

2007

Differentiating Livelihood Strategies among the Luo and Kipsigis People in Western Kenya

Mary Nyasimi
Iowa State University

Lorna Michael Butler
Iowa State University

Lee Burras
Iowa State University

Hsain Ilahiane
Iowa State University

Richard Schultz
Iowa State University

See next page for additional authors

Follow this and additional works at: <https://digitalcommons.usf.edu/jea>

Recommended Citation

Nyasimi, Mary; Butler, Lorna Michael; Burras, Lee; Ilahiane, Hsain; Schultz, Richard; and Flora, Jan.
"Differentiating Livelihood Strategies among the Luo and Kipsigis People in Western Kenya ." *Journal of Ecological Anthropology* 11, no. 1 (2007): 43-57.

Available at: <https://digitalcommons.usf.edu/jea/vol11/iss1/3>

This Research Article is brought to you for free and open access by the Open Access Journals at Digital Commons @ University of South Florida. It has been accepted for inclusion in Journal of Ecological Anthropology by an authorized editor of Digital Commons @ University of South Florida. For more information, please contact digitalcommons@usf.edu.

Differentiating Livelihood Strategies among the Luo and Kipsigis People in Western Kenya

Authors

Mary Nyasimi, Lorna Michael Butler, Lee Burras, Hsain Ilahiane, Richard Schultz, and Jan Flora

Differentiating Livelihood Strategies among the Luo and Kipsigis People in western Kenya

MARY NYASIMI, LORNA MICHAEL BUTLER, LEE BURRAS, HSAIN ILAHIANE, RICHARD SCHULTZ AND JAN FLORA

Abstract

Rural communities of sub-Saharan Africa are under increasing adaptive pressure resulting from decline in the quality of land resources. To increase food, generate income, and safeguard against risks and shocks, families are engaging in multiple livelihood strategies. This study was conducted to: 1) evaluate livelihood strategies; 2) examine the dynamic diversification process in the agrarian and non-agrarian continuum; and 3) investigate how type and availability of assets influences choice of a livelihood strategy. Results from our investigation in western Kenya suggest that as land is subjected to degradation, there is a shift in the type of assets that families can draw upon. Among the Luo, collision between deeply embedded cultural beliefs and access to land, is leading to a shift from farming to non-farming activities. They are heavily reliant on human labor to make a living hence becoming less resilient, and more vulnerable to existing and emerging risks and shocks. The overriding scenario is escalated land degradation, increased poverty levels, and a failed social support system. Asset diversification and intensification processes among the Kipsigis are closely intertwined with rapid social-cultural change and strong bonding and bridging ties. They are involved in an asset-led intensification and diversification strategies. Overall, our findings suggest that the ability to make a meaningful livelihood is dependent not only on the quality and quantity of assets that an individual household possesses, but also having capabilities to use and transform the assets as well.

A DEGRADING AND DYING LANDSCAPE DOES NOT KNOW WEALTH...IT DOES NOT RESPECT BOUNDARIES...

VILLAGE ELDER, KANYIBANA VILLAGE

Introduction

Rural people of Africa are engaging in a multiplex of livelihood strategies to increase food and income, and safeguard against risks and shocks (Bryceson 2002; Francis 2000). Despite this trend of multiple livelihoods not being new in Africa (Ellis 2000), the current ways by which people are engaging in strategies differ from traditional African subsistence production systems that were resilient and designed to respond, adapt and cope with environmental changes. Traditional communities drew upon a wide range of indigenous coping mechanisms that included shifting cultivation, production of a diverse range of crops that could be grown in different spaces

and/or different times, mixed crop and livestock systems, agro-forestry systems and strategic trading relationships (Abate et al. 2000; David 1997; Geheb and Binns 1997). Strategies for livelihood survival in the face of environmental uncertainty or threats from enemies demanded creativity as well as willingness to forge relationships with other communities (Start and Johnson 2004).

Today, subsistence production in western Kenya is largely associated with customary systems that are characterized by smallholdings of about two hectares per household of six members (David 1997; Mango 2002). Diverse subsistence production is practiced

under high population densities and highly variable agro-ecology and soil conditions (Conelly and Chaiken 2000). Drawing on data from four intensive case studies conducted in western Kenya, this paper proposes unique trends in rural livelihoods that appear to be impacting the African subsistence production systems we studied. First, we analyze livelihood strategies in two communities located about eight kilometers apart; second, we examine the dynamic diversification processes in terms of shifts in the agrarian and non-agrarian strategies continuum; and third, we investigate how type and availability of assets influence choice of a livelihood strategy.

Rural Livelihood Framework

In western Kenya, increasing human pressure on land resources, coupled with the introduction of cropping systems that require intensive tillage, has resulted in severe land degradation. Socio-cultural practices associated with tenure regimes and cultural rituals are also contributing to the degradation processes (Nyasimi 2006). The degradation processes include erosion, declining soil organic matter, soil nutrient depletion, compaction and acidification (Sanchez 2002). Degradation of farmlands has led to an increased number of households that are food insecure and malnourished, with high rates of child mortality (Sanchez 2002; Shipton 1990).

To explore in-depth the dynamics of the rural livelihoods of our study area, we applied the sustainable livelihood framework (Ashley and Carney 1999; Chambers and Conway 1992). We opted for the livelihood frameworks approach because it holistically analyzes a location (Ashley and Carney 1999), which makes it a useful scientific and policy tool. For example, the UK's Department for International Development has applied it in Ox-fam projects in Asia, Central and Eastern Europe, Latin America and Africa. African examples include Malawi's Shire Highlands Sustainable Livelihood Program, Tanzania's Catchment Management and Poverty Alleviation Program and the Botswana Sustainable Rural Livelihoods Program. The United Nations Development Programme has institutionalized it in Malawi, Madagascar and Swaziland for poverty alleviation and capacity development. More

