]).

The rumour continued doing the rounds with fancy renditions such as the beautiful Anyango Nyar Loka appearing by the roadside to a motorist and seeking a lift but later turning into an ugly monster which then claws at the Good Samaritan who offered her a lift then taking off. Young girls who came home late from the market were not spared either; Anyango Nyar Loka would slaughter and eat them up. She would attend village dances where all the young men would compete for her attention because of her outstanding beauty. Some of the young men would even propose to marry her; but in the dead of the night, she would turn into hyena which was her true self. She would then attack her victim and eat him up. When the narrators of the story of Anyango Nyar Loka are asked where exactly she comes from they simply say somewhere in South Nyanza. When they ask who the real victims were, the narrators say they belong to another village.

4.5 Significance of Indigenous Knowledge: The Story of Pastor Joshua Rume

Indigenous knowledge is like fire, so says Pastor Joshua Rume. The double-edged nature of indigenous knowledge is portrayed in an oral poem composed by a Luo sage known as Joshua Rume. He was from the Kanyaluo clan of the Karachuonyo people in Homa Bay County:

Wend Rieko

Rieko ber kendo rach

Rieko gero piny ngima

Rieko ketho piny ngima

Rieko irito kaka mach

Rieko irito kaka mach

(Adapted from Joshua Rume, 1975)

Song of Knowledge

Knowledge is good and evil

Knowledge builds the whole world

Knowledge destroys the whole world

Knowledge is guarded like fire

Knowledge is guarded like fire

(Translation: Humphrey J. Ojwang, 2019).

Joshua Rume qualifies as an African sage and prophet in the Orukan sense because of his epistemological reflections on knowledge. A sage can be categorized as a prophet; and a prophet can also be categorized as sage according to Oruka (1991: 2). That the prophetic can blend with sagacity is not uncommon in indigenous cosmologies. The knowledge base of a sage and prophet is anchored on a blend of “internal senses” of memory, imagination and instinct while an ordinary human being gets to know the environment through the “external senses” without contemplation (Batissa [1985], 2016: 54-55).

The life-story of Joshua Rume is captured by a Swedish anthropologist, Hans-Egil Hauge, who visited and interviewed him several times. Rume was reportedly born in 1890 in East Karachuonyo. According to the narrative, Rume went to work in Nairobi as a young man where he spent a number of years. He became converted to Christianity in 1917. He was baptized and confirmed as a member of the Anglican Church of Kenya

while staying in Nairobi but later upon his return to his village, opted to join the Seventh-day Adventist Church which was the predominant denomination in East Karachuonyo, South Nyanza where he was born. Though Joshua Rume learnt how to read and write in Luo language, his knowledge of English was rather limited. However, he was a critical indigenous thinker who was very interested in “old Luo traditions” and he had “good memory for old customs and beliefs” (Hauge, 1974: 43). He was an ordinary small-scale farmer who grew millet, maize and bananas for subsistence; he also kept some livestock and chicken on the small firm. Like any small-scale farmer in South Nyanza, he lived an ordinary life. However, he gained legendary status very much like his role model Gor Mahia in latter years after he left employment in the Seventh-day Adventist Church becoming a freelance evangelist and itinerant prophet in South Nyanza.

This researcher attended at least three of Joshua Rume’s meetings in the 1970s and witnessed how the local people held him in great awe. Joshua Rume was rumoured to have requested a woman carrying a basket full of oranges to give him just one to eat. The woman declined and that angered the prophet; he reportedly told the woman that all orange trees on her farm and within the locality of her domicile would simply wither away and bear no more fruits. That happened just like in the story of Jesus Christ cursing a fig tree which did not have any fruit for him to eat when he felt hungry. The following day, the disciples confirmed to Jesus Christ that the fig tree had withered.

Joshua Rume was one of the Africans to be ordained as a minister by the Seventh-day Adventist Church although he had limited formal education. He mainly operated in the Nyanza Region, preaching in churches, camp meetings and schools. His contemporaries in the pastoral leadership of the Seventh-day Adventist Church included Paul Mboya well

known and remembered for his book *Luo Kitgi Gi Timbegi* (1938); Isaac Okeyo who authored the book “Adventism in Kenya” (1989); and Joel Omer who was the father of Phoebe Muga Asiyu, a Kenyan woman political leader. Phoebe Muga Asiyu has served as Member of Parliament for Karachuonyo Constituency and in public offices such as Member of Constitution of Kenya Review Commission (Yash Ghai, 2002).

The epistemological significance of Joshua Rume’s philosophic sagacity is his featuring in the Life-Story: No. 4 in which Silpa Okoth Nyatame, 78 years attributes her blessings to the powerful prayers of the minister who preached to her when she was in great need of a child. She recollects the prayers of Pastor Joshua Rume as follows:

Nyasaye Nyakalaga dak ikony nyamera ni ma osebet ka yiko nyithindo. Nyasaye Nyakalaga golne wich kuot; mon wetegi nyiere ni en gi kisoni; Dak imiye nyathi mondo en bende obed gi mor kaka mon mamoko. Golne wich kuot Obong’o Nyakalaga mondo en bende obed ni iluonge ni min ng’ane. Amen.(Recollections of Silpa Okoth Nyatame, 78: Life-Story No.4).

(The Omnipresent God why don’t you help this sister of mine who has been burying children; Omnipresent God remove the shame from her; Fellow women are laughing at her and are saying she has the spirit of “kisoni” which makes her children to die; Why don’t you give her a child so that she may also have joy like other women? Remove the shame from her, Omnipresent God, so that she may be addressed as the mother of so and so. Amen (Translation: Humphrey J. Ojwang, 2019).

The testimony goes that soon after Silpa Okoth Nyatame was prayed for by Pastor Joshua Rume, she conceived and after nine months gave birth to a bouncing baby boy she named Gabriel Nyatame. The baby boy did not die; instead he grew in strength physically, psychically and spiritually. The boy was named after the angel Gabriel who announced the birth of John the Baptist and Jesus Christ in Bible stories. The strange illnesses of *kisoni* which killed his older siblings did not attack him. He survived and did well in

school. “It is due to the strong prayers of Pastor Joshua Rume that I got this baby boy. He grew up to become assistant chief of our sub-location. God granted my desire to being called Min Gabriel. I’m very happy to be a mother” (Silpa Okoth Nyatame, 78 years, Kabuoch-Konyango).

Belief in the spirit of *kisoni* is still very strong among Christians in contemporary Luo society. Women who lose their children are blamed for harbouring the malevolent *kisoni* spirit which keeps tormenting them by killing their children. This Luo belief in *kisoni* has parallels in Igbo cosmology where the *ogbanje* spirit keeps torturing a mother by the baby dying soon after birth and coming back only to die again and again. Silpa Okoth born in Kanyada-Kalanya and was married as a second wife to Nyatame Waringa of Kabuoch Konyango. Since Pastor Joshua Rume prayed for her and the subsequent survival of her son Chief Gabriel Nyatame, Silpa Okoth has been a staunch member of the Seventh-Day Adventist Church.

The rationalist thinkers might attribute child mortality to a number of medical causes including immunizable diseases which can be dealt with scientifically. They may also attribute the deaths of Silpa Okoth’s children to nutritional deficiencies and food insecurity in the rural household; these are some of what Oruka has called “anthropological fogs” which “sage philosophy” can handle epistemologically (Oruka, 1991: 5). The Seventh-day Adventist Church is well known for its educational and medical work in Western Kenya. It owns medical facilities such as Kendu Adventist Hospital in Karachuonyo, Homa Bay County.

Medical work started in 1924 with the building of a hospital by one Dr Madgwick who got permission from Chief Okoth Ougo of Karachuonyo to put up the facility on top of Nyaburi Hill overlooking Lake Victoria. Dr Madgwick was a trained physician and surgeon who treated leprosy and other diseases like sleeping sickness (Okeyo, 1989: 18-19). Around the time Kendu Adventist Hospital was founded, pioneer African pastors such as Joshua Rume were inculturating their indigenous knowledge of sicknesses, illnesses and diseases with their new found Christian religion. It was a delicate balancing act for the African pastors who worked under Western missionies. Although Pastor Joshua Rume was a member of the Seventh-day Adventist Church, he also believed in the miraculous powers of the Luo legend Gor Mahia (Hauge, 1974: 43). The Luo word “Mahia” means the miraculous. In Luo religion and folklore, Gor is depicted as a miraculous character capable of achieving almost impossible feats (Onyando, [2003], 2005: 2-3).

The re-telling of the mystical story of Gor Mahia in different genres such as epics, myths and legends tend to portray some paranormal phenomena attributed to him. He could disappear and then re-appear in different animal and human forms. According to Pastor Joshua Rume’s narrative, he knew Gor Mahia who died in 1922 very well. Joshua Rume narrated how Gor “could change himself into anything he wanted, appear in the shape of an animal, a stone, a girl and he could also make himself invisible” (Hauge, 1974: 43). The knowledge and skills of performing the miraculous captivated the mind of Joshua Rume; some Luo folklorists believe that he performed his miracles through the great *bilo* he procured from Gor Mahia (Hauge, 1974: 44).

Contextualizing women's indigenous knowledge in Luo folklore is also captured in the story of Nyamgondho Wuod Ombare from Gwasii in South Nyanza (Ogotu and Roscoe, [1974], 1992: 139-143). The main characters are Nyamgondho who was a poor fisherman in Nyandiwa area on Gwassii Hills overlooking Lake Victoria known to the local people as *Nam Lolwe*.

It has been based on a critical indigenous pedagogy of place and cultural landscape, namely: Kanyada and Kabuoch areas of Homa Bay County, Kenya. The approach, however, is what Ngugi wa Thiong'o calls "the universality of local knowledge" (Ngugi wa Thiong'o, 1993:25). In this approach culture-specific particularities may be generalized into "timeless and spaceless universality" which then means that a critical indigenous pedagogy of women farmers in Kenya may have cultural implications for the rest of Africa, Asia, South America and other parts of the world. The formal educational system in Kenya is controlled by the National Government; curriculum design is centralized and managed by the Kenya Institute of Curriculum Development based in Nairobi; which falls under the Ministry of Education. According to the Constitution of Kenya 2010, some of the Objects and Principles of Devolved Government include: "to recognize the right of communities to manage their own affairs and further their development" (cf.174 (d)). Quite obviously, agriculture, livestock, fisheries and food security are key areas of concern in Homa Bay County but within the broader context of Kenya in terms of providing proximate, easily accessible services to women farmers and other interested groups.

A critical discourse analysis of content in pedagogical materials used in the curriculum of agriculture as a subject in Kenyan secondary schools would be appropriate for purposes of understanding what is taught. In pedagogical contexts, a number of objectives come to mind namely: analyzing instructional discourse practices in approved textbooks; to examining underlying ideologies frozen in instructional materials and finding ways of retrieving such ideologies; and critically examining how matters related to food in the context of power and its misuse are handled. Food is an important element of social discourse: food is part and parcel of power-relations. Food has cultural meanings which must be treated and understood in social context.

In critical discourse analysis, the significance of food security in social relations, power and ideology is paramount in understanding how society works. The context of food and agricultural production needs an ethnographic inquiry in terms of the communicative purposes of participants. Agriculture and food security simply give us the textual and contextual spaces in which to conduct our social discourses in society. The term context here refers to: “that which environs the object of our interest and helps by its relevance to explain it,” (Scharfstein 1989:1). Synonyms for context include terms like scene, setting, and environment (cf. Wardhaugh, 1992:245).

The term text in pedagogic discourse is used to “refer to any passage, spoken or written, of whatever length, that does form a unified whole” (Halliday and Hasan, 1976:1). In that interpretation of the word text, it can range from a simple utterance to a whole textbook; novel; play; or report. In our context, the term text is used to refer to a selection of agriculture textbooks, approved by the Kenya Institute of Curriculum Development for use in secondary schools.

4.6 Lessons from Women's Oral Testimonies and Life-Stories

The word for 'dig' in Dholuo is *pur* which also refers to cultivation. The expression *puro okang* means: "to dig fallow ground." In different cultures of the world, cultivation of the land seems to have been the domain of women. The Luo myth narrated by Onyango-Ogutu and Rosceo (1974:47) is a typical case of a woman being solely responsible for physical cultivation of the land. The mythical origin of digging the ground is also rendered in Grace Ogot's *Miaha* (translated by Okoth Okombo as *Strange Bride*) (cf. Grace Ogot, 1983). The main tool used by the Luo people traditionally is a hoe known as *rapur*: the blade of the hoe is called *lew rapur* (Capen, 1998:13).

As in many African societies, the Luo-speaking people of Homa Bay County have different agricultural rituals of farming; cultivating the land; planting seeds; weeding and controlling weeds; partaking of first fruits and harvesting; storing the food at home and even cooking and eating the food as a family (Mbiti, 1975:134-135). Agricultural rituals in many African societies also include livestock keeping; milking rituals; slaughtering animals and rituals of sharing the meat; drawing blood from the animals and rituals related to blood as a food product; fowls, including chickens and guinea fowls. Claude Levi-Strauss sees a connection between myth and science and advocates for the retrieval of the things we have lost. We should try to create awareness about what we have lost:

Modern science is not at all moving away from these lost things, but more and more, it is attempting to reintegrate them in the field of scientific explanation (Levi-Strauss 1978:5).

In an adult education material titled *Kit Luo Machon* (Traditional Luo Customs) the mode of agricultural production is described as follows:

Ne gipuro kod kwer miluongo ni nyaimba kwegi ne itweyo gi togo kata tond tworo em iluongo ni rapur. Sache mag komo to ne gikonyonre gi kwego kata rahaya. Rahaya en yien mopa kaka kwer.

A translation of this explanation by the adult education course materials writers is given below:

The Luo cultivated the land with a hoe known as nyaimbo, their traditional hoe was fastened with togo or rope made from tworo was called rapur. During planting season, they used those farm tools or rahaya. A traditional tool known as rahaya was a piece of wood curved to look like a hoe.

(My Own Translation)

Traditional agricultural practices among the Luo people included planting *kothe* (grains and cereals); *ndawa* (tobacco); *nyasore* (bhang); they also engaged in *lupo* (fishing); and *nyuowo kong'o* (brewing beer). The most important traditional *kothe* (seeds) in Luo society were *bel* (sorghum) and *kal* (finger millet). The two traditional crops were used for making *nyuka* (porridge) and brewing *kong'o* (beer). In the olden times of yore, the Luo people also planted *nyim* (simsim) and *ng'or* (cow peas). In traditional Luo society, *oduma* (maize) was non-existent, (Source: *Kit Luo Machon* by Migoya; Owino; Nyabondo; and Ongolo, 2009:6-7).

4.7 Women Farmers, Small Christian Communities and Food Security

The Christian missionaries who came to Kenya established churches in different parts of the country during the colonial period. These grassroots communities include both Catholic and Evangelical Protestant expressions of African Christianity. Christianity as a tool for social transformation is visible both in urban and rural Kenyan landscapes. The

Catholic Church for instance is a transformational agency without parallel. The cell groups known in Catholic parlance as Small Christian Communities are celebrated in poor rural areas in Kenya just like the basic grassroots groups in Latin America whose transformational agenda was driven by liberation theology which was seen as a tool for empowerment. In South Africa, the liberation movement took another form known as Black Theology when it addressed Western political and economic forces exploited and continue to do the same in post-colonial Africa today (Paul Gifford, 2009: 80-81).

In Latin America, liberation theology energized Small Christian Communities to address issues which touched on food production; it was this Brazilian experience which inspired Paulo Freire to develop his unique pedagogy of the oppressed in functional literacy programmes among poor plantation workers.

In this pedagogical approach to community-based participation in the struggle for liberation, each person as an individual actor has to: *“win back the right to say his or her own word, to name the world”* (Paulo Freire, 1996 [1970]: 15). Paulo Freire believed that people must be critical and seek to recognize the causes of their suffering under oppressive cultural systems which stifle their humanity. The dominant powers of the West adopt the humanitarian approach which Paulo Freire rejects. In order to be effective, the approach must be based on authentic generosity of humankind and not mere humanitarianism; the participants in this empowerment process must have dialogue with their environment. In the so-called Third World Countries, it has been observed that the systematic destruction of authentic indigenous knowledge systems imposes a dependency situation upon the people. The role of indigenous knowledge of subjugated post-colonial societies is the renewal of local languages and cultures for the goal purpose of

empowering the people to name their own environment. This approach helps them to learn about traditional nutritional and medicinal practices; their folklore, religion and spirituality; their history and cultural heritage; and their self identity which leads the people to empowerment (UNESCO, 2017).

African indigenous knowledge systems are institutional frameworks in which women farmers can work towards food security African religion, like religions of other continents, especially Asia, rely on traditions with long histories (Parrinder, 1974:9). World religions have a role to play in human civilization and survival: Judaism, Christianity, Islam, Hinduism, Buddhism and African traditional religion all have pedagogical aspects of transmitting age-old survival strategies of humankind.

According to African spirituality, Mbiti (1992:12) sees religion as a way of promoting ideas which safeguard and uphold the quality of the life people live in their communities and enjoy with one another. This approach to community building by teaching an “Old Faith” while at the same time, facilitating “New Learning” through the use of African Christianity as a pedagogical tool in different aspects of human development (cf. Gatu, 2006:15). In a Catholic Church sponsored collection of theological reflections, a number of scholars published articles under the title: *Towards African Christian Liberation* (1990). In this educational project, they examine how institutional Church structures can be deployed in the struggle for human liberation, including freedom from hunger which is a euphemism for food insecurity. Liberation struggles include political, economic, social, psychological, and spiritual aspects of human life requiring “on-going formation to stimulate a practical implementation of true liberation” (Namwera, 1992:9).

African religion and agricultural rituals are closely related, which means that food is a gift from God who is the ultimate provider in the context of wholistic human development (Okullu 1974: 23). In Luo religion and folklore, the belief in God explains how nature and culture are twin elements for human survival in different ecological landscapes. In almost all the life-stories of women farmers who were informants in this study, God featured in them; Homa Bay County is largely a Christian community, with major denominations represented.

The Catholic Church in Kenya has a Diocesan structure with a Bishop based at the Cathedral on top of the Asego Hill in Homa Bay Town. The Catholic Church works through Small Christian Communities (SCC) which is a very effective mobilization tool in rural development. This researcher arranged with the local Chief of Kanyach-Kachar Location to meet women members of a local SCC on a Sunday after mass. They were also to be farmers since food security was our main topic of discussion. This became the most contextualized life-story interview and group discussion not just within an extended kinship network of *Anyuola Kagera* but also the locality of Rodi Kopany; in local Luo Catholic parishes, SCC is known as *Kidiény* (singular) or *Kidienje* (plural). The lead informant in this context of an SCC was an 82 year old matriarch; she was born in Kochia-Karamul (cf. Life-Story No.30) and some of those in attendance were her own sons and daughters-in-law; sisters-in-law and close relatives who were also members of the local Catholic parish. One of the daughters-in-law was a member of the local Seventh-day Adventist Church. She was allowed to participate in the SCC group discussions which had been well-planned by the local chief. In the social set-up, if a woman from an Adventist home is married into a Catholic family, she is allowed to go on

with her faith but can also participate in grassroots Catholic meetings if they are for developmental purposes. It was observed that the existence of strong kinship networks did not only depend on denominational fellowships but also the African family structure based on long held traditions (Oyweka, 2000: 18-19).

The story-telling sessions and Group Discussion were conducted just like any other normal Catholic SCC meeting or fellowship with opening prayers, and agenda of the meeting being introduced; and finally giving the researcher an opportunity to conduct the interviews in the group meetings shown below:

Members of a Small Christian Community at Rodi Kopany in Homa Bay County



Plate 4.11 (Source: Field Work)

In holding a conversation with the matriarch as the lead informant (Oral Testimony No.30), a number of themes emerged. These themes can be contextualized in agricultural education and extension programmes as follows:

- i) Food security as an integral part of family unity;
- ii) Food security as self-determination in community;
- iii) Food security as mutual-social responsibility;
- iv) Food security as business enterprise for prosperity;
- v) Food security as collective purpose and common identity;
- vi) Food security as innovation, creativity and productivity;
- vii) Food security as hope and faith energized by spirituality.

The approach of critical pedagogy tries to help the participants in the programmes to organize themselves into self-help groups by using some of the themes which emerge in discussions and oral narrative sessions. Traditional religion in Luo society, as is the case of Christianity, plays an empowering and transformational role with profound effects on the day to day relationships. The use of Small Christian Communities and other faith-based social groups can be effective pedagogical platforms for the dissemination of women's gifting in the utilization of indigenous knowledge for food security by providing leadership in the community (Oyweka, 2000: 42). Indeed, the harvest of African women's indigenous knowledge for food security is "plentiful but the workers are few" (Matthew 9:37). More teachers, researchers, community leaders and agricultural education and extension workers need to be sent out into the harvest field to reclaim vanishing indigenous knowledge and skills for agroecological sustainability.

In Homa Bay County, an ecumenical approach at grassroots level was observed with members of different denominational affiliations participating in local community development programmes.

4.8 Cross-generational Transfer of Indigenous Knowledge for Food Security

Women's indigenous agricultural knowledge and food production activities are deeply embedded in the cultural environment. The indigenous knowledge systems are managed through an intricate process of actions, interactions, and oral transmissions from one generation to the next. The human child will grow to appreciate and emulate the cultural patterns of the community in which he or she is raised (Duranti, 1997, 24). The process of acquiring indigenous knowledge by women farmers is through socialization of the girl child from infancy to adulthood according to Ominde (1987 [1952]).

Indigenous ecological knowledge of women farmers can also be thought of as their understanding of the world around them; how they survive based on their agricultural practices and food production activities in order to ensure livelihoods for their households. Indigenous knowledge systems are based on having access to certain facts about nature, recognizing cultural objects, identifying plants and animals which are sources of food, and understanding the ecological factors conducive to food and production. Indigenous ecological knowledge of women farmers may therefore be seen as part of the "cognitive view" of culture in this context (Duranti, 1997:27). Ethnographic descriptions of agricultural practices of women farmers are significant for ensuring the knowledge is reclaimed and documented for future use. Women's indigenous knowledge is therefore, necessary for their empowerment and participation in agricultural extension

programmes. Their knowledge is also useful for achieving the goal of food security in the household as shown below:

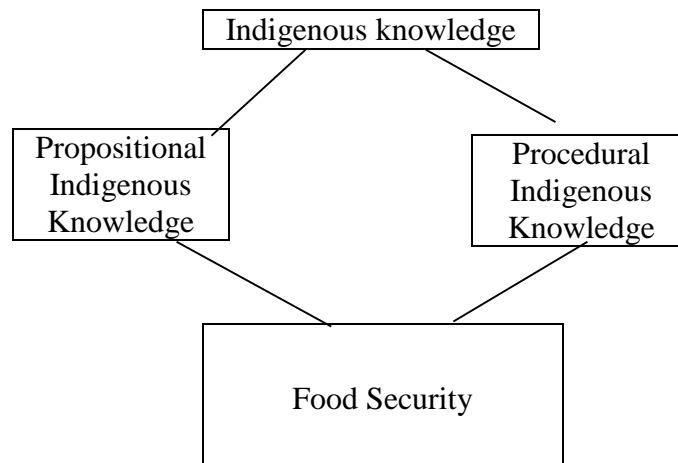


Figure 4.2 (Source: Illustration Adapted fom Duranti, 1997)

Women’s indigenous knowledge for food security may fall into two categories: propositional knowledge and procedural knowledge (cf. Duranti, 1997:28). The women’s indigenous knowledge are essentially the beliefs and values they have acquired from their socialization; propositional knowledge is acquired from the stories, myths, legends, proverbs, sayings and symbolisms conveyed to younger generations. The beliefs, values and attitudes regarding food culture in the community are encapsulated in Luo proverbs and sayings. *Jarikni jamuod nyoyo gi kwoyo* indicates. The translation of Achieng (2001 [1938]) renders the proverb as “The person who hurries munches *nyoyo* with sand”. The common dish of maize mixed with beans is known as *nyoyo*; the Gikuyu equivalent is *githeri*. As Asenath Bole Odaga (1986) has stated in her ethnographic description of the food regime in South Nyanza, there are three main meals in a day: morning, afternoon and evening:

Eating between meals is common, especially when light foods such as potatoes, groundnuts, cassava and even nyoyo are involved (Odaga, 1986:74).

Preparation of food is normally done by the womenfolk in Luo households. One has to be meticulous when preparing a meal of *nyoyo*. Jane Achieng ([1938] 2001) has observed that the maize and beans used to cook *nyoyo* may contain grit or sand (*kwoyo*). Careless women in a hurry may not remove all the sand; in the process, a mixture of maize, beans and sand will be cooked and served as *nyoyo* to the family. A woman who is not skilled and meticulous enough may be described as *dhako ma jarikni* (a woman who is in a hurry); her husband and children will not be happy with her cooking of *nyoyo* full of *kwoyo*. The hallmark of a virtuous woman in Luo society is one whose *nyoyo* has neither grit nor sand. The knowledge and skill of preparation of the meal of *nyoyo* are therefore both propositional and procedural in nature. Women were taught by their mothers how to clean the maize and beans by removing the sand and other impurities before cooking the meal of *nyoyo*. The meal of *nyoyo* was not to be prepared in a hurry; it taught the girls and young women the virtues of patience and dedication in ensuring food safety and security in the household.

The children in the family are fed on the same food as the adults, though those below the age of two are primarily breastfed by their mothers. Eating snacks between major meals is common: “supplementary foods such as milk, porridge and soup” are included in children’s diet (Odaga, 1986:74).

The women’s knowledge of food preparation, preservation and storage in Homa Bay County as a whole ensures that the house is well fed. During famine, people are particularly careful about welcoming lazy people who wander around from home to home in case they want what is preserved for members of the household or the children in the family. The Luo proverb: *Jakech ok mosi* (translation by Jane Achieng: A hungry person

is not to be greeted) is a teaching regarding the philosophy of food security. First and foremost, the food stored in the house is for members of the family especially during periods of food shortage in the community. The caution, which is not to be taken literally, simply means that *Jawanya* may pretend to be having some news for a family just when food is about to be ready. The parasitic habits of *Jawanya* as a sponger in the community is discouraged and families are never to entertain their behavior. The Luo people of Homa Bay have the saying; *Guok ong'iyu kama omuode chogo* (Translation: A dog will always go back to the home where it finds bones left after meals." The *Jawanya* (Sponger) is compared to the wild dog in the village which turns up at every mealtime, just in case the family may welcome him or her to join them in eating.

Frugality in Luo society is considered a virtue; food is not to be wasted on people who don't want to work. This dictum is applicable to the able-bodied men and women in the community; the very old and frail must be taken care of just like the infants and children who are dependent on the working population. *Jakech* is a famished person (cf. Capen, 1998:55). This is genuinely a starving person who is food-insecure not to be compared with *Jawanya's* parasitism. *Jakech* in Luo social set-up may be given food relief but *Jawanya* must be discouraged so that he or she can work like other members of the community in food production.

Traditional ways of preserving and storing food form an important component of indigenous knowledge in the Luo household:

Meat in general is sun-dried after it has been washed. Occasionally, fire-smoking is used to preserve meat and fish, while milk is often treated with animal urine to make it sour and curdle it before it is stored in gourds or small pots (Odaga, 1986:75).

The women’s indigenous knowledge for food security as captured in the above narratiave indicates the crucial role played by mothers and grandmothers in the rural household. This kind of procedural indigenous knowledge is part of the procedural knowledge acquired by way of socialization that a Luo girl goes through from childhood to adulthood, marriage and her own family life (Ominde 1987;1952).

The life-story of Evaline Aoko Otieno, 33 years, (Life-Story No.15) portrays the indigenous knowledge for food security which the youger women acquired from the older women before settling in their marital homes. The widowed young woman keeps herself busy by farming and trading in foodstuffs at the local Rodi Kopany open air market. She is quite articulate in her narration of culinary categories and different traditional methods of food preparation in Luo society:

Luo	English
<i>Aliya</i>	Smoked meat
<i>Abamba</i>	Dried meat/fish
<i>Aboka</i>	Boiled fish/meat/vegetable/maize
<i>Athola</i>	Fried meat/chicken/fish
<i>Abula</i>	Roasted meat/fish/maize/potatoes
<i>Akuoga</i>	Ripened bananas
<i>Adila</i>	Milk kept until it clots

Table 4.4 (Source: Evaline Aoko Otieno, Life Story No.15)

Luo women’s indigenous knowledge of food preservation as narrated by Evaline Aoko Otieno (at the relatively young age of 33) is comparable to the ethnographic description of Asenath Bole Odaga in which milk is preserved in *chiedho* (animal urine) to “make it sour and curdle it before it is stored,” (Odaga, 1986:75; Capen, 1998:22). These are traditional methods of food preservation, food safety and food security to increase the shelf-life by avoiding wastage in the rural household. The procedural indigenous

knowledge of food preservation and women's skills in traditional culinary arts explain the central role they play as custodians of food security (Odaga, 1986: 76).

The women are also skilled in shaking milk in gourds in a process known as *puoyo chak* (to churn milk) (cf. Capen, 1998:132). While shaking the traditional gourds of milk to produce butter fat, the girls and women would compose songs meant to help the milk to loth (forming of butter); "which is then melted to produce the animal cooking oil called ghee," (Odaga, 1986:75). This kind of animal cooking oil is commonly referred to as *mor nyaluo* which means "the indigenous ghee of the Luo people."

The Luo social history and ecological context of women's indigenous knowledge for food security may be captured in Ogot (1967: 127 -130). The lakeshore zones around Winam Gulf both on the Central and South Nyanza sides formed the primary settlements of the Luo-speaking peoples in Kenya and Tanzania. Women's indigenous knowledge on food and agriculture form part of *Kit Luo Machon* (cf. Migoya et al, 2009: 6-7); a translation of this would be "Luo Traditional Folkways" which includes food production and agricultural practices. The contemporary work of David William Cohen and E.S. Atieno Odhiambo under the title *The Risks of Knowledge* (2004) underscores the significance of the social history of knowledge production. This includes African women living under different socio-political conditions which influence their ecological adaptation as they create, produce, and innovate different ways of coping with the environment. Indigenous knowledge systems are in different stages of being made:-

Knowledge is given not only its definitive design but also its unmade, unfinished moment, to allow views of knowledge in formation and to permit an understanding - a new attendance to - the indeterminate and unsettled

manifestations of histories and meanings as they are fought over in different African contexts (Cohen and Odhiambo, 2004:28).

The contestations between the old and the new continue to be debated in various contexts of African scholarship as given in the sage philosophy project initiated in the 1970s at the University of Nairobi (cf. Oruka, 1991: 2-3).

Among the issues raised in the discussion of women's indigenous knowledge for food security are the difference between "know-what" and "know-how" in terms of their agricultural practices. What is epistemologically significant in this kind of setting is the distinction between the propositional knowledge and the procedural knowledge. The issue here is whether women's indigenous knowledge for food security is based on "sense-perception" (Martin, 1994:82).

The knowledge-claims of women with regard to food security are based on the oral folklore of various African societies. Women are the custodians of the old stories of survival and the informal educators of the youth with regard to food preparation, preservation and storage.

The pragmatics of women's indigenous knowledge for food security would necessarily entail identification and selection of seeds and crops to grow. Women need to know different types of vegetables, whether cultivated or gathered from the wild. In the "know-that" (propositional knowledge) category, it is the beliefs and values about food plants which are the centre of interest. But the propositional knowledge must be concretized when it is used by people in a practical way. Take for instance cooking of traditional vegetables. Women know which vegetables can be mixed with others. That aspect of cooking mixed vegetables is the "know-how" (procedural knowledge) category.

The procedural knowledge of the women in cooking vegetables includes when and how mix and use the indigenous vegetables. The knowledge of procedures and use of traditional practices helps the women to tap into “the cognitive world of a given group of people;” both the propositional and the procedural knowledge of carrying out activities such as farming and cooking are important in ensuring food security in the household (cf. Duranti, 1997:28-29).

As lead informant (No.30), Angelina Ogina Omuga tells her life-story on how her family has coped with agricultural production; other members of the group listen carefully. In Luo society, conversations take story-forms which carry small bites of information making it easy to store in memory; this story-structure of social discourse is also the case with many other African ethnic communities. It has been contextualized for pedagogy and homiletics by Father Joseph G. Healey, an American Maryknoll priest, who has worked among the Luo in Kenya and Tanzania describes the African narratives as “stories of wisdom and joy” (Healey, 2010). The meeting of SCC group does not preclude a non-Catholic woman married to a Catholic man from participating in the exchange of indigenous knowledge for food security. Since indigenous knowledge is socially distributed and food security is a trans-denominational matter of concern, cross-generational sharing of experiences was observed in Homa Bay County. In typical dialogic style, Angelina Ogina Omuga, the lead informant, pauses to allow one of her daughters-in-law, a member of the local Adventist Church in a predominantly Catholic community, to give her own word by describing her own epistemological world in the Freirean tradition of critical pedagogy:

I am an Adventist. I am a leader in the Women's Ministry in our Church. Food security and indigenous vegetables are major topics we teach in our Family Life Programmes. We teach about Health and Nutrition. During the week of prayer, we visit homes in the locality, and teach about Health and Temperance. My husband, Julius Oracha, has allowed me to continue practicing my Adventist faith although he is an active member of the Catholic Church. I think that teaching people about traditional Luo foods, especially vegetables, is a good thing. Though we are an inter-faith family, we live together in harmony and I am happy. We all worship one God who is our Creator. Inter-faith based groups should be encouraged to deal with matters which relate to food security in the rural household. (Life-Story No.24: Julius Oracha is Catholic; his wife Fenny is Adventist).

Lessons learnt in the context of the African family and food security here are cardinal principles of unity; self-determination; social responsibility; entrepreneurship; purpose; creativity and innovation; and hope for the future (cf. Maulana Karenga, 1989; Synthia Saint James, 1994). The life-stories of a mother, a son and a daughter-in-law together with grandchildren can be interpreted in the African narrative tradition: “stories within stories” complementing the pedagogical value of cultural landscapes (cf. Ngugi wa Thiong'o 1986:77).

The African family as the smallest unit of governance has a hierarchical structure with the Owner of the Homestead representing God and the ancestors who are known as “the living dead” (Mbiti, 1992:77-79). In agricultural practices: “the living head of the family or clan visibly represents God and the ancestors,” (Magesa, 1997:122). The Luo family, as we have seen in the narratives of Kagera sub-clan of Kanyach-Kachar Location, is highly organized; each member of the family across generations of grandparents; parents; sons and daughters; sons-in-law and daughters-in-law; grandchildren; great grandchildren, extended family and clan networks and relatives, all play a role in food production; food safety; and food security in the local community. It should be noted that

Paulo Freire, a leading educationalist from Brazil in South America, worked in a predominantly Catholic country but he embraced an ecumenical approach in his community education work.

4.9 Pedagogy of Indigenous Knowledge for Food Security in Cultural Context

The pedagogical value of indigenous knowledge for food security is a social research issue which calls for a critical discourse analysis of oral testimonies and the life-stories of women farmers. The context and methods used in discourse analysis of life-stories of women farmers can give the people an opportunity to learn lessons for their own benefit. A life-story can take a factual or a metaphorical form in the context of social research; it can even take the form of a song or parable (Atkinson, 2002: 125). This calls for an understanding of what discourse means and how it is analyzed which brings order and meaning to the life-story being told, both for the teller and the listener (Atkinson, 2002: 125-126).

The life-story or oral testimony like any supra-sentential unit of language in practice takes the form, shape and style of the narrator. Whatever form it takes, a life-story or oral testimony always tells of experiences of growing up and maturation holistically. While the term pedagogy refers to the function and the work of an educator, it is necessary to note the reality that without learning, there is no teaching. It is also important to note that learning is a life-long process which is experienced in formal, non-formal and informal contexts; to be alive in the world is to engage in a life-long experience. In this chapter, we have looked at life-stories of women farmers in Homa Bay County, Kenya. If pedagogy refers to the art or science of teaching, then it must have a philosophical basis upon which its foundations are built in any social context. *The Oxford Dictionary of*

Psychology describes “learning” as an “act or process of acquiring knowledge or skill” (Colman, 2006: 415).

In the agricultural education and extension work, we must necessarily be concerned with the context of situation which surrounds crop production, whether for subsistence or for cash in the market place. Context refers to the environment or circumstances in which language is used in society. The study of language use in agricultural contexts must necessarily take context into consideration:

Any analytic approach in linguistics which involves contextual considerations necessarily belongs to that area of language study call pragmatics, (Brown and Yule, 1983:26).

The learning process when analyzing the life-stories of women farmers in this study is therefore an activity of pedagogical value. The subjects acting as informants tell us something which we benefit from as people engaged in social research of agricultural activities. The oral testimonies and life-stories are closely interconnected. In fact, a chain of oral testimonies make life-stories which feed into indigenous knowledge systems. People tell their stories which become an integral part of their social discourses passed on from one generation to the next. Understanding the oral testimonies and life stories entails analysis of content which has pedagogical value. In a discourse analysis of the life-stories of women farmers, notes of the fieldwork have been reconstructed into narratives with texture to enable an understanding of whether the oral testimonies have content or not (cf. Vansina 1965:47).

The life-stories of women farmers reconstructed from oral testimonies on indigenous food crops deal with “the expression of experience” in the context of cultural landscapes (cf. Vansina, 1985:7) when people talk about the manner in which they engage in

agricultural production, messages are generated within the community and ideas are shared with one another. This then forms the production of cultural knowledge which is transmitted through repetition and re-telling to new generations who in turn do the same. Through oral testimonies and life-stories, cultural knowledge is immortalized in the collective experience of the people. In Kenyan post-colonial context, keeping the indigenous knowledge and traditions on foods might be under threat since British agricultural policy was to eradicate the “primitive” folkways of the people. This is what Ngugi wa Thiong’o has called the struggle for cultural liberation by universalizing local indigenous knowledge:

Culture develops within the process of a people wrestling with their natural and social environment. They struggle with nature. They struggle with one another. They evolve a way of life embodied in their institutions and certain practices (Ngugi wa Thiong’o. 1993:27).

In ethnography culture is understood as knowledge of the world which people learn from the time they are born until they die. The learning experience of cultural knowledge is achieved through sharing of ideas and skills in different domains of life, including agricultural practices. People who belong to the same cultural landscape share the same objects, places and social networks. They also share same “patterns of thought, ways of understanding the world, making inferences and predictions” (Duranti, 1997:26). In African contexts, women farmers learn to produce food for the family from an early age; as the girl child acquires and learns the Mother Tongue, she also acquires and learns her role of being responsible for the nutritional needs of the family. Sometimes the small girls engage in role-play as in activities such a *Tedo Kalongolongo* when they act as if they were cooking in imitation of their mothers, older sisters or aunts.

The feminine principle and the culinary frame of mind are displayed by small girls when they imitate the activities of older women for instance: grinding (*rego*); plucking vegetables (*ng'weto*); fetching water (*dhi kulo*); and cooking (*tedo*) are all exhibited quite early in play activities (*tugo*) as the girls grow up (Ominde, 1987 [1952]: 10-16). The childhood socialization of the African girl-child in rural agrarian communities follows a social script aimed at learning about different foods and how to cook for the household. This bestows upon them the role of being custodians of food security in the household when they grow up into adult women. In Luo society, the larger kinship network of parents, brothers, sisters, grandparents, aunts, age-mates and friends are all very important in the formation of the girl-child and her future culinary role in the family (Kirwen, 2008:79). The informal education by grandparents during the school holidays continues today in many Kenyan communities with children being given tasks in groups depending on their ages (Kirwen, 2008:85).

Cultural knowledge in Africa depends, to a large extent, on gender differences: the age-old practices with regard to manhood and womanhood; boyhood and girlhood. Throughout the world, specific roles are given to men and women and this determines a lot in terms of what work is assigned to each gender. Michael C. Kirwen examines the interpersonal relationships of members of society with special reference to cycle of family in *African Cultural Domains* (2010). In his seminal ethnographic work, Simeon H. Ominde examines the girl child specifically in *The Luo Girl from Infancy to Marriage* (1987). In these two narratives, the cycle of family and the role of women in society are recognized as being critical in food production. It is important to note that in Luo society, when a young woman gets married, it is said that she has gone to cook. The cultural

pattern followed by girls when they are born into Luo society is that they will one day leave home and start a new life elsewhere when she settles down with her husband in their new family context:

The married woman must learn everything possible about her new family. The mother-in-law tells her about the various sources of food and assists to fit into her new life in the manner desired (Ominde, 1987:51).

The genre of life-story has texture. It is a structured piece of discourse which occurs naturally through the spoken or written medium. The words are woven into a text identified for purposes of analysis and description (David Crystal, 1999:337). Discourse analysis is genre-specific in this study. Our two main sources of information working in tandem in the present study are the oral testimony and the life-story (Slim and Thompson, 1995:150-151).

4.10 Conclusion

As we have done in this chapter, a discourse analysis of oral testimonies and life-stories of women farmers has been utilized in gaining epistemological insights and contextual understanding of women's indigenous knowledge for food security. This approach has drawn from contextual interpretation and translation of cultural knowledge and pragmatic meaning in an ethnographic framework as espoused by Bauman (1972:159-160).

In this chapter, it has been demonstrated that women's indigenous knowledge is critical for food security in the rural household. This knowledge has been captured and expressed through ethnography of communication as an epistemological framework for understanding women's agricultural activities in a rural setting.

The chapter has also explored the pedagogical value of women's oral testimonies and life-stories through discourse analysis and contextualization of food production for sustainable rural development.

The chapter has also demonstrated women's knowledge, skills and experiences in land management and appropriate handling of indigenous seeds by establishing community-based seed banks and the sustainable use of traditional food plants in an African landscape.

In conclusion, this chapter establishes the fact that the African woman is a central pillar in the family as a social unit in regard to land use, food production and food security.

CHAPTER 5: DISCOURSE ANALYSIS AND MAINSTREAMING WOMEN'S INDIGENOUS KNOWLEDGE IN AGRICULTURAL EXTENSION PROGRAMMES

5.1 Introduction

This section is organized in two parts. Part one focusses on **discourse analysis** and **agricultural extension** where the discussion revolve around narrative approach, traditions and customs which guide major agricultural practices in Luo society and using ethnomusicology in agricultural education and extension programmes. Part two of the chapter discusses **mainstreaming womens' indigenous knowledge, skills and experiences** in agricultural extension programs in which the focus is importance of womens' knowledge in agricultural extension, the role of NGO sector in mainstreaming women's indigenous knowledge for food security in agricultural extension programmes; narratology as tool for reclaiming and mainstreaming women's knowledge in agricultural extension as well as perceptions of community leaders and agricultural extension workers on indigenous ecological knowledge: towards a critical indigenous pedagogy.

5.2 Discourse Analysis and Agricultural Extension Education

This sections deals with different types of discourses used in the study of indigenous knowledge which include the narrative approach, rites and practices, community structures, family structures and other traditional practices among others.

5.2.1 Narrative Approach, Food Security and Agricultural Extension

The narrative approach which has been used to investigate the context of food production in the context of Homa Bay County, Kenya is based on broader African feminist epistemology with the ultimate goal of mainstreaming the content of women's indigenous

knowledge systems in national and international development discourse (Wanjiku Mukabi Kabira, 2018: 22-23). The approach of African feminist epistemology advocated for in this narrative pedagogy of liberation seeks to incorporate the discourse content of women's indigenous knowledge for food security in rural and peri-urban households. The emphasis has been the practice of cultivating land for the growing of food crops to enhance food security in the rural household and semi-urban. The study has also focused on the indigenous knowledge systems handed down from one generation of women farmers to the next. The analysis of domains and themes in cultural narratives of food production has been done from the perspective of the life-story of the woman farmer using the critical indigenous pedagogy which needs to be applied in agricultural extension services. Agricultural practices are as traditional as they are scientific; the customary methods used by women for subsistence relies on practices in which: "the crops and livestock produced are used solely to feed the farmer and family" (Oxford University Press, 2008:15-16).

In African countries a system known as "slash and burn" is commonly applied as part of land preparation: "in which the vegetation in an area is cut down and then burnt, thus returning the minerals to the soil," (Oxford Dictionary of Biology, 2008:16). This traditional approach followed by indigenous women farmers in many African counties enable them to use the land for cultivation until the fertility is exhausted; once the fertility drops, the farmers shift to another site, thus allowing the land to heal for a number of years before coming back to the area for purposes of cultivation of crops for subsistence. Crop production in Africa is part and parcel of themes and domains "embedded" in the

people's "subconscious cultural knowledge for their meaning, interpretation and ritualization," (Kirwen, 2008:1).

The ritualization process of agricultural practices in Africa covered farming, crop growing, livestock keeping and even fishing, hunting and gathering fruits and vegetables for the family (Mbiti, 1992:134-138). Food productions in many traditional African societies are family and communal activities; for that reason, agricultural rituals do affect families and local communities who belong to the same clan networks. This does not happen in Kenya among the Luo only but also among other African peoples elsewhere. Geoffrey Parrinder, formerly Professor of Comparative Religion at the University of London, and who was an ordained minister who worked in Africa records an interesting agricultural rite among the Venda people in South Africa:

All African peoples have important communal ceremonies at the times of sowing and harvest. When the fields are tilled, the Chief of the Venda people in South Africa calls all his friends and his neighbours to till his field first. When the hoeing is done, a pot of grain is symbolically cooked over three cooking stones on a grass fire (Parinder, 1962:83).

The narrative continues that some of the mixture is placed on a sacred axe and hoe as the Chief's maternal aunt fills her mouth with water and spews it out on the soil and mutters prayers to the ancestors pleading with them to bring bountiful harvest in the coming season. These rites are repeated all the way to the villages and households in Africa where women play a critical role in agriculture. In post-colonial Kenya, the resilience of women in their many struggles for social emancipation has been epistemologically codified in a pedagogy of hope for empowering womanhood culture-specific contexts as

postulated by Wanjiku Mukabi Kabira in her seminal essay: “The Next Season of Harvest” (Kabira, 2018).

Among the Luo people of Kenya, agriculture, cattle-raising and fishing are important sources of livelihood; they generally work as family units on the land:

When a piece of ground is to be cleared, the men lead the way, while the rest of the work, the sowing and harvesting, is mostly left to the women. As a rule each family manages to do its own work; hired labour is a rarity (Hauge, 1974:10).

Since the Luo people still practice polygamy in rural areas, the first wife is usually given preferences in agricultural rituals and rites in order to avoid conflicts in the family setting: the first wife always enjoys an elevated position in the homestead with her door facing the main gate. The younger wives subsequently married to the same husband will have to “submit to the will of the older,” (Hauge, 1974:12).

It is in this context that agricultural rituals and rites are practiced among the Luo people in Homa Bay County, though cultural practices keep changing. Cultural pedagogical programmes to address polygamy and food production in rural Kenya would be necessary in order to ensure food security. The most important domains and emerging themes in this study are mainly: land preparation, which involves cultivating; planting and sowing; weeding; harvesting and storage of food. These major themes are analysed by using the life-story approach to the oral testimonies given by the women. It is important to deal with food analysis in context. Sathe (1999) looks at different foods from the perspective of analytical chemistry. Food can be analyzed and classified from chemical and other perspectives since almost all physical, biological and social sciences have a stake in the subject.

Food may be defined as “articles meant for human consumption” (Sathe, 1999:1). The Oxford Dictionary of Biology defines food as material containing nutrients “required by living organisms in order to obtain energy for growth and maintenance,” (2008:256). The word food in Dholuo is *chiemo* which is used both as noun of what is eaten and the verb to eat, (cf. Capen, 1998:23). There are other terms used in relation to food in Luo cultural context, including *cham*, which refers to crops “especially cereals like maize and sorghum” (Kokwaro and Johns, 2013:23). When *cham* is ground into powder form, then it can be mixed with water and cooked into *kuon* (a form of stiff porridge) or made into *nyuka* which is a liquid form of porridge or gruel. *Kuon* is made from millet, sorghum, cassava, or maize. Sometimes, a blend of two or more of these food items is used for aesthetics and digestability. The “daily bread” of the Luo people in Homa Bay County may, therefore, be seen as *kuon*. The Lord’s Prayer would as well be paraphrased as: “Give us this day, our daily *kuon* (bread)” and that would still be spiritually, physically and culturally appropriate (cf. Matthew, 6:11). Nutritionally, the Luo people attach great value to cereals and grains (*cham*) which are always used in agricultural rituals of *gwelruok*: “first fruit or first food of new crop gathered prior to the harvest” (Capen, 1998:47).

According to Sathe (1999:1), food can exist in three states, namely: Solid foods, Liquid foods, and Colloidal foods. Taking cereals and grains, for example, the foods processed and cooked from the flour could in this classification be *kuon* (solid); *nyuka* (liquid); and *kuon anang’a* (colloidal). There are different types of colloidal foods in the form of: emulsions found in foods like milk and butter; gels in the form of jelly-like paste; food

foams arising from the fermentation of grains and cereals (cf. Sathé, 1999:1; Achieng, 2001:27; Park, 2008:88).

The natural foods among the Luo people are agricultural and horticultural in origin. The foods are either cultivated or sourced from the wild by people with intimate knowledge of the environment. In Jane Achieng's translation of Paul Mboya's *Luo Kitgi Gi Timbegi*, she states that:

The Luo eat various types of food. They eat meat, chicken, some birds, fish, vegetables.....All these they eat with ugali. Ugali is an important Luo food (Achieng, 2001:27).

The translator does not find any appropriate English word for *kuon* so she uses the Kiswahili word ugali which is well understood in East African food terminology. The translator of *Luo Kitgi Gi Timbegi* also retains indigenous categories such as *Magira* (groundnut or mushroom sauce) and *Awinja* (groundnut or simsim paste).

Clearly, translating food terminology is a culture-dependent process. Meaning of technical words used in food analysis requires a contextual approach which leads to greater understanding. The foods listed in Jane Achieng's translation, definitely have "characteristic composition, purpose and nutritive value" (cf. Sathé, 1999:1). The life-stories of the women farmers in Homa Bay County reveal to us the contextual meanings of some of the traditional foods no longer talked about in contemporary society. The colloidal foods like *magira* (groundnut or mushroom sauce) and *awinja* (groundnut or simsim paste) are neither quite solid nor quite liquid but somewhere in-between: these are prepared with milk and oil.

The narrator of Life-Story No.30 speaks of different traditional foods in Luo society:

We used to eat different types of foods including mushrooms; omegre; olando; oruka; omonge; oresre; among others (Angelina Ogina Omuga, 82 years old; a farmer from Kanyada).

The narrator continues in her life-story that the indigenous environmental knowledge was passed down from grandparents and parents to the next generation of children and grandchildren. The medium was, definitely, the oral word known as folklore as orature with “its roots in the lives of the peasantry: (cf. Ngugi wa Thiong’o, 1986:95).

Another food terminology in Luo society which needs analysis is *dek* which has at least two different cultural meanings: “a spider flower, species of greens” (Capen, 1998:29) and any food eaten with *kuon* (cf. Achieng, 2001:27). Any food in the form of meat, stew, fish or vegetable eaten with *kuon* is generally referred to as *dek* (cf. Capen, 1998:29). The meaning attached to *kuon* is common among different Luo-speaking peoples not only in Kenya and Tanzania, but also among the Anywak of Gambella in South Western Ethiopia and Southern Sudan. Spelt different as *kwan* in *Dha Anywak* (Dholuo: *kuon*) it means “food but it is not meat or fish nor vegetables but simply the *durra* porridge” (Perper, 1997:219). An interesting but obvious observation by John W. Ndisi in a study of the social life of the Luo people of Kenya, he states that:

Most of all Luo food is eaten with a hard sort of porridge known as kuon. Each time one eats food such as fish, meat, vegetable, kuon must go with it (Ndisi, 1973:33).

The Anywak call whatever accompanies *kuon* as *kado* especially if it is meat; it is normally salty in taste. If there is no *mogo* (flour for making *kuon*) then the Luo people say that there is *kech* (hunger). The cereals and grains: millet, sorghum and maize are

considered as the indicators of food security in Luo society. Traditionally, homes which did not have granaries were considered as being vulnerable and food insecure. Among the Anywak of Gambella in South Western Ethiopia and Southern Sudan, hunger is known as *kac* (cf. Luo: *kech* in Capen, 1998:64) where it means hunger or famine. The Anywak people speak of *kac* in the absence of *durra*; “people would talk of hunger even if there is plenty of meat (what is never the case)” (Perner, 1997:219). The Anywak have the same concept as the Luo of Kenya when it comes to lack of *gir-kado* (meat, chicken or fish). They talk of *cong* which the Luo of Kenya refer to as *chong*; a meal of *kuon* and vegetables without *gir kado* (cf. Perner, 1997:219; Capen, 1998:25). The Luo of Kenya refers to *gir-chong*’ and *alot-chong*’ as: vegetable eaten in hard times of famine and not cooked with milk and ghee (cf. Achieng, 2001:250).

The matriarch Angelina Ogina Omuga, 82 has been a farmer and trader in food products in Homa Bay County for most of her life; she explains food security in a Luo cultural landscape as follows:

Bedogi kuon kod dek mag ot; puro cham moromo wan gi nyithindo; gi welo kod jomikonyo; chiemo moromo wa kuom kuon; dek mag ot machalo alote; jamni matindo mag chiaye; dhok kod gwen gi rech motuo gi gik machalo kamano (Angelina Ogina Omuga, 82).

The social structure of the Luo society in Homa Bay County seems to expand the meaning of food security according to the matriarch whose sentiments can be translated as follows:

Food security is having enough cereals and grains for kuon and having different dek mag ot (vegetables, meats, chickens, fish, and others) to accompany kuon at every meal; producing enough crops to feed the parents and their children; and have enough food for guests who might visit the homestead; extra food to give

deserving and less fortunate members of society; enough cereals and grain for kuon which is the staple food; growing different vegetables; keeping livestock such as goats, sheep and cattle; raring chicken and other birds; and any other gir kado (something meaty which can be stewed) like dry fish among other foods to feed the entire household (Translation: Humphrey J. Ojwang, 2019).

The context of this translation of the Luo text is culturally loaded with social structure of the African family. Most African family structures are rather complex because of the extended kinship networks which spread far and wide. In Luo society, the smallest unit of a family is *pacho* (homestead) which consists of a man as head of the unit with his wife (if he is monogamous) or wives if the man is polygamous:

The head of the family is the man and he is always referred to as the owner of pacho (Othieno-Ochieng', 1968:11).

An analysis of the Luo family, as is the case in many other African contexts, reveals that they are patrilocal. However, matrilineal implications are also quite evident since a married woman carries two identities for the rest of her life: that identity of her own people and the other identity of her husband's people.

The life-story interview of Angelina Ogina Omuga reveals an early childhood where she started her socialization in what Simeon H. Ominde puts together as a motif: *The Luo Girl from Infancy to Marriage* (1987). The matriarch was born in Kochia-Karamul in Rangwe Constituency, Homa Bay. In the critical indigenous pedagogy of place (CIPP), Kochia-Karamul becomes instantly significant in the Life-Story. As Ngugi wa Thiong'o says in his critical work *Decolonizing the Mind*, the narrative he adopts in his writings with "stories within stories in a series of flashbacks" in *A Grain of Wheat* (cf. Ngugi wa Thiong'o, 1986:77).

Flashbacks, multiple narrative voices, movement in time and space are stylistic devices he uses in many of his prose fiction. Ngugi wa Thiong'o uses parallel biographies and story-forms which allow him to tell the life-stories in another historical novel *Petals of Blood* (1977) when he moves freely from one point to another in the history of African cultural landscapes. This technique adopted by African story-tellers borrows heavily from the oral literature and folklore of the indigenous people: oral culture accumulated over the centuries. To contextualize the life-: Karamul where she grew up; the simple grass-thatched huts in which they lived; the sort of foods they traditionally ate and the games they played as small girls growing up in Kochia area. Using the flashback technique, the narrator states what kind of food they ate in Karamul Village, Kochia area in Rangwe Constituency:

We ate wild vegetables such as apoth; awayo; susa; osuga; odielo; we also ate the following cultivated vegetables: odielo; ndemra; mito; okuwo among other (Angelina Ogina Omuga, 82: Informant No.30).

Through the identification and naming of indigenous plants by the narrator, the listener, in this case, he researcher and the rest of the discussion, gain insights into the traditional world of Luo foods which have existed since time immemorial. The indigenous knowledge systems include, but are not limited to the indigenous leafy vegetables; fruits are also covered in this elaborate knowledge base of the African cultural landscape. Through the experiences of the narrator, the food processing steps before cooking are also enumerated: *Alot onge kwere*: (There are no taboos concerning vegetables).

Luo	English
<i>Ng'wedo alot</i>	Gathering green vegetables
<i>Dondo alot</i>	Picking leaves of vegetables one by one
<i>Bidho alot</i>	Selecting vegetable leaves for cooking
<i>Haro alot</i>	Pinching back buds; Prune vegetables
<i>Ng'ado alot</i>	Cutting vegetable leaves into small bits and pieces
<i>Chwako alot</i>	Boil vegetables
<i>Boko alot</i>	Cook partially to preserve
<i>Chielo alot</i>	Fry vegetables
<i>Tedo alot</i>	Cook vegetables

Table 5.1 (Source: Angelina Ogina Omuga, 82 – Informant No.30)

All these food preparation activities are done by women in the family. The term *tedo* (Capen, 1998:148) figuratively means a woman leaving her maiden home and relocating to a husband's home to assume the traditional role of cooking for her husband and children (being the custodian of food and nutrition in her new marital home). The fear that young girls from Homa Bay County back at home or living in other towns might not know the indigenous vegetables and other traditional foods is deeply embedded in the psyche of parents and leaders alike; the Women's Representative for Homa Bay County in Parliament, the Hon. Gladys Wanga, told this researcher that her daughters and other girls of their age were missing out on indigenous ecological knowledge since the times have changed; they no longer live with their grandmothers in large compounds teaming with female relatives around to help in bringing them up and teaching them about indigenous vegetables (Gladys Wanga; perscom: 21/01/2019, Nairobi). She believes something can be done to reclaim this kind of indigenous knowledge.

5.2.2 Traditions and Customs Which Guide Major Agricultural Practices in Luo Society: The Life-Story No.16 of Evaline Aoko Otieno, 33 years

The life-story of Everline Aoko Otieno (Life-Story No. 16) brings out the dichotomy of traditional or indigenous foods and the modern which are foreign in origin. She was born in Kabuooh Konyango some 33 years ago. Her husband was called Otieno Ojuok. He was from the Kanyach-Kachar clan in Kanyada. She narrates how she was forced to leave school in Standard 7 owing to difficulties at home. She went on to get married after dropping out of school. She has a total of 5 children: one boy and four girls. She is many things rolled up in one person: a widow but presently she lives with a man who is not from her husband's clan. He is like a friend (Luo: *osiep*) but he does not qualify as husband or a *Jater* since he is only a friend. She says that she has been allocated land where she built her new homestead. The land belongs to late husband's family. Her male companion has no right over the land (because he is considered a Jakowiny (a stranger in Kanyach-Kachar Clan). Since she was widowed at an early age, she needed a male companion. Her late husband's family allowed her to get a friend (not a husband) as long as she did not take away their children elsewhere. This *osiep* is not allowed to interfere with her children in any way. He has his own wife and children at Kanyawanga and only visits her home from time to time. She reckons that she is not alone in this kind of arrangement. Many young African widows find themselves in that kind of situation (cf. Kirwen, 1979: 30-38).

The narrator is aware of the traditions and customs which guide major agricultural practices in Luo society. These are during the seasons of ploughing, planting; weeding; harvesting; and storing grain crops for future use as part of food security for the household. Since she is a single parent (though she has a regular male partner), she makes most of the decisions regarding food security in her household by herself. She does not have a title deed for her shamba but that is not a problem as far as she is concerned; she enjoys unlimited cultivation rights of all her portions

allocated to her by her late husband's family. She is also allowed to get more children to carry on the name of her dead husband as is the case in many other African communities (cf. Kirwen, 1979: 39-43).

In their locality, they use jembes, hoes, oxen-drawn ploughs and tractors. The last two are usually hired. During these agricultural activities, *Jater* or *Jakowiny* might visit but he should make sure that he meets all his ritual obligations with his own wife first:

Ndalo golo pur, dhako nyaka riwre kod dichwo. Ka chi liel nigi Jater kata Jakowiny, to ng'atno nyalo chung'ne e weche machalo kamano. Ka onge ywore manyalo tere to oyiene mond omany ng'ato moro machielo manyalo rite maber. Nyithindo ka osiepne no onyuolo kode, to mago nyithind chuore mane osetho chande. Gichamo mwandu madalano. Ndalo gwelruok, Jater kata Jakowiny nyaka rie dalane eka onyalo rieyo dala ma otere dhako machielo. Ka ok otimo kamano, to kare nyalo rochore (Evaline Aoko Otieno, 33: Life-Story No.15).

During land cultivation, the woman and her husband must come together. If the widow has a levir or a non-kinsman as a partner, that man can stand in the place of her dead husband on such matters. If she has no kinsman-redeemer, then she may look for another male partner not necessarily from the clan to take care of her needs. If they get children out of the union, then they become the heirs of her dead husband. They can inherit land of the deceased, even though they are not his biological offsprings. During the new harvest, the levir or non-kinsman must put his homestead in order first before going to put the dead man's homestead in order. If he does not do that, his own lineage may not flourish. (Translation: Humphrey J. Ojwang, 2019).

In Luo cosmology, agricultural rituals have fertility and sexual connotations as explained by Evaline Aoko Otieno above. Storage after harvest is important. People have moved from *dero* (grainstore) outside the main house to using sacks and keeping them in the house. People use ash to preserve grains and cereals among the rural folk and it works. Theft of grains and cereals is on the rise that is why we keep the bags in our houses.

The younger women in Homa Bay County talk of *Chiemb Luo Machon* versus *Chiemb Luo Machien*; “Traditional Luo Foods” versus “Modern Luo Foods” in the metaphorical manner comparing “Analogue” versus “Digital” ways of doing things. In this narrative “Analogue Foods” include the following:

Luo	English
<i>Bel</i>	Sorghum
<i>Kal</i>	Finger Millet
<i>Ng’or</i>	Cow Peas
<i>Marieba</i>	Cassava

Table 5.2 (Source: Everline Aoko Otieno, 33: Life-Story 15)

The narrator mentions other “Analogue” foods including a variety of wild leafy vegetables and wild fruits. “Analogue” menus may also include foods which are time consuming during preparation; whether white meat as in fish and poultry or red meat as in beef, lamb or goat. The Luo people have different methods of preparing and preserving meats as follows:

Luo	English
<i>Aliya</i>	Smoked meat
<i>Abamba</i>	Dried meat/fish
<i>Aboka</i>	Boiled fish/meat/vegetable/maize
<i>Athola</i>	Fried meat/chicken/fish
<i>Abula</i>	Roasted meat/fish/maize

Table 5.3 (Source: Everline Aoko Otieno, 33: Life-Story No.15)

The younger women find these methods quite tedious and time consuming. They do not have the patience and time to process foods in this manner. The modern Luo woman goes to the local market late in the evening after a long day and buys “Take Away” = *Kaw Idhigo*” which menu they refer to as “Digital” and ready to prepare for a quick evening meal for the family.

These include:

Luo	English
<i>Bando Nyaduka/Kuon Kobali</i>	Sifted maize flour
<i>Sikuma moseng'adi chuth</i>	Kale already cut into small pieces for cooking
<i>Kabich moseng'adi chuth</i>	Cabbages already cut into small pieces ready for cooking
<i>Rech mosedhol chuth</i>	Deep fried fish ready for stewing
<i>Omena mosewang' chuth</i>	Deep fried fingerlings ready for stewing

Table 5.4 (Source: Everline Aoko Otieno, 33: Life Story No.15)

The phrase *moseng'adi chuth*” refers to “already cut into pieces ready to be fried or cooked. There is less variety of foods for the “digital” generation as opposed to the plenty of variety during the “analogue” period of our parents. We need to blend the modern and the old varieties of our foods in order to realize food security in the household.

A visit to a typical hotel in Homa Bay revealed what is a typical menu of foods eaten by the middle class in the locality. This researcher sampled that which the narrator in Life-Story No.15 called “digital” and “analogue” foods and found out that the the digital seemed to trend better than the analogue. At the Traveller’s Hotel in Homa Bay, breakfast includes the following items:

Snack/Tea	Price – Ksh.
Special Tea	50
White Chocolate	50
Strong Tea	20
Fried Eggs (Two)	80
Chapati Plain	20
Ndazi Plain	20
Chips	100
Pilau	120

Table 5.5 (Source: Travellers Hotel Menu, Homa Bay)

The Luo idea of breakfast is quite different from the English idea. In traditional Luo society, breaking of the fast in the morning consisted of *nyuka kal* (millet porridge) and possibly *nyoyo*, a meal of boiled maize mixed with beans. The middle class tastes reflected on the breakfast menu at this hotel is definitely a reflection of the impact of British colonialism. Tea and chocolate are influences from imported ideas during the colonial period; fried egg is also an alien idea since eggs were either boiled or roasted in traditional contexts. French fries or chips are also exotic additions to the menu of the Homa Bay cultural landscape. These all fit within the category of “digital” foods and drinks (sodas; sour milk called mala; mineral water; and tea; chocolate; or coffee) which have been introduced into the menus of town dwellers in Homa Bay. As for pilau, ndazi and chapati, these food items are influences from Oriental introduced by Indians who settled in Homa Bay County during the colonial period as the merchantile class. The food culture of urban centres in Homa Bay County is a pointer to the changing lifestyles of the middle class in any other town or city in East Africa. The European and Oriental influences are quite visible in the in items offered as breakfast at the Travellers Hotel in Homa Bay Town.

The aesthetic aspect of the food offerings on the menu is captured in the motto of the Travellers Hotel which reads in italics: “For Tasty and Delicious Meals, Welcome”. The taste is the unique selling proposition; not the nutritious value. The local and the exotic seem to exist side by side in the postcolony in all aspects of food narratives. The manager was a middle-aged woman while the waiters were much younger women at the Travellers Hotel. If “digital” means “young” while “analogue” means “ageing” then the semiotics of hierarchical structure of mother and daughter or mother-in-law and daughter-in-law;

this context of situation had parallels in the middle-aged woman manager who could be seen giving orders and commands to the much younger women waiters. The Luo homestead organizational structure had been translocated to a popular small middle-class hotel with a restaurant serving a clientele of travellers at the nearby bus park and town dwellers from numerous government offices in Homa Bay Town.