specifically, the sustainable livelihood framework is a field-based tool wherein scientists create location-specific datasets that identify natural, human, socio-cultural, economic and built resources, documenting how those resources interact to become assets or liabilities. These adaptive strategies provide a means of living and contribute to the well-being of future generations. Application of the sustainable livelihoods framework begins with classical field work during which scientists visit the identified site to determine features of soils, climate, biore-sources, farming and food systems, population density, age distributions, employment and/or income generation, family organization, social networks, communications, etc. These qualities become the tools for planning. The approach employs a variety of participatory methods which, in themselves, offer the possibility of strengthening capacity. These may include, but are not limited to, focus group interviews, Venn diagramming, social ranking and group sorting to develop knowledge matrices. Armed with this data, the scientist next assesses the current range of activities and strategies that people pursue while also exploring the institutional environment at macro and micro levels. Informed inferences are then made about livelihood strategies that are being pursued, or that hold potential for improving household or community well-being in a sustainable way. Depending on the scale of the investigation, outcomes may be relevant at household levels, or may be applicable to policy, institutions or programs at regional levels. Benchmarks for assessing feasibility include: resiliency, ability to recover from shocks/stresses, economic efficiency, social equity and ecological sustainability.

This versatile approach is especially useful for analyzing across diverse cultures because the livelihood strategies pursued by rural people from different ethnicities will involve multiple and possibly conflicting activities based on sector, space, scale, gender and generational status (Chambers and Conway 1992; Start and Johnson 2004). Ellis (2000:15) has defined the livelihood diversification process as "the process by which rural households construct an increasingly diverse portfolio of activities and assets in order to survive and improve their standard of living."

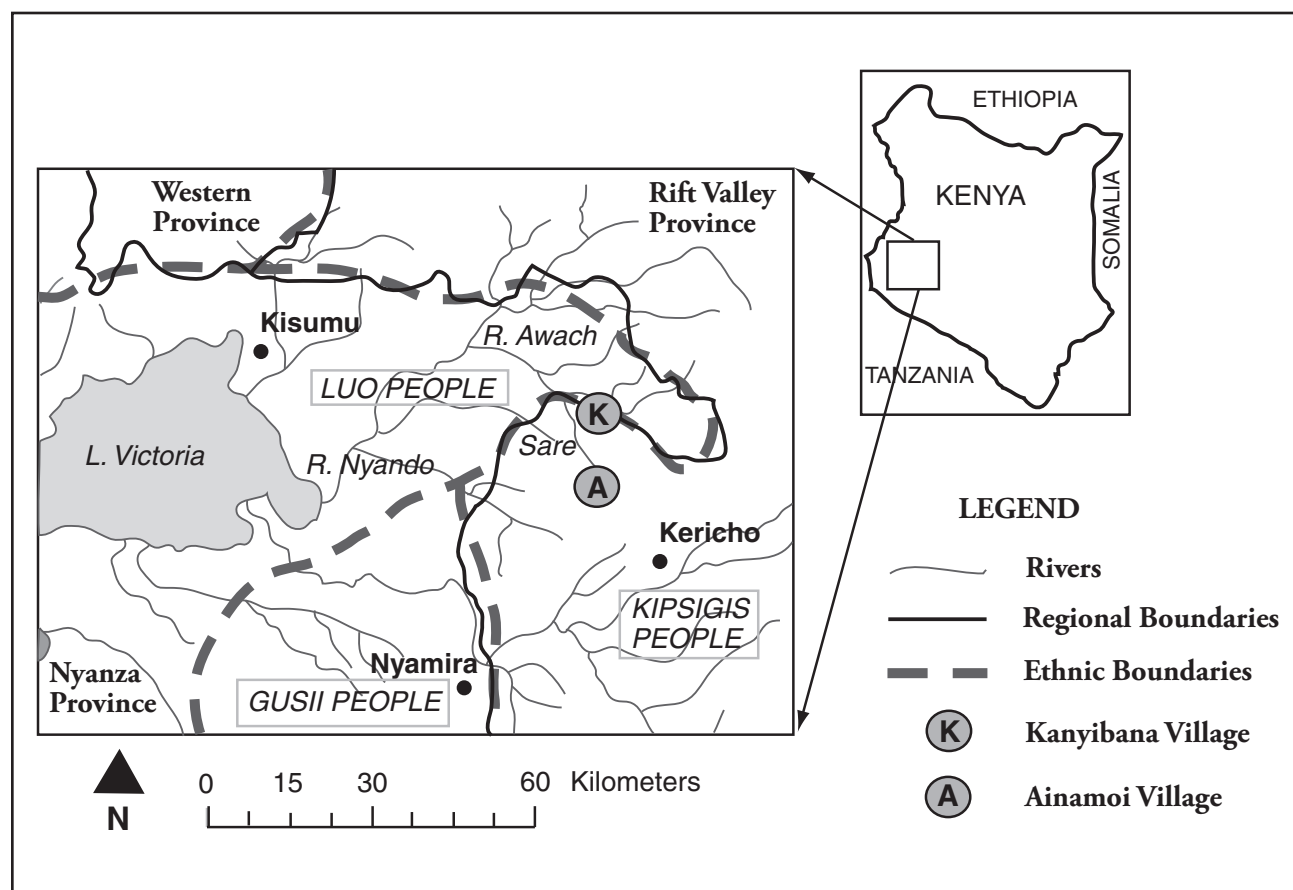


Figure 1: Location of study villages and different ethnic groups.

Methodology: Differentiation and Selection of Case Studies

The villages of Kanyibana and Ainamoi are located within the Awach River catchment of Lake Victoria Basin (Figure 1). Kanyibana is located on the lake floodplains, while Ainamoi is in the highlands.

This paper documents the livelihood strategies of farm families in two culturally distinct ethnic groups, whose ecological boundary coincides on the Awach River catchment. The study area experiences bimodal rainfall distribution with the long rainy season occurring between April to July and the short season from October to December. It is home to the Luo and Kipsigis people, who reside in Kanyibana and Ainamoi villages, respectively. The biophysical environment and cultural characteristics of the study populations are described in Table 1.