The Luo idea of an early afternoon meal of *kuon-ohiu* which is eaten together with some form of *gir-kado* (stew) or *alote* (vegetables) could be enjoyed at this popular eating place. The dishes were more African than exotic; and also very different from the European or Oriental cuisines. At the Travellers Hotel in Homa Bay Town, there were 17 items listed as “Main Dishes” with different costings. These are given below:

Main Dishes	Price – Kshs.
Nyama Choma	200
Nyama Fry	200
Kuku Fry ¼	300
Samaki Boiled	250
Nyama Stew	200
Kuku Boiled ¼	250
Samaki Fry	300
Samaki Wet Fry	300
Samaki Kichwa	300
Maini Fry	250
Matumbo	150
Matumbo Ya Kuku	150
Sukuma Wiki	80
Mboga Kienyeji	100
Aliya	250
Ugali Plain	50
Mboga Mix	150

Table 5.6 (Source: Travellers Hotel Menu, Homa Bay)

Something which needs to be noted here is that Homa Bay Town is an almost cosmopolitan urban centre but the Luo food culture is still being seen as dominant. However, there are people from the Abagusii and Abasuba ethnic groups in the town as well since they have intermingled with the Luo-speaking groups for centuries. A few Abakuria are also found in the town which used to be the headquarters of the then South Nyanza District. The Abakuria are a significant minority and are more visible in the neighbouring Migori County where they have two constituencies: Kuria East and Kuria West. The foods listed above are common to both the Luo and their Bantu neighbours in East Africa including Mara Region in Tanzania. Dishes like Nyama Choma are universally eaten in many ethnic communities including the Agikuyu of Central Kenya and the Maasai/Samburu of the Rift Valley Region.

In the identification of foods served in Homa Bay restaurants, English, Kiswahili and Dholuo words are used in compound names. Examples given are words like: “Nyama” and “Fry” which is a combination name of Kiswahili and English lexical items. Another example is “Kuku” and “Boiled” which is the compound name of “Boiled Chicken” in Kiswahili and English. Switching codes is common in Kenya where most middle-class educated people are trilingual with an indigenous language, Kiswahili and English.

5.2.3 Using Ethnomusicology in Agricultural Education and Extension Programmes: Luo Woman Who Plays Nyatiti Songs in Social Context

The pedagogy of folk music in community education and mobilization programmes is not uncommon in East African communities. Songs and dances are part and parcel of daily folkways among different ethnic groups. Ethnomusicology is the study of how music interacts with culture in society. It is approachable from interdisciplinary perspectives and is applicable in pedagogical contexts: the anthropological and the musicological methods used for understanding society (Merriam, 1964).

In Kenya, *nyatiti* is a well known musical instrument with eight strings; it is common among the Luo people of Nyanza Region in Kenya and North Mara Region in Tanzania.

Thum Nyatiti

This is a Luo musical instrument with eight strings. It has a hole on one side which amplifies the sound. It is used for cultural pedagogy when narrative songs are used to transmit important messages. It has been a male preserve but women musicians have started playing it as an instrument of choice.

Plate 5.1 Nyatiti



It is also found among the Abaluhya; Abagusii; Abakuria; and Kalenjin who are neighbouring ethnic groups to the Luo (Wahome, 1986:2). In this study, we are interested in the pedagogical value of indigenous knowledge of women farmers for food security. How can folk music be used in adult education; community education or extension education contexts when seeking to understand the life-stories of women farmers? In this section, we are focusing on Life-Story No. 10 (Jennifer Atieno Sanna, 40 years; Nyatiti Player) of a woman lyricist from Nyanza who has been using her musical talent in environmental conservation awareness in Kisumu and Nairobi.

The pedagogical value of using interactive aspects of music and culture in non-formal contexts cannot be ignored in oral societies. The oral tradition in Luo society is quite entrenched. Any educational programme with agriculture as the main focus can benefit from the oral culture of the people. Music and dance are an integral part of the cultural activities of the Luo-speaking people of Homa Bay County specifically Nyanza Region in general. Luo musicians use song as a means of praise and insult, depending on the circumstances. In his autobiography, Oginga Odinga (1967:9) states that music and storytelling were two major sources of education for the Luo child in the village setting. The *nyatiti* players were highly regarded artists in Luo society. They sing about personalities in society extolling their virtues from which the youth can learn good lessons; generosity and hospitality; hard work in agricultural production and livestock keeping; therapy and healing by traditional medical practitioners; and many others.

The *nyatiti* player may sing praises to himself (herself) and “herbalists who cure the sick or a particular medical practitioner who helped people” (Dakwa, 1986: 145-146), *jathum*, a lyricist, is given very special status in Luo society. The oral artist inspires the

community through their compositions; the oral artists praised men and women who upheld family values in society and cautioned boys and girls against wayward behavior:

They praised men and women who had achieved distinction in the community. They condemned thieves, lazy people, cowards and people with bad habits. In the community, the harpists were a recognized institution awarding approval to individual and communal achievements, and admonishing and reprimanding those who did not come up to standard (Oginga Odinga, 1967:9).

This autobiography, *Not Yet Uhuru* tells the life-story of an individual and also captures the cultural practices of the larger society. Dakwa gives different contexts in which music and song in Luo society are used namely: *wende dodo* were mainly beer party songs with women singers leading. Other musical genres in Luo society are listed below:

Luo	English
<i>Wende-lupo</i>	Songs for fishing
<i>Wende-puochu</i>	Songs for churning milk
<i>Wende-yooko</i>	Songs for pounding grain
<i>Wende-piedho cham</i>	Songs for winnowing
<i>Wende-rego cham</i>	Songs for grinding
<i>Wende-kwath cham</i>	Songs for herding livestock
<i>Wende-nyiedho</i>	Songs for milking animals
<i>Wende-dwar/ pedho</i>	Songs for hunting
<i>Wende hoyo/piro nyathi</i>	Songs for comforting the baby/ lullabies
<i>Wende-pur gi dhok</i>	Songs for ploughing with oxen
<i>Wende-doyo</i>	Songs for weeding the garden
<i>Wende-kayo cham</i>	Songs for harvesting
<i>Wende-ng'weto</i>	Songs for gathering vegetables

Table 5.7 (Source: cf. Dakwa, 1986:146-147; Odaga, 1986:88)

From this cultural landscape, it is clear that folk music of the Luo can be put to pedagogical use in different learning context within the community. Compositions about the virtues of eating indigenous vegetables can be effective methods of communicating with target audiences. These are vegetables which were eaten by the older generations but are disappearing from the menus of contemporary Luo families. The use of life-stories in

narrative song texts could bring back this kind of memory to the present and future generations. Bishop Henry Okullu in his autobiography, *Quest for Justice*, talks of his mother with a lot of fondness:

Ngore, my mother, industrious and fiercely independent, was the daughter of Alaro Okuku, whose clan in Asembo was reputed to bear daughters with stronger leadership qualities than sons. It was she who had the strongest influence on me, (Okullu, 1997:3).

In his life-story, Bishop Henry Okullu, like many other Luo people, enumerates the indigenous foods they ate while growing up in Asembo: millet meal (*kuon*); sweet potatoes (*rabuon*); vegetables such as *atipa*, *mito*, *dek* and *boo*. He also reminisces about eating plenty of fish because he believed that “fish makes brain, brain makes money, and money buys more fish;” this was almost accepted by his generation that fish was good for intellectual development:

I can assume that the quantities of fish that I consumed in my childhood must have contributed greatly to the development of my brain which has served me well in life. Whether the basis of my assumption is mythical or scientific, the fact remains that I love eating fish (Okullu, 1997:4).

The Luo lyres have documented extensively by Henry Owuor Anyumba, an ethnomusicologist, who also made his contribution to the teaching of oral literature and folklore at the University of Nairobi for many years. He reckons that the African lyres represent complex cultural features and norms: “which cannot easily be reproduced by spontaneous invention” because in spite of their “rusticity, the musical instruments are a complex achievement of African technology,” (Owuor Anyumba, 1983:19).

The pedagogical value of ethnomusicology is further emphasized by Kenyan historian, Benjamin E. Kipkorir (1983), formerly Director of Institute of African Studies; and Washington A. Omondi, a music educator with many years of experience in training teachers at Kenyatta University after a brief stint at the Institute of African Studies. Using the participatory – observatory approach, Omondi (1983: 41 - 44) gives an ethnographic narrative of the place of the lyre in Luo society. In the narrative, Omondi calls the Luo lyre, *thum*, which is one of the surviving musical instruments traced back to the Nile River Basin and Sudan; through migration to the shores of Lake Victoria in Kenya and Tanzania. In the ethnographic narrative, Omondi observes that *thum* dominates Luo social life and is an effective tool of communication: *thum* is used for entertainment and, at the same time, it is used in “enforcing conformity with social norms, and contributing to the continuity and stability of culture (Omondi, 1983:41).

The same view expressed by Omondi is in agreement with the view expressed by Odinga Odinga in *Not Yet Uhuru* when he says Luo harpists like Otuoma sing about environmental management issues like water since most Luo musicians derived their inspiration from Lake Victoria (traditionally known as *Nam Lolwe*):

The Luo people live around the lake and their harpists drew their imagery and source of inspiration from the water. Through their songs, the harpists chanted their words of inspiration to the warriors; praised famous wrestlers; admired beautiful girls; recognized keen farmers whose granaries were always full, (Odinga Odinga 1967:9).

The *nyatiti* player is usually male, but one unique exception to the tradition is Jennifer Atieno Sanna, a 40 year old women lyricist from Kano in Kisumu County. It is in the context of using folk music to disseminate valuable indigenous ecological knowledge that we now turn our attention to a critical discourse analysis of her Life-Story (No.10) where

she believes in what she calls “Pedagogy of the African Song” with the Luo *nyatiti* being the folk medium of communicating messages on issues of social development, for example: Food Safety and Security; Health and Education; Environmental Conservation and Management; Functional Adult Literacy; Indigenous Knowledge Systems; and Human Rights and Civic Empowerment.

The woman player of *nyatiti*, Atieno Sanna, narrates how her father who trained as a locomotive engineer at the Railway Training School also doubled as a musician. She comes from a musical family. She comes from a large family with two step-mothers and a number of step siblings. Some of them are musicians. She recalls that during her primary school days in Nairobi, she used to sing in the choir. After attending Kileleshwa Primary School, she proceeded to Rae Girls secondary School in Nyakach Sub-County where she completed her Form 4 at age 19. She fell in love with a young man and settled down as a wife at that tender age but that did not work out so she moved on. She tried two other relationships but those did not work either; she has three daughters and one son, all of school going age. She went back home and settled down as a single parent and decided to explore her musical talent. She decided to train as a *nyatiti* player under Joseph Odhiambo Nyamungu who runs a Traditional School of Music which he has nicknamed Owiny Sigoma after one of the eponymous Luo patriarchs of Alego people in Siaya County.

At the time of this life-story interview, the artist was making arrangements to go to college for a Diploma Course in Music. She succeeded in being a successful *nyatiti* player which is a rare feat for women in Luo society. She reckons that *nyatiti* is an effective folk medium for community education and she has used it before in passing

messages on environmental conservation; food security; and sustainable development in Kisumu County. What she calls “Pedagogy of the African Song” can be effective in non-formal educational programmes in different contexts.

Thompson (1995:27) has suggested a curriculum model for non-formal education programmes by the African Association for Literacy and Adult Education (AALAE); the adult learners are at the centre of this curriculum model since they choose what to learn and how they learn it. African songs and dances can have pedagogical value as suggested in the life-story of Atieno Sanna the nyatiti player. This radical approach was used by Ngugi wa Thiong’o in what was known as Kamirithu Community Education and Cultural Centre (Bjorkman, 1989: 51).

The ideological orientation of the Kamirithu initiative was based on pedagogy of the oppressed; and pedagogy of liberation under the hegemonic rule by the Kenyan African National Union. The two plays which featured at Kamirithu between 1977 and 1982 were *I Will Marry When I Want* and *Mother, Sing for Me* which were scripted by Ngugi wa Thiong’o. The directors who were involved in this theatre for liberation were Waigwa Wachira and Kimani Gecau; in this approach to pedagogy of liberation, the African song is put into use. In most traditional African communities, “song is a functional part of people’s lives. Singing accompanies work of all kinds and provides rhythm for tedious jobs” (Bjorkman, 1989:77).

In the context of Atieno Sanna, the nyatiti player, she has a work song entitled “These Days Oxen Pough for Women,” (Awino Nyamolo, August 1987) which was adapted from a song celebrating the introduction of the oxen-ploughs in Luo villages after World

War I (1914-1918); her rendition brings the song narrative to contemporary Kenya as women continue to play a critical role in agricultural production. She has performed in other traditional musical productions at the Rotary Club of Nairobi-Lavington; the French Cultural Centre-Nairobi; the Kenya National Music Festival; the Kenya National Theatre; the The Kenya Cultural Centre; and the Young Women's Christian Association-Kisumu. She has also used her "Pedagogy of the African Song" as an approach to music for civic education initiatives in Kibera, Nairobi. The use of song and dance can have pedagogical value in non-formal and formal educational contexts specific to women farmers in agricultural extension programmes.

5.3 Mainstreaming Womens' Indigenous Knowledge, Skills and Experiences in Agricultural Extension Programs

This section discusses the importance of women's knowledge in agricultural extension; the role of the NGO sector in mainstreaming women's indigenous knowledge for food security in agricultural extension programmes; narratology as a tool for reclaiming and mainstreaming women's knowledge in agricultural extension; and perceptions of community leaders, and agricultural extension workers on women's indigenous knowledge for food security.

5.3.1 Importance of Womens' Knowledge in Agricultural Extension

The life-story interview with Peter Oyier Ogweno (Life-Story No.7) reveals the context of agricultural education and extension programmes for food security. He was born 41 years ago among the Kasgunga clan who settled in Awendo area, Migori County. Some of the Kasgunga people live in Mbita area of North Suba in Homa Bay County. His paternal grandfather was a pioneer Seventh-day Adventist clergyman called Pastor Peter

Oyier (cf.1989: 22). One of his kinsfolk from Kasgunga, Sulwe Nyabemba Oyier, never missed Seventh-day Adventist Camp Meetings in South Nyanza. He was well known in Kamagambo; Kanyada; Kabuoch; Kanyikela; Sakwa; Karachuonyo; Kasipul; Kochia; and many other Adventist churches in the region. These religious meetings still take place in the entire Nyanza Region and are very effective tools of communicating health, food and nutrition messages to large groups of people.

Although Adventism as a social and religious movement arrived on the shores of Lake Victoria at Kendu Bay at the turn of the 20th Century, it has become so entrenched in the local culture of the people that it would have to be used as a vehicle for agricultural education and extension programmes through any critical indigenous pedagogy of place within the Lake Victoria Basin. Adventism is particularly influential in the South Nyanza and Gusii regions of Kenya with visible presence in North Mara Region of Tanzania.

Peter Oyier Ogweni is a Lecturer in the Department of Agricultural Education and Extension at Rongo University in the neighbouring Migori County but he has also taught agriculture at secondary school level in Karachuonyo, Homa Bay County and Bukura Agricultural College in the Western Region of Kenya. His experience in teaching agriculture in local schools was quite valuable. As a professional teacher of agriculture and extension, he worked in various public institutions in Kenya. He taught at Kandiege Mixed Secondary School in Rachuonyo area of Homa Bay County for ten years. His teaching subjects at secondary school level were biology and agriculture.

After leaving Kandiege, he proceeded to Bukura Agricultural College where he was an instructor for several years. He subsequently took up the post of Lecturer in the Department of Agricultural Education and Extension at Rongo University. He reckons that his observations in South Nyanza indicate that people eat a variety of foods. However, dietary habits have changed tremendously because of external influences. Observations at local restaurants reveal people eating foods like:

Scrambled Eggs and Ugali	Matumbo Fry and Ugali
Beans and Chapati	Nyama Boil and Ugali
Beef Stew and Ugali	Nyama Choma and Ugali
Maini and Ugali	Kuku Stew and Ugali
Aliya and Ugali	Kuku Fry and Ugali
Samaki Stew and Ugali	Rice and beef stew
Samaki Fry and Ugali	Pilau

Table 5.8 (Source: Peter Oyier Ogweno, Life-Story No.7)

Typically, these foods are eaten in middle-class restaurants in urban centres of South Nyanza such as Migori, Awendo, Rongo, Rodi Kopany, Homa Bay and Kendu Bay, among others. In many low-income homesteads, the dietary habits have changed from traditional foods to reduced menus which include: Sukuma wiki and ugali; kabich and ugali; and omena and ugali. In these households, they will probably season the vegetables with *kitungu* (onions) and *nyanya* (tomatoes) seasoned with *chumvi* (salt) to make the simple meals a bit tasty.

In addition to the foods, restaurants also serve drinks which typically include: sodas; bottled water and juices. The snacks served include:

Snacks		Beverages
Scrambled eggs/omelette	Chapatis	Tea
Pilau/spinach omelette	Samosa	Coffee
Chips	Sausage	Cocoa
Ndazi	Toasted bread	Strong tea

Table 5.9 (Source: Peter Oyier Ogweno, Life-Story No.7)

As an expert in agriculture and food security based at Rongo University's School of Agriculture, Natural Resources and Environmental Studies, he made the following observations that there is need for:

- i) Research into the women's indigenous knowledge systems relevant to the food production activities in the region;
- ii) Documenting innovation in indigenous knowledge;
- iii) Documentation of womens' indigenous knowledge;
- iv) Preservation of womens' indigenous knowledge;
- v) Dissemination of womens' indigenous knowledge;
- vi) Agricultural education and extension services with focus on womens' indigenous knowledge.

In his view, the National Government and the devolved units at County Government levels should mainstream womens' indigenous knowledge for food security policy at the household level for sustainable development. He says researchers should investigate the treatment of foods to ensure safety and security of what is consumed by people.

Personally, he thinks that Africans should go back to Indigenous Knowledge Systems which including food preservation methods. The Luo people traditionally categorized the consumption of foods as follows:

Luo	English
<i>Chamo chiemo manumu</i> (e.g. <i>chuto ring'o gi ochuri ma oketie apilo</i>)	Foods eaten raw
<i>Chwako chiemo</i> (e.g. <i>chamo ring'o ma ochwaki kato oboliye chumbi</i>)	Foods boiled before eating
<i>Kuogo alot</i> (e.g. <i>Chamo alot ma okuogi kendo oolie chak</i>)	Foods like vegetables fermented and kept before use
<i>Twoyo rech/ring'o e yiro ka podi ok otedi.</i>	Foods smoked (fish/meat) and preserved before use
<i>Tholo ring'o/rech ka podi ok otedi</i>	Foods roasted and preserved (fish/meat) before use

Table 5.10 (Source: Peter Oyier Ogweno, Life-Story No.7)

These are some of the safety and security standards which were traditionally used by the Luo people. Unfortunately, these preservation methods of preparing foods have faded and might be lost if reclaiming the knowledge is not researched as part of urgent nutritional anthropology.

In his view, there is need for the establishment of an African Institute of Indigenous Knowledge Systems to handle research related to food security; this could be done at Rongo University or any other institution in Kenya. Such an approach would draw on the local resources in the twin counties of Homa Bay and Migori; the research could also extend beyond South Nyanza to include the rest of Kenya.

The research into our Indigenous Knowledge Systems must necessarily include food products which are commonly produced in South Nyanza namely: fruits; vegetables; grains/cereals; and pulses.

Fisheries and honey bees need to be developed as well in the region. Livestock for meat and milk products should be looked into” the university educator suggested (Peter Oyier Ogweno, 41: Life-Story No.7).

Another neglected research area which needs urgent nutritional and anthropological attention are the wild food plants (fruits and vegetables) which need to be collected or harvested during different seasons of the year to supplement foods which are cultivated. He has in mind wild fruits such as: *mapera*; *ochuoga*; *akuno*; *anyuka*; among others. The vegetables which need to be researched include: *osuga*; *dek*; *apoth*; *susa*; *mito*; and *ndemra*.

High nutrient foods with cultural significance which require urgent focus in nutritional anthropology include:

Luo	English
<i>Kuon cham Bel/Kal/Marieba</i>	Luo staple meal
<i>Chak mopuo</i>	Schemed milk
<i>Mor nyaluo</i>	Butter fat (added to the traditional vegetables like <i>osuga</i> and <i>dek</i> already mentioned)

Table 5.11 (Source: Peter Oyier Ogweno, Life-Story No.7)

He is categorical when he says:

I know for a fact that maize has never held any cultural significance in the nutritional anthropology of the Luo people. It is an exotic crop which was introduced by the European colonizers in Kenya (Peter Oyier Ogweno, 41).

According to Peter Oyier, traditional crops such as: *bel*; (sorghum) *kal*; (millet) and *marieba* (cassava) hold the status of staple diet of the Luo-speaking peoples in South Sudan; Northern Uganda; Western Kenya; and Northern Tanzania. For that reason, research and extension services should focus on these high nutrient indigenous cereals and grains in Homa Bay County and the greater Southern Nyanza region. Peter Oyier states that:

“The traditions and customs of the Luo regarding agricultural practices are fading and these include beliefs concerning” agricultural rituals among the Luo-speaking peoples listed below:

Luo	English
<i>Golo Pur</i>	<i>Land Preparation and Cultivation</i>
<i>Golo Kodho</i>	<i>Planting Crops</i>
<i>Doyo Cham</i>	<i>Weeding</i>
<i>Kayo Cham</i>	<i>Harvesting</i>
<i>Kano Cham</i>	<i>Storage of Crop</i>

Table 5.12 (Source: Peter Oyier Ogweno, Life-Story No.7)

Peter Oyier thinks that the Luo society is definitely in transition and widespread Christianity (of whatever expression) has had its impact. He believes that most Christian families in Luo society do not adhere to the traditions and customs with regard to social order followed by polygamous families with *Mikayi* taking precedence, followed by *Nyachira* and *Reru* in agricultural practices.

He reckons that:

In Christian families, they are almost always monogamous and therefore, the traditional rules are largely ignored. That is at least my impression. He continues his narrative: My grandfather, Petro Oyier of Kasgunga, was a Seventh-day Adventist Church committed member where he also served as a pastor in different parts of South Nyanza (Peter Oyier Ogweno, 41: Life-Story No.7).

Peter Oyier identifies another area which needs research and attention from agricultural extension workers:

Creation of seeds banks in the local communities to help farmers. These banks should stock indigenous seeds of bel; (sorghum); kal (millet); and alote (vegetable) which are endangered, for future propagation.

Peter Oyier believes that social and cultural changes are taking place because of economic adaptation, so there is need to create a balance between the old and the new.

He reckons that:

Agricultural practices are bio-cultural and specific to human ecologies; for that reason, we as agricultural educators and extension workers should look at the interface between food production and cultural practices for sustainable development.

As an academic teaching agriculture at Rongo University and as an extension worker with many years of professional experience in Kenya, I feel very strongly that indigenous knowledge in agriculture is creative, innovative and transformative” he explains. Then he continues to state that “the creation of an Institute of Indigenous Knowledge and Food Security at Rongo University is a good idea; it is possible; it is necessary; it is viable; and it is urgent if we are to realize outreach programmes aimed at food safety and food security in rural households in the larger South Nyanza region (Peter Oyier Ogweno, 41: Life-Story No.7).

Peter Oyier feels that the Institute should have a Director at the helm who answers to the top management of Rongo University which already has a vibrant School of Agriculture, Natural Resources and Environmental Studies. He recommends that the Institute for Indigenous Knowledge and Food Security can, for research and extension work, focus on thematic concerns in a multi-disciplinary context including: Science, Technology and Engineering; Arts and Social Sciences; and Business and Human Resource Development.

Peter Oyier also feels that there should be staff at the level of Professors; Associate Professors; Senior Research Fellows; Research Fellows; and Junior Research Fellows who will execute the research agenda of Indigenous Knowledge for Food Security for Rural Households and related thematic areas. He further recommends that the Institute, in collaboration with other schools within Rongo University can also offer post-graduate taught/research programmes leading to MSc and PhD degrees in order to create a cadre of human capital in this critical area of food security.

From Peter Oyier's long experience in agricultural education and extension work, he thinks the Institute can work in South Nyanza through the following institutions:

- i) Schools and Colleges (Through 4K-clubs and other student bodies)
- ii) Churches – Inter/denominational approach (Both Catholic and Protestant groups)
- iii) Farmers' Co-operative Societies
- iv) NGOs and CBOs together with Women's Group interested in food security
- v) County Governments of both Homa Bay and Migori (for a start) through their departments of Agriculture, Livestock Development and Fisheries.

He thinks that locating indigenous knowledge at the centre of extension education for farmers should be practical in approach with land provided by Rongo University for demonstration plots and sites. Peter Oyier says:

The demonstration centres can be where university lecturers, researchers and students interact and benefit from the indigenous knowledge of elderly men and women with sagacity and wisdom.

He reckons that:

The sages and indigenous thinkers who are not necessarily schooled in Western agricultural sciences introduced by European colonialists will have an opportunity to transfer their indigenous agricultural knowledge for documentation, preservation, education and dissemination through networks of Rongo University in Kenya and beyond our borders.

Concerning transmission of indigenous knowledge, Peter Oyier thinks that:

Since there will be an interface between tradition and modernity in as far as the production of knowledge is concerned, African indigenous thinkers and practitioners of folkways will use oral testimonies and life histories based on their age old experiences as farmers in their localities to educate the younger generations (Peter Oyier Ogweno, 41: Life-Story No.7).

Institutionally, he would recommend that factors of production such as land and administrative support be provided by Rongo University; resource persons and labour can be provided by farming communities; teaching and research staff should be provided for within the Institute; and ways of international and local financing be explored in order to realize the dream of reclaiming our indigenous knowledge for food security. Peter Oyier recommends that the old and new knowledge should be integrated for the maximization of food security:

A happy blend of the old and new can go a long way in ensuring food security and transferring such knowledge to future generations for sustainable development (Peter Oyier Ogweno, 41: Life-Story No.7).

The foregoing narrative underscores the significance of African women's indigenous knowledge for food security through blending of the old traditional crops and new scientific approaches to agriculture in contemporary society. Agricultural extension workers may need to find a middle ground for inculturation of the new agricultural knowledge in local traditional contexts.

5.3.2 The Role of NGO Sector in Mainstreaming Women's Indigenous Knowledge for Food Security in Agricultural Extension Programmes

As is the case with the Ministry of Agriculture at national and county levels, the NGO sector has equally an important role for example Agricultural Education and Extension Services which has a presence in Homa Bay county, Kenya. One such local NGO is Agriculture Improvement Support Services (AGRISS). The story of Olivia Atieno presented below explains the role of NGO in empowering women farmers and provides an opportunity for mainstreaming women's indigenous knowledge for food security.

The life story of Olivia Atieno obuom, 37 life story no.8 explains (pg..) the importance of agricultural extension worker. Olivia says;

My name is Olivia Atieno. I come from Kano Kolwa in Kisumu County. I am married to Paul Abuom of Kanjira clan in Karachuonyo, Homa Bay County. My training is in agronomy but now, I am an agricultural extension worker with a Non-Governmental Organization operating in Rodi Kopany, Kanyada area within Homa Bay County. We mainly deal with Luo women farmers in the locality. I hold a BSc degree in Agronomy from Egerton University, Njoro. Currently, I am pursuing a Master of Project Planning and Management with the Open, Distance and E-Learning (ODEL) Campus, University of Nairobi. It serves me well because I can continue with my post-graduate studies, and work. I am a mother of two small boys so I have a very busy schedule as a mother, an agricultural extension worker and a post-graduate student. My husband is very supportive in all these aspects of my life and career.

Olivia Atieno works for an NGO with international linkages in North America. She says that the DIG movement evolved from Atlanta, Georgia in the United States of America. The idea has now spread to different parts of the world. Olivia Atieno reckons that in Kenya, AGRISS encourages women farmers in various ways in seeking to achieve the following specific objectives:

- i) To establish vegetable gardens within their homesteads;
- ii) To establish indigenous vegetable seedbanks within the community;
- iii) To acquire appropriate garden tools to equip the farmers for cultivation;
- iv) To plant fruit trees in the homesteads and gardens;
- v) To adopt sound water solutions instead of entirely relying on rain-fed agriculture;
- vi) To engage in dialogic research and extension work with our community-based facilitators;
- vii) To encourage sharing of farm products among participants in our farming projects;

- viii) To reap maximum benefits from start-ups designed to help the women farmers to take-off in their small- scale agribusinesses.

As an agronomist and extension worker, Olivia Atieno train farmers and equips them with knowledge and skills necessary to engage in farming not only for subsistence but also agribusiness activities.

The NGOs play a big role in agriculture and rural development. There are several NGOs doing agricultural extension work in Homa Bay County, Kenya. One such NGO is known as the Agriculture Improvement Support Services (AGRISS) which has three projects focusing on women farmers in Homa Bay County namely:

- i) The Development in Gardening (DIG) Project;
- ii) The Farmer Research Network (FRN) Project: and
- iii) The Mwendo Project.

Olivia Atieno as a project co-ordinator with AGRISS, an agronomist trained at Egerton University, Njoro, deals more with the agricultural education and extension services through the DIG project. She reckons that it gives her great satisfaction working with women farmers through the DIG project. Olivia Atieno says:

The FRN project, which is research-based and the Mwendo project, which helps farmers with their financial management, are coordinated by other colleagues. I'm mainly in the gardening project and helping women farmers to do agriculture both for subsistence and business.

Olivia Atieno continues her life-story:

My agricultural training at Egerton University, Njoro prepared me to work with different types of soils and seeds in farmer education.

The approach she adopts in her agricultural extension work is known as “nutrition sensitive and sustainable agriculture” with the women farmers as her centre of focus. She also uses what they call the “Farmer School Extension Model” with the aim of encouraging local communities to practice sustainable agriculture for food security in the household. Owing to increased global warming and climate change, the NGO: “encourages local farmers to adopt climate resilient food plants; improve household health status of the people; and increase incomes from small agribusiness activities in the local market place”.

Olivia Atieno says that their NGO also works with the women farmers in the critical area of financial education by training them on keeping up-to-date finance and accounts from their smallholding farms.

We use community-based field educators who speak the same language as the local farmers so that there is no break-down in communication during our outreach programmes” she tells this researcher.

She then continues with her personal narrative:

“Our office at Rodi Kopany co-ordinates the mentorship programmes for young mothers in Kanyada and Kabuoch areas of Homa Bay County”.

The NGO works through the “Mentor Mothers” in agricultural extension programmes.

Olivia Atieno says that the work entails the promotion of sustainability in agriculture; food safety and security; and modern farming methods for increased crop yields for the households. She continues with her narrative:

AGRISS also has a presence through other projects in Migori, Siaya, Kisumu, Busia and Bungoma Counties in Western Kenya. We also have a presence in Kabale District in Western Uganda where we work with the Batwa people.

The Batwa were derogatorily referred to by European ethnographers as the Pygmies. They live on the borderlands of Congo, Rwanda and Uganda. In the folklore of Luo-speaking people of East Africa, the Pygmies are referred to as Okuro in comparison to the puncture vine ; a ground weed which bears small thorns (Capen, 1999: 120). The diminutive stature of the Pygmies has been a source of folklore in different communities in East Africa. The Luo saying: *Ichiek ka kuth Okuro* (You are as short as the puncture vine) may also be used in reference to a very short person.

According to Sonia Cole (1965: 120-121) the Pygmies or Negrilos (Batwa) are scattered in the tropical rainforests of East Africa; they are also to be found deep in the Congo in Central Africa. The Batwa mainly hunt, gather and forage around the tropical rain forests. They live alongside the Bantu-speaking peoples: “with whom they exchange meat for yams, bananas and other agricultural produce”. It is believed the the Pygmoid race was more more widespread as far as Liberia and Ivory Coast in West Africa (Cole, 1965:120) and among the Agikuyu of Central Kenya in East Africa; according to folklore where there are tales of the tiny Gumba race who disappeared under the the “under the mikongoe roots” after being swallowed by Mother Earth (Ngugi wa Thiong’o, 1975: 6).

Olivia Atieno explains:

As an advocacy and research-based organization, we participate in knowledge production for food security and sustainability in agricultural practices.

This approach informs their agricultural extension work among the Luo of Homa Bay in the Nyanza Region of Kenya and the Batwa of Kabale in Western Uganda. In Uganda, the Pygmoid groups include the Batwa and the Bambuti. The Ugandan Government has

decided to get them out of the tropical rain forests so that they can change from a hunter-gather mode of existence to a more agrarian form of survival. Olivia Atieno says:

Our NGO seeks to help the Batwa to accept the new agricultural production activities of growing food crops.

In Homa Bay County, she reckons that the situation is quite different:

When working with Luo women farmers who already are engaged in agricultural activities in Kabuoch and Kanyada, it is easier to help them improve their cultivation methods. Among the Batwa in Western Uganda, it is starting from the very beginning to provide them with new livelihoods after being evicted from the tropical rain forests by the authorities.

Given the kind of agricultural extension services that Olivia Atieno and the NGO she works for i.e AGRISS, the researcher finds this a very good opportunity for mainstreaming the womens' indigenous knowledge in extension programmes. The impact of mainstreaming womens indigenous knowledge for food security will not only reclaim the fading traditional food plants, but will also enrich community-engaged agricultural extension programmes.

The agricultural activities given in the narrative by Olivia Atieno are tabulated below;

5.3.2.1 A Summary of Agricultural Activities

Luo	English
<i>Golo Pur</i>	Land Preparation: This is the initial process during the season of cultivation in the community.
<i>Golo Kodhi</i>	Planting: This is when people start to plant crops especially in the beginning of the long rains.
<i>Doyo Cham</i>	Weeding: The Luo people call it <i>thiro buya</i> which means “weed control” <i>Doyo Cham</i> is weeding and specifically refers to the use of a hoe which is locally known as <i>rapur</i> .
<i>Kayo Cham</i>	Harvesting: This refers to harvesting grains and cereals. There is also

	<i>ng'weto</i> which refers to harvesting vegetables. The third one is <i>pono olembe</i> which refers to harvesting fruits. Lastly, " <i>kunyo rabuon</i> " or <i>kunyo marieba</i> means harvesting potatoes or cassava, which literally refers to the activity of digging out the tubers from the ground. All these are harvesting activities.
<i>Kano Cham</i>	Storage: In Luo, <i>dero</i> is the traditional grain store. In Homa Bay County, <i>dero</i> is disappearing but some still exist in Luo homesteads. Today, most women farmers thresh and store maize and millet in bags.

Table 5.13 (Source: Olivia Atieno Abuom, Life-Story No.8)

5.3.2.2 Other Food Production Activities and Terms used for Maize, Millet and Sorghum

Luo	English
<i>Kayo cham</i>	Harvest crop
<i>Moyo cham</i>	Dry crop
<i>Suso/runyo oduma</i>	Thresh maize
<i>Dino bel/kal</i>	Thresh/thread millet/sorghum
<i>Kano cham</i>	Storage of maize/millet
<i>Rego cham</i>	Grind maize/millet
<i>Dwalo/tedo kuon</i>	Prepare ugali/stiff porridge
<i>Cham kuon</i>	Eat ugali/kuon/stiff porridge
<i>Kuon cham</i>	Traditionally, the Luo mix/blend millet and cassava; some maize might be added.

Table 5.14 (Source: Olivia Atieno Abuom, Life-Story No.8)

5.3.3 Narratology as a Tool for Reclaiming and Mainstreaming Women's Knowledge in Agricultural Extension

The power of the use of narratology reclaiming, documenting and disseminating indigenous knowledge for food security in rural households is captured in the life story of Hon. Aguko Juma, 54 Years Old, Executive Committee Member, Department of Agriculture, Livestock, Fisheries and Food Security in the Government of Homa Bay County, Kenya.

My name is Aguko Juma. I was born 54 years ago. My ancestors were originally from Kabodho in Nyakach, Kisumu County. Our family resettled in Olambwe in Homa Bay County. I am married with children. After attending local schools, I went to the University of Nairobi where I graduated with a BA degree in Anthropology. I have worked in the private sector in Nairobi and also tried my hand in politics in Mbita Constituency.

After the 2017 general elections in Kenya, I was appointed by the Governor of Homa Bay County to serve in his Cabinet as the Executive Committee Member in charge of Agriculture, Livestock and Fisheries Department. My training in anthropology is very useful to me in this area of community development. We have had challenges within Homa Bay County because the election of Governor Cyprian Awiti was nullified by the High Court but he appealed against the ruling. The Court of Appeal upheld the ruling of the High Court so the Governor had no choice but to proceed to the Supreme Court of Kenya. At the time of this interview (5th November, 2018) the matter is still pending before the Chief Justice of the Republic of Kenya and his fellow Supreme Court Judges. If they uphold the ruling of the High Court, and the Court of Appeal, all of us who were appointed by Governor Cyprian Awiti as Executive Committee Members will have to pack up our bags and go. We are political appointees of the Governor so if his election is nullified, we will “go home.” However, there are Chief Officers who will discharge the duties of various functions until the newly elected Governor appoints fresh Executive Committee Members.

Meanwhile, we continue to discharge our mandate until the Supreme Court of Kenya pronounces its verdict on the status of Governor Cyprian Awiti. We hope for the best.

To start with, I grew up in a rural village in Olambwe which is a Luo-speaking settlement. These are people from all over Luoland settled in Olambwe (officially referred to in Government of Kenya documents as Lambwe Valley Settlement Scheme). It also borders Ruma National Park which is managed by the Kenya Wildlife Service. My mother died when I was young. I was brought up by a step-mother and did all the chores boys and girls in a Luo homestead were expected to do. I went to the shamba and helped with tillage of the land. I also helped with planting and weeding in the shamba. During harvesting, I participated fully in helping other members of the family in bringing home the harvest and storing the produce in the traditional grain stores (Luo: dero = singular, deche = plural). I can claim to have been totally immersed in Luo traditions and customs with regard to agriculture and food security in a rural household.

There are Luo traditions and practices relating to agriculture and food security. We used to engage in a number of activities before cultivation of the land. These included:

Luo	English
<i>Beto puodho</i>	<i>Clearing the land</i>
<i>Puro puodho</i>	<i>Ploughing the land</i>
<i>Yoro puodho</i>	<i>Tilling the land (secondary/terriary preparation:</i>
<i>Komo kodhi</i>	<i>Planting seeds on the prepared land</i>

Table 5.15 (Source: Aguko Juma, Life-Story No.9)

I observed and participated in all these activities when I was growing up. Our family was fairly traditional and I had many elderly people in our village who told us what to do during this season. I noticed that there was what I can describe as “cultural pecking order” which was observed within families and close kinsfolk who shared the same compound/homestead and a common gate. The owner of the homestead and his senior/first wife (Mikayi) took precedence of ritually leading the way, then others like the second wife (Nyachira) and the third wife (Reru) in that order. Before these agricultural seasons could be launched in the homestead, the owner of the homestead (Wuon Pacho) was under customary obligation to spend the night in the house of Mikayi. Many polygamous families in Luo society still observe these traditions to this very day. The indigenous seeds which were considered to have ritual significance were: bel (millet); kal (finger millet); and ng’or boo (cow pea).

Every traditional Luo homestead had to stock these seeds from previous harvest. The Luo have a saying about bend aburu, bendwa ma nene wakano which translates as “millet seeds preserved in ash, our millet seeds we kept for the next season.” This is a metaphor used with the reference to the indigenous seed bank which ensured sustainability in crop production for the household. Leaders who emerge and intervene in the political affairs of the community at critical times might be figuratively referred to as bend aburu; one example who comes to mind is Prof. Joseph Ouma Muga, former Member of Parliament for Rangwe Constituency in Homa Bay County who also served as Assistant Minister in President Daniel T. Arap Moi’s government. He was reputed to have authored a speech on the “Ozone-Layer” and “Climate Change” which earned the President a standing ovation and a round of applause during an international conference. The local people in Homa Bay used to refer to this great man as Ouma Bend Aburu meaning: “Ouma the Millet Preserved in Ash” because of his resilience like a drought resistance crop.

Songs were composed in his honour. One of the songs went thus:

Soloist: Ouma Bend Aburu
Chorus: Bendwa Ma Nene Wakano
Soloist: Ouma Bend Aburu
Chorus: Bendwa Ma Nene Wakano
Soloist: Bend Aburu
Chorus: Bendwa Ma NeneWakano

These songs composed about good leadership drew the metaphors from our agricultural practices. Planting (Golo Kodhi); Weeding (Doyo Cham); and harvesting (Kayo Cham) all followed the same social order and protocol with Mikayi taking precedence followed by Nyachira and Reru. Usually millet and cow pea seeds were used in this agricultural ritual of planting. Pecking orders applied from the senior most wife by marriage in that particular homestead.

Food storage is an important aspect of post-harvest practices among the Luo people of Olambwe where I grew up. A traditional grain store is called dero and some still exist today. However, most people shell their maize and keep them in bags these days. Dero was not only used to store maize; it was also used to store: bel (sorghum); kal (finger millet); aliya (dried/preserved meat); budho (pumpkin); and oganda (beans) and other dried/preserved foods for domestic use in future.

Most women farmers engage in small scale agribusiness. They grow food crops for domestic consumption but they also sell the surplus for cash to spend on other needs of family members. Agricultural products are for consumption and trade.

Grains and cereals are very important but whatever is eaten with is equally important. The word DEK has two layers of meaning:

- i. Dek (sometimes called akeyo) is a type of vegetable.*
- ii. Dek also refers to any food (including: meat or fish or chicken) eaten to the accompaniment of kuon.*
- iii. Manyo dek (looking for food to accompany ugali). Going fishing may be referred to as looking for dek but in a metaphorical sense.*
- iv. Bang'o kuon (this refers to eating plain ugali/kuon without any accompaniment of dek of any type).*

As a traditional practice, any flowering vegetable is never harvested (ngwedo alot). This is usually applicable to Alot Boo (Ng'or) hence the Luo says: nyodo okonyo omboga (meaning: The little flowers have saved the mother plant from ngweto (being harvested)).

When I was growing up we went fishing in the lakes and rivers; we also went to hunt wild animals like rabbits and antelopes; we also engaged in trapping wild birds and gathered wild fruits and vegetables. These activities of bird trapping; hunting; fishing; and farming ensured that we had enough to eat all year round. We were never food-insecure since we had the knowledge. I particular recall trapping the Awendo bird (the Guinea Fowl) and Aluru (the Quail) which were much sought after delicacies in Olambwe as we were growing up.

The situated knowledge gleaned from this life-story by a member of the Homa Bay County Government depicts the local setting of agricultural production and food security concerns of the leadership and their indigenous epistemological insights. The perception of community leaders and agricultural extension workers are summarized in the next section.

5.3.4 Perceptions of Community Leaders and Agricultural Extension Workers on Womens's Indigenous Knowledge for Food Security

Out of the 32 informants interviewed, there were a number of people who qualify to be called community leaders. A detailed questionnaire was administered on a one-on-one basis to elicit information to complement the life-stories of women farmers. There were both women and men to make the whole study representative of the community's agricultural practices, and the main focus of the questions was on: women farmers, indigenous knowledge; food security; and agricultural extension services. Out of the 12 informants interviewed, 7 were men while 5 were women. The oldest was 76 years old while the youngest was 32. They were all married and were local elite in that they had benefited from formal education and were in leadership positions. There were 4 who were university graduates and had undertaken post-graduate studies in areas such as geography, economics and education; project planning and management; agronomy, agricultural education and extension; and anthropology. Out of the 4 graduates, there were 2 who had worked with international NGOs with agrarian activities in rural Kenya communities as communities.

There were 2 informants with secondary education and diplomas from middle level colleges in Kenya. One diploma holder in accounts had worked in private sector before becoming a full-time farmer, retailer and lay evangelist in a mainline church. There were 3 trained primary school teachers; they had undertaken the P1 course in Kenyan teacher training colleges. They also had leadership roles in the community and local churches which means that they had influence and were highly regarded in their localities.

There were 3 primary school drop-outs but that had not prevented them from assuming leadership roles in their localities of Kanyada and Kabuoch; they were successful small-scale farmers and traders in a variety of food products at local markets. One of the primary school drop-outs was running a lucrative agribusiness of community-based seed bank. She was highly respected in the community and acted as a de facto extension worker to those who bought indigenous seeds from her family farm. There were 2 informants who worked with the Homa Bay County Government; one was a politician who was actually the MCA of a local ward and the other was CEC Member (Minister) in charge of agriculture, livestock development, fisheries and food security.

The informants were asked 10 questions aimed at eliciting information on the pedagogical value of indigenous knowledge for food security in the context of rural households. Their perceptions were to be based on their experiences as community leaders and extension workers familiar with agrarian activities in Homa Bay County, Kenya. The questions were focused on the indigenous knowledge of women farmers for food security in the rural household. They were required to choose one position from the following items: (i) strongly agree; (ii) agree; (iii) disagree; (iv) strongly disagree. The informants were expected to give brief explanations why they took the positions.

Concerning the question as to whether indigenous knowledge of women farmers in Homa Bay County, Kenya could be an essential resource in agricultural education and extension, 11 strongly agreed. The 12th informant also agreed with the position that women's indigenous knowledge could be a resource in agricultural education and extension programmes. The perception that indigenous knowledge can be a resource in agricultural education and extension work was overwhelming in this particular case.

The claim that it is generally difficult to find women farmers in rural areas with appropriate indigenous knowledge for food security attracted 3 strongly disagree and 2 disagree responses. On the other hand, 3 informants strongly agreed while 5 simply agreed with the position. Although some of the informants thought that it is difficult to find women with indigenous knowledge for food security, the study proves otherwise.

The suggestion that indigenous knowledge can help women farmers to learn about agricultural practices from other communities in similar ecological zones attracted 9 strongly agree with another 3 agree responses. Clearly, the community leaders and extension workers interviewed valued exchange of experiences between women farmers from similar agro-climatic zones. The exchange of indigenous knowledge among women farmers is seen as something which adds value in agricultural production in the eyes of the informants.

The suggestion that researching the indigenous knowledge of women farmers is a waste of time and should not be entertained in agricultural education and extension programmes elicited 10 strongly disagree and 2 disagree responses. The community leaders and agricultural extension workers interviewed disagreed with the suggestion that indigenous

knowledge has no value and is not worthy of being researched for incorporation into mainstream agricultural education and extension programmes. The implication here is that the indigenous knowledge of women farmers should be researched, documented, preserved and disseminated for sustainable agricultural development.

The suggestion that food security for rural households cannot be enhanced by incorporation of indigenous knowledge into agricultural education and extension programmes elicited 12 strongly disagree responses from the informants. The implication here is that indigenous knowledge is critical to enhancing food security for rural households and women farmers have a central role to play in this process. The idea that indigenous knowledge can be of practical pedagogical value in agricultural extension programmes and in solving local culture-specific problems of women farmers elicited 9 strongly agree and 2 agree responses. There was only 1 strongly disagree response. The implication here is that most of the informants felt that indigenous knowledge of women farmers were of both practical and educational value in solving local agricultural problems.

The use of indigenous knowledge to encourage creativity and innovation among women farmers in rural communities through agricultural education and extension programmes elicited 10 strongly agree and 2 agree responses from the informants. The implication here is that indigenous agricultural knowledge enables farmers to be critically engaged with their local ecological systems provided by both nature and culture to enhance food security. Creativity and innovation may entail harvesting food plants which are not necessarily cultivated but grow naturally within the vicinity of the homesteads or out in the wild. Establishing and nurturing community agroforestry systems with food themes of

wild indigenous fruits and vegetables can be creative and innovative ways of enhancing sustainable development. The agroforestry projects designed by groups of women farmers could add value by producing nutritious foods to supplement cultivated crops and enhance food security in rural households.

All the 12 informants gave a strongly agree response to the suggestion that incorporating indigenous knowledge in agricultural education and extension programmes can have a transformative effect on livelihoods of women farmers and how they manage their natural resources for food security. The implication here is that indigenous knowledge should be encouraged and systematically used for sustainability in food production for rural households.

The suggestion that using indigenous knowledge in agricultural education and extension programmes may distract women farmers's attention from core Government of Kenya's national food security programmes and those of the Government of Homa Bay County elicited 9 strongly disagree and 2 disagree responses. There was only 1 respondent who strongly agreed that indigenous knowledge of women farmers would distract people's attention from core Government programmes for food security at grassroots level. The implication here is that indigenous knowledge of women farmers can add pedagogical value in community-based agricultural education and extension programmes for food security in rural households.

The position that indigenous knowledge is rarely considered as important in agricultural education and extension programmes for women farmers and other community-based organizations elicited 10 strongly agree and 2 agree responses; this implies that the

position needs to change in terms of formulating public policy on food security. The implication here is that agricultural research, production, education and extension programmes should embrace indigenous knowledge of women farmers for food security in rural households in Homa Bay County, Kenya.

5.4 Conclusion

This chapter has discussed two critical areas relating to discourse analysis and agricultural extension programmes; and addressed critical issues that demonstrate the importance of discourse analysis in reclaiming women's indigenous knowledge for food security. The chapter has also looked at mainstreaming women's indigenous knowledge, skills, and experiences in agricultural extension programmes. Critical tools related to narrative approaches, traditions and customs; and ethnomusicology have been discussed as important tools in agricultural extension programmes for food security in rural households. Perspectives of community leaders have also been discussed in this chapter and their recommendations for the way forward for reclaiming women's indigenous knowledge for food security has been captured. The next chapter provides key findings, conclusions and recommendations.

CHAPTER 6: SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

6.1 Introduction

The study focused on the pedagogical value of indigenous knowledge for food security and learning from the experiences of women farmers in Homa Bay County, Kenya. The specific objectives were to identify women's indigenous knowledge, skills and experiences in relation to food security in rural households in Homa Bay County, examine the use of discourse analysis in the study of women's indigenous knowledge for food security and consider integration of discourse analysis and mainstreaming women's knowledge in agricultural extension programs. In order to realize the objectives, the following methodology was adopted:

6.1.1 Pedagogical Value of Women's Indigenous Agroecological Knowledge

This ethnographic study has answered the question of what constitutes the core indigenous knowledge systems with regard to small-scale agricultural production of food crops and the innovative utilization of other wild food plants in their local environments. To that end, the study focussed on the pedagogical value of indigenous knowledge by doing the following:

- i. Identifying women farmers in local areas and eliciting information from them on the indigenous agricultural knowledge they have; collecting their oral testimonies and life-stories for analysis; and learning lessons from these life-stories for present and future generations;
- ii. Critically reviewing the problem of vanishing indigenous knowledge with regard to food sufficiency in rural households and the replacement of traditional foods

- with exotic ones which do not expand the variety of nutritious foods produced by women farmers in rural communities;
- iii. Exploring the reasons behind the non-utilization of indigenous ecological knowledge of women farmers for food security in rural households; decolonizing the mind in terms of food culture and suggesting ways in which agricultural education and extension programmes in restoring traditional foods to their rightful place at home and in the community;
 - iv. Eliciting information on indigenous ecological knowledge of women farmers especially on traditional food plants; how they can be popularized through agricultural education and extension programmes; suggesting innovative and creative approaches in reclaiming indigenous food plants which have suffered neglect in development discourse;
 - v. Offering pedagogical alternatives which take into account indigenous knowledge systems in the context of agricultural education and extension programmes; the intervention of Government of Kenya and NGOs through policy formulation which incorporates indigenous knowledge systems.

6.2 Summary of the Key Findings

The key findings in this study include women's indigenous knowledge, skills and experiences obtained from oral testimonies and life-experiences relating to food security in rural households. The traditional food plants which have largely been excluded from mainstream agroecological discourse have been identified for incorporation in formal community-based agricultural education and extension programmes. The key findings in

the study have public policy implications in the context of devolution of agriculture and food security to the grassroots level of counties in Kenya.

6.2.1 Womens' Indigenous Knowledge, Skills and Experiences in Relation to Food Security in Rural Households in Homa Bay County

The key findings related to this objective are presented as follows:

- (i) Women farmers are responsible for land use and food production in rural households; they are responsible for identification, selection and preservation of appropriate seeds and seedlings; and the establishment of community-based seedbanks and nurseries for seedlings. This study has established that women play a critical role in the entire management of local agroecological resources which ensure food security and safety in rural households.
- (ii) Furthermore, women are the custodians of indigenous knowledge systems including land preparation, cultivation, planting, weeding, harvesting and storage of food crops and food plants as part of managing their agroecological resources in rural households and communities.
- (iii) Women farmers are the narrators of food-stories handed down from one generation to the next as a way of preserving and codifying indigenous knowledge systems for food security and safety in rural households and local communities.
- (iv) Women farmers in their own right are *de facto* extension workers in their local communities when they share knowledge with members of their social groups across generations: food storage, including naming of food plants including naming the food plants which they teach their families and their local

communities about how to grow and take care of the food plants. In addition, women farmers in Homa Bay County are not only custodians of indigenous knowledge for food security, but are also involved in the local food supply chain as traders in local markets.

6.2.2 Using Discourse Analysis in Studying Indigenous Knowledge for Food Security

The study found that in reclaiming and documenting indigenous knowledge for food security from women farmers, discourse approaches to oral testimonies and life-stories proved to be an effective social research strategy. In this context, oral tradition was found to be an important source of women's indigenous knowledge; and harnessing of their skills and experiences for food security. The story of Nyamgondho Wuod Ombare discussed in this study illustrates how the traditional oral narrative can become a vital source of women's indigenous knowledge for food security based on the feminine principle of Nyanam who brought great wealth to the fisherman and disappeared back into the lake. This oral narrative depicts the central leadership role women in bringing prosperity and wealth in the household and community.

Another major finding is the relevance of ethnography of communication as an epistemological framework when documenting women's indigenous knowledge for food security.

6.2.3 Mainstreaming Womens' Indigenous Knowledge, Skills and Experiences in Agricultural Extension Programs

In this study, the importance of women's indigenous knowledge for food security has been identified as a marginal area in agricultural education and extension programmes. To this end, the role of NGO sector in mainstreaming women's indigenous knowledge for food security in rural communities has been identified as a pedagogical area of need. The role of the devolved unit of Government at County level has also been identified as an area which can utilize women's indigenous knowledge for food security in rural households and community. The application of narratology as a tool for mainstreaming women's knowledge in agricultural extension programmes has also been identified in this study.

An ethnographic survey of perceptions of community leaders and agricultural extension workers on the pedagogical value of women's indigenous knowledge for food security affirmed the centrality of their skills and experiences in agroecological activities. Traditions and customs which guide major agricultural practices in Luo society place women at the centre of food security and sustainability in the local cultural landscape.

Another significant finding in this study is the pedagogical value of using ethnomusicology in agricultural education and extension programmes. The story of the woman Nyatiti player (Jennifer Atieno Sanna) whose stage name is Atisanna underscores the pedagogical value of folk media in disseminating information during agricultural extension programmes.

6.3 Conclusion

The pedagogical value of African women's indigenous knowledge for food security is epistemologically captured in the powerful matriarchal voice of Angelina Ogina Omuga, 82, of Rodi Kopany in Homa Bay County, Kenya. She gives a culture-sensitive explanation of food security as follows:

“Food security means having enough cereals and grains for grain-meal (Luo: kuon-cham) which is the staple diet, a variety of accompaniments such as vegetables, meats, chicken, and fish among other foods to accompany grain-meal on a regular basis; food security is producing enough crops to feed the parents and their children for sustainable periods; food security is having enough food for guests who might visit the homestead for prolonged periods; food security is producing surplus crops to sell in the local markets for cash; food security is giving food relief rations to less fortunate members of society who may be deserving; food security is keeping livestock such as goats, sheep, and cattle for dairy products; food security is raring chicken and other birds for poultry products; food security includes any other meaty accompaniment to grain-meal which might be stewed such as dry fish with long shelf life; food security is having enough variety of requirements for the whole household.”

(Voice of Angelina Ogina Omuga, 82 from Rodi Kopany, Homa Bay County: 04/11/2018, Oral Testimony of Informant No.30).

Finally, this study has highlighted the pedagogical value of African women's indigenous knowledge for food security. The study has been a learning process from both textual and contextual demonstrations through oral testimonies and life-stories of women farmers in an African cultural landscape. The key findings as voiced by women farmers in this ethnographic study are that: local indigenous knowledge is valid; and can be globalized through further research replications in other parts of Kenya and beyond. Local indigenous knowledge should be incorporated in extension programmes and public policy frameworks dealing with food security. The study has located African feminist epistemology at the centre of narrative pedagogy, knowledge production, food security and sustainable development discourse.

6.4 Recommendations

The key recommendations from this study of African women's indigenous knowledge for food security are:

- i. This ethnographic study has focused on the contextualization of women's indigenous knowledge for food security in rural households. The study has used a narrative approach and the pedagogy of hope for a fading epistemological heritage which currently requires reclaiming and mainstreaming in formal and non-formal agricultural education programmes in rural Kenya. The discourse content of women's indigenous knowledge systems with special reference to food security is both authentic and valid as a basis for sustainable engagement between researchers/extension workers on the one hand and women farmers on the other hand. Contextualizing and mainstreaming African women's epistemological discourses, life-stories and testimonies at national and international forums should be encouraged.
- ii. African feminist epistemological insights should be taken into account by incorporating rural women farmers' indigenous knowledge for food security in formal and non-formal agricultural extension programmes. This will go a long way in filling the epistemological gaps in agricultural and extension programmes.
- iii. Reflections on the food security situation based on cultivation and production of culture-specific crops available in local Kenyan agroecological landscapes generally and Homa Bay County in particular should be encouraged in

community discourses. Further ethnographic research is recommended along the same lines in other communities in Kenya and Eastern Africa.

- iv. Establishing and nurturing community agroforestry systems with food themes of wild indigenous fruits and vegetables can be creative ways of enhancing sustainable development. Social agroforestry systems around homesteads and arable farmlands should be innovative enough as to allow women and girls to participate in planting fruit-bearing trees in cultures which see this kind of activity as being reserved for men only.
- v. Rural women farmers should be given necessary scientific and technical support in order to increase their agricultural production. The agricultural extension programmes should include social and economic reasons for growing food crops and their biological viability in fragile ecological landscapes by choosing appropriate indigenous seeds which are climate resilient. Agricultural research, production, education and extension programmes should embrace indigenous knowledge of women farmers for food security in rural households in Homa Bay County and other agroclimatic zones in Kenya.
- vi. Women and girls should not be excluded in decision-making processes in agricultural and environmental management initiatives by national and county governments. The Homa Bay County's devolved structure of governance should focus on food safety and security standards by bringing traditional foods to the core business of public administration; the food culture should be enriched by

deliberate agricultural policy that encourages the the use of local indigenous ecological knowledge on resilient food plants.

- vii. The interventions through agricultural education and extension services should include both women and men when introducing new ideas in food production; the African family organizational structure should to be understood in the context of food production. There is need to build local leadership networks in Homa Bay County including the government officials; political representatives; religious leaders; women's cooperatives organizations; non-governmental and community-based actors in agriculture. To empower women and girls through agricultural education and extension programmes, governmental institutional frameworks should be participatory and democratic enough as to include women and girls in the programmes. To think globally and act locally when it comes to food security for the rural hoheshold is a best practice in itself; sovereignty of the people entails gender inclusion in all aspect of social, cultural, political and economic participation including food security.

- viii. Women farmers are the custodians of food security in Kanyada and Kabuooh areas of Homa Bay County, Kenya. Women in Luo society not only have the cultural obligation to cooking food for their families and households as is expected in many African communities, but are also the keepers of indigenous knowledge systems which they transmit through cultural narratives from one generation to the next. Women are also recognized prticipants in the process of producing food-crops and cash-crops; almost all women interviewed were engaged in small-scale farming and some form of agribusiness of selling surplus

cereals; grains; pulses; vegetables; fruits; sugarcane; and other foods in the local market places for cash which they, in turn used for money to buy other requirements for their families; women farmers have no choice but to work the land as they have been socialized from the time they were children to like farming and earn livelihoods from cultivating the land. It is recommended that the vanishing indigenous knowledge systems for food security be reclaimed and documented by doing further research into womens' agricultural skills and experiences in rural Kenya.

- ix. The public policy of reclaiming indigenous ecological knowledge is something which both the Government of Kenya through its institutional framework and devolved units at County levels should be given top priority. The national and devolved systems of governance should include indigenous knowledge as substantive content in agricultural education and extension programmes in rural communities in order to enhance food security and sovereignty. This should also encourage the teaching of environmental activities in primary schools in indigenous languages to help learners have sound ethnobotanical knowledge of food plants.
- x. Bilingual agroecological dictionaries with terms in English and Dholuo should be compiled for integrated Mother Tongue Education programmes in Nyanza region of Kenya and beyond. Funding the documentation of indigenous agroecological knowledge in local Kenyan languages should be taken up by county governments. For children to have intimate indigenous knowledge of human ecology, they should learn the local names of plants; animals; insects; birds; and

fishes. The management of natural resources should be taught at the lower levels of primary education through environmental activities in local languages of the catchment areas.

Thu tinda!

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APPENDICES

APPENDIX 1: GLOSSARY OF LUO VOCABULARY IN AGRICULTURE AND FOOD SECURITY

<i>Alot...</i>	...	...	...	...	...	Vegetable
<i>Alot amondi...</i>	...	...	...	...	...	Small shrub with fleshy leaves: edible vegetables
<i>Alot andhodho...</i>	...	...	...	...	...	Wild leafy plant used as vegetable
<i>Alot apoth...</i>	...	...	...	...	...	Plant used as vegetable: leaves slimy when cooked.
<i>Alot aruda...</i>	...	...	...	...	...	Vegetable cooked in milk as stew: pumpkin leaves.
<i>Alot awayo...</i>	...	...	...	...	...	Wild plant used as vegetable with a sour taste.
<i>Alot boo en mar ndalo opon e piny Ramba...</i>						Cow pea grown in Ramba during short rains.
<i>Alot boo...</i>	...	...	...	...	...	Cowpea: seeds and leaves used as food.
<i>Alot dek/Alot akeyo...</i>	...	...	...	...	...	Wild vegetable used as food and medicine for the eyes.
<i>Alot mito...</i>	...	...	...	...	...	Herbal plant with edible, bitter leaves when cooked.
<i>Alot nyayado...</i>	...	...	...	...	...	Herbaceous underplant with edible leaves.
<i>Alot ododo</i>	...	...	...	...	...	Herbal plant known as Amaranthus: leaves edible.
<i>Alot obwanda</i>	...	...	...	...	...	Succulent annual herb; grows wild; used as vegetable.
<i>Alot onge kwere</i>	...	...	...	...	...	Vegetables do not have taboos and rituals.
<i>Alot okuro (common in Karachuonyo)</i>	...	...	...	...	...	Creeping herb with prickly little thorns; leaves edible.
<i>Alot omboga</i>	...	...	...	...	...	Same as Ododo in Amaranthus family; leaves edible.
<i>Alot osuga...</i>	...	...	...	...	...	Glabrous annual herb; grows wild; leaves edible.

<i>Alot osuga dongo e tie ober...</i>	...	...	...	...	Osuga grows under the indigenous medicinal tree ober
<i>Alot sikuma</i>	...	...	...	...	Common Vegetable of the kale family grown in Kenya.
<i>Alot susa...</i>	...	...	...	...	Pumkin leaves used as vegetable in Kenya.
<i>Adel</i>	...	...	...	...	Small type of fish found in rivers and lakes.
<i>Akomo/Okomo...</i>	...	...	...	...	Name given to girl or boy born during planting season.
<i>Atipa en alot ma iriwo gi Apoth to oloso Aruda marabuor...</i>	...	...	...	...	Atipa is a vegetable mixed with <i>Apoth</i> then it makes <i>Aruda</i> which is brown in colour.
<i>Awili...</i>	...	...	...	...	This is a cluster of clans in eastern Kanyada.
<i>Adhungu</i>	...	...	...	...	This is a cluster of clans in western Kanyada.
<i>Bala</i>	...	...	...	...	Salt lick used for cooking green vegetables.
<i>Bando mar pop kon</i>	...	...	...	...	Popcorn.
<i>Bidho a lot</i>	...	...	...	...	Sorting out vegetables before cooking.
<i>Boo ng'or...</i>	...	...	...	...	Seeds of cowpea with Luo ritual significance.
<i>Buso puodho</i>	...	...	...	...	Secondary cultivation of the land; hurrowing.
<i>Bwombwe kotedi to iluongo ni Dumu</i>	...	...	...	...	When cooked Bwombwe is called Dumu.
<i>Chako pur</i>	...	...	...	...	Preparing the land for cultivation.
<i>Chandruok...</i>	...	...	...	...	Affliction out of poverty.
<i>Chai mar soya...</i>	...	...	...	...	Soya tea.
<i>Chi wuoyi...</i>	...	...	...	...	Daughter-in-law.
<i>Chiemo manyien</i>	...	...	...	...	New harvest from the field.
<i>Chiemb nyachon</i>	...	...	...	...	Traditional foods.
<i>Chiemo moromo...</i>	...	...	...	...	Enough food.
<i>Chiemo mathoth...</i>	...	...	...	...	Plenty of food.
<i>Chiwo puodho</i>	...	...	...	...	Allocation of land for cultivation.