To capture the complexities and range of livelihood strategies, we combined several qualitative methods that included ethnography, life histories, participant observation and case studies. In addition, to select case studies, we employed a rigorous quantitative participatory method that involved use of focus groups. This mixed-methods approach facilitated not only triangulation (to maximize validity and reliability), but also clarified and elaborated more information. This study was conducted in the months between May and August over a three-year period (2004, 2005 and 2006).

Selection of the four case studies involved a rigorous historical pathway-prosperity participatory process, referred to as the Stages-of-Progress approach (Krishna 2006). Stages-of-Progress approach is used to solicit local meanings of poverty and track poverty

Table 1. Biophysical and cultural characteristics of case studies.

| | Villages | |
|--|---|--|
| | Kanyibana Case studies 1 and 2 | Ainamoi Case studies 3 and 4 |
| Biophysical environment | | |
| Average annual rainfall (mm) | 1200 | 1800 |
| Average annual temperature (°C) (Minimum and maximum) | 31 (26 – 35) | 24 (19 – 29) |
| Topography | Gentle sloping | Flat plains |
| Altitude (m) | 1100 | 2100 |
| Soil type | Vertisols that are susceptible to churning. Vertisols crack in dry season and waterlog in wet season. | Nitisols that are fairly drained and rich in potassium |
| Soil nutrient levels (0-20 cm depth) | | |
| • Total Nitrogen (g Kg ⁻¹) | 0.1 (10 Kg N/ha) | 0.55 (55 Kg N/ha) |
| • Available Phosphorus (mg Kg ⁻¹) | 0.8 (1.8 Kg/ha P ₂ O ₅) | 17 (40 Kg/ha P ₂ O ₅) |
| • Potassium (cmol/Kg) | 0.2 | Not determined |
| • Soil Organic Carbon(g Kg ⁻¹) | 4.5 | 1.5 |
| • Carbon to Nitrogen ratio | 45 | 15 |
| • Cation Exchange Capacity (cmol/Kg) | 9 | 14 |
| Cultural characteristics | | |
| Linguistic classification | Nilo-hamites | Nilotes |
| Descent identity and post-marriage settlement | Patrilineal and patrilocal | Patrilineal and virilocal |
| Marriage type | Polygamous and levirate | Polygamous and polygny |
| Traditional livelihood systems | Fishing | Transhumance |
| Crops grown | Maize, sorghum, beans and assorted local vegetables. | Maize, beans, tea, coffee, pineapples, sweet potato, finger millet, tomatoes, onions and assorted local vegetables |
| Livestock reared | Zebu cattle, goats and chicken | Grade cattle, goats, sheep, donkey and chicken |
| Main food diets | Ugali (made from maize flour) and local vegetables | Ugali (made from finger-millet), milk, meat and local vegetables |
| Crop weeds | <i>Striga hermonthica</i> , <i>Digitaria scalarum</i> | <i>Bidens pilosa</i> , <i>Commelina bengalensis</i> |

changes within a human group (Krishna 2006). We used this method because our intention was to select case studies that were not only distinct from each other, but with characteristics that overlapped at one time. Based on local perceptions of poverty levels, the approach can be used to divide a group of people into four categories within a period of time, usually several years. These are (adapted from Krishna 2006):

- a) People who were poor then and are poor now—Always poor
- b) People who were poor then and are not poor now—Escaped poverty
- c) People who were not poor then but are poor now—Fallen into poverty
- d) People who were not poor then and are not poor now—Never poor

Using a mixed gender and age focus group, we selected three time periods, 25 years ago, 10 years ago and now (2004) to track poverty changes in the two communities. During each village meeting, each lasting approximately six hours, 15 participants identified and developed a list of poverty and prosperity characteristics. Some of the common poverty-prosperity characteristics in the two villages were: quality of land, human capabilities, type and number of livestock, type of business, availability of remittances, crops grown, formal education for children, type of clothing, number of meals eaten, off-farm work, presence of a head of homestead, polygamy, social networks, sources of income and different strategies for recovering from risks and shocks. The participants agreed that the indicators captured the important similarities and differences among people within

Table 2. Poverty and prosperity indicators generated by community members.



| Indicators | |
|--|---|
| <ol style="list-style-type: none"> 1. Woun dala ('head of homestead') must be present in the homestead 2. Having two meals per day (morning and evening) 3. Ability to keep children from running away from home 4. Adequate clothing for the family 5. Able to get work and find jobs in other villages 6. Small business such as crafts, sand harvesting and selling vegetables |  Poverty increases |
| Poverty line | |
| <ol style="list-style-type: none"> 7. Fertile soils that can produce food enough for six months 8. Able to educate children till secondary school 9. Purchase chicken and one cow 10. Purchase goats 11. have two or more wives and be able to maintain them and their children 12. Have dependable friends | |
| Prosperity line | |
| <ol style="list-style-type: none"> 13. Purchase more cattle – especially dairy cows 14. Have trees to sell 15. Own business such as retail shops and maize mill 16. Receive money from children who work in cities 17. Have relatives who can help with food, fees or take care of the children 18. Be able to help other people especially with cash or food |  Prosperity increases |

Table 3. Poverty-prosperity trends for the last 25 years based on participatory wealth assessment.

| Category | Kanyibana village (n=138) | Ainamoi village (n=78) |
|---------------------|--|------------------------|
| | Percentage distribution (total number of homesteads) | |
| Always Poor | 18.8% (26) | 55.1% (43) |
| Fallen into Poverty | 58.7% (81) | 5.1% (4) |
| Escaped Poverty | 1.4% (2) | 3.8% (3) |
| Never Poor | 21.0% (29) | 35.9% (28) |

their respective villages. With a previously prepared list of homestead names, the participants allocated each homestead a number that corresponded to its characteristics (Table 2).

Each homestead was given a rank for 25 years ago, 10 years ago and now (2004). The homestead trends were noted and placed in a particular category, that is, always poor, escaped poverty, fallen into poverty or never poor. At the end of the exercise, we tracked and classified all homesteads that had been established since the year 1978. If a son established the homestead after 1979 or 1994, it was given the same rank as the father's for the respective year. Results of this exercise suggested that more homesteads had fallen into poverty in Kanyibana than in Ainamoi village within the last 25 years.

A note of caution is appropriate when interpreting the results of Table 3 since each village had its own

indicators of wealth and poverty. In fact, characteristics of poor homesteads in Ainamoi village could feasibly be considered wealthy by the residents of Kanyibana. Nonetheless, there is a significant variation in percentages of homesteads considered poor in Kanyibana compared to Ainamoi. Overall, the percentage of homesteads perceived as poor in Kanyibana increased dramatically over 25 years. There was a 23 and 21 percent increase in poor homesteads between the years of 1978 and 1994, and 1995 to 2004, respectively. According to a male participant:

The wealth of our village has been dropping over the years. In 1970s we had a lot of cattle and goats grazing all over the plains. We had sugarcane and cotton factories that have now closed. Our sons are poorer than us. Many people who are formally employed cannot save any income. If the soil was giving us enough food, then the salary that they made could be saved.

Table 4. Distribution of homesteads in poverty categories based on participatory wealth assessment for three time periods.

| | Kanyibana village (n=138) | | | Ainamoi Village (n=78) | | |
|----------|--|--------------|-------------|------------------------|--------------|------------|
| | Percentage distribution (total number of homesteads) | | | | | |
| Category | 25 years ago | 10 years ago | Now (2004) | 25 years ago | 10 years ago | Now (2004) |
| Poor | 45.7% (63) | 62.3% (86) | 77.5% (107) | 59.0% (46) | 55.1% (43) | 60.3% (47) |
| Not Poor | 54.3% (75) | 37.7% (52) | 22.5% (31) | 41.0% (32) | 44.9% (35) | 39.7% (31) |

In Ainamoi village, there was a 0.3 percent decrease in the number of homesteads considered poor between the years of 1978 and 1994. Almost the same percentage fell into poverty (0.4 percent) between 1994 and 2004. The results suggest that a substantial percentage of homesteads fell into poverty in Kanyibana village, while in Ainamoi, the percentages remained fairly constant.

A myriad of factors appear to underlie this dramatic change, such as degradation and unproductiveness of land; poor human health due to HIV/AIDS, cholera and malaria; rigid cultural rituals and norms; high social expenses associated with funerals; loss of livestock; flooding and extended drought periods. Conversely, Ainamoi village had a fairly constant situation due to better agricultural techniques and new opportunities such as direct marketing of high value crops. The community also exhibited flexible cultural practices that responded to changing social, environmental and economic conditions. For example, men who resided in urban centers are relinquishing decision making power to their wives who reside in the village. This allows women to make farming decisions and other investment opportunities. Based on the categories generated above, four case studies were randomly selected from each category in each village. For this study, we documented four cases, two from each village, that is, a) always poor and b) never poor. The two categories were selected because their characteristics did not overlap.

Livelihood Strategies of Four Case Studies

Case study 1: Always poor in Kanyibana village—human labor vulnerability

The first case study categorized as ‘always poor’ is located in Kanyibana. Economically active people range in age from nine to 55 years. This homestead was classified always poor because of the following characteristics: chronic food insecurity defined by eating only one meal per day on average, dependence on external wage labor, inability to keep wives at home, workforce comprising all homestead members, increased incidence of human diseases, children not attending school, lack of safety nets, lack of friends and other social support mechanisms, lack of access to health and credit facilities, and most earned

income converted immediately into food. The son called Otieno¹ remarked:

We all work for other people to buy food. Our soil does not have life. My wife ran away because there was no food at home. If nothing is done to restore our soil, no girl will be willing to be married or live in Kanyibana.

Otieno lost his security job in Kisumu and without any formal training or skills he could not secure another good job. Instead, he got employment as a truck goods loader, a job he could not manage because he is not physically strong. He decided to relocate back to Kanyibana. However, the land had become severely degraded. Otieno and his family became involved in a daily rural migration pattern, whereby they awake early each day, except Sunday, and trek to farms belonging to the neighboring Kipsigis people. There, they provide their labor for various agricultural activities such as tea and coffee picking, tilling the land, sowing and weeding, and herding cattle. According to Akoth:

Working on farms of Kipsigis is our main source of food and cash. We have come to depend on the Kipsigis to employ us. My mother-in-law and I craft baskets and ropes on Sunday to sell in the market. To supplement food, my husband owns a bicycle that he uses to transport people and goods to nearby town center. In addition, we all (men and women) harvest sand that we sell to builders.

Rural-to-rural migration patterns have been documented in sub-Saharan Africa countries (Ellis 2000; Francis 2000). Most of Kanyibana village residents are involved in daily rural-to-rural migration. This seems to be an adaptation to land degradation, inability to compete for attractive jobs in urban centers, and restrictive cultural rituals. Onyango's family does not own any livestock. They previously owned two Zebu cattle that were sold to pay for their late brothers' medical expenses. The third son, Oluoch resides in Webuye town working as a casual laborer in a paper milling company. His two wives (one inherited from his late brother) live in Kanyibana. Oluoch comes home in December and remits money once every two months. Remittances are a coping strategy

for many people in Africa, and in western Kenya they serve as a critical coping strategy, contributing about 30 percent of household off-farm income (Francis 2000; Ellis 2000).

Two children of the late brother are working away from the homestead. The son, Peter, who left home at the age of twelve, is a fisherman on Lake Victoria. He jointly owns a fishing canoe with two other young men. Now sixteen years, he lives in a communally rented house, fishes at night, and sells the fish to women fishmongers. He sends his mother some money and saves a little. He remarked:

Fishing is a tough job especially when strong winds blow at night. Since we do not have a fishing license we have to hide from the lake patrol police who demand for bribes. I make good money from selling the fish.