<i>Chwako a lot ...</i>	...	...	...	...	Boiling vegetables.
<i>Chwako alot obwanda gi chak...</i>	...	...	...	...	Boiling vegetables called Obwanda with milk.
<i>Chwako chiemo kaka ring'o...</i>	...	...	...	...	Boiling food such as meat.
<i>Dak achana...</i>	...	...	...	...	Well organized family life.
<i>Dakuon ...</i>	...	...	...	...	Cooking pot.
<i>Dek...</i>	...	...	...	...	A vegetable or any food accompanying kuon (corn meal).
<i>Dek iludo...</i>	...	...	...	...	Seeds of Dek are sowed by dispersal method.
<i>Dek ti kende ...</i>	...	...	...	...	Dek varieties germinate on their own and grow wild.
<i>Dech dhako maduong' ema ikuongo iole cham ...</i>	...	...	...	...	It is to the granary of the first wife where the first harvested grain is first stored.
<i>Dero...</i>	...	...	...	...	Grain-store or granary.
<i>Dero en kar kano cham...</i>	...	...	...	...	The granary is the place for storing grain.
<i>Dhako nyaka ng'e tedo ...</i>	...	...	...	...	A woman must know how to cook.
<i>Dhako ka dhako nyaka bed gi deche</i>	...	...	...	...	Every woman must have her own granary.
<i>Dhi tedo...</i>	...	...	...	...	Going to cook; Getting married.
<i>Dhok...</i>	...	...	...	...	Cattle.
<i>Dhoudi mag Kanyada ...</i>	...	...	...	...	The main clans of Kanyada.
<i>Dondo alot...</i>	...	...	...	...	Vegetables for cooking.
<i>Donjo e rangach...</i>	...	...	...	...	Entering the the homestead through the gate.
<i>Doyo ...</i>	...	...	...	...	Weeding
<i>Doyo cham en thiro buya mondo kik keth cham ...</i>	...	...	...	...	Weeding is reducing unwanted plants.
<i>Dwalo kuon ...</i>	...	...	...	...	Cooking corn meal (kuon: staple food).
<i>Fwani ...</i>	...	...	...	...	Species of large river fish
<i>Fulu madongo...</i>	...	...	...	...	Big sized minnow

<i>Fulu matindo...</i>	...	...	...	Small sized minnow
<i>Gero puodho...</i>	...	...	...	Furrowing
<i>Golo pur...</i>	...	...	...	Beginning of cultivation season
<i>Golo kodhi...</i>	...	...	...	Beginning of planting season
<i>Golo kodhi tiende ni komo puothe</i>	...			Beginning of planting season means sowing
<i>Golo kodhi bang'e</i>	...	...	...	Planting seeds afterwards
<i>Golo dhako oko...</i>	...	...	...	Establishing a woman's homestead away from original homestead
<i>Gonyo jo ma otwe gi tonde mag thagruok ...</i>				Release people from bondage of poverty
<i>Gwelruok</i>	...	...	...	Eating first fruits of a harvest
<i>Gwen...</i>	...	...	...	Chicken
<i>Gweng'</i>	...	...	...	Territory/land occupied by a clan
<i>Haro alot</i>	...	...	...	To prune vegetables
<i>Jaduong' ma wuon dala</i>	...	...		Elder who owns homestead
<i>Jaduong' riwo lwedo gi monde gi joge duto ...</i>				Elder who eats a meal together with wives and children
<i>Jaduong' pacho bende nyaka bed gi deche ...</i>				Elder must have his own granary
<i>Jaduong' nyalo sumo wagoke cham</i>	...			Elder can give married daughters grain
<i>Jaloko</i>	...	...	...	Trader
<i>Ja ohala...</i>	...	...	...	Trader
<i>Jamni matindo...</i>	...	...	...	Small ruminants (goats and sheep)
<i>Japur</i>	...	...	...	Cultivator
<i>Jolang'o</i>	...	...	...	Kalenjins/Maasai
<i>Jokuyo</i>	...	...	...	Agikuyu
<i>Jokuria</i>	...	...	...	Kuria
<i>Jobasuba...</i>	...	...	...	Abasuba
<i>Jokisii</i>	...	...	...	Kisii

<i>Jomikonyo/ji ma ikonyo</i>	...	...	...	...	People of need of food relief
<i>Jomadongo...</i>	...	...	...	...	Elderly people
<i>Jomatindo...</i>	...	...	...	...	Young people
<i>Kabich</i>	...	...	...	...	Cabbage
<i>Kabuoch</i>	...	...	...	...	Territory occupied by Kabuoch clans
<i>Kal iludo...</i>	...	...	...	...	Finger millet is sowed
<i>Kamongo...</i>	...	...	...	...	Mud fish
<i>Kanjwele...</i>	...	...	...	...	Small tilapia fish
<i>Kanyada...</i>	...	...	...	...	Territory occupied by Kanyada clans
<i>Kanyidoto...</i>	...	...	...	...	Territory occupied by Kanyidoto clans
<i>Ka ok ipuro to ibiro chamo ang'o?</i>	...	...	...	...	If you don't dig, what will you eat?
<i>Kelo cham pacho</i>	...	...	...	...	Bringing harvested crops home
<i>Kitungu</i>	...	...	...	...	Onions
<i>Kanyango...</i>	...	...	...	...	Clan in Kanyada
<i>Kanyach-Kachar...</i>	...	...	...	...	Clan in Kanyada
<i>Keyo en duogo cham dala/pacho...</i>	...	...	...	...	Harvesting/storage
<i>Komo...</i>	...	...	...	...	Planting
<i>Konyango...</i>	...	...	...	...	Clan in Kanyada
<i>Kuon...</i>	...	...	...	...	Stiff porridge/corn meal
<i>Kuon oduma/bando</i>	...	...	...	...	Corn meal
<i>Kuon bel...</i>	...	...	...	...	Stiff porridge of sorghum
<i>Kuon cham...</i>	...	...	...	...	Stiff porridge of sorghum/cassava
<i>Kuon Kal...</i>	...	...	...	...	Stiff porridge of finger millet
<i>Kuon kongere...</i>	...	...	...	...	Corn meal of yellow maize
<i>Kuon muogo/marieba...</i>	...	...	...	...	Stiff porridge of cassava

<i>Kuon nyamula...</i>	...	...	...	...	Corn meal of yellow golden maize
<i>Kuon thing'...</i>	...	...	...	...	Dried stiff porridge of sorghum for brewing yeast
<i>Kit chiemo mopogore...</i>	...	...	...	...	Variety of foods
<i>Kit pur ne nigi chik...</i>	...	...	...	...	Traditions used to govern cultivation
<i>Krismas...</i>	...	...	...	...	Christmas
<i>Kuongo golo kodhi...</i>	...	...	...	...	Starting to plant seeds
<i>Kwero...</i>	...	...	...	...	Taboo
<i>Kweru...</i>	...	...	...	...	Hoe
<i>Kwe dhok...</i>	...	...	...	...	Ox-plough
<i>Lokruok mar kido...</i>	...	...	...	...	Change of traditions and customs
<i>Ludo alot ...</i>	...	...	...	...	Broadcasting/sowing vegetable seeds
<i>Ludo nyim...</i>	...	...	...	...	Broadcasting/sowing sesame seeds
<i>Luoko alot...</i>	...	...	...	...	Washing vegetables
<i>Lowo ma ihango...</i>	...	...	...	...	Cultivating fallow land
<i>Mbuta madongo...</i>	...	...	...	...	Large Nile Perch (fish)
<i>Mbuta matindo...</i>	...	...	...	...	Small Nile Perch (fish)
<i>Migogo mosedhi tedo ok duog gwelre dalagi ...</i>					A married daughter does not come back for first fruit ceremony
<i>Migogo isewo gi cham ...</i>	...	...	...	...	A married daughter is given grains
<i>Mito en alot ma obiro machiegni</i>				...	Exotic edible bitter vegetable with small leave
<i>Modhi moleny...</i>	...	...	...	...	Ghee made from fat
<i>Modhi maliw...</i>	...	...	...	...	Liquid fat/oil
<i>Mokimo ...</i>	...	...	...	...	Mixture of vegetables, peas and mashed potatoes
<i>Mokimo mit kichame; to rach kinene</i>	...				Mokimo is tasty when you eat it but it is not attractive when you look at it.

Moyo cham	...	...	...	...	Drying grains in sun
Mumi	...	...	...	...	Species of mud fish
Ng'ado alot	...	...	...	...	Cutting vegetables
Ngege madongo...	...	...	...	...	Large tilapia (fish)
Ngege matindo...	...	...	...	...	Small tilapia (fish)
Ng'weto/ng'wedo alot...	...	...	...	...	Gather green vegetables
Ndemra ipidho...	...	...	...	...	Type of vegetable which is domesticated
Njugu ikomo...	...	...	...	...	Groundnut are planted
Njugu-nyaela madongo...	...	...	...	...	Large groundnut seeds
Ningu...	...	...	...	...	Species of fish
Nyada Ralek	...	...	...	...	Eponymous ancestor of Kanyada people
Nyadeg dani en alot ma migosi kokuogi	...	...	...	...	Type of delicious fermented vegetable
Nyanya	...	...	...	...	Tomatoes
Nyithindo...	...	...	...	...	Children
Nyithindo manyiri	...	...	...	...	Girls
Nyithindo ma yawuoyi	...	...	...	...	Boys
Nyikwayo ma kanyiri	...	...	...	...	Grandchildren/Daughter's children
Nyikwayo ma kayawuoyi	...	...	...	...	Grandchildren/Son's children
Nyikwayo konyo dayo ndalo doyo	...	...	...	...	Grandchildren help grandmother to weed
Nyodo	...	...	...	...	Offsprings/children
Nyombo	...	...	...	...	Paying bride wealth/Getting married to a woman
Nyoyo	...	...	...	...	Mixture of cooked maize and beans
Nyoyo ma obokore	...	...	...	...	Mixture of cooked beans with little maize
Nyuk kal	...	...	...	...	Finger millet gruel
Obambo/obambla...	...	...	...	...	Dried tilapia (fish)

<i>Obuoch omegre ti odhuk...</i>	...	...	...	Species of small mushroom which grow in Large numbers
<i>Obuoch olando ti ndalo koth</i>	...	...	...	Species of mushroom plentiful during rainy seasons
<i>Obuoch oruka madongo...</i>	...	...	...	Species of large mushroom
<i>Obuoch omonge ti ewi liel</i>	...	...	...	Species of mushroom growing on anthill
<i>Obuoch osesre ti e chuny kodh chwiri</i>	...	...	...	Species of small flat-topped mushroom
<i>Obuoch nyakom ondiek ok cham</i>	...	...	...	Species of mushroom which is poisonous
<i>Obuoch juok ok cham</i>	...	...	...	Species of mushroom which is not edible
<i>Obwolo</i>	...	...	...	Mushrooms
<i>Obwolo ti kende</i>	...	...	...	Mushrooms grow wild
<i>Ochiago</i>	...	...	...	Indigenous green bean
<i>Odielo</i>	...	...	...	Spiderwort/yellow or blue wandering jew
<i>Oduma ma oboki</i>	...	...	...	Boiled maize
<i>Okang'</i>	...	...	...	Fallow land
<i>Okoko</i>	...	...	...	Male termites
<i>Olayo</i>	...	...	...	Green pea
<i>Olemo</i>	...	...	...	Fruit
<i>Omena</i>	...	...	...	Fingerlings/Species of small fish
<i>Omolo wuod Nyadbo</i>	...	...	...	Omolo son of Nyadbo
<i>Onyango Rabala</i>	...	...	...	Eponymous ancestor/founder of Kabuoch, Kanyamwa, Karungu and Kadem people
<i>Opiyo nyar Kwabwayi ma en nyar gi Orwa Ojode</i>	...	...	...	Opiyo daughter of Kwabwayi clanswoman of Orwa Ojode
<i>Osoyi ti eyi gunda mane nitiere dhok</i>	...	...	...	A wild vegetable which grows in old homesteads
<i>Osuga</i>	...	...	...	Black nightshade/species of vegetable

<i>Osuga ti kende</i>	...	...	...	Black nightshade grows wild
<i>Osuga iludo</i>	...	...	...	Some nightshade species can be sowed/broadcasted sowed/broadcasted
<i>Otik sewu</i>	...	...	...	Dogfish
<i>Ot maduong mokuongo...</i>	...	...	...	Big house; first house (Mikayi)
<i>Ot mar ariyo</i>	...	...	...	Second house (Nyachira)
<i>Ot mar adek</i>	...	...	...	Third house (Reru)
<i>Oyuo isewo gi mogo</i>	...	...	...	Caterpillar is given flour in order to send it away
<i>Pidho alot</i>	...	...	...	Planting vegetables
<i>Piedho cham...</i>	...	...	...	Winnowing grains
<i>Pono olemo...</i>	...	...	...	Plucking fruits
<i>Puonj</i>	...	...	...	Teaching
<i>Puonjruok...</i>	...	...	...	Learning
<i>Puonjo</i>	...	...	...	To teach
<i>Puonjo jok ma thagore</i>	...	...	...	Pedagogy of the oppressed.
<i>Pur...</i>	...	...	...	Cultivating /digging
<i>Pur uru</i>	...	...	...	People must dig/cultivate
<i>Puro cham moromo</i>	...	...	...	Cultivating enough crops
<i>Puro gi dhok</i>	...	...	...	Ploughing with oxen
<i>Rawo</i>	...	...	...	Hippopotamus
<i>Rego</i>	...	...	...	Grinding grains
<i>Rem chiemo nitie e piny</i>	...	...	...	There is insufficiency in food Production/ there is food insecurity in the household.
<i>Rem rieke nitie e piny</i>	...	...	...	There is lack of indigenous knowledge in in the community/ there is rampant ignorance about indigenous knowledge.

<i>Rodi Kopany...</i>	...	...	...	...	A town in Homa Bay County believed to have started off as a depot for Roadways Company
<i>Sandruok...</i>	...	...	...	...	Affliction
<i>Sikuma</i>	...	...	...	...	Kale
<i>Sikuma ipidho...</i>	...	...	...	...	Kale is planted
<i>Suso/Runyo oduma...</i>	...	...	...	...	Shelling maize
<i>Tedo alot...</i>	...	...	...	...	Cooking Vegetables
<i>Tedo chiemb nyaluo ber ne ng'ato</i>	...	...	...	...	Cooking traditional foods is good for those <i>mong'eyo</i> who know how
<i>Thagruok...</i>	...	...	...	...	Suffering
<i>Tinga</i>	...	...	...	...	Tractor
<i>Thu tinda!</i>	...	...	...	...	End of story
<i>Tinde wakano cham e ot</i>	...	...	...	...	We keep grains in the house these days
<i>Toyo gogni...</i>	...	...	...	...	Secondary cultivation
<i>Toyo tombo...</i>	...	...	...	...	Secondary cultivation
<i>Uma...</i>	...	...	...	...	Fork
<i>Wakamba</i>	...	...	...	...	Akamba people
<i>Weg rangach ema chako pur</i>	...	...	...	...	Owners of the gate start the process of cultivating the land.
<i>Welo</i>	...	...	...	...	Guests/visitors
<i>Wuoyo e weche lowo</i>	...	...	...	...	Talking about land issues
<i>Yoro puodho...</i>	...	...	...	...	Secondary Cultivation/hurrowing
<i>Yoro puodho mar ariyo...</i>	...	...	...	...	Hurrowing the land a second time
<i>Yoro lowo e puodho gimalo ma awiye inyalo tim gi lwedo kata ma onge kweru</i>	...	...	...	...	Secondary cultivation can be done by hands

APPENDIX 2: DETAILS OF INFORMANTS

1. Christabel Opiyo Omolo

Age: 85 years
Gender: Female
Place of Birth: Ndhiwa Constituency
Place of Marriage: Kanyada, Homa Bay Town Constituency
Clan: Kanyach-Kachar
Language: Dholuo
Occupation: and Trader
Education: formal schooling

2. Damaris Achola

Age: 82 years
Gender: Female
Place of Birth: Saye/Mumbo in Kasipul Constituency
Place of Marriage: Kanyada, Homa Bay Town Constituency
Clan: Wakeru Settlers in Kanyada-Kanyango
Language: Dholuo
Occupation: Farmer and Trader
Education: Standard 4 (Primary School)

3. Abigael Owenga Odira

Age: 87 years
Gender: Female
Place of Birth: Mumo-Kotieno, Kasipul Constituency
Place of Marriage: Kanyada, Homa Bay Town Constituency
Clan: Katuma
Language: Dholuo
Occupation: Farmer and Trader
Education: Standard 4 (Primary School)

4. Silpa Okoth Nyatame

Age: 74 years
Gender: Female
Place of Birth: Kanyada-Kalanya, Homa Bay Town Constituency
Place of Marriage: Kabuoch-Konyango, Ndhiwa Constituency
Clan: Konyango
Language: Dholuo
Occupation: Farmer and Trader
Education: No formal schooling

5. Cornelia Akinyi Asam

Age: 52 years
Gender: Female
Place of Birth: Kanyada-Kalanya, Homa Bay Town
Constituency
Place of Marriage: Kanyada-Kanyango, Homa Bay Town
Constituency
Clan: Kolunje
Language: Dholuo
Occupation: Farmer and Trader
Education: Primary School

6. Janet Michelle Odongo

Age: 40 years
Gender: Female
Place of Birth: Kakamega
Place of Marriage: Kabuoch, Ndhiwa Constituency
Clan: Konyango
Languages: Dholuo, Luhya/Isukha, English and
Kiswahili
Occupation: Farmer and Trader
Education: Secondary School

7. Peter Oyier Ogweno

Age: 41 years
Gender: Male
Place of Birth: Awendo
Marital Status: Married with children
Clan: Kasigunga
Languages: Dholuo, English and Kiswahili
Occupation: Lecturer in Agriculture, Rongo University
Education: BSc (Egerton University); MSc (Egerton
University); PhD Candidate (Egerton
University) in Agricultural Education and
Extension

8. Olivia Atieno Abuom

Age: 37 years
Gender: Female
Place of Birth: Kano-Kolwa
Place of Marriage: Kanjira, Karachuonyo Constituency
Clan: Kanjira
Languages: Dholuo, English and Kiswahili

Occupation: Agricultural Extension Officer, NGO based in Rodi Kopany, Homa Bay County
Education: BSc (Egerton University); MA Project Planning and Management (University of Nairobi).

9. The Hon. Aguko Juma

Age: 54 years
Gender: Male
Place of Birth: Lambwe, Suba North Constituency
Marital Status: Married with children
Clan: Nyakach-Kabodho
Languages: Dholuo, English and Kiswahili
Occupation: County Executive Committee Member/Minister for Agriculture, Livestock, Fisheries and Food Security
Education: BA (Anthropology) – University of Nairobi; MA Project Planning and Management, candidate – University of Nairobi

10. Jennifer Atieno Sanna

Age: 40 years
Gender: Female
Place of Birth: Nairobi
Marital Status: Single Parent
Clan: Kano-Kobua, Kisumu County
Languages: Dholuo, English and Kiswahili
Occupation: Nyatiti Player
Education: Secondary School

11. Kathorina Agunda

Age: 95 years
Gender: Female
Place of Birth: Kamagambo-Kambija, Rongo Constituency
Place of Marriage: Kanyada
Clan: Kanyach-Kachar
Language: Dholuo
Occupation: Farmer, Trader and Potter
Education: No formal schooling

12. Mary Akinyi Ndong'a

Age: 51 years
Gender: Female
Place of Birth: Kagan, Rangwe Constituency
Place of Marriage: Kanyada, Homa Bay Town Constituency
Clan: Kanyach-Kachar
Language: Dholuo, English and Kiswahili

Occupation: Farmer and Trader
Education: Standard 6 (Primary School)

13. Benta Atieno Omoto

Age: 38 years
Gender: Female
Place of Birth: Kanyidotto, Ndhiwa Constituency
Place of Marriage: Kabuoch, Ndhiwa Constituency
Clan: Konyango
Language: Dholuo
Occupation: Farmer and Trader
Education: Standard 3 (Primary School)

14. Philista Akinyi Ndong'

Age: 57 years
Gender: Female
Place of Birth: Kagan, Rangwe Constituency
Place of Marriage: Kanyada, Homa Bay Town Constituency
Clan: Asembo-Kolal, but settled in Kanyach-Kachar
Languages: Dholuo, English and Kiswahili
Occupation: Farmer and Trader/Seed Custodian
Education: Standard 7 (Primary School)

15. Everline Aoko Otieno

Age: 33 years
Gender: Female
Place of Birth: Kabuoch-Konyango, Ndhiwa Constituency
Place of Marriage: Kanyada, Homa Bay Town Constituency
Clan: Kanyach-Kachar
Languages: Dholuo, English and Kiswahili
Occupation: Farmer and Trader
Education: Standard 7 (Primary School)

16. Pamela Aoko Owili

Age: 36 years
Gender: Female
Place of Birth: Kabuoch-Konyango, Ndhiwa Constituency
Place of Marriage: Kanyada, Homa Bay Town Constituency
Clan: Kanyach-Kachar
Languages: Dholuo, English and Kiswahili
Occupation: Farmer and Trader
Education: Standard 7 (Primary School)

17. Eunita Achieng Ndinya

Age: 35 years
Gender: Female
Place of Birth: Kanyamamba, Rongo Constituency
Place of Marriage: Kanyada, Homa Bay Town Constituency
Clan: Wakeru Settlers in Kanyada-Kanyango
Languages: Dholuo, English and Kiswahili
Occupation: Farmer and Trader
Education: Secondary School (Form 4)

18. Annah Auma Awiti

Age: 28 years
Gender: Female
Place of Birth: Kotieno-Gumba, Karachuonyo Constituency
Place of Marriage: Kanyada, Homa Bay Town Constituency
Clan: Kanyango
Languages: Dholuo, English and Kiswahili
Occupation: Farmer and Trader
Education: Secondary School (Form 4)

19. Willis Nona Omollo

Age: 62 years
Gender: Male
Place of Birth: Kanyada, Homa Bay Town Constituency
Marital Status: Married with Children
Clan: Kanyach-Kachar
Languages: Dholuo, English and Kiswahili
Occupation: Community Development Worker; Evangelist; Farmer; NGO Coordinator and Teacher.
Education: BA (Geography and Economics) (University of Nairobi); Post-Graduate Diploma in Education

20. Rufu Anyango Opon

Age: 80 years
Gender: Female
Place of Birth: Kamagambo-Sare, Rongo Constituency
Place of Marriage: Kanyadhiang' in Karachuonyo Constituency, Homa Bay Town County
Clan: Kanyadhiang"
Languages: Dholuo and Kiswahili
Occupation: Farmer and Trader
Education: Standard 4 (Primary School)

21. Edward Ooko Ochwa

Age: 76 years
Gender: Male
Place of Birth: Kamagambo-Sare, Rongo Constituency
Marital Status: Married with Children
Clan: Sakwa-Waora/Kamagambo-Sare
Languages: Dholuo, English and Kiswahili
Occupation: Accountant, Sales Exeutive, Business Retailer, Farmer, Church Elder, Lay Preacher, SDA Church
Education: Secondary School and Diploma in Accountancy (Kenya Polytechnic).

22. Mary A. Ochieng'- Mayende

Age: 60 years
Gender: Female
Place of Birth: Nairobi but raised up in Kanyada, Homa Bay County
Place of Marriage: Alego, Siaya County
Clan: Father belongs to Kanyada-Kothidha and mother came from Kochia, both clans hail from Homa Bay County
Languages: Dholuo, English and Kiswahili
Occupation: Retired Public Servant – Kenya Wildlife Service; Prominent Farmer and Businesswoman in Homa Bay County and Rongo Sub-County
Education: After Seondary Education ‘O’ and ‘A’ levels, proceeded to Mweka-Moshi and obtained Diploma in Wildlife Management.

23. Margaret Atieno Ondijo

Age: 49 years
Gender: Female
Place of Birth: Kagan in Homa Bay Town Constituency
Place of Marriage: Kanyada, Homa Bay Town Constituency
Clan: Kanyabala
Languages: Dholuo and Kiswahili
Occupation: Farmer and Trader
Education: Standard 4 (Primary School)

24. Julius Oracha Omuga

Age: 51 years
Gender: Male
Place of Birth: Kanyada, Homa Bay Constituency
Marital Status: Married with Children

Clan: Kanyach-Kachar
 Language: Dholuo, English and Kiswahili
 Occupation: Former Teacher; Human Rights Activist; Farmer; Community Leader; Active Member of local Catholic Church at Rodi Kopany.
 Education: After completing secondary education at Maseno School, he trained as a teacher.

25. Elizabeth A. Odira

Age: 58 years
 Gender: Female
 Place of Birth: Kano-Kolwa in Kisumu County
 Place of Marriage: Kanyada, Homa Bay Town Constituency
 Clan: Katuma
 Languages: Dholuo, English and Kiswahili
 Occupation: Teacher and Farmer
 Education: Bachelor of Education (English) University of Nairobi

26. John Awiti Nyambok

Age: 65 years
 Gender: Male
 Place of Birth: Kanyada, Homa Bay Town Constituency
 Marital Status: Married with Children
 Clan: Kanyango
 Languages: Dholuo, English and Kiswahili
 Occupation: Farmer; Livestock keeper; Trader; Leader of Roho Israel Church at Rodi Kopany
 Education: Standard 6 (Primary School).

27. Moses Oduor Ndong'

Age: 32 years
 Gender: Male
 Place of Birth: Kanyada, Homa Bay Town Constituency
 Marital Status: Married
 Clan: Asembo-Kolal settled in Kanyach-Kachar, Kanyada
 Languages: Dholuo, English and Kiswahili
 Occupation: Teacher and Farmer; Youth Leader in Full Gospel Churches of Kenya
 Education: Trained as s Primary School Teacher

28. Grace Atieno Awiti

Age: 56 years
Gender: Female
Place of Birth: Kabuoch-Konyango in Ndhiwa Constituency
Place of Marriage: Kanyada, Homa Bay Town Constituency
Clan: Kanyango
Language: Dholuo
Occupation: Farmer and Trader
Education: She did not go to school because of limited vision – did not get opportunity to go to special school, but she can read names and count which helps her in a small business at the local market.

29. Dorothy Awuor Oketch

Age: 32 years
Gender: Female
Place of Birth: Kabuoch, Ndhiwa Constituency
Place of Marriage: Kochia in Rangwe Constituency
Clan: Kochia
Language: Dholuo, English and Kiswahili
Occupation: Primary School Teacher; Farmer and Women's Leader in the Seventh-day Adventist Church at Rodi Kopany in Homa Bay Town Constituency.
Education: Trained as a teacher after secondary school.

30. Angelina Ogina Omuga

Age: 82 years
Gender: Female
Place of Birth: Kochia-Karamul in Rangwe Constituency
Place of Marriage: Kanyach-Kachar, Rangwe Constituency
Clan: Kanyach-Kachar
Language: Dholuo
Occupation: Farmer and Trader
Education: Attended primary school upto Standard 2 and she also attended adult literary classes.

31. Peter Juma Awuor

Age: 47 years
Gender: Male
Place of Birth: Kanyada, Homa Bay Town Constituency
Marital Status: Married with Children
Clan: Kanyach-Kachar
Language: Dholuo, English and Kiswahili
Occupation: Member of County Assembly for Kanyach-Kachar Ward, Homa Bay County

Education: After secondary school, went on to obtain a Diploma in Logistics

32. Andrew David Dunde Ongoro

Age: 30 years
Gender: Male
Place of Birth: Sakwa-Wagusu in Bondo Constituency, Siaya County
Place of Residence: Rodi Kopany Trading Centre Homa Bay Town Constituency
Marital Status: Married with Children
Clan: Settled at his aunt's home in Ogande area among the Kanyach-Kachar people
Languages: Dholuo, English and Kiswahili
Occupation: Farmer, Boda Boda Operator and Trader
Education: Secondary School

APPENDIX 3: LIFE-STORIES OF KEY INFORMANTS

LIFE-STORY 1: CHRISTABEL OPIYO OMOLO, 85 YEARS

My name is Christabel Opiyo. I come from Kwabwayi in a place called Ratang'a. I am from the clan of Orwa Ojode and Otieno Ogingo. I am 85 years old. When I was a young girl, my friends gave me a nickname. They called me Opiyo Sachunga. Praise names were given to people during ceremonies when people sang and danced. Praise songs were also sung during marriage ceremonies. Sachunga was my praise name. Other praise names included Achupa, Asande, Atiga, Atayi and many more. They were names used by girls when they were boasting and dancing during village gatherings.

My early childhood was spent in Kwabwayi. When I came of age, I was married off to a man from Kanyach-Kachar Clan in Kanyada near Rodi Kopany Township. He was already married to another wife. In Luo society, the first wife is called Mikayi. The second wife is called Nyachira. The third wife is called Reru. Our husband was called Philip Omolo Nyadibo. After a while, he married a third wife. So, there was Mikayi who was referred to as Min Aluma; there was Nyachira who was myself (I am also called Min Otisi); and there was Reru who was called Min Lando. In Luo Society, married women are called by their children's names: Mother of Aluma; Mother of Otisi and Mother of Lando. That is how we were identified in this large homestead of ours at Kanyach-Kachar in Kanyada.

I do not wish to lie to you people; I never went to school. I did not even go to adult literacy classes when they were introduced by the government. All I know is "*pur*" (cultivation of garden) and "*ohala*" or "*loko*" (buying and selling; trading; small businesses). When I was still strong, I used to plant different crops: maize; millet; groundnuts; vegetables and more. I still plant maize, bananas, beans, cowpeas, and other local vegetables like: "*osuga*,"; "*akeyo*"; "*mito*" among others.

Cultivation of the land is all I know; I hardly do anything else. Sometimes, I treat sick women with indigenous medicinal plants like "*obalandagwa*"; some of our plants have medicinal value and we should keep them. It is not bad to go to hospitals, but we should also know "*yedhe nyaluo*" (indigenous plant-medicines). I used to sell "*mogo*" (maize

flour). I also used to sell “*njugu*” (ground nuts). I also tried popcorn when it was introduced in our locality. I travelled far and wide as a women trader (Luo: “*Ja lok ohala*”). I went as far as Kibera and Mathare in Nairobi. I was an energetic trader, always on the road: “*aloko to awichora aduogo*” (Once I sold my products, I returned home). I never stayed in Nairobi for long. I used to go and come back.

Our husband was a good man. He cared for us. He kept cattle, sheep and goats. He was also a farmer. People used to refer to him as: “*Omolo Ayima Gi Pur*” (Omolo Ayima who loves digging).

I gave birth to 12 children in all. Most of them are dead. I am left with one son called Otisi and two married daughters. I have several grandchildren and great grandchildren. During the holidays, they came and help me with tasks like “*doyo cham*” (weeding).

The Luo people practice agriculture, livestock keeping and fishing for their daily sustenance. There are different activities in agriculture:

(a) *Golo Pur: Land Preparation*

Wuon pachō gi Mikayi ema golo pur. Bang'e to giluwore kaka ne onyuomgi. Nyachira luwe kaeto Reru bende dhi komo. Mano ne en chik Luo mondo luor obedi e pachō. Ne wapuro gi dhok kod lwedo. Tinga to obiro bang'e,

Dala wa ne wan mon adek. Mikayi ne en Min Aluma. An Opiyo Sachunga ne an dhako mar ariyo. Mano iluongo ni Nyachira. Min Lando ne en dhako mar adek. Mano iluongo ni Reru. Wuon parwa ne iluongo ni Philip Omolo Nyadibo. Ne ohero pur ahinya. Ka ndalo golo pur ne ochopo, to Wuon pachō gi Mikayi kuongo, eka Nyachira luwe to bang'e Reru tieko. Mano ne itimo kamano mondo luor obedie pachō.

(b) *Golo Kodhi: Planting Season*

Golo kodhi en komo cham. Wuon pachō nyaka duogi e od Mikayi kata ka nyocha en e od dhako machielo. Kaeto gi golo kodhi mondo giyawo tich ne mon matindo ni: “un koro ti uru”... Kamano kamano e kaka tich neluwore e dala doho.

(c) Doyo Cham: Weeding Season

E dala doho, ne en mana chik achiel e mane tiyo. Mikayi ema kuongo, kaeto mon matindo luwe. Jaduong' nyaka dogi e od dhako maduong' mondo ogol doyo cham. Kit pur nene nigi chik manyaka luvre aluwa.

(d) Kayo Cham: Harvesting Season

Dero ne en gima nyaka bedi e pacho. Dhako ka dhako nyaka ne bedi gi deche. Jaduong' pacho bende ne bedo gi deche mane iluongo ni mondo. Ka cham ne ose chiek e puodho to ji nene gwelore. Mano tiende ni iluongo ni gwelruok odichieng mokel cham mokwongo e pacho. Ne ikelo oduma mang'eny manumu kaeto iboke e dag kuon kaeto Jaduong' pacho riwo lwedo gi monde gi nyithindo. Ka ne en bel kata kal to ne inyuowo kong'o kendo jodongo madho. Ne en nyasi maduong' kendo ne ji bedo gi mor chieng' ma ji ogwelore. Jaduong' ne nyaka nindi e od mikayi chieng' onogo. Gwelruok ne ok dware wagogni.

Omolo Nyadibo mane wuon parwa ne nigi deche mane iluongo ni mondo. Ne okano bel gi kal e deche. Cham mane nitiere e dech Jaduong' ne otiyo godo kaka ong'ado e chunye. Seche moko ne onyalo sumo nyige mose dhi tedo e pinje mamoko kaponi kech ne chamogi.

(e) Kano Cham: Storage

Tinde ndalogi, goyo dere orumo. Ji tinde kano cham e gunia eot. Kuwo cham omedore. Ndalo olokore kendo piny okethore. Chon gilala, ne wakano oduma, bel kod kal e dero oko to onge ng'ato mamulo gil ng'ato.

(f) Alote nyaluo mamoko: Activities of women farmers concerning some vegetables

- *Chiemo nyaka ne bedi e pacho mane inyalo sewo godo migogo mobiro limbe. Nyari ma osedhi tedo ka nene obiro to nyaka sewe gi cham ma odhi chamo gi nyithinde.*
- *Alote nyaluo machon ne gin: osug ma nyachon – oti kende e gunda.*
- *Awayo bende ne en a lot nyaluo machon; en bende ne oti kende, kendo ne wang'wede e puothe.*
- *Nyadeg dani ne en a lot ma migori kokuogi. Mano bende ne wachamo. En bende oti kende.*
- *Bwombwe ne en alot mati kende kendo odongo ka ogawore. Mano bended ne en a lot ma migosi ahinya.*

- *Alot boo ni ing'wedo ite; ng'ochi bende ichamo. Mano chiemo ma migosi e piny Luo. Joramba kome e ndalo opon.*
- *Olayo kato ochiago bende ne wakomo; ne en chiemo maber ahinya.*
- *A lot atipa ne wariwo gi apoth; magi alote mane ti kendgi kendo Luo ne konyore kodgi e ndalo machon. Pod jomoko konyore kodgi kawuono. Ogdo aruda marabuor ka oole chak.*
- *Alot osoyi ne ti e gunda. Ne oyudore e dala ma dhok nitiere. Mano bende ne en a lot ma migosi.*
- *Odielo kata andhodho bende ne en alot nyaluo mane wachamo.*
- *Alot mito to obiro machiegni. Ne oonge ndalo machon. Luo tinde ohere kendo tiyo kode.*

Tindalogi tekra dok piny nikech tiyo to nyikwaya konya epuothe. Adong' gi wuoyi achiel iluongo ni Otisi. Ne onyuole ndalo bas moro mane iluongo ni OTC mane dhi Nairobi ka oa Asego. Nyiga mantiere gin adek kendo osenyuomgi. Nyikwaya maka nyiga ndalo rusa biro konya e tich puothe. Nyikwaya maka wuoyi bende konya e puothe.