Peter's choice to pursue fishing as a livelihood strategy is driven by two factors. The first is that fish are a free commodity and no one can force you out of the lake. Even though all fishermen require fishing licenses, Peter's still thinks that fish are free. Second, there are ready buyers every morning and, hence, he does not have to worry about markets. The other child, a girl named Atieno aged thirteen years, works as domestic help for a Kipsigis family. Since she lives, eats and sleeps with her employer, she is paid 900 Kenya shillings (USD 12.80) monthly. The employer keeps 200 Kenya shillings for her and she uses it to buy clothes and feminine accessories. The rest is given to her mother. Akoth also receives food and clothes from her mother who lives in Ugenya about 125 km away. Her mother sends her 45 kg of maize twice a year. Sometimes, she also sends cassava and millet. This situation has created tension between Akoth and her husband because he is embarrassed that his mother-in-law is helping him. According to him, he is no longer a man in his affines' eyes.

This case study illustrates the different spheres of individual economic activity bound within a large homestead. There is marked differentiation in activities between the parents and the children. The children would prefer not to stay in the village. Rather, they want to pursue activities away from the village. In addition, there is gender differentiation

in ways of dealing with shocks and stress. Married women are drawing upon their maternal networks and relationships to generate some of the family's food. The men have no option except to capitalize on their physical strength and capabilities and engage in activities such as sand harvesting.

Case study 2: Never poor in Kanyibana village—rural-urban connections

The homestead of Ochieng is a nuclear family composed of parents and four children. Ochieng is a full time lawyer and part-time businessman operating a private primary school. The two secure sources of income adequately maintain Ochieng and his family among the wealthy class families in Kisumu. This homestead is classified 'never poor' because of the following characteristics: source of income is non-farming, food secure, strong social support system, members have safety nets, children attend school, and household has the ability to help other people with cash or food. According to Ochieng's wife:

When you cast an eye across Kanyibana village, the type of the house constructed is what differentiates the landscape. Everyone, including the poor, rich, young, old, the dead and the living, woman and man is affected by the erosion and has been touched by the gullies.

Ochieng does not farm, and the one hectare of land he owns has been destroyed by runoff water and the resulting series of small rills that run across the landscape. He remarked:

I only keep the land because it is my ancestral home. My father and other ancestors are buried there...I and family members will be buried there and, hence I have to keep the land. Apart from being a resting place for my bones, my land has lost its productivity. I realized long ago that I can never farm on our land because our mother had refused to be inherited. So, I joined a missionary team who put me through school and college....now I am a lawyer. The money I earn as a lawyer is sufficient for my family's food, medical bills, education and leisure.

Ochieng's father was a polygamous man with three wives and several children. Ochieng's mother was the last wife and she refused to be inherited by

a cousin after her husband died. Her refusal to be inherited implied that she could not farm since rituals could not be performed. She was ostracized by her two co-wives and the rest of the community. She left Kanyibana and went back to her maternal home with her two sons, Ochieng and Okoth. There, Ochieng and Okoth were educated by missionaries, became Christians, and never returned to Kanyibana till their mother died. He said:

Before my mother was buried, I agreed to a cleansing ritual to be performed on her that could free us from her chains. My brother and I could now farm, but the land was beyond recovery. All the topsoil had been swept away. Cleansing my mother allowed my brother and me to construct our own homesteads and I built beautiful houses for my retirement. I still love the land because it holds my ancestors.

This case study presents a unique situation whereby the family is still considered part of the village and yet, they do not farm nor live there. However, the family participates in important cultural events such as funerals and weddings of relatives. Non-farming activities performed far away from the village offer this family a secure livelihood strategy. There still remains a strong cultural attachment to the land and the ancestors, and Ochieng retains his ties with his fellow Kanyibana people. Despite the steady secure source of income, Ochieng still feels it is important to maintain cultural ties. He had the option of settling in any part of Kenya, far from Kanyibana village, but he chose not to. According to Nyasimi (2006), Kanyibana people display strong kinship ties with the living, the dead, and the land, and are pulled back to the degraded and fragile landscape.

Case study 3: Always poor in Ainamoi village—asset intensification

Korir's homestead was classified under the always poor category with the following characteristics: dependent on farming activities, selling of excess food produce, ability to pay medical bills and school fees for children, uses organic fertilizers to improve the soil, eats three meals a day, food secure and has a strong social support system. Korir owns 2 ha of land where he grows a variety of subsistence crops such as

maize, beans, sweet potato, sorghum, bananas and assorted local vegetables. He sells green maize and sweet potato to middle men who visit their village. Korir also owns three improved dairy cattle, a zebu bull, four sheep, a donkey and several chickens. Some of his land is used for pastures. He leases the bull at 100 Kenya shillings (USD 1.4) for three hours to other farmers who require it for plowing the land. The donkey is also used to carry goods for people at a price that varies with the distance. The wife said:

The donkey is becoming as important as cattle to us...even to other people. I use it to carry domestic water and firewood. I use it to carry goods to the market. My friends and neighbor borrow it. My husband charges people who need their goods taken to the market. The donkey is acquiring the same value as a cow.

The value of a donkey has been increasing in Ainamoi village as more people are producing market-oriented food crops. Two vehicles that collect farm produce come, predictably, to the village three times a week. Most farmers rely on donkeys to transport their produce to nearby markets. Korir's family relies solely on farming activities for their livelihood. Since the village receives enough rainfall and the soils are fairly well drained and fertile, they have maintained an intensive system of production. Traditionally, the bimodal rainfall pattern permitted two crop growing seasons. However, the demand for more domestic and market food has led to an intensive three-crop system, annually (Figure 2).

The intensive system involves sowing an inter-crop of maize and bean seed in March. Beans are harvested in early June and, during the same time, sweet potato vines are sown. Korir sells some of the maize as green maize and harvests it in early July, thus creating space for the sweet potato. The green maize is in high demand by urban dwellers where it is eaten as roasted or boiled maize on the cob. In early August, dry maize is harvested and the sweet potatoes are left to grow. At the start of the short rainy season, Korir sows a small grain crop, such as finger millet and millet, between the sweet potato ridges. Sweet potatoes are harvested in mid-October, leaving the small grains till the end of the year. To

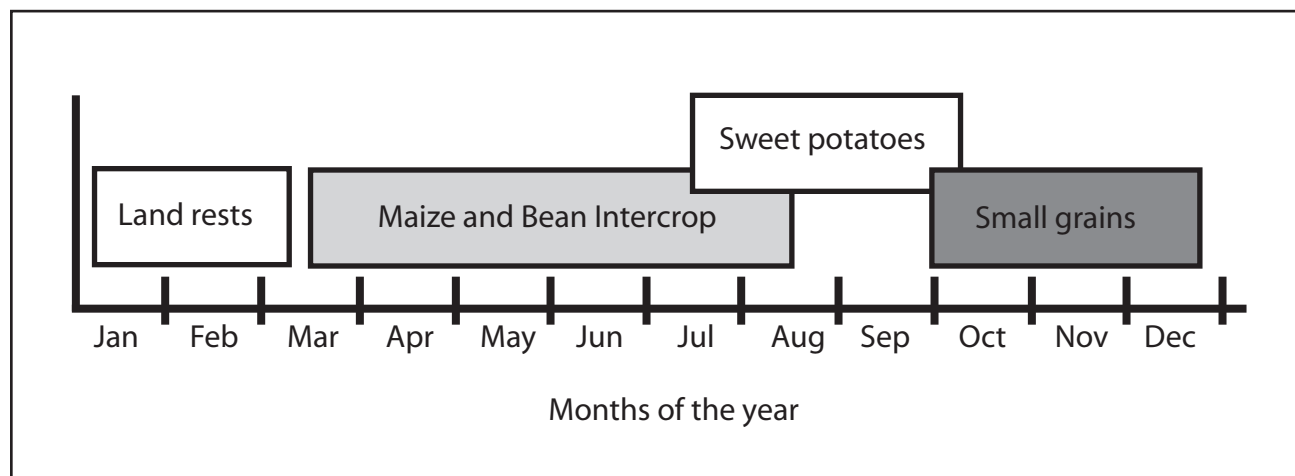


Figure 2. Intensive cropping system that yields three crops per year (Case Study 3).

maintain productivity of such an intensive system, Korir's family practice crop rotation, adding manure and compost; every other year, they purchase diammonium phosphate (DAP) fertilizer and apply it to the maize and bean intercrop. In addition, crop residues are left in the field to provide additional organic material. According to Korir:

This type of system is practiced by most farmers in this village. Since I am the village headmen, I visit most homes and observe what they are doing. I can say that about 75 percent of homesteads produce crops three times a year. It is a tough system because we have to be careful that crops do not compete for nutrients and light. We plan carefully and provide the soil with enough nutrients to satisfy two crops.

Korir receives agricultural information from extension officers in the Ministry of Agriculture, and from a non-governmental organization called Adventist Development and Relief Agency (ADRA). Korir and his wife participate in agricultural field days and tours, and occasionally get extensionists to visit their farm. Korir's family also depends on neighbors and friends for help during critical labor periods such as crop weeding and harvesting. The church and women's group, of which the family is a member, provides spiritual and social support.

Korir's livelihood strategy is an intensive agrarian system whereby he has achieved temporal and spatial diversification of farming activities.

Case study 4: Never poor in Ainamoi village—asset diversification

The last case study is a family classified as 'never poor' and has similar characteristics as case study three except they are dependent on both farming and non-farming activities, support other families, have access to credit facilities and grows cash crops such as tea. The farm is managed by the wife, Chebet, who is also a primary school teacher. Chebet's husband owns a construction company and is based in Kericho town (55 km away). Due to his absence from the farm, her husband relinquished the power to make farming decisions to her. Chebet has employed two people (both Luo speaking), a woman who does house chores, and a young man who manages the five dairy cows and supervises daily laborers.

Chebet grows a variety of subsistence and cash crops. For house consumption, she grows maize, beans, finger millet, cassava, vegetables and fruits. For the market, she grows high value crops such as tea, coffee and pineapples. Chebet also has planted trees for timber, firewood and fruits. These include *Grevillea robusta*, *Markhamia lutea*, *Mangifera indica*,

Persea americana, *Morus alba*, *Musa paradisiaca*, *Carica papaya*, *Passiflora edulis* var *edulis* and *Eucalyptus grandis*, planted in three niches—farm boundary, woodlots and scattered on cropland. She remarked:

My farm is a forest...a diversity of crops and trees. It is a heaven for soil animals. If I decided to retire from teaching, I can comfortably feed my family, clothe and educate them.

Chebet sells tea and coffee to nearby factories and she receives a reliable monthly cash income. She remarked:

Any farmer growing tea or coffee is assured of a steady source of cash. From the half acre of tea, picked twice a month, I regularly earn about 16000 Kenya Shillings (USD 229). At the end of the financial year, I also get 'tea bonuses'. Coffee prices vary a lot, though it is still good. Any farmer who has tea growing in this village is a wealthy farmer.

Chebet does not practice the same kind of intensive production system described above on Korir's farm, but rather the use of rotation and companion cropping. She maximizes use of all available niches on the farm. On the fields where she grows annual crops, she harvests three produce a year. According to her:

I have other sources of income and hence, I do not demand a lot from the soil. I sometimes leave the land fallow for a year if I observe that the crop is not performing well. During the fallow period, I apply manure and let the field rest.

Other sources of income include proceeds earned from selling milk and a monthly salary as a teacher. The salary is used to purchase farm implements, DAP fertilizer, manure from other farms and to pay for farm laborers. The cash that her husband earns is primarily used for educating the children. At the time of the study, she had three children studying in university and four in boarding high schools. The children assist with farm activities during school holidays in April, August and December. Chebet's livelihood strategies encompass both farming and non-farming. She relies on a strong network of women, church groups and relatives to support her.

In particular, her friends play a key role in helping her market her produce. In addition, she receives extension visits on a weekly basis, and attends different training sessions organized by non-governmental organizations.