LIFE-STORY 2: DAMARIS ACHOLA ODINDO, 82 YEARS

My name is Damaris Achola. I was born in Saye-Mumbo Kasipul. My husband was called Francis Odindo. He passed away many years ago. I am 82 years old. My husband was a Civil Servant who worked with the Ministry of Agriculture. He belonged to the Wakeru Clan but we settled among the Kanyada people in Kanyango area. I went to school upto standard four then I did not proceed any further. I got married at around the age of 18. We raised our children in Homa Bay County. My husband was an agricultural extension officer in Trans Nzoia (Kitale) where many people got large farms in the settlement scheme. He declined to take up a farm which was offered to him soon after Kenya got Independence in the mid-1960s. Instead, he established our homestead in Kanyada near Rodi Kopany where the family lives to this day. I used to stay here in Rodi Kopany; my husband visited home every week-end; he also stayed here with us during his annual leave. I would also visit him from time to time in Kitale, but he always wanted me to look after our homestead in Kanyada.

Though Wakeru people are “Jodak” (settlers) in Kanyada-Kanyango, they are completely integrated in the community. Some Wakeru people like in Gem-Asumbi,

Rangwe Sub-County. By occupation, I am a farmer. I have also been a trader. Grow beans, maize, vegetables, bananas, mangoes, tomatoes, and many other crops. I mainly grow “Sukuma wiki” and different types of bananas like “*odhigo jawauoro*” and “*opong’ to muol.*” I also grow “*kunde*”; these are for domestic use and for sale in the local market. Since my husband was an agricultural extension officer, he brought home good ideas from Kitale where he worked. We still use some of the methods he taught us like inter-cropping maize, beans and bananas on the same plot of land.

(a) Golo Pur: Land Preparation

Among the Luo people, there was social order in matters related to land use and cultivation. The senior most member of the family was the one to lead in cultivating the land. The first wife known as Mikayi was the one to start then the younger wives followed. In case the family was monogamous, the pecking order still applied with the Matriarch leading the way followed by the first son/daughter-in-law; second son/daughter-in-law; and third son/daughter-in-law, etc. The pecking order was out of respect; this ensured that there was harmony in the houses and the larger homestead.

(b) Golo Kodhi: Planting Crops

Modernity has changed a lot of things. But in Luo society, traditions and customs regarding cultivation and planting.... The born again Christians say that “Yesu oromo” (Jesus is enough) but our culture still applies today. In a polygamous homestead, the Mikayi (First Wife) is the one who must start the ceremony of planting together with her husband, then Nyachira (Second Wife) and Reru (Third Wife) with subsequent wives (Odongo Oher) following the pecking order.

(c) Doyo Cham: Weeding Season

The weeding season will also follow the same pattern with the senior most wife in the homestead leading.

(d) Kayo Cham: Harvesting Season

In the homestead, the Mikayi's house faces the gate. She occupies a pre-eminent position. Her space is not disputed by Nyachira or Reru. When the time for harvesting crops comes, a family meal known as "Gwelruok" is prepared. The "kuon" from the fresh grains (maize; millet; or sorghum) is prepared with "aluru" (quail) or "obambala" (dried tilapia) for the special meal. In some families, they simply boil green maize which is shared by members of the family. People are then free to partake of the fresh harvest after the ceremony of "gwelruok;" sometimes, beer was brewed from the millet or sorghum, and elders could be invited to partake of the beer as a sign of the new harvest.

(e) Kano Cham: Storage Season

In each homestead, every wife must have her own "dero" (grain store). Traditionally, the head of the homestead also had his own grain store known as "mondo." This was a strategic reserve store which the Patriarch resorted to in case there was an emergency, for instance: when a married daughter came back home to seek relief food because there was draught in her marital home. Grain stores had to be attached to every household.

(f) Other Activities of Women Farmers

- *Dhako ka dhako ne bedo gi cham machalo gi oduma; bel; gi kal. Oduma chon ne onge. Bel gi kal gin cham mar Nyaluo. Oduma en cham mar Nyasungu. Mano ema omiyo Luo luongo kuon bel gi kuon kal ni kuon cham. Ahinya bel gi kal nitie gi chike ma Luo luwo.*
- *Dhako ka dhako nyaka ne bedi gi ng'оче mopogore opogore. Oganda bende ne nyaka obedi godo. Oganda ne onge chik, to ng'or ne nigi chik ma Luo luwo. Ng'or boo ne en chiemo ma migosi. Kodhi mar ng'or ne nyaka bedi e ot ka ot. Muogo/marieba n onge chik; rabuon bende ne onge chik nikech ne ok gin cheimb Luo machon. Chieng' gwelruok, ne mine tedo kuon gi chiemo mopogore opogore machalo: gweno; aluru; aliya;*

osuga; dek; mito; gi rech. Wuon pacho no gwelo owetene gi mondegi mondo ji oriw lwedo e pacho. Kongo bende ne inywowo, kendo remo mar dhiang' bende ne iboro kendo itedo chieng' gwelruok. Luo ne tiyo gi asere e boro remo e ng'ut dhiang'. Ka nene ose bor remo, to ne itede. Ndalogi, Jo-Kristo ok bor remo to JOdongo machon ne timo kamano.

LIFE-STORY 3: ABIGAELE OWENGA ODIRA, 87 YEARS

My name is Abigael Owenga. I was born in 1931, the year of Nyangweo in Mumbo Kotieno, Kasipul. I attended school upto standard 4; after that, I attended training courses given to us by an adult educator known as Leah Nyar Mbuya from Karachuonyo. She taught us weaving and skills like dress-making. Her father was the famous Ker Paulo Mbuya Akoko of Karachuonyo. Among my teachers at Kwoyo Kotieno Primary School was Yukabet Obuya, also from Karachuonyo Kogweno. She taught us how to read and write. I was brought up in a Seventh-Day Adventist Church. I was a choir member and loved going to church meetings.

I got married to Andrea Odira of Kanyada-Katuma. I have been a farmer and small scale trader. Those early days, the girl child was called a wild cat; the Luo people used to say “*Nyako Ogowang'...Obiro dhi kama Chielo*” (Translation: The girl child is a wild cat; she will go to another place when she gets married. The Luo say: “*Nyako odhi tede no dichwo*” (She has gone to cook for her husband).

As a married woman, I established myself as: Ja-pur = Farmer; Ja-Ohala = Trader; and Ja-Wer = Singer in church. I did all those things as a young mother/wife in Kanyada-Katuma. The girl child had to be taught how to cook before getting married:

“Nyako nyaka bedni min mare ose puonje tede ka pod en dalagi. Nyaka ong'e tede magira, mar njugu kata oganda ka nyako onyuom to okia tede, to onyalo bedo kod chandruok maduong' ahinya e dala ma onyuome.”

Alote machon mag nyaluo ne gin: dek/akeyo; omboga; osuga; apoth; susa; atipa;

Ododo; andhodho; odielo; boo-ngor; nyalieng'o; nyawende agwata; alikra.

Alote Ma ndalogi gin: *kabich; sikuma' kandhira; it oganda.*

Cham mag Luo ne gin: *bando; bel; kal*

Ahinya ahinya, bel gi kal ema Luo ne thoro tiyo godo e tedo kuon. Bando kata oduma to obiro e ndalo wasungu. Kuon cha men mar bel kata kal. Marieba kata Omwoho bende obiro ndalogi.

Ndalogi wan gi Jo-Kristo kod Jo-Piny. Ji ma pod luwo chike Luo e weche pur nitiere. Ji ma oweyo luwo chike Luo bende nitiere. Dala doho nyaka ne luw mana chike Luo mondo kuwe obedie.

Luo ne nigi chike ma giluwu e ndalo:

- (a) Golo Pur: Land Preparation*
- (b) Golo Kodho: Planting Crops*
- (c) Doyo Cham: Weeding*
- (d) Kayo Cham: Harvesting*
- (e) Kano Cham: Storage of Crop*

Ka nene ochopo ndalo golo pur e dala doho, to Jomadongo ema chako eka Jomatindo luwo bag' gi; mano ne itimo mondo luor obedi e pachu. Tinde to Jo-Kristo wacho ni Yesu oromo nikech ogolo chike machon kendo okelo chike manyien. Ka pur oseromo to ni dhi pur chon kik puothe lew koro Mikayi e mani chako kae to mon matindo luwe. Tinde to ng'ato ka ng'ato puro mana puothe. Chon dhako ka dhako ne nyaka bedgi puothe kod deche. Jaduong' bende ne nyaka bedgi puothe kod deche. Ndalogi to pesa oloko piny nikech gi ng'iewo chiemo e chiro gi duka. Kanisa bende oketo chike manyien ma kwedo chike machon.

An to aneno ni Jomachon ne nigi luor maber nikech Jomadongo gi Jomatindo ne weyo ne ng'ato kore kendo ne gimiyore luor. Dhako ma nigi puothe nyaka ne bedgi deche ma obiro kano e cham. Migogo ka ochwanyo odumb gwelruok to

onge rach moro amora, onyalo mwodo oduma moboki. Jomoko to wacho ni migogo ok gwelre dalagi. Jomamine ema rito weche chiemo. Mano en gima nyaka gi ng'e nikech ngima chuo gi nyithindo ni e lwetgi.

LIFE-STORY 4: SILPA OKOTH NYATAME, 78 YEARS

My name is Silpa Okoth. I am 78 years old. I was born in Kanyada-Kalanya. I was married to Nyatame Waringa of Kabuoch-Konyango. I never went to school. I am the second wife of Nyatame Waringa. Chief Gabriel Nyatame is my son. I lost many children because of strange illness. They said that I had the problem of 'Kisoni' which in Luo refers to a woman whose children keep dying. I joined the Seventh-day Adventist Church. A famous pastor from Karachuonyo-Kanyaluo came to our local village in Kabuoch and prayed for me fervently:

*Nyasaye Nyakalaga dak ikony nyamera ni ma osebet ka yiko nyithindo
Nyasaye Nyakalaga golne wich kuot; Mon wetegi nyiere ni en gi kisoni
Dak imiye nyathi mondo en bended obed gi mor kaka mon mamoko;
Golne wich kuot Obong'o Nyakalaga mondi en bende obed ni iluonge
Ni min ng'ane.*

Pastor Joshua Rume was a well-known leader in the Seventh-day Adventist Church in the Nyanza Region. He was considered a prophet by many Luo people. After the prayers, God blessed me with a baby boy. I gave him the name Gabriel after the angel who announced the birth of John the Baptist and Jesus Christ in the Bible stories.

Gabriel Nyatame grew up to be a fine young man. He survived and did well in school. It is due to the strong prayers of Pastor Joshua Rume that I got this baby boy who grew up to become an assistant chief in our sub-location.

God granted me my desire of being called Min Gabriel. I am very happy to be a mother.

By occupation, I have been a farmer and trader: the products I have dealt with are as follows: potatoes; vegetables (various types); milk (fresh and sour); ghee; beans;

roundnuts; maize; cowpeas; green grams; pumpkins; bananas; mangoes; guavas; and sugarcane.

Traditionally, we relied on wild vegetables which grew on their own for instance: apoth; atipa; ododo; awayo; and nyadeg dani, among others.

(a) **Golo Pur: Land Preparation**

*Kar chakruok mar higa, ne ji beto puothe. Bang'e ne gipuro gi dhok kata lwet gi.
Ka gise puro to gi yoro puothe.*

(b) **Golo Kodhi: Planting Season**

*Ka koth ose chwe, to ji komo. Jomadongo ema ne kuongo kaye to Jomatindo luwo
bang' gi e weche mag golo kodhi. Mikayi ema ne kuongo; bang'e Nyachira luwe;
kaye to Reru bende luwo gi gi komo kamano kamano...*

(c) **Doyo Cham: Weeding Season**

*Jomamine ema nene tiyo tich doyo. Nyithindo ne konyo minegi doyo. Ka ng'ato ne
nigi pesa to ne onyalo manyo jodoyo to ochulo gi.*

(d) **Kayo Cham: Harvesting Season**

Jomadongo ema ne kuongo gwelruok ka cham ochiek eka Jomatindo luwo bang' gi.

(e) **Kano Cham: Storage**

*Dero tinde ni eyi ot. Chon deche ne nitiere oko. Jendeke gi kuwo osaso piny. Gunia
olokore dero tinende.*

*Chiemb nyaluo machalo bel, kal, marieba beyo maloyo chiemo masani kaka kuon oduma
gi kabich gi sikuma. Nyikwaya bedo koda ndalo ma sikul olor. Wachiemo kod gi
kanyakla kendo gikonya tich ot kod puothe.*

*Ayudo konyruok e kanisa mar Jo-Adventist kendo alemo kod gi. Weche kong'o gi ndawa
ne aweyo. Pastor Joshua Rume ni oyalona kendo olemona ka wacho ni:*

Rieko ber kendo rach

Rieko gero piny ngima

Rieko ketho piny ngima

Rieko irito kaka mach

Rieko ma Nyasaye Nyakalaga miyowa kuom cham, alote gi yien owinjore wati godo mondo ngima wa obed makare. Owinjore wacham chiemwa machon ma nene Nyasaye omiyowa; kik wiwa wil kod riko ma nene wan godo kuom alote gi chamb nyaluo kata yiend nyaluo bende.

LIFE-STORY 5: CORNELIA AKINYI ASAM, 52 YEARS

My name is Cornelia Akinyi. I was born in Gwassi, the land of Nyamgondho Wuod Ombare. I am married to Francis Osore Mbata. My husband's clan is known as Kalunje in Seme, Kisumu County. However, his ancestors migrated from Central Nyanza to Kanyada in South Nyanza. We settled among the Kanyada-Kanyango people. We are "Jodak" which means aliens: our sons can marry their daughters and their sons can also marry ours. We have a harmonious relationship with the Kanyango people in Kanyada. Our homestead is near Rodi Kopany Town. It is a fast-growing town and farmland is diminishing because of pressure on land.

I am in a monogamous marriage. This means that I do not have co-wives as is the case in many Luo homesteads. For that reason, I am not subjected to many traditional customs of "golo pur," "golo kodhi," "doyo cham," "kayo cham" or "gwelruok," and "kano cham" and "goyo dero" in my homestead. My husband and I plan our crop production activities without these Luo agricultural practices in polygamous homes:

"An e dalana kenda; kweche mang'eny onge." (I am the only wife. There are not many customs).

Since we do not have a lot of land for farming as "Jodak," we have to lease "shambas" from "weg lowo" (owners of the land). The ancestors of my husband settled among Kanyada people. That means that we do not share with the host clan any communal land from their ancestors; we have to either buy extra land or lease from the local people of Kanyango clan who are our host community.

I had six children: five boys and one girl. One of the boys died as an infant. Some of my children are married and live in their own compounds. We not produce enough food for our domestic consumption. Most of the time, we have to “*rundo cham*” (buy food) from the local market.

(a) **Golo Pur: Land Preparation**

We have limited land; we mainly lease “shambas” which the local people call “*deso puodho*” from the local community if there is “*winjruok*” (agreement) between u and them. My sons and daughters-in-law do the same: “*wan Jodak: waonge lowo.*”

(b) **Golo Kodhi: Planting Season**

I usually plant my gardens by myself. Sometimes, I hire labour if my children support me financially. There are no elaborate Luo practices on the “shambas” we lease since I am the only wife. I am autonomous.

(c) **Kayo Cham: Harvesting Season**

Since I grow crops on leased land purely for domestic consumption, and in small gardens, I do this by myself. Sometimes, the children help out. There is not much fanfare about the Luo ritual of “*gwelruok*” since I am the only wife.

(d) **Kano Cham: Storage**

I do not have “*dero*” (grain store) in my homestead. I keep grains and cereals in my house in gunny bags (“*gunia*”). I do not use preservatives; I prefer organic farming and avoid the use of agricultural chemicals from “agro vet” stores in Rodi Kopany.

(e) **Any Other Activities**

My homestead is within the area of Rodi Kopany Town. It is a rapidly urbanizing place with small plots being developed into residential houses and shops. For that reason, there is land hunger around Rodi Kopany Town; this means that our children

and grandchildren who are interested in farming will have to work hard and buy land elsewhere.

Our diet is composed of “*kuon*,” “*nyoyo*” “*ring’o*” (once in a while) and “*alote mopogore opogore*.” In Rodi Kopany Town, “*kabich*,” “*sikuma*” and “*omena*” with “*kuon*” are the staple foods for average income households.

LIFE-STORY 6: JANET MICHELLE, 40 YEARS

My name is Janet Michelle. I am from Isukha community in Kakamega County. I am aged forty years. Though I am a Luhya by tribe, I have learnt the language and culture of the Luo people. My husband is Odongo Ondiek from Kabuoch. He belongs to the Konyango Clan. We have lived together for long enough to make me understand the agricultural practices of Kabuoch people. I have fully integrated into the local community.

I was educated up to form three but dropped out because of lack of school fees. Then I got married. I am a small-scale farmer. I am also a small-scale trader. I grow and sell the following crops: *njugu*; *oduma*; *niang’*; *oganda*; *sikuma*; *nyanga*; *kitungu*; *rabolo*; *mariewa/marieba*.

For me to feed my family adequately, I am “*Japur*” and “*Ja-ohala*”; that is the only way my family can survive.

I am a member of Roho Msalaba Church. We eat “*alot dek*” and have no taboos about this particular vegetable. I hear that members of Legio Maria Church do not eat “*alot dek*”:

“Jolejo ok cham dek; Jorocho to chamo.”

Among the traditional food plants which grow in the homestead and wild are: *odiello*; *dek dani*; *ndemra*; *mito*; *atipa*; *ododo*; *awayo*; *bwombe*; *budho/susa*; *boo/ngor*.

We harvest the traditional food plants and eat them. They are very nutritious. Among my people, the Isukha, they also eat the same. In Kabuoch-Konyango, they call me “Nyar Isukha” or “Nyar Malo” which means: the woman from Luhya land. Other traditional foods we eat are: *kuon anang’a; kuon kal; kuon marieba; kuon bel; chak mopwo and mor dhiang’ maleny.*

These are very special foods for the Luo people of Kabuoch. However, I am worried that maize is replacing millet, cassava, and sorghum. I am also worried that today the traditional food plants are not very popular. These days, people eat limited foods like: *kuon oduma, alot sikuma; alot kabich; nyanya; kitungu; omena.*

Women should learn about the traditional food plants so that they may have variety. I am not saying that we do away with exotic foods introduced by Europeans. What I am saying is that we must not forget about our traditional food plants as African.

(a) Golo Pur: Land Preparation

In polygamous homesteads, Mikayi starts the ritual of “*golo pur*” followed by Nyachira and Reru. If there are more wives, the younger ones follow according to Luo traditional pecking order. The following activities form part of the land preparation: *betu puodho; puro puodho; lweyo okuok; yoro puodho; yawo ohula mondopi okadhi.*

(b) Golo Kodhi: Planting Season

The pecking order of Mikayi, Nyachira and Reru follows the same sequence. A ritualized approach of the husband sleeping in each woman’s house is observed.

(c) Doyo Cham: Weeding Season

In Luo as in Luhya community, women and children are the ones who undertake the agricultural activity of weeding the shambas. In Isukha where I was born as in Kabuoch where I now live, the mother and her children are entrusted with this activity when they are on holiday; the youth are expected to help their mothers in digging and weeding in the shambas. Each household takes care of their food production and that ensures that they have enough to eat.

LIFE-STORY 7: PETER OYIER OGWENO, 41 YEARS

My name is Peter Oyier Ogweno. I was born 41 years ago among the Kasigunga clan who settled in Awendo area, Migori County. Some of the Kasigunga people live in Mbita area in North Suba, Homa Bay County. My grandfather was a Seventh-day Adventist pastor. He was called Pastor Peter Oyier.

I attended the following institutions:

- Mulo Primary School, Migori County;
- Kanyimach Primary School, Migori County;
- Agoro Sare High School, Homa Bay County;
- Egerton University, Njoro, Nakuru County.

I am B.Sc. (Agricultural Education and Extension) degree holder from Egerton University. I also have a M.Sc. Degree in Agricultural Education. Currently, I am a doctoral candidate at Egerton University.

I am a lecturer in Agricultural Education and Extension at Rongo University in Migori County. As a professional teacher of agriculture and extension, I have worked in various public institutions in Kenya. I taught at Kandiege Mixed Secondary School in Rachuonyo area of Homa Bay County for ten years. My teaching subjects at secondary school level were biology and agriculture.

After leaving Kandiege, I proceeded to Bukura Agricultural College where I was an instructor for several years before becoming a Lecturer in Agricultural Education and Extension at Rongo University. From my experience and observations in Southern Nyanza region, typically, people eat a variety of foods. However, dietary habits have changed tremendously because of external influences. In local restaurants, people eat foods like:

1. Scrambled eggs and ugali
2. Beans
3. Beans and chapatti
4. Matumbo fry and ugali
5. Beef stew and ugali

6. Nyama boil and ugali
7. Maini and ugali
8. Aliya and ugali
9. Nyama choma and ugali
10. Kuku stew and ugali
11. Kuku fry and ugali
12. Samaki stew and ugali
13. Samaki fry and ugali; among other dishes.

Typically, these foods are eaten in middle-class restaurants in urban centres of Southern Nyanza such as Migori, Awendo, Rongo, Rodi Kopany, Homa Bay and Kendu Bay, among others.

In low-income homesteads, the dietary habits have changed from traditional foods to reduced menus which include: Sukuma wiki and ugali; kabich and ugali; and omena and ugali.

In the households, they will probably season the vegetables with *kitungu* and *nyanya* together with *chumvi* to make the simple meals a bit tasty.

In addition to the foods, restaurants also serve drinks which typically include: sodas; bottled water and juices.

The snacks served include: scrambled eggs/omelette pilau/spinach omelette; chips; nzadi' chapatis; samosas and sausages. Common beverages include: tea; coffee; cocoa and strong tea.

As an expert in agriculture and food security based at Rongo University's School of Agriculture, Natural Resources and Environmental Studies, I have made the following observations:

1. There is need for research Indigenous Knowledge Systems in food production;
2. There is need for innovation in Indigenous Knowledge;
3. There is need for documentation of Indigenous Knowledge;
4. There is need for preservation of Indigenous Knowledge;

5. There is need for dissemination of Indigenous Knowledge;
6. There is need for education and extension services with focus on Indigenous Knowledge.

In my view, the National Government and the devolved units at County levels should main stream Indigenous Knowledge for food security policy at the household level for sustainable development. We as researchers should investigate the treatment of foods to ensure safety and security of what we consume. There is the grapevine that once cattle are slaughtered, unscrupulous traders inject carcasses with formalin used in morgues to keep away flies. If you notice that there are no flies around local butcheries, and the environment is clinically clean, then you should be very afraid that the meat might have been injected with formalin. Sanitary inspectors and veterinarians should be on the lookout for these unscrupulous butchery owners and traders who feed local populations on these kinds of meat preserved by unorthodox methods.

Another area which needs to be regulated for purposes of food safety and security is the emerging catering industry during weddings and funerals in the greater Southern Nyanza region particularly and Kenya at large. Unscrupulous service providers in the food industry apply unorthodox methods such as the use of Panadol tablets to soften meat from animals and poultry. The unsuspecting consumers will not know that the tender meats they eat had heavy doses of Panadol and/or formalin.

Personally, I think that we should go back to our Indigenous Knowledge Systems which included our food preservation methods. The Luo people traditionally categorized the consumption of foods as follows:

1. Foods eaten raw = *Chamo chiemo manumu*
(e.g. *chuto ring'o gi ochuri ma oketie apilo*)
2. Foods boiled before eating = *Chwako chiemo*
(e.g. *chamo ring'o ma ochwaki kato oboliye chumbi*)
3. Foods like vegetables fermented and kept before use = *Kuogo alot*
(e.g. *Chamo alot ma okuogi kendo oolie chak*)

4. Foods smoked (fish/meat) and preserved before use = *Twoyo rech/ring'o e yiro ka podi ok otedi.*
5. Foods roasted and preserved (fish/meat) before use = *Tholo ring'o/rech ka podi ok otedi.*

These are some of the safety and security standards which were traditionally used by the Luo people. Unfortunately, these preservations methods of preparing foods have faded and might be lost if reclaiming the knowledge is not researched as part of urgent nutritional anthropology.

In my view, there is need for the establishment of an Institute of Indigenous Knowledge and Food Security at Rongo University to tap on the local resources in the twin counties of Homa Bay and Migori; the research can extend beyond what used to be Southern Nyanza to include the rest of Kenya.

The research into our Indigenous Knowledge Systems must necessarily include: food crops which are cultivated, e.g. fruits; vegetables; grains and cereals; pulses; fisheries and honey bees. Research should also include: Livestock: meat and milk products.

Another neglected research area which needs urgent nutrition and anthropological attention are the wild food plants (fruits and vegetables) which need to be collected and harvested during different seasons of the year to supplement foods which are cultivated. I have in mind wild fruits such: mapera; ochuoga; akumo; anyuka among others.

The vegetables which need to be researched include: *osuga; dek; apoth; susa; mito; ndemra.*

High nutrient foods with cultural significance which require urgent focus in nutritional anthropology include:

- *Kuon cham = Bel/Kal/Marieba*
(a Luo staple meal)
- *Chak mopuo = Schemed Milk*
(*Mor nyaluo = Butter fat*) added to the traditional vegetables like *osuga* and *dek* already mentioned.

I know for a fact that maize has never held any cultural significance in the nutritional anthropology of the Luo people. It is an exotic crop which was introduced by the European colonizers in East Africa. Traditionally, *bel*; *kal*; and *marieba* hold the status of staple diet of the Luo-speaking peoples in South Sudan; Northern Uganda; Western Kenya; and Northern Tanzania. For that reason, research and extension services should focus on these high nutrient indigenous cereals and grains in Homa Bay County and the greater Southern Nyanza region.

I have a feeling that the traditions and customs of the Luo regarding agricultural practices are fading. These include beliefs concerning:

1. *Golo Pur*: Land Preparation
2. *Golo Kodho*: Planting Crops
3. *Doyo Cham*: Weeding
4. *Kayo Cham*: Harvesting
5. *Kano Cham*: Storage of Crop

The Luo society is definitely in transition and widespread Christianity (of whatever expression) has had its impact. Most Christian families in Luo society do not adhere to the traditions and customs with regard to social order followed by polygamous families with Mikayi taking precedence, followed by Nyachira and Reru in agricultural practices. In Christian families, they are almost always monogamous and therefore, the traditional rules are largely ignored. That is at least my impression. My grandfather, Petro Oyier of Kasigunga, was a Seventh-day Adventist church member where he also served as a pastor in different parts of Southern Nyanza.

Another area which needs attention is the creation of seeds banks in the villages. These banks should stock indigenous seeds of *bel*; *kal* and *alote* which are endangered, for future propagation.

Though social and cultural changes are taking place because of economic adaptation, there is need to create a balance between the old and the new. Agricultural practices are bio-cultural and specific to human ecologies; for that reason, we as agricultural educators

and extension workers should look at the interface between food production and cultural practices for sustainable development.

As an academic teaching agriculture at Rongo University and as an extension worker with many years' experience in the Southern Nyanza region, I feel very strongly that Indigenous Knowledge in Agriculture is creative, innovative and transformative. The creation of an Institute of Indigenous Knowledge and Food Security at Rongo University is a good idea; it is possible; it is necessary; it is viable; and it is urgent if we are to realize outreach programmes aimed at food safety and food security in rural households in the larger Southern Nyanza region.

I personally feel that the Institute should have a Director at the help who answers to the top management of Rongo University which already has a vibrant School of Agriculture, Natural Resources and Environmental Studies. The Institute for Indigenous Knowledge and Food Security can, for research and extension work, focus on thematic concerns in a multi-disciplinary context including:

1. Science, Technology and Engineering
2. Arts and Social Sciences
3. Business and Human Resource Development.

I also feel that there should be staff at the level of Professors; Associate Professors; Senior Research Fellows; Research Fellows; and Junior Research Fellows who will execute the research agenda of Indigenous Knowledge for Food Security for Rural Households and related thematic areas. The Institute, in collaboration with other schools within Rongo University can also offer post-graduate taught/research programmes leading to MSc. and PhD degrees in order to create a cadre of human capital in this critical area of food security.

From my experience in agricultural education and extension, I think the Institute Nyanza region through the following institutions:

1. Schools and Colleges
(Through 4K-clubs and other student bodies)

2. Christian Churches – Inter/denominational approach
(Both Catholic and Protestant groups)
3. Farmers’ Co-operative Societies
4. NGOs and CBOs together with Women’s Group interested in food security
5. County Governments of both Homa Bay and Migori (for a start) through their departments of Agriculture, Livestock Development and Fisheries.

I think that locating Indigenous Knowledge at the centre of extension education for farmers should be practical in approach with land provided by Rongo University for demonstration plots and sites where university lecturers and students will interact and benefit from the indigenous knowledge of elderly men and women with sagacity and wisdom. The sages and indigenous thinkers who are not necessarily schooled in Western agricultural sciences introduced by European colonialists will have an opportunity to transfer their indigenous agricultural knowledge for documentation, preservation, education and dissemination through networks of Rongo University in Southern Nyanza region and beyond.

Since there will be an interface between the traditional and modern in as far as the production of knowledge is concerned, African indigenous thinkers and practitioners of folk food stories will use oral testimonies and life histories based on their age old experiences as farmers in their localities.

Institutionally, I would recommend that factors of production such as land administrative support be provided by Rongo University; resource persons and labour can be provided by farming communities; teaching and research staff should be provided for in the Institute; and ways of international and local financing be explored in order to realize the dream of reclaiming our indigenous knowledge for food security. A happy blend of the old and new can go a long way in ensuring food security and transferring such knowledge to future generations for sustainable development.

LIFE-STORY 8: OLIVIA ATIENO ABUOM, 37 YEARS

Background

My name is Olivia Atieno. I come from Kano Kolwa in Kisumu County. I am married to Paul Abuom of Kanjira clan in Karachuonyo, Homa Bay County. My training is in agronomy but now, I am an agricultural extension worker with a Non-Governmental Organization operating in Rodi Kopany, Kanyada area within Homa Bay County. We mainly deal with Luo women farmers in the locality. I hold a BSc degree in Agronomy from Egerton University, Njoro. Currently, I am pursuing a Master of Project Planning and Management with the Open, Distance and E-Learning (ODEL) Campus, University of Nairobi. It services me well because I can continue with my post-graduate studies, and work. I am a mother of two small boys so I have a very busy schedule as a mother, an agricultural extension worker and a post-graduate student. My husband is very supportive in all these aspects of my life and career.

Agriculture Improvement Support Services

I work for a Non-Governmental Organization known as Agriculture Improvement Support Services (AGRISS) where we have three projects focusing on women farmers:

1. The Development in Gardening (DIG) Project
2. The Farmer Research Network (FRN) Project
3. The Mwendo Project

I deal more with the agricultural education and extension services through the DIG project. The FRN project which is research-based and Mwendo project, which helps farmers with their financial management are coordinated by other colleagues with our NGO.

My agricultural training at Egerton University, Njoro prepared me to work with different types of soils and seeds in farmer education.

The approach I adopt in my extension work is known as “nutrition sensitive and sustainable agriculture” with the women farmers as my centre of focus. I also use what we call the “Farmer School Extension Model” with the aim of encouraging local

communities to practice sustainable agriculture for food security in the household. Owing to increased global warming and climate change, we encourage local farmers to adopt climate resilient food plants; improve household health status of the people; and increase incomes from small agribusiness activities in the local market place.

Our NGO also works with the women farmers in the critical area of financial education by training them on keeping up-to-date finance and accounts from their smallholding farms. We use community-based field educators who speak the same language as the local farmers so that there is no break-down in communication during our outreach programmes. Our office at Rodi Kopany co-ordinates the mentorship programmes for young mothers in Kanyada and Kabuoch areas of Homa Bay County. Through “Mentor Mothers” my work entails the promotion of sustainability in agriculture; food safety and security; and modern farming methods for increased crop yields for the households. Our NGO, AGRISS, also has a presence through other projects in Migori, Homa Bay, Siaya, Kisumu, Busia and Bungoma Counties in Western Kenya. We also have a presence in Kabale District in Western Uganda where we work with the Batwa people (who were derogatorily referred to by European ethnographers as the pygmies on the borderlands of Congo, Rwanda and Uganda. As an advocacy and research-based organization, we participate in knowledge production for food security and sustainability in agricultural practices.

Development in Gardening (DIG))

The DIG movement evolved from Atlanta, Georgia in the United States of America and has now spread to different parts of the world. In Kenya, we encourage women farmers:

1. To establish vegetable gardens within their homesteads;
2. To establish indigenous vegetable seedbank within the community;
3. To acquire appropriate garden tools to equip the farmers for cultivation;
4. To plant fruit trees in the homesteads and gardens;
5. To adopt sound water solutions instead of entirely relying on rain-fed agriculture;

6. To engage in dialogic research and extension work with our community-based facilitators;
7. To encourage sharing of farm products among participants in our farming projects; and
8. To reap maximum benefits from “start-ups” designed to help the women farmers to take-off in their small scale agribusiness.

As an agronomist and extension worker, I train farmers; I equip them with knowledge and skills necessary to engage in farming not only for subsistence but also agribusiness activities. I endeavor to encourage women farmers to improve sustainable agriculture on their limited plots of land; improve food safety and security at household level; and to improve the health and nutritional status of mothers, children and households/families in the rural contexts of Kanyada and Kabuoch areas of Homa Bay County.

The crops produced in the locality are both indigenous and exotic, and include but are not limited to the following: maize; sugarcane; sweet potatoes; water melons; oranges; tomatoes; onions; bananas; groundnuts; sunflower; cotton; pineapple; soya beans; and rice.

We work with the sub-county hospital based in Marindi Trading Centre, Homa Bay County through our “Motherhood through Mentorship” programme. The DIG programme also has similar activities among the Batwa people along the border of Uganda, Rwanda and the Democratic of Congo. The project aims at income generation; improved nutrition; climate resilience; and food security. The Executive Director/Founder of the DIG movement is Ms. Sarah Koch, an agronomist from America, who has worked extensively with women farmers in Africa.

As a movement, we are alive to the fact that “Big Agriculture” is threatening local indigenous seed banks which are being replaced by a chain of “Agrovet” outlets in the Republic of Kenya and other East African countries. The corporate or privately owned stores which sell “engineered and chemically treated options” of seeds are a big threat to

home-grown seeds in the local African farming communities not only in Homa Bay County, Kenya but also in Kabale, Uganda among the Batwa people.

As an agronomist and extension worker, I wish to introduce indigenous leafy vegetables among the women farmers in Kanyada and Kabuoch areas just as I did in Gwasssi area on the shores of Lake Victoria a little while ago. I would also like to encourage local women farmers to save indigenous seeds in the community. Through DIG as a agrarian movement, we would like to encourage indigenous seeds through organic open-pollination; nutrient dense and climate resilient food plants which grow naturally. We would also wish to encourage crop diversity since sustainable agriculture always starts with seeds. This DIG agrarian movement is something of a revolution in the sense that it attempts to reconnect women farmers to the mystique of indigenous seed banks which African farmers have always had since time immemorial. We encourage food plants in the homestead such as: papaya fruit tree and mango fruit tree.

The food plants provide high nutritional value, especially the Moringa Fruit Tree which acts as a super-food in many African contexts. The Moringa is an income-generating crop because of powder made from it form nutritional and medical purposes. It is considered something of a miracle tree which is drought tolerant with many health benefits; it is included in traditional diets and can grow in most gardens within the homesteads in Homa Bay County and other similar agro-climate ones in the Republic of Kenya and East Africa. Thus, the DIG agrarian movement seeks to establish small-scale food forests within close proximity of the homesteads, reforestation, good nutrition and financial benefits accruing from agribusinesses arising from the farming activities in the communities.

Garden Tools

Farming is a “back-breaking” activity for rural communities who essentially do cultivation manually by hand. There is need, therefore, to empower women farmers to acquire appropriate tools they can use for cultivation purposes. In the DIG agrarian movement, we encourage efficiency in food production for the small scale farmers. We provide “Garden Tools Sets” which are sourced from the *Jua Kali* artisans in local

training centres. These tools include: rakes; shovels; picks; pitchforks; machetes; hoes, small spades; rice sacks, jembes and wheel burrows.

In the projects, we encourage the small scale farmers to utilize every bit of the land for maximum food production. Thus, access to arable land is essential; then the farmers need to have good supply of seeds from their community-based seedbanks. They also need tools to help the work on the land in preparation for planting. The women farmers need to have a blend of indigenous knowledge as well as modern agricultural methods for optimum crop production. We also equip the women farmers with the necessary skills to be effective in food production. In Luo society, when one has food for the household, she gains a lot of respect in the community. However, when one has no food for the family and keeps begging in the village, people say that “*ofwadhore*.” It is our aim to empower the women farmer in order to avoid “*fwadhruok*.”

Watering the Garden

Through the AGRISS projects, we make sure that the women farmers have enough water for their crops. Since water is a precious resource, we advocate that the farmer should harvest rain water by using roof gutters and storing the water in large tanks. For the home garden to be well watered, we use the following:

1. Hand-dug wells
2. Storage Barrels
3. Roof Gutters
4. Treadle Pumps
5. Channeling water (called “ohula” in Dholuo)
6. Rain Catchment Systems
7. Lined Pits

The women farmers are also encouraged to use streams and rivers in their locality. Farming can be a business in rural communities. Sometimes, husbands vanish into thin air and leave their wives and children to fend for themselves. This happens where men leave homes to seek employment in urban centres. The women and children remain behind and have to fend for themselves. A look at the local markets in Homa Bay

County will show you that women have flourishing small-scale agribusinesses. They are both farmers and traders. In Dholuo, they say:”pur *nigi ohala*” which means “farming has benefits.” They also say “*mon puro kendo loko ohala*” which means: “women farm and trade” in order to survive in rural communities. They are also encouraged to share their knowledge and produce with one another in order to form strong grassroots within communities.

The Use of Local Facilitators

I work both in Homa Bay, Kenya and Kabale, Uganda. I am fluent in Dholuo which is the language of the catchment area of Kanyada and Kabuoch in Homa Bay County. In Kabale, Western Uganda, I work among the Batwa. We use local facilitators who speak the local language varieties. This is essential in agricultural education and extension work. We train our local facilitators fully then they also go and train others. We pay them a salary so that they engage in their work on a full-time basis in their respective communities. We also encourage volunteers within the community. For one to qualify as a Local Facilitator, he or she must have the following qualities:

1. Fluent speaker of local language;
2. Knowledge of local community;
3. Understanding of traditional beliefs and customs;
4. Respected, admired and held in high esteem within the community;
5. Teaching and leadership skills in agriculture and community development.

Start-Ups for Agribusiness

In our NGO, we encourage the groups to expand their farms into small scale agribusiness enterprises. We encourage them to invest in their farms. Examples of agribusinesses we have invested in are: moringa powder; poultry/eggs and local seed banks. In rural areas, people who retire on the farm can start small agribusiness enterprises by selling dry foods like maize and beans.

My work at AGRISS in Homa Bay has encouraged me a lot because I get fulfilled when working with women farmers. I have established home gardens among the people. These home gardens supply a variety of indigenous leafy vegetables and cereals for the household. I have also encouraged community gardens which are worked and maintained by members of local groups. The project I co-ordinate also encourages development of skills and impartation of critical indigenous knowledge in agriculture in the local communities. Our aim is to grow high nutrient foods, encourage food security and also improve community health through hygienic handling of food. We have realized improved health for households we work with in our programmes. We have also witnessed improved entrepreneurship among women farmers who now engage in agribusinesses. The children in these households have experienced growth and development which is a change from malnourishment we found in some households before we enlisted them on the AGRISS programme. Through skills training and indigenous agricultural knowledge, we have realized that pedagogy of social change through agriculture ensures the well-being of the communities.

A Summary of Agricultural Activities

- **“Golo Pur” : Land Preparation**

This is the initial process during the season of cultivation in the community.

- **“Golo Kodhi” : Planting**

This is when people start to plant crops especially in the beginning of the long rains.

- **“Doyo Cham” : Weeding**

The Luo people call it “*thiro buya*” which means “weed control” “Doyo Cham” is weeding and specifically refers to the use of a hoe which is locally known as “*rapur.*”

- **“Kayo Cham” : Harvesting**

This refers to harvesting grains and cereals. There is also “*ng’weto*” which refers to harvesting vegetables. The third one is “*pono olembe*” which refers to harvesting fruits. Lastly, “*kunyo rabuon*” or “*kunyo marieba*” means harvesting

potatoes or cassava, which literally refers to the activity of digging out the tubers from the ground. All these are harvesting activities.

- “Kano Cham” : Storage

In Luo, *dero* is the traditional grain store. In Homa Bay County, *dero* is disappearing but some still exist in Luo homesteads. Today, most women farmers thresh and store maize and millet in bags.

- Other Food Production Activities

1. Terms used for maize, millet and sorghum:
2. Kayo cham = harvest crop;
3. Moyo cham = dry crop;
4. Suso/runyo oduma = thresh maize;
5. Dino bel/kal = thresh/thread millet/sorghum
6. Kano cham = storage of maize/millet;
7. Rego cham = grind maize/millet;
8. Dwalo/tedo kuon = prepare “ugali/stiff porridge
9. Cham kuo = eat “ugali”/”kuon”/stiff porridge.

- “Kuon Cham”: Traditionally, the Luo mix/blend millet and cassava; some maize might be added.

- Important Seeds: The Luo consider the following as most important, namely: “Bel,” “Kal,” and “Ng’or” in the traditional context. These three seeds have ritual significance. They are used in “*golo kodhi*” and “*gwelruok*” rituals in most Luo homes where traditional agricultural practices still persist. They are also considered to be drought resistant and highly resilient crops by the Luo people.

LIFE-STORY 9: HON. AGUKO JUMA, 54 YERS

My name is Aguko Juma. I was born 54 years ago. My ancestors were originally from Kabodho in Nyakach, Kisumu County. Our family resettled in Olambwe in Homa Bay County. I am married with children. After attending local schools, I went to the

University of Nairobi where I graduated with a BA degree in Anthropology. I have worked in the private sector in Nairobi and also tried my hand in politics in Mbita Constituency.

After the 2017 general elections in Kenya, I was appointed by the Governor of Homa Bay County to serve in his Cabinet as the Executive Committee Member in charge of Agriculture, Livestock and Fisheries Department. My training in anthropology is very useful to me in this area of community development. We have had challenges within Homa Bay County because the election of Governor Cyprian Awiti was nullified by the High Court but he appealed against the ruling. The Court of Appeal upheld the ruling of the High Court so the Governor had no choice but to proceed to the Supreme Court of Kenya. At the time of this interview (5th November, 2018) the matter is still pending before the Chief Justice of the Republic of Kenya and his fellow Supreme Court Judges. If they uphold the ruling of the High Court, and the Court of Appeal, all of us who were appointed by Governor Cyprian Awiti as Executive Committee Members will have to pack up our bags and go. We are political appointees of the Governor so if his election is nullified, we will “go home.” However, there are Chief Officers who will discharge the duties of various functions until the newly elected Governor appoints fresh Executive Committee Members.

Meanwhile, we continue to discharge our mandate until the Supreme Court of Kenya pronounces its verdict on the status of Governor Cyprian Awiti. We hope for the best.

To start with, I grew up in a rural village in Olambwe which is a Luo-speaking settlement. These are people from all over Luoland settled in Olambwe (officially referred to in Government of Kenya documents as Lambwe Valley Settlement Scheme). It also borders Ruma National Park which is managed by the Kenya Wildlife Service. My mother died when I was young. I was brought up by a step-mother and did all the chores boys and girls in a Luo homestead were expected to do. I went to the shamba and helped with tillage of the land. I also helped with planting and weeding in the shamba. During harvesting, I participated fully in helping other members of the family in bringing home the harvest and storing the produce in the traditional grain stores (Luo: dero =

singular, *deche* = plural). I can claim to have been totally immersed in Luo traditions and customs with regard to agriculture and food security in a rural household.

There are Luo traditions and practices relating to agriculture and food security. We used to engage in a number of activities before cultivation of the land. These included:

1. *Beto puodho* = Clearing the land
2. *Puro puodho* = Ploughing the land
3. *Yoro puodho* = Tilling the land (secondary/tertiary preparation)
4. *Komo kodhi* = Planting seeds on the prepared land.

I observed and participated in all these activities when I was growing up. Our family was fairly traditional and I had many elderly people in our village who told us what to do during this season. I noticed that there was what I can describe as “cultural pecking order” which was observed within families and close kinsfolk who shared the same compound/homestead and a common gate. The owner of the homestead and his senior/first wife (Mikayi) took precedence of ritually leading the way, then others like the second wife (Nyachira) and the third wife (Reru) in that order. Before these agricultural seasons could be launched in the homestead, the owner of the homestead (Wuon Pacho) was under customary obligation to spend the night in the house of Mikayi. Many polygamous families in Luo society still observe these traditions to this very day. The indigenous seeds which were considered to have ritual significance were: *bel* (millet); *kal* (finger millet) and *ng’or boo* (cow pea).

Every traditional Luo homestead had to stock these seeds from previous harvest. The Luo have a saying about “*bend aburu, bendwa ma nene wakano*” which translates as “millet seeds preserved in ash, our millet seeds we kept for the next season.” This is a metaphor used with the reference to the indigenous seed bank which ensured sustainability in crop production for the household. Leaders who emerge and intervene in the political affairs of the community at critical times might be figuratively referred to as “*bend aburu;*” one example who comes to mind is Prof. Joseph Ouma Muga, former Member of Parliament for Rangwe Constituency in Homa Bay County who also served

as Assistant Minister in President Daniel T. Arap Moi's government. He was reputed to have authored a speech on the "Ozone-Layer" and "Climate Change" which earned the President a standing ovation and a round of applause during an international conference. The local people in Homa Bay used to refer to this great man as "*Ouma Bend Aburu*" meaning: "Ouma the Millet Preserved in Ash" because of his resilience like a drought resistance crop.

Songs were composed in his honour. One of the songs went thus:

Soloist: Ouma Bend Aburu
Chorus: Bendwa Ma Nene Wakano
Soloist: Ouma Bend Aburu
Chorus: Bendwa Ma Nene Wakano
Soloist: BendAburu
Chorus: Bendwa Ma NeneWakano

These songs composed about good leadership drew the metaphors from our agricultural practices. Planting (*Golo Kodhi*); Weeding (*Doyo Cham*); and harvesting (*Kayo Cham*) all followed the same social order and protocol with *Mikayi* taking precedence followed by *Nyachira* and *Reru*. Usually millet and cow pea seeds were used in this agricultural ritual of planting. Pecking orders applied from the senior most wife by marriage in that particular homestead.

Food storage is an important aspect of post-harvest practices among the Luo people of Olambwe where I grew up. A traditional grain store is called "*dero*" and some still exist today. However, most people shell their maize and keep them in bags these days. *Dero* was not only used to store maize; it was also used to store: *Bel*; *Kal*; *Aliya*; *Budho*; *Ng'or*; *Oganda* and other dried/preserved foods for domestic use in future.

Most women farmers engage in small scale agribusiness. They grow food crops for domestic consumption but they also sell the surplus for cash to spend on other needs of family members. Agricultural products are for consumption and trade.

Grains and cereals are very important but whatever is eaten with is equally important. The word “*DEK*” has two layers of meaning:

Dek (sometimes called *akeyo*) is a type of vegetable.

1. *Dek* also refers to any food (including: meat or fish or chicken) eaten to the accompaniment of *kuon*.
2. *Manyo dek* (looking for food to accompany *ugali*). Going fishing may be referred to as looking for *dek* but in a metaphorical sense.
3. *Bang’o kuon* (this refers to eating plain *ugali/kuon* without any accompaniment of *dek* of any type).

As a traditional practice, any flowering vegetable is never harvested (“*ngwedo alot*). This is usually applicable to *Alot Boo (Ng’or)* hence the Luo says: “*nyodo okonyo omboga*” (meaning: The little flowers have saved the mother plant from “*ngweto*” (being harvested).

When I was growing up we went fishing in the lakes and rivers; we also went to hunt wild animals like rabbits and antelopes; we also engaged in trapping wild birds and gathered wild fruits and vegetables. These activities of bird trapping; hunting; fishing; and farming ensured that we had enough to eat all year round. We were never food-insecure since we had the knowledge. I particular recall trapping the *Awendo* bird (the Guinea Fowl) and *Aluru* (the Quail) which were much sought after delicacies in Olambwe as we were growing up.

LIFE-STORY 10: JENNIFER ATIENO SANNA, 40 YEARS

My stage name is Atisanna but my real name is Jennifer Atieno Sanna. I was born into a large family some 40 years ago. My father used to work with the East African Railways and Harbours. He trained as an engineering technician at the Railway Training School in Nairobi and subsequently worked in both Kenya and Tanzania before the collapse of the East African Community in 1977. My father got married to three wives. My mother is the second wife. In Africa, large families are celebrated; I have many brothers and sisters and I love them all.

After the collapse of the East African Community in 1977, my father was absorbed by the newly formed Kenya Railways in Nairobi. It was in Nairobi where I was born and nurtured though we come from Kano in Kisumu County. I attended Kileleshwa Primary School which was not far from our house. The Kenya Railways treated its employees very well those days. My father was given a large house in Kileleshwa.

During my primary school days, I used to sing in the school choir. I also used to sing in church. After my Kenya Certificate of Primary Education, I went to Rae Girls Secondary School in Nyakach, Kisumu County. I completed my schooling at age 19 and fell in love with a young man. We settled down as husband and wife. Children arrived very soon after that but the marriage did not work. After a few years, I quit the marriage.

I tried another marriage and that did not work either. Having children interfered with my education. I could not go further with my education. My father settled the family in Kano, Kisumu County. After my failed attempt at marriage, I decided to bring up my children as a single mother. My mother has been very supportive. My grandmother was also very supportive when she was alive. I have four children in all; three girls and one boy. They are aged between 18 and 6. It has not been easy but we are managing. My children stay with my mother in Kisumu. They attend local schools.

My musical career was born out of crisis. As a single mother, I needed to do something for a living and bring up my children. I come from a musical family. Some of my brothers are musicians. My father is a musician too. He used to play the saxophone for bands performing in big hotels in Nairobi. I followed in my own father's musical footsteps. I used to play the piano. My eldest daughter also plays the piano. I think that music runs in our genes. I really wanted to do something different; play a unique African instrument quite different from the piano and guitar. It was at this time that I decided to learn how to play the Luo harp called Nyatiti. This instrument is considered to belong in the domain of male artists. Women in Luo society were not allowed to play it. The instrument is also believed to be controlled by *juogi* (ancestral spirits) who must agree

that a person is taught how to play it. I already knew that musical talent was manifest in my family, so I felt that *juogi* would not refuse to allow me to play the *Nyatiti*.

It was during this time of my life when I was looking for something to do that I heard about a *Nyatiti* player from Siaya County. His name was Joseph Odhiambo Nyamungu. He runs a Traditional Music School in Alego and calls it Owiny Sigoma. Nyamunga is the man who trained the Japanese woman who plays *Nyatiti*. She goes by the name *Anyango Nyar Karapul* and has mastered Dholuo in which she performs. I decided that I would break with tradition and embrace the *Nyatiti* genre which had been hitherto a male domain. Nyamungu also trained the *Afrofusion* singer known as Ayub Ogada from Nyahera.

I embarked on the training programme at Nyamungu's homestead in Alego. After a while, I became a "Master of *Nyatiti*": I could play it with ease. I am normally shy and self-effacing; but when I play the *Nyatiti*, I get energized and I become bold. I believe that ancestral spirits (Luo: *juogi*) allowed me to tread where only men dominated.

My artistic and musical journey has taken me to different parts of Nyanza and Kenya. I have also travelled outside the country to perform. Many Kenyans still don't believe that a woman can play *Nyatiti*, a male instrument! I do it with ease.

I use my music to celebrate women and empower them. I try to make my messages relevant to contemporary issues such as health, food security, human rights, education and many other important themes. I believe that music should be used in education for social responsibility. I mainly perform in Dholuo which is my mother tongue but I also perform in English and Kiswahili. My stage name is simply Atisanna, which is abridged version of Atieno Sanna.

Playing *Nyatiti* for a woman is not a walk in the park. It is not easy. But in life, you can achieve what people consider complicated. I have achieved this feat because I set my mind on my goals – becoming a contemporary oral artist using the traditional instrument of *Nyatiti*. I was born into a musical family but I took the bold step of playing *Nyatiti* rather than other modern instruments like the piano.

My next journey will take me to Daystar University which has admitted me for the Diploma in Music programme. I have been encouraged by my mentor, Hellen Mtawali, who teaches music. She is a well-known performing artist.

I have performed at different forums including:

1. The Rotary Club of Nairobi – Lavington
2. The French Cultural Centre – Nairobi
3. The Kenya Music and Cultural Festival – Nairobi
4. The Kenya National Theatre and the Kenya Cultural Centre – Nairobi

I have also used music in the slums of Nairobi like Kibera Estate where I try to empower women and girls. In Kisumu, I have performed in governmental and non-governmental forums concerned with environmental conservation and food security for the rural households. I am currently looking forward to working with both the Young Women's Christian Association and the Young Men's Christian Association in Kisumu County in their social empowerment and community development programmes in the Nyanza Region. I believe in: "Pedagogy of the African Song" with the Luo *Nyatiti* being the medium of communicating messages on issues of social development, for example:

1. Food Safety and Security
2. Health and Education
3. Environmental Conservation and Management
4. Functional Adult Literacy
5. Indigenous Knowledge Systems
6. Human Rights and Civic Empowerment

My main focus at the moment is the role of women in food production. I am working on a lyric dating back to the period after World War I (1914-1918) when returning African soldiers came back home and with their dues bought oxen-drawn ploughs which was a great relief to women as cultivators of the land. It is a modern rendition traditional women's role in subsistence agriculture. In Dholuo, the song is known as "*Dhok Ti Puro Ne Mon*" (which means that the oxen-drawn plough has relieved women from

cultivation). Traditional art forms like *Nyatiti* should be used in teaching communities and empowering contemporary women in food production for the household.

LIFE-STORY 11: KATHORINA AGUNDA, 95 YEARS

My name is Kathorina Agunda. I was born in Kamagambo in the year that the Hunger of Omwagore swept the land of Milambo. I did not go to school so I cannot tell you the year I was born. My father was called Agoro. I am the sister of Mbiga Arenjo. I was named after my paternal grandmother.

I come from the Kambija Clan. This clan was formed by the descendants of Mbija who was married to a man from Sakwa-Waora. Though I did not go to school, I took catechism classes at Asumbi Catholic Mission. I was baptized and confirmed in the Roman Catholic Church which I attend to this very day.

I was married to a man from Kanyada in Homa Bay County. He died many years ago. The clan is known as Kanyach-Kachar. My homestead is near Marindi Trading Centre where the local Catholic Church is also situated. These days, I feel rather weak because of old age, but I was a very active farmer and trader. I used to grow the following crops: *Bel; Kal; Marieba*.

I would “*swago marieba*” (pound cassava) and then sell it at the local market in Opapo on the border of Kamagambo and Kabuoch. When I was growing up, maize was not our staple food. It was introduced by the *wazungu* when they came to rule Kenya. The Luo people gave the new crop of maize the name *kuon kobali*. It was quite different from *kuon bel*.

We also had a variety of leafy indigenous vegetables. We called them *alote nyaluo* which included: *dek; osuga; boo; awayo; mito; budho; odielo; andhodho; alikra; ndemra; apoth; ododo*.

These vegetables were very nutritious. Today, most young mothers rely only on *kabich* and *sukuma wiki*. They have forgotten *alote nyaluo*. We must not forget our indigenous vegetables.

The Luo people had different agricultural seasons which were:

1. Golo Pur = Land cultivation
2. Golo Kodhi = Planting
3. Doyo Cham = Weeding
4. Kayo Cham = Harvesting

All these activities followed protocol and social order in the homestead with the senior wife (Luo: Mikayi) taking the first opportunity. She was then followed by the Nyachira and Reru, if it was a polygamous homestead.

The agricultural ceremony of “*Gwelruok*” was observed in many Luo homesteads. The new harvest was celebrated at sun-down (early evening) and a meal was prepared for the family. The extended family members known as *Anyuola* were also invited.

We used to eat from one two (clay pot) as members of the same family. During *gwelruok* we would eat *kuon ois* together with *ring’o*; *rech’or* or *aluru*. It was a big ceremony. Today we do not see such ceremonies during the harvest season.

I was a potter. I used to make different earthen ware for domestic use such as: *dak*; *ohigla*; *tawo*; *nyalaro*.

Pottery was an important activity for women in the villages of Kanyada. How I wish younger women would continue with the art of making pots as we did during my younger days. I also think we should not discard our indigenous foods. This is what I tell my children, grandchildren and great-grandchildren.

LIFE-STORY 12: MARY AKINYI NDONG’A, 51 YEARS

My name is Mary Akinyi Ndong’a. I was born in Kagan in Rangwe Constituency 51 years ago. I was married to a man from Kanyach-Kachar in Kanyada area of Homa Bay County. I attained six years of primary education. After that, I got married and started to raise a family. I can tell you that life as a mother, wife and bread-winner can be challenging. Happily for me, I had a mother who trained me well. My paternal

grandmother also prepared me for the challenges of womanhood which includes ensuring food security in the household.

I am a farmer and trader in the local community of Kanyada. Widowhood has its own challenges since I am the head of the household after the demise of my husband. What my parents and grandparents taught me are still dear to me. I hold the traditions and customs of the Luo people concerning agriculture in very high regard. These traditions and customs of our people ensured social order and harmony within families and extended kinship networks. The Luo people say:

“Chik en luor: nyathi ok owinjore oloki nyathi.”

(Traditions and customs are all about respect: a younger person should not turn you into a child).

One thing I have also realized concerning food security is that it is the women who make critical decisions:

“Miyō ema pango kaka jichiemo nikech en e wuon kendo kod ot. Dichwo to en wuon pacho, kendo en wuon rangach.”

(It is the wife who plans what members of the household will eat since she is the owner of the fireplace and the house. The husband is the owner of the larger homestead and the gate).

The Luo people eat *kuon* as their staple food. The cereals and grains from which *kuon* is made are:

1. Oduma/bando = maize
2. Bel = Sorghum
3. Kal = Finger Millet

These are the staple crops from which *kuon* is made after grinding in the posho mill. It should be noted that *oduma* or *bando* as maize is known among the Luo people is a fairly recent food crop. Marieba (cassava) is also fairly recent and is not considered a traditional crop although it seems to have been with the Luo for a longer period than *oduma* (maize).

For that reason, there are no strict customs and traditions concerning maize and cassava among the Luo people. Cassava has been indigenized because it is mixed with sorghum and finger millet. The flour from the mixture is used to make *kuon cham* which is considered the traditional staple food of the Luo people. This meal is also considered therapeutic since it is good for bowel movement:

“Kuon cham mar bel gi marieba ber nitech orito ich...ok mi ji diew oyuma.”

(*Kuon cham* made from sorghum and cassava flour is good for the stomach.. it prevents people from having running stomachs).

I acquired indigenous knowledge about these cereals and grains from my paternal grandmother. I used to spend a lot of time with her when I was growing up. The traditional foods we used to eat as we were growing up in Kagan were: *mito; boo-ng’or; olayo; oganda; ndemra; ododo; apoth; atipa; awayo.*

When I was growing up in Kagan, I witnessed and participated in different agricultural activities like:

1. Land preparation/cultivation
2. Planting
3. Weeding
4. Harvesting
5. Storage of Food

I still do in my homestead in Kanyada where I got married. I am widowed, so I do not have many customs to encumber me since I was never inherited by anyone. For that reason, I am a liberated woman as far as sexual injunctions tied to cultivation; planting; weeding; and harvesting are concerned. I am a Christian believer and that is adequate protection for me as a widow. I do not need to go and look for someone’s husband to come and control my agricultural activities on my late husband’s piece of land. However, those women whose husbands are still alive and live in polygamous unions are bound by those Luo traditions and customs if they live in the same homestead and share the same gate. In large polygamous homesteads, social protocol was adhered to:

“Weg rangach em ne hango pur eka mon matindo luwo ban’ gi.

Od Mikayi dhoge omanyo rangach.

Od Nyachira igero kor achwich ka dhoge ng’iyo ariwa.

Od Reru igero kor acham ka dhoge ng’iyo ariwa.

Bang’ ka Jaduong’ pacho oseienore kod weche golo pur, to wuoyi maduong’ mane ohango dalano bende golo pur eka bang’e to koro ji komo akoma.”

(The owners – husband and senior wife – of the homestead and the gate are the ones who traditionally start the cultivation season then the junior wives follow. In large homesteads, *Mikayi* – the senior wife has her door facing the gate. *Nyachira* – the second wife has her house built on the right with the door facing left. *Reru* – the third wife has her house built on the left with her door facing the right. Only the door of *Mikayi* faces the main gate. That is why as the First wife, together with the husband; they are called “Owners of the Gate” in that large polygamous homestead. After the head of the homestead and all his wives are through with their traditional practice of starting the cultivation season, the First Born Son – *Wuoyi Makayo* – together with his wife follow. Once this social protocol is observed, other members of the extended family will follow with their cultivation).

The Luo people tend to follow their traditions and customs very strictly. I have witnessed this throughout my life. Every homestead must have a granary or food store. Every house must have enough food in *dero* (the store). The owner of the home built his own hut in the homestead which the Luo people call *Abila*. In some places, they call it *Kiru*; these days, modern Luo people call it *ofis*, but the idea remains the same. The owner of the homestead also had his own *dero* (food store) which was for any eventuality incase some needed food relief.

These are three different words for planting:

1. *Pidho niang’* = Planing sugarcane
2. *Komo oduma* = Planting maize
3. *Ludo kal* = Planting finger millet

The three Luo words *pidho*; *komo*; and *ludo* all mean planning but they have specific meanings.

The Luo society has really changed today. Long ago, stealing maize or finger millet from the granary was unheard of. These days crime has escalated in the villages. A few homes still have food stores outside the main house:

“Joluo ne goyo dero. Ne gigeru kiru mar kano cham. Tinde to iketo e gunia ka aye to gi kano eyi ot mondi kik ng’ato kwal.”

(The Luo people used to build granaries and food stores outside the main house. These days, they keep grains in sacks and store them inside the house to avoid theft).

In addition to vegetables, the Luo people ate a number of indigenous wild fruits which were readily available. These were found around the homesteads and in the forest: *chwa/ochwa*; *mapera*; *ochuoga*; *jwelu*; *akuno*; *sangla*; *otho*; *nyatonglo*; *nyabend winyo*; *anyuka*; *ng’ou*; *bongu*.

These were mainly collected and gathered by youngsters while they were looking after animals in the field. They could eat them on the spot; if there was plenty, they would take some home.

Honey (Luo: *Mor Kich*) was also harvested (Luo: *thodo mor kich*) by smoking out the bees and then harvesting the honey-combs. The bees were wild but some people have managed to domesticate them today. Growing up in a Luo homestead was quite some fun; our children and grandchildren need to know these old stories about our indigenous foods.

LIFE-STORY 13: BENTA ATIENO OMOTO, 38 YEARS

My name is BentaAtieno. I was born in Kanyidotto in Ndiwa Sub-County. My husband is called Omoto Omuono from Konyango in Kabuoch. I only completed standard 3 then left school. I am a small scale farmer and trader. I grow and sell maize; sugarcane; and a variety of vegetables.

In Kabuoch, we follow Luo traditions and customs in agricultural production. I am a member of the Roho Msalaba Church which was founded by Alfayo Odongo Mango in Msanda near Mumias Town many years ago. In our Church, we do not contradict Luo culture; we actually uphold many indigenous practices.

The traditions and customs regarding cultivation; planting; weeding; harvesting and storage are upheld by members of my local church and the community generally. The first wife starts the process followed by the second wife then the third wife and so on and so forth in a polygamous homestead.

We have a big problem these days when it comes to storage after the harvest. The traditional Luo *dero* (food store) is no longer built outside the house because of food theft in the villages.

“Piny tinde okethore, ji kwalo cham; dero oduogo eyi gunia. Chon miyo ka miyo ne bedo go deche mokene. Jaduong’ bende ne bedo gi deche mokene. Dero mar Jaduong’ ne iluongo ni mondo. Piny ma sani okethore. Tinde wakano cham e gunia eyi udi mondo jokuo kik kwal.”

(There is a lot of crime around; people even steal cereals and grains from the stores. We use sacks for storage. Long ago, each wife in the homestead had her own granary. The husband also had his granary for keeping his harvest. This was called *mondo* which was a strategic reserve. Things have changed because of break-down in social order. We keep our grains and cereals in sacks which we store in our houses sothat thieves do not steal from us).

Things have really changed in Luo society. People tend to eat limited foods which they buy from local markets, for example:

1. Maize = Oduma
2. Spinach = Sikuma
3. Cabbage = Kabich

- 4. Tomatoes = Nyanga
- 5. Onions = Kitungu
- 6. Fingerlings = Omena

Traditionally, our parents and grandparents ate a variety of indigenous foods which I can list as follows:

- 1. *Bel* = Soghum
- 2. *Kal* = Finger millet
- 3. *Marieba* = Cassava

These were used to prepare different types of *kuon* (popularly known as *ugali* in Kiswahili). We had the following:

- 1. *Kuon Cham* = cassava mixed with sorghum
- 2. *Kuon anang'a* = finger millet; sorghum, sour milk, ghee/fat from churned milk.

We should go back to our indigenous vegetables such as: *odiello; andhodho, mito, ndemra, atipa; nyade dani; alikra; ododo; awayo; buombwe; nyawend agwata; susa; boo.*

As members of Roho Msalaba Church, we are not prohibited from eating alot dek which grows in old homesteads where cattle used to be reared. Members of Legio Maria Church do not eat alot dek. But we do eat it among other *alote nyaluo* (indigenous vegetables). My advice is that we should blend the old and the new:

“Owinjore wakik chiemo machon gi manyien. Kik wawe chamo alote machon nikech giber kuom rito ngimawa.”

(We should eat a mixed variety of indigenous and modern foods. We should not abandon our indigenous foods. They are good for our health and good living habits).

LIFE-STORY 14: PHILISTA AKINYI NDONG' 57 YEARS

- **Farmer**
- **Trader**
- **Seed Custodian**

My name is Philista Akinyi. My husband was called Joseph Ndong' Nyang'oro. He belonged to Asembo-Kolal Clan but now settled among the Kanyach-Kachar Clan in Masogo Village, Kanyada area of Homa Bay County. The nearest trading centre in our locality is Marindi. We also go to Rodi Kopany where I sell indigenous seeds of grains cereals and vegetables since I keep a well stocked seedbank in my homestead.

My late husband was a well known teacher. He met me after I completed primary school in Kagan, Rangwe Consitutory. Girls used to get married when they were in their late teens. After standard 7, I got married to this teacher and we had a number of children. Unfortunately, he died leaving me with young children to bring up as a single parent. However, he had a fairly big piece of land he inherited from his father. I said to myself:

“I am young and strong. God has blessed me with these children. We have fertile land. I will raise up my children from this land.”

I attended a number of training courses given to farmers by the Government extensionworkers and locally based NGOs. I improved my knowledge and skills in farming. I already knew how to handle a number of indigenous seeds from my parents and grandparents when I was growing up. I expanded my agricultural knowledge andbecamesoetin of a community leader in Masogo Village.