Discussion

The aim of this paper is threefold. First, we aim to analyze livelihood strategies in two communities; secondly, to examine the dynamic diversification process in terms of shifts in the agrarian and non-agrarian strategies continuum; and lastly, to investigate how type and availability of assets influence choice of a livelihood strategy. Results from the case studies suggest that whilst diversification is practiced in both ethnic groups, it is taking different directions and is dependent on different assets (Table 5).

For the Luo people, there is a total shift in strategies from farming to non-farming. At the same time, diversification is occurring in non-farming activities and away from the village space. The diversification is occurring across multiple geographical localities such as rural, peri-urban and urban areas. Slater (2002) reported similar trends in Qwaqwa, South Africa, whereby household members were spatially spread in different geographical areas to capture varied livelihood opportunities that required different assets. The difference with Kanyibana village is that the people in Qwaqwa, were combining both on-farm and off-farm activities. In Kanyibana, they are diversifying their off-farm activities through intensive use of human labor. The relationship between land use and management practices and cultural rituals account for this trend. First, among the Luo, sexual rituals are performed before land use and management practices are implemented. Sexual rituals are a way of blessing the land and married women cannot till the land or perform any farming activity, such as sowing, weeding and harvesting, unless her husband has had conjugal relations with her the previous night. In addition, land management practices such as construction of soil conservation structures cannot be done without sexual rituals. In a polygamous homestead, the rituals are performed in a hierarchical manner and on consecutive nights starting with

Table 5. Summarized comparison of livelihood strategies in the four case studies.

| Case study | Description of strategy | Driving forces | Principal homestead members involved | Sector/Space | Dominant and supportive asset components | Type of diversification |
|-------------------|---------------------------|---|--------------------------------------|--|--|--|
| Kanyibana village | | | | | | |
| Always poor | Human labor vulnerability | Degraded lands, cultural traditions and beliefs | Grandparent parents and children | Rural non-agrarian wage support | labor based supported by social and financial | Push - Sectoral shift from agrarian to non-agrarian |
| Never poor | Rural-urban connections | Degraded lands, cultural traditions and beliefs, education, urban social networks | Parents | Urban non-agrarian wage support | Labor based supported by physical, political, social information and financial | Pull - Multiplicity of urban opportunities while retaining rural cultural ties |
| Ainamoi village | | | | | | |
| Always poor | Asset intensification | Good land quality, strong social support system (labor and friendship), extension support | Parents and children | Rural crop and livestock integration | Natural resources (production based) supported by human, social, financial, political, physical, cultural | Pull- Multiplicity of rural agrarian production opportunities |
| Never poor | Asset diversification | Good land quality, new markets/ business opportunities, strong social support (friendship and respect), cultural changes (spousal empowerment and support), extension/non-governmental organization information | Parents | Rural agroforestry (crops, trees and livestock) & urban wage support | Natural and human assets (production based & market oriented) supported by social, cultural, information, political, physical, and financial | Pull- Multiplicity of agrarian activities integrated with urban opportunities |

the first wife to the last one. If there are married sons living within his homestead, then the first son performs the ritual after the father, followed by second, third, and so on. To manage land appropriately, both the husband and wife have to be home at the same time. However, in Kanyibana village some of the men left for urban centers, leaving their wives at home. Initially, most of them returned when needed, particularly to perform land use rituals. However, deepening poverty in Kenya prohibited most of the men from regularly visiting their wives in the rural areas. The implication is that women could not only crop for a whole year, but they could also not conserve the land either through terracing or constructing water holding pans. The land was left unmanaged for one or more years and due to its spatial location at the foot of an escarpment, sheet and rill erosion engulfed the landscape, eventually turning it into a massive gulley.

Secondly, the Luo practice wife inheritance and the man who inherits a widow is expected to perform the role and responsibilities of the late husband. The pandemic HIV/AIDS disease has frightened many widows and hence, many widows are refusing to be inherited. With no man to perform sexual rituals, the widows cannot farm or manage their late husband's land. To secure food and income, these widows seek casual employment among other ethnic groups or in nearby town centers.

The above push factors are driving the diversification process in Kanyibana village. Push factors are internal factors that do not encourage strong incentives to pursue local activities (Barret et al. 2001). In the case of Kanyibana village, push factors are the sexual rituals and degraded and unproductive lands. The Luo are diversifying into basket and rope making, sand harvesting, fishing and bicycle transportation. The diversification process in Kanyibana village encourages the emergence of new risks and vulnerabilities such as rape, domestic violence, unplanned pregnancy, exposure to HIV/AIDS and death at early age.

Among the Kipsigis there is temporal and spatial agrarian diversification within the farm. The people are involved in an intensive mixed system of small-scale agrarian production that includes field

crops and vegetables, fruits and timber trees and livestock. The adequate rainfall, cool temperatures and fertile soils, coupled with good land management practices, enable people to cultivate their land throughout the year. Aided by strong vertical and horizontal social connections, extension visits, and connectedness to new opportunities and investments, such as factories, the Kipsigis are maintaining a highly diverse system that ensures good yields, minimizes risks and shocks and, safeguards the quality of the land resource base at a reasonable level. One factor that explains this trend is the change in property ownership and decision-making power. Kipsigis men who reside in urban centers are relinquishing decision-making powers to their wives in rural areas. Just like their Luo neighbors down in the floodplains, many Kipsigis men work and live in urban areas. Many of the men have left the women in charge of land use and management. Women now plan for farming activities (see case study 4) and are in charge of the home. The women decide on appropriate crops and management practices such as fertilizing and terracing the land. The women feel that the land is better managed than before when the men were making all the decisions.