Am member of the Full Gospel Churches of Kenya. My children also go to the same church. One of them is a Youth Leader. I am basically a farmer and trader in agricultural products especially in seeds of indigenous vegetables. Among the seeds I sell are: *osuga; dek; mito; susa; boo; ododo.*

I raise the seeds on the family land, dry them, store them and then sell them at the local market twice a week. I have my little corder at Rodi Kopany Trading Centre where I meet all sorts of customers in search of indigenous seeds. They ask me a lot of questions

about how to handle and plant seeds and I try my best to explain to them what I know. Some of them come back and thank me for helping them start home gardens of indigenous leafy vegetables. In Luo society, each homestead must have *puoth alote* (vegetable garden). It is called *orundu* when it has fruit-like paw-paw and bananas. It is an important aspect of food security in the household.

I also grow a lot of groundnuts (Luo: Njugu; Kiswahili: Njugu) which does very well in Kanyada. We use different terminology for planting:

1. *Njugu ikomo* = Groundnuts are planted
2. *Kal* = Finger millet is planted
3. *Niang' ipidho* = Sugarcane is planted

In Dholuo, there are several words used to mean planting. *Pidho* refers to planting or transplanting (seedlings). *Komo* refers to planting in holes dug out of the cultivated land; and *ludo* means to sow or broadcast (seeds) in the garden.

The Luo people have distinct terms for various activities on the land during different seasons:

1. Golo pur/Chako pur = Starting to Cultivate the land.

This happens when people start to prepare their farms in expectation of the rains. It is done early and in plenty of time. Various farm tools are used, for example: *kwer dhok* = oxen drawn plough; *Jembe*; and *Rapur* = Hoe. In some communities, people may also use *beti* = panga; but this is not the case among the Luo people. *Beti* is mainly used to cut stalks on the farm. This activity is undertaken by men.

2. Doyo Cham = Weeding/Weed Control

The Luo people also refer to doyo cham as *thiro buya* (which might literally mean thwarting the growth of weeds). This activity is undertaken by women and children. Children born during this period are given the name Odoyo (male) or Adoyo (female).

3. Kayo Cham = Harvesting

Keyo is the season for harvest. Children born during this time are given the name Okeyo (boy) or Akeyo (girl). *Golo cham e puothe* refers to physical removal of the crop from the shamba and taking it for storage in the homestead.

4. Kano Cham = Storage

The Luo people stored their grains in a structure known as *dero*. It is no longer visible in homesteads. In this homestead, there was a *dero* used for storing *cham* (grain/crop). These days, people keep their *cham* in their houses to avoid theft.

5. Other Agricultural Activities = Wech Pur Ma Moko

- *Baro oyla/chiko ohula* = digging the drainage system
- *Keto mbolea* = applying fertilizers and cowdung or compost heap/pit manure.

These two activities also need to be captured.

I am an active farmer and it is through crop production that I have managed to educate my children up to university level. I am also recognized as a woman farmer who keeps a seedbank in the Village of Masogo in Kanyada area of Homa Bay County. If we impart our indigenous knowledge to younger generations, there will be food security since we still have plenty of naturally growing food plants – both fruits and vegetables which the youth need to learn about as reseed crops from the wild.

LIFE STORY 15: EVERLINE AOKO OTIENO, 33 YEARS

- **Farmer**
- **Trader/Hawker**
- **Member of New Apostolic Church**

My name is Everline Aoko. I was born in Kabuoch Konyango 33 years ago. My husband was called Otieno Ojuok. He was from the Kanyach-Kachar Clan of the Kanyada people. I left school in Standard 7. I have a total of 5 children: one boy and four girls. I am a widow but presently I live with a man who is not from my husband's clan. He is like a friend (Luo: *osiep*) but he does not qualify as husband or a *Jater* since he is only a friend. I have been allocated land where I built my new homestead. The land belongs to my late

husband's family. My male companion has no right over the land (because he is considered a Jakowiny (a stranger in Kanyach-Kachar Clan). Since I was widowed at an early age, I needed a male companion. My late husband's family allowed me to get a friend (not a husband) as long as I did not take away their children elsewhere. This *osiep* is not allowed to interfere with my children in any way. He has his own wife and children in Kanyawanga and only visits my home from time to time. I am not alone. Many young widows find themselves in that kind of situation.

I am aware of the traditions and customs which guide major agricultural practices in Luo society. These are seasons of ploughing, planting; weeding; harvesting; and storing grain/crops in dero (food stores). Since I am a single parent (through I have a regular male partner), I make most of the decisions regarding food security by myself.

In our locality, we use jembes, hoes, oxen-drawn ploughs and tractors. The last two are usually hired. During these agricultural activities, *Jater* or *Jakowiny* might visit but he should make sure he meets his obligations in his own family:

“Ndalo golo pur, dhako nyaka riwre kod dichwo. Ka chi liel nigi Jater kata Jakowiny, to ng’atno nyalo chung’ne e weche machalo kamano. Ka onge ywore manyalo tere to oyiene mond omany ng’ato moro machielo manyalo rite maber. Nyithindo ka osiepne no onyuolo kode, to mago nyithind chuore mane osetho chande. Gichamo mwandu madalano. Ndalo gwelruok, Jater kata Jakowiny nyaka rie dalane eka onyalo rieyo dala ma otere dhako machielo. Ka ok otimo kamano, to kare nyalo rochore.”

(During land cultivation, the woman and her husband must come together. If the widow has a levir or a non-kinsman as a partner, that man can stand in the place of her dead husband on such matters. If she has no kinsman-redeemer, then she may look for another male partner not necessarily from the clan to take care of her needs. If they get children out of the union, then they become the heirs of her dead husband. They can inherit land of the deceased, even though they are not his biological offsprings. During

the new harvest, the levir or non-kinsman must put his homestead in order first before going to put the dead man's homestead in order. If he does not do that, his own lineage may not flourish).

Storage after harvest is important. People have moved from dero (grainstore) outside the main house to using sacks and keeping them in the house. People use ash to preserve grains and cereals among the rural folk and it works. Theft of grains and cereals is on the rise that is why we keep the bags in our houses.

The younger women in Homa Bay County talk of “*Chiemb Luo Machon*” versus *Chiemb Luo Machien*” as (“Traditional Luo Foods” versus “Modern Luo Foods”) in the metaphorical manner comparing “Analogue” versus “Digital” ways of doing things. “Analogue” foods included the following: *bel; ka; ng'or; marieba*.

Other “analogue” foods include a variety of wild leafy vegetables and wild fruits. “Analogue” menus may also include foods which are time consuming during preparation whether white meat as in fish and poultry or red meat as in beef, lamb or goat. The Luo people have methods of preparing meats as follows: *Aliya; abamba; aboka; athola; abula*.

The younger women find these methods quite tedious and time consuming. They do not have the patience and time to process foods in this manner. The modern Luo woman goes to the local market late in the evening after a long day and buys “Take Away” = Kaw Idhigo” which menu they refer to as “Digital” and ready to prepare for a quick evening meal for the family. These include:

1. *Bando Nyaduka/Kuon Kobali*
2. *Sikuma moseng'adi chuth*
3. *Kabich moseng'adi chuth*
4. *Rech mosedhol chuth*
5. *Omena mosewang' chuth*

The phrase “moseng’adi chuth” refers to “already cut into pieces ready to be fried or cooked. There is less variety of foods for the “digital” generation as opposed to the plenty of variety during the “analogue” period of our parents. We need to blend the modern and the old varieties of our foods in order to realize food security in the household.

LIFE-STORY 16: PAMELA AOKO OWILI, 36 YEARS

- **Farmer**
- **Trader/Hawker-Vegetables**
- **Member, Roho Israel Church**

My name is Pamela Aoko Owili. I was born in Kabuoch-Konyango in Ndhiwa Constituency. I am 36 years old. My education ended in Standard 7 then I got married after that; unfortunately, my husband died and left me to fend for myself and the children. I live in Kanyada-Kanyango near Rodi Kopany Trading Centre. As a young widow Luo tradition required that I get a brother-in-law to take care of me and the children. I have five children: 3 boys and 1 girl. I did that and now I have my own homestead which he helped me to establish on ancestral land. I did this because I would like my boys to have a placeto call home, though their father died and left them at an early age. I could not have remarried in another clan or community since my children would not be accepted outside their father’s clan of Kanyada-Kanyango.

I am a member of the Roho Israel Church. It is an African Instituted Church; young women who are widowed are allowed to engage in leviratic unions so that they may have social acceptance and stability. I see no contradiction of being in a leviratic union and Christianity at the same time. European missionaries condemned leviratic unions, but in Roho Israel Church – Nineveh, the tradition is acceptable. I engage in farming and trade, especially in agricultural products. I sell leafy indigenous vegetables at Rodi Kopany Trading Centre.

The Luo people in Homa Bay County follow the traditions and customs religiously. They observe agricultural rituals of:

- Land preparation (Luo: Golo Pur)

- Planting (Luo: Golo Kodhi)
- Weeding (Luo: Doyo cham)
- Harvesting (Luo: Kayo Cham)
- Storage (Luo: Kano Cham)

I blend both indigenous and exotic foods in the family diet. In addition to *sikuma* and *kabich* which are available in the local market, I prefer indigenous leafy vegetables like *alot boo*; *alot susa* and *alot akeyo*. Some seasonal vegetables which grow naturally in Kanyada are: *alot osuga*; *alot dek*; *alot apoth* and many more. I grew up in the country side so I know most of these vegetables.

The seeds used for *golo kodhi* agricultural rituals in our local community are: *Boo-ng'or*; *bel*; and *kal* but these days *oduma* has been indigenized and can be used. In our community, we use *rapur* for *doyo cham*. The terms *thiro buya* or *golo buya* are all used in weed control when we *pudho* (pluck by hand) so that the crops can thrive better without competing for nutrients with the weeds.

During the agricultural rituals of *gwelruok*, the head of the household brings home fresh harvest which can be prepared for membrs of the family and any guests who might drop in. If it is *oduma* (maize), then it can be prepared in any of the following ways:

1. Roasting (Luo: bulo)
2. Boiling (Luo: boko)
3. Mixing with beans and boiling (Luo: nyoyo)

The food is then shared in the household: “*gwelori gi jogi kaeto utieko kwer gi wuon pacho.*” This is a ritual meal which unites the family as a social unit. Luo people whether old or young keep these traditions in rural communities. Agricultural rituals of *tieko kwer* have spiritual aspects which are a sign of productivity of the land and fertility of womanhood. Productivity of the land is ensured by having many hands in the form of many children.

I believe that traditional foods should be identified and taught to school children so that we don't just rely on digital foods like *sikuma* and *kabich*. We should reclaim our traditional foods crops.

APPENDIX 4: INFORMED CONSENT LETTER/FORM

1. This is a declaration that I, HUMPHREY JEREMIAH OJWANG, being a doctoral candidate at the AFRICAN WOMEN STUDIES CENTRE, University of Nairobi, Kenya, do hereby subscribe to the academic and ethical standards requiring informed consent of informants. I wish to state that representatives of farmers in Homa Bay County, and a sample of agricultural educators will be interviewed and consulted as informants in this research project leading to the Degree of Doctor of Philosophy (PhD), University of Nairobi.

2. The title of the study for the PhD Degree programme is hereby given as:

PEDAGOGICAL VALUE OF INDIGENOUS KNOWLEDGE FOR FOOD SECURITY: Learning from Women Farmers in Homa Bay County, Kenya.

3. The purpose of the study is towards fulfilling the requirement for the award (PhD), University of Nairobi, Nairobi, Republic of Kenya.

4. The procedures to be followed will entail ethnographic interviewing and observation of women farmers in Homa Bay County engaged in their agricultural activities; interviewing agricultural extension educators in Homa Bay County and local officials of the County Government responsible for policy formulation/implementation in the areas of Agriculture, Livestock Development and Fisheries.

5. Indigenous Knowledge Information Form (Questionnaire) will be used to elicit responses from individual women farmers and in focus group discussions to include:

- NAME OF INFORMANT (to be treated confidentially)
- AGE
- GENDER
- LOCALITY
- LEVEL OF EDUCATION
- OCCUPATION (other than farming)
- INDIGENOUS KNOWLEDGE OF CROPS AND FIELD PRACTICES
- ANY OTHER CULTURE-SPECIFIC INFORMATION ON FOOD SECURITY

6. Each informant will be asked questions concerning “Indigenous Knowledge for Food security” within sessions lasting 4 – 8 hours (with breaks in-between the interview sessions). The duration of field-interview will take 2-3 months to complete the research phase.
7. The study of pedagogy of indigenous knowledge of women farmers in Homa Bay County, Kenya does not pose any medical or psychological risk to the informants. The study is designed in such a manner that no problem of fatigue is envisaged.
8. The pedagogical value of indigenous knowledge of women farmers has many transformative benefits to society especially in the area of food security in rural household; no financial gain will accrue from the participation of the women farmers consulted. In accordance with Luo customary practices and etiquette, the researcher will give little tokens of appreciation. This practice of tokenism does not in any way constitute payment and cannot be so considered.
9. The selected women farmers and agricultural extension educators to be interviewed will reserve the right to participate voluntarily and withdraw from participation in the interviews at any time they please without any negative consequence whatsoever.
10. The indigenous knowledge provided by women farmers to be consulted will be treated confidentially; anonymity will be assured except in circumstances where an informant asks to be acknowledged explicitly in the PhD thesis in broad terms .
11. The selected women farmers and agricultural extension educators to be interviewed will have access to this researcher in terms of physical and postal address to open channels of communication; the cellphone number of this researcher will also be provided, in case there is need for clarification of any issue related to the study, should there be need to seek clarification or should any doubts arise.
12. Having read and understood the content of this INFORMED CONSENT LETTER/FORM, I hereby grant the researcher, HUMPHREY JEREMIAH OJWANG, my consent to ask me relevant questions on his chosen research topic and use the information so gained in a Thesis for the Degree of Doctor of Philosophy (PhD), African Women Studies Centre, University of Nairobi.

SIGNED BY NAME: INFORMANT

NAME:

SIGNATURE

DATE

ADDRESS

.....

.....

COUNTER-SIGNED BY NAME: RESEARCHER

NAME:

SIGNATURE

DATE

ADDRESS

APPENDIX 5: ETHNOGRAPHIC GUIDELINE FOR LIFE-STORY TELLING AND GROUP DISCUSSION FOR WOMEN FARMERS IN HOMA BAY COUNTY, KENYA

The purpose of this ethnographic guideline is to elicit information on indigenous agricultural knowledge of women farmers in Homa Bay County. It is noteworthy that translation and interpretation are important aspects of ethnographic fieldwork. Though the outline is in English, the discussions will be conducted in Dholuo which is the language spoken in the locality of the ethnographic fieldwork: Kanyada and Kabuoch areas in Homa Bay County.

The four major areas of agricultural activity in this ethnographic study are:

- Land Preparation which is known as “Golo Pur” in the Luo speech community;
- Planting which is known as “Golo Kodhi”;
- Weeding which is known as “Doyo Cham”;
- Harvesting which is known as “Kayo Cham”; and
- Storing harvested crops for future use known as “Kano Cham”.

This ethnographic guideline is contextualized along the “principles in practice’ of Hammersley and Atkinson (1993) in order to elicit the culture-specific knowledge of the women farmers as a social category; the role of “oral testimony and sustainable development” (Slim and Thompson, 1995); anthropology of an African landscape with specific reference to the Luo (Cohen and Odhiambo, 1989); and the economic and social activities of the people (Ndisi, 1974). Critical pedagogy is significant in the context of women farmers, their indigenous knowledge and empowerment (Freire, 1970).

I. “PUR”: LAND PREPARATION

- 1) How does land ownership affect the right of women to cultivate the shamba in the community? Do different land tenure systems in Kenya marginalize women

farmers and, therefore, leading them to be an oppressed social category in need of pedagogy of liberation?

- 2) Does lack of access to land for cultivation by women reflect some oppressive cultural factors in the community? How can these oppressive cultural practices be reformed?
- 3) Can you give examples of how lack of access to land for cultivation contributes to food insecurity in households?
- 4) What role do women have in the following land preparation activities?
 - Land clearing
 - Primary cultivation
 - Secondary cultivation
 - Tertiary field activities on the land
- 5) What are the main reasons for preparing the shamba before planting? How do women maintain and improve soil fertility?
- 6) What are other tertiary activities/operations carried out after secondary cultivation? Are women involved in digging furrows and ridges for growing certain crops? Name some of the crops in this category.

II. “GOLO KODHI”: PLANTING

- 1) What seeds are most commonly planted by women (whether legumes or grains); how are the seeds traditionally handled by women farmers?
- 2) How do women farmers handle seeds and manure during planting; are there traditionally acceptable organic manures used to enhance germination and subsequent healthy growth by plants? Do they make use of nurseries?
- 3) Are vegetative materials (i.e. plant parts which can produce roots) used by women farmers in propagation of crops?

- 4) How women farmers handle the vegetative materials such as do: (a) Bulbils from sisal plants (b) Grown and slips from pineapples (c) Suckers from bananas (d) Tubers from Irish potatoes (e) Vines from sugar-cane, and any other vegetative material?
- 5) What are the seasonal and climatic factors taken into account by women farmers when they engage in planting seeds and other vegetative materials in your locality?
- 6) When do women farmers deploy the two main methods of planting, namely: a) Broadcasting and Row planting? Why?
- 7) What specific field practices do women farmers implement to facilitate optimum yield of the crops they grow? What are the advantages of the following: (a) Crop rotation (b) Monocropping (c) Intercropping (d) Mixed cropping (h) Rouging (uprooting) (i) Pruning.

III. “DOYO”: WEEDING

- 1) Do women farmers in the locality know the weeds which interfere with optimum production of crops and indigenous methods of weed control?
- 2) Can you give vernacular names of the most common weeds in your locality?
- 3) What are the harmful effects of these weeds?
- 4) What role do women farmers play in mechanical weed control by tillage (cultivation); slashing (mowing); and uprooting?
- 5) Do women farmers engage in cultural weed control, for instance: (a) mulching; (b) Cover cropping (c) Crop rotation (d) Time planting (e) Using seed/vegetative materials (f) Proper spacing. Explain.
- 6) Do women farmers use biological weed control such as small ruminants (goats) to browse and control undergrowth of weeds in plantation crops like sugarcane? Explain.

IV. “KAYO CHAM”: HARVESTING

- 1) What is the role of women farmers in the locality in harvesting, processing and storage of the following crops: (a) Maize (b) Finger Millet (c) Bulrush Millet (d) Sorghum (e) Beans and (f) Peas?
- 2) What do women farmers in the locality do in terms of storage of both grains and legumes to ensure that wastage is minimized and losses avoided through exposure to extreme weather conditions and pests?
- 3) How do women farmers ensure absolute hygiene to prevent losses through diseases, rotting and insect activity or damage during storage?
- 4) Do women farmers sell their surplus maize for cash to the National Cereals and Produce Board? What about local trading in green maize in local markets by women farmers? Does this affect food security at the household level?
- 5) How do women farmers ensure that they keep strategic reserves of hardy crops like finger millet and sorghum which can be stored for long periods without using chemical preservatives or insecticides?
- 6) How do women farmers handle different types of and fruits in order to maintain food security in the household?

**APPENDIX 6: QUESTIONNAIRE INFORMATION ON INDIGENOUS
KNOWLEDGE FOR FOOD SECURITY**

(Used to interview women farmers individually. Further conversations and discussions were also used to complement individual responses).

1. NAME OF INFORMANT

2. AGE _____

3. LOCALITY _____

4. LEVEL OF EDUCATION _____

5. OCCUPATIONS (Other than farming)

6. INDIGENOUS KNOWLEDGE OF FOOD CROPS AND LOCAL AGRICULTURAL PRACTICES TO INCLUDE THE FOLLOWING ACTIVITIES:

(a) Land Preparation (“Golo Pur”)

(b) Planting (“Golo Kodhi”)

(c) Weeding (“Doyo Cham”)

(d) Harvesting (“Kayo Cham”)

(e) Storage (“Kano Cham”)

(f) Any other culture-specific crop production activities of women farmers (where applicable)

**APPENDIX 7: QUESTIONNAIRE: COMMUNITY LEADERS AND
AGRICULTURAL EXTENSION EDUCATORS**

The purpose of this questionnaire was to elicit information from educators and local community-based leaders on the pedagogical value of indigenous knowledge for food security in the context of rural households.

- Gender: Male Female Age
- Please, indicate the highest level of qualification in agricultural education and extension obtained:

Certificate Diploma BSc.

Post-Graduate Diploma/MSc. PhD

Indicate on a scale of 1- 4 against each of the items whether you (1) Strongly Agree (2) Agree (3) Disagree (4) Strongly Disagree

1. The indigenous knowledge of women farmers in rural Kenya (e.g. Homa Bay County) should be an essential resource in agricultural education and extension.

i) Strongly Agree

ii) Agree

iii) Disagree

iv) Strongly Disagree

Briefly explain.....
.....

2. It is generally difficult to find women farmers in rural areas with appropriate indigenous knowledge for food security.

i) Strongly Agree

ii) Agree

iii) Disagree

iv) Strongly Disagree []

Briefly explain.....

3. Indigenous knowledge can help women farmers to learn about agricultural practices from other communities who live in similar ecological zones.

i) Strongly Agree []

ii) Agree []

iii) Disagree []

iv) Strongly Disagree []

Briefly explain.....

4. Researching indigenous knowledge can be time-wasting and should therefore not be entertained in agricultural education and extension.

i) Strongly Agree []

ii) Agree []

iii) Disagree []

iv) Strongly Disagree []

Briefly explain.....

5. Food security for rural households cannot be enhanced by the indigenous knowledge of women farmers being incorporated into agricultural education and extension programmes

i) Strongly Agree []

ii) Agree []

iii) Disagree []

iv) Strongly Disagree []

Briefly explain.....

6. The use of indigenous knowledge in agricultural education and extension programmes can have practical value for culture-specific problems of women farmers.

- i) Strongly Agree []
- ii) Agree []
- iii) Disagree []
- iv) Strongly Disagree []

Briefly explain.....
.....

7. The use of indigenous knowledge in agricultural education and extension programmes can encourage creativity and innovation among women farmers in rural areas such as Homa Bay County, Kenya.

- i) Strongly Agree []
- ii) Agree []
- iii) Disagree []
- iv) Strongly Disagree []

Briefly explain.....
.....

8. Incorporating indigenous knowledge in agricultural education and extension programmes can have a transformative effect on the lives of women farmers and how they manage their natural resources for food security.

- i) Strongly Agree []
- ii) Agree []
- iii) Disagree []
- iv) Strongly Disagree []

Briefly explain.....
.....

9. The use of indigenous knowledge in agricultural education and extension programmes may distract women farmer's attention from core National Government of Kenya and County Government programmes focusing on food security at grassroots levels.

i) Strongly Agree []

ii) Agree []

iii) Disagree []

iv) Strongly Disagree []

Briefly explain.....

.....

10. Indigenous knowledge is rarely considered as important in agricultural education and extension programmes for women farmers and other community-based organizations; this position needs to change in terms of public policy on food security.

i) Strongly Agree []

ii) Agree []

iii) Disagree []

iv) Strongly Disagree []

Briefly explain.....

.....

**APPENDIX 8: INTRODUCTION LETTER FROM AFRICAN WOMEN STUDIES
CENTRE**



UNIVERSITY OF NAIROBI
AFRICAN WOMEN STUDIES CENTRE
P.O Box 30197-00100
Tel: (+254-20) 3318262/28075; 725 740 025
Email: awsckenya@uonbi.ac.ke
Website: <http://awsc.uonbi.ac.ke>
Nairobi, Kenya

Date: January 17, 2019 **Ref:** UON/CHSS/AWSC/8/6

To: Director General
National Commission for Science, Technology and Innovation
8th -9th Floor, Utalii House
Off Uhuru Highway, Nairobi
P.O. BOX 30623 Nairobi, Kenya

**SUBJECT: INTRODUCTION LETTER FOR MR. HUMPHERY JEREMIAH
OJWANG (PhD CANDIDATE- AWSC)**

This is to confirm that Mr. Humphrey Jeremiah Ojwang (C85/52546/2017) is a registered PhD candidate at the African Women Studies Centre, University of Nairobi. He is currently working on his research proposal entitled, **PEDAGOGICAL VALUE OF INDIGENOUS KNOWLEDGE FOR FOOD SECURITY: Learning from Women Farmers in Homa Bay County, Kenya.**

Any assistance accorded to him will be highly appreciated.

Prof. Wanjiku Mukabi Kabira EBS
Director, African Women Studies Centre
University of Nairobi

APPENDIX 9: RESEARCH AUTHORIZATION LETTER FROM NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY AND INNOVATION



**NATIONAL COMMISSION FOR SCIENCE,
TECHNOLOGY AND INNOVATION**

Telephone: +254-20-2213471,
2241349,3310571,2219420
Fax: +254-20-318245,318249
Email: dg@nacosti.go.ke
Website : www.nacosti.go.ke
When replying please quote

NACOSTI, Upper Kabete
Off Waiyaki Way
P.O. Box 30623-00100
NAIROBI-KENYA

Ref. No. **NACOSTI/P/19/39585/28055**

Date: **1st February, 2019**

Humphrey Jeremiah Ojwang
University of Nairobi
P.O. Box 30197-00100
NAIROBI.

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on *“Pedagogical value of indigenous knowledge for food security: Learning from women farmers in Homa Bay County, Kenya,”* I am pleased to inform you that you have been authorized to undertake research in **Homa Bay County** for the period ending **1st February, 2020.**

You are advised to report to **the County Commissioner and the County Director of Education, Homa Bay County** before embarking on the research project.

Kindly note that, as an applicant who has been licensed under the Science, Technology and Innovation Act, 2013 to conduct research in Kenya, you shall deposit a **copy** of the final research report to the Commission within **one year** of completion. The soft copy of the same should be submitted through the Online Research Information System.

**GODFREY P. KALERWA MSc., MBA, MKIM
FOR: DIRECTOR-GENERAL/CEO**

Copy to:

The County Commissioner
Homa Bay County.

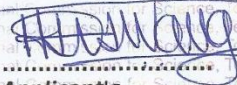
The County Director of Education
Homa Bay County.

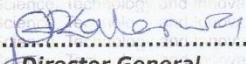
APPENDIX 10: RESEARCH PERMIT

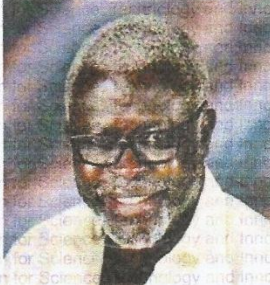
THIS IS TO CERTIFY THAT: **Permit No : NACOSTI/P/19/39585/28055**
MR. HUMPHREY JEREMIAH OJWANG **Date Of Issue : 1st February, 2019**
of UNIVERSITY OF NAIROBI, 30197-100 **Fee Received :Ksh 2000**
Nairobi, has been permitted to conduct
research in Homabay County

on the topic: PEDAGOGICAL VALUE OF
INDIGENOUS KNOWLEDGE FOR FOOD
SECURITY:LEARNING FROM WOMEN
FARMERS IN HOMA BAY COUNTY, KENYA

for the period ending:
1st February, 2020


Applicant's Signature


Director General
National Commission for Science, Technology & Innovation




SCIENCE, TECHNOLOGY AND INNOVATION ACT, 2013

The Grant of Research Licenses is guided by the Science, Technology and Innovation (Research Licensing) Regulations, 2014.


CONDITIONS

1. The License is valid for the proposed research, location and specified period.
2. The License and any rights thereunder are non-transferable.
3. The Licensee shall inform the County Governor before commencement of the research.
4. Excavation, filming and collection of specimens are subject to further necessary clearance from relevant Government Agencies.
5. The License does not give authority to transfer research materials.
6. NACOSTI may monitor and evaluate the licensed research project.
7. The Licensee shall submit one hard copy and upload a soft copy of their final report within one year of completion of the research.
8. NACOSTI reserves the right to modify the conditions of the License including cancellation without prior notice.

National Commission for Science, Technology and innovation
P.O. Box 30623 - 00100, Nairobi, Kenya
TEL: 020 400 7000, 0713 788787, 0735 404245
Email: dg@nacosti.go.ke, registry@nacosti.go.ke
Website: www.nacosti.go.ke



REPUBLIC OF KENYA



National Commission for Science, Technology and Innovation

RESEARCH LICENSE

Serial No.A 22985

CONDITIONS: see back page

**APPENDIX 11: RESEARCH AUTHORIZATION LETTER FROM HOMA BAY
COUNTY COMMISSIONER**



OFFICE OF THE PRESIDENT

MINISTRY OF INTERIOR AND COORDINATION OF NATIONAL GOVERNMENT

Telephone: Homa Bay 22104 or 22105/Fax: 22491
E-mail: cc_homabay@yahoo.com
When replying please quote

COUNTY COMMISSIONER
HOMA BAY COUNTY
P. O. BOX 1 – 40300
HOMA BAY

REF. NO. EDUC.12/I VOL.IV/118

15th February, 2019

All Deputy County Commissioners
HOMA BAY COUNTY.

RE: RESEARCH AUTHORIZATION – HUMPHREY JEREMIAH OJWANG

The above named person has been authorized to carry out Research on
**"Pedagogical value of indigenous knowledge for food Security: Learning
from farmers in Homa Bay County , Kenya"** for the period ending **1st February
, 2020.**

Kindly accord him the necessary assistance.

KENNETH K. OCHIER
FOR: COUNTY COMMISSIONER
HOMA BAY COUNTY.

**COUNTY COMMISSIONER
P.O. BOX 1
HOMABAY.**

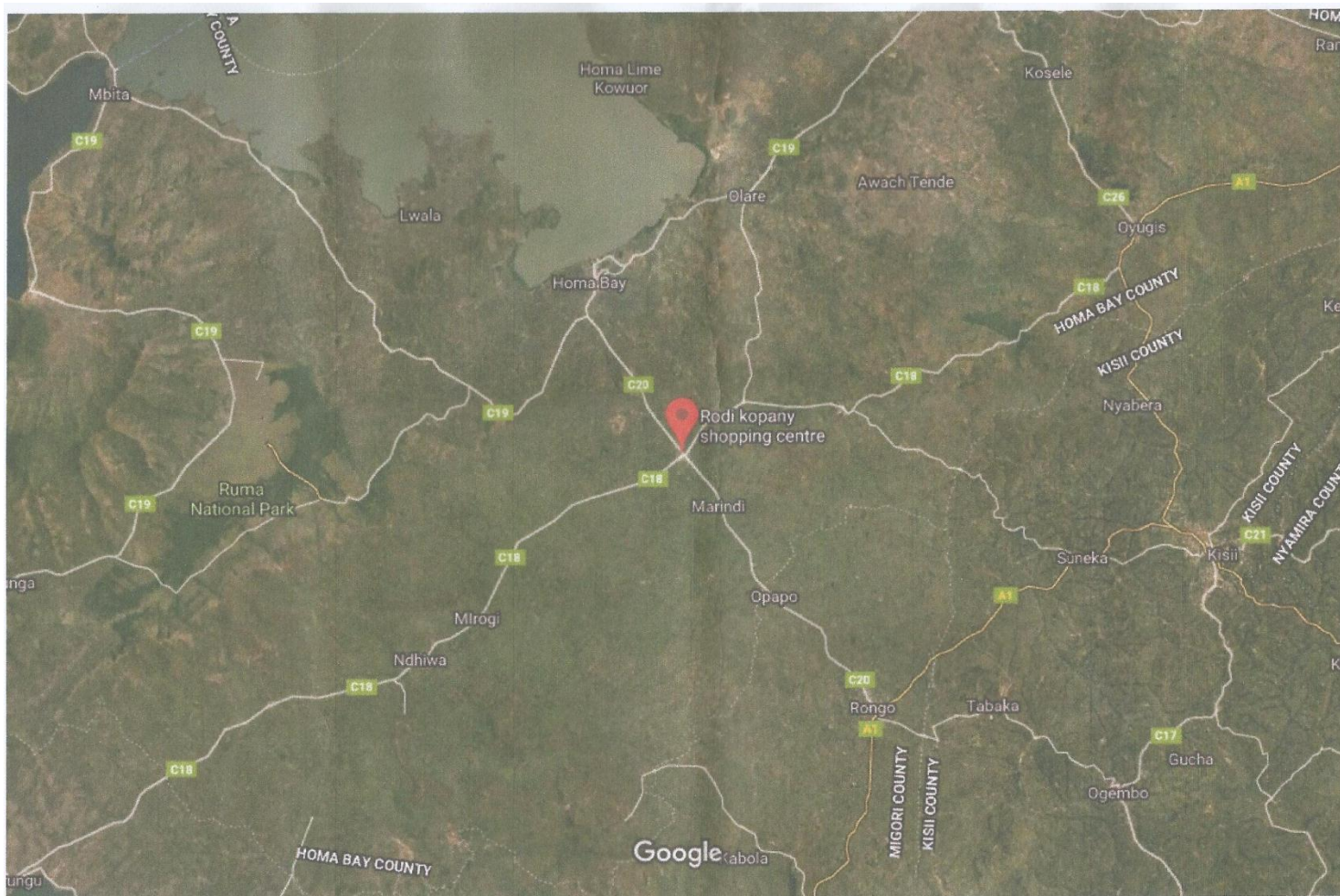
cc

The County Director of Education
HOMA BAY COUNTY

Humphrey Jeremiah Ojwang

**Please note our e-mail address cc_homabay@yahoo.com*

APPENDIX 12: RODI KOPANY AND ITS ENVIRONS, HOMA BAY COUNTY



(Source: Google Maps)