Finally, this study suggests that ability to make a meaningful livelihood is dependent not only on the quality and quantity of assets that a person possesses, but the capability to use and transform the assets as well. Labor is the critical asset on which the Luo people depend for a living. Everyone, including the young and elderly, is involved in at least one income-earning activity. In most cases, individuals are involved in a multiplex of non-farming activities at different times and in varying spaces. There appears to be no gender and age disparity regarding choice of a livelihood strategy. The Kipsigis are involved in asset-led intensification and diversification that entails substantial use of all assets to enhance both tangible and intangible resources. Diversification and intensification are driven by pull factors that encourage complementarities among activities (Barret et al. 2001). Successful integration of a variety of perennial and annual crops, livestock and trees on their farms, helps to spread their risks and build up financial resources. In turn, this helps to keep

children in school and adults at home. They draw upon their socio-cultural, natural, human and informational resources to build healthy livelihoods. Availability and accessibility of assets also enables allocation in such a way as to maximize returns. This provides the leeway to choose among extensive, intensive or diverse activities.

Slater (2002) and Barret et al. (2001) argue that engagement in multiple livelihoods is dependent on active social networks, financial savings, skills and education. We observed a similar scenario in Ainamoi, but not in Kanyibana—where there is evidence of few networks, limited financial savings, low skills and knowledge and involvement in multiple activities. In Kanyibana village, engagement in multiple activities consumes so much time and energy that there is neither time nor motivation to create social networks.

Conclusion

This study has highlighted the multiplicity of livelihood strategies in two different but neighboring ethnic groups in western Kenya. The case studies have allowed us to glimpse the changing and shifting strategies within a very small geographical distance. The Luo people of Kanyibana village do not have access to productive land that could allow them to maximize their labor efforts, like their close neighbors, the Kipsigis in Ainamoi village. Thus, it should not be surprising that the Luo people are looking beyond their village boundary, into other rural areas, to make a living. However, their survival is based upon rural wage work availability, a potentially unsustainable resource. Their assets, particularly labor, have become their livelihood strategies. The diversification process among the Kipsigis is closely intertwined with rapid socio-cultural changes, effective land management practices, and strong ties within and beyond the local boundaries. New market opportunities are creating a healthy environment for Kipsigis to invest, particularly in the tea and coffee factories and milk processing plants established within the last ten years. Establishment of these factories has increased the market integration of many households in Ainamoi village.

Rural communities of sub-Saharan Africa are under increasing adaptive pressure resulting from the decline in the quality of their land resources. As more land is subjected to degradation processes, there is a shift in the type of asset on which families can draw. In some cases, the asset has been transformed into a livelihood strategy. Unless critical measures are put in place to restore land, the livelihoods of rural people of sub-Saharan Africa will continue to hang in a precarious balance.

Acknowledgements

We would like to thank the people of Kanyibana and Ainamoi villages who sacrificed their time to participate in this research. This research was made possible through generous funding from the Edna Rathman Graduate Fellowship in Sustainable Agriculture, and through the Henry A. Wallace Endowed Chair for Sustainable Agriculture at Iowa State University.

Mary Nyasimi, Department of Anthropology, Iowa State University

Lorna Michael Butler, Department of Anthropology, Iowa State University

Lee Burras, Department of Agronomy, Iowa State University

Hsain Ilahiane, Department of Anthropology, Iowa State University

Richard Schultz, Department of Natural Resource Ecology and Management, Iowa State University

Jan Flora, Department of Sociology, Iowa State University

Notes

¹ Names have been changed to protect identities.

References Cited

- ABATE, T., A. VAN HUIS, AND J. AMPOFO.
2000 Pest management strategies in traditional agriculture: An African perspective. *Annual Review of Entomology* 45:631-659.

- ASHLEY, C., AND D. CARNEY.
1999 Sustainable livelihoods: Lessons from early experience. London: DFID.
- BARRET, C.B., T. REARDON, AND P. WEBB.
2001 Nonfarm income diversification and the household livelihood strategies in rural Africa: Concept, dynamics and policy implications. *Food Policy* 26(4):315-331.
- BRYCESON, D.F.
2002 Multiplex livelihoods in rural Africa: Recasting the terms and conditions of gainful employment. *Journal of Modern African Studies* 49(1):1-28.
- CHAMBERS, R., AND G. CONWAY.
1992 *Sustainable Livelihoods: practical concepts for the 21st century*. IDS Discussion paper 296. IDS, UK. Retrieved from http://www.livelihoods.org/static/rchambers_NN13.html [12 November 2006]
- CONELLY, W.T., AND M.S. CHAIKEN.
2000 Intensive farming, agro-diversity, and food security under conditions of extreme population pressure in western Kenya. *Human Ecology* 28(1):19-51.
- DAVID, S.
1997 Household economy and traditional agroforestry systems in western Kenya. *Agriculture and Human Values* 14(2):169-179.
- ELLIS, F.
2000 *Rural livelihoods and diversity in developing countries*. Oxford: Oxford University Press.
- FRANCIS, E.
2000 *Making a living: Changing livelihoods in rural Africa*. London and New York: Routledge.
- GEHEB, K., AND T. BINNS.
1997 'Fishing farmers' or 'farming fishermen'? The quest for household income and nutritional security on the Kenyan shores of Lake Victoria. *African Affairs* 96:73-93.
- KRISHNA, A.
2006 Pathways out of and into poverty in 36 villages. *World Development* 34(2):271-288.
- MANGO, N.A.R.
2002 Husbanding the land: Agrarian development and social change in Luoland, Kenya. Ph.D. diss., Wageningen University, The Netherlands.
- NYASIMI, M.
2006 Changing capital, shifting livelihoods. The case study of Luo community living on Awach Catchment of Lake Victoria Basin, Western Kenya. MSc. Thesis. Iowa State University, Ames, IA.
- SANCHEZ, P.A.
2002 Soil fertility and hunger in Africa. *Science* 295(5562):2019-2020.
- SHIPTON, P.
1990 African famines and food security: Anthropological perspectives. *Annual Review of Anthropology* 19:353-394.
- SLATER, R.
2002 Differentiation and diversification: Changing livelihoods in Qwaqwa, South Africa, 1970-2000. *Journal of Southern African Studies* 28(3):599-614.
- START, D., AND C. JOHNSON.
2004. Livelihood options? The political economy of access, opportunity and diversification. Overseas Development Institute Working Paper No. 233.