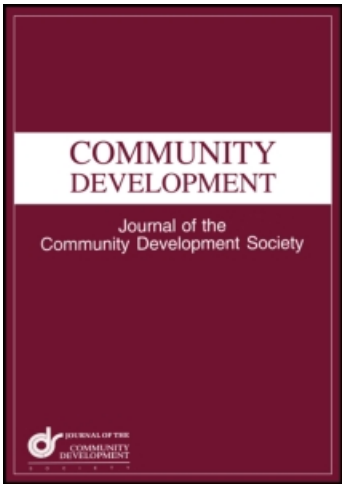

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Harnessing Community Capitals for Livelihood Enhancement: Experiences From a Livelihood Program in Rural Uganda

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Harnessing Community Capitals for Livelihood Enhancement: Experiences From a Livelihood Program in Rural Uganda

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This study assesses how community capitals can be harnessed to improve food security using the ''sustainable livelihoods'' and ''community capitals'' frameworks. We demonstrate how the dimensions of these frameworks can be measured and applied in development work. Data were collected using participatory methods in four communities comprised of 500 households in rural Kamuli District, Uganda, where food and nutrition insecurity have been a serious problem. Results indicated high levels of land degradation linked to high population densities and resource constraints. Compared to cultural capital, existing social capital levels were relatively inadequate for development activities. The condition of physical capital varied among the communities. Community members also generated indicators of income, food and nutrition security which were used to rate the status of each participating household. The information collected guided the setting of priority program interventions. Lessons learned from use of the participatory methods are also discussed.

Keywords: community capitals, decentralization, food security, participation, sustainable livelihoods

INTRODUCTION

Of all developing regions in the world, sub-Saharan Africa faces the greatest challenge in meeting the Millennium Development Goals (African Development Bank [ADB], 2002). However, some countries in the region such as Uganda, have taken steps toward achieving these goals (United Nations Development Program [UNDP], 2005). Most of Uganda' population is rural based, with over 80% dependent on agriculture and related activities for livelihoods (Uganda Bureau of Statistics [UBOS], 2002). Recent research indicates reductions in per capita agricultural productivity (Nkonya et al., 2004) with negative impacts on food security, household incomes, and overall livelihood conditions. According to Bahiigwa (1999), Uganda's per capita food production in 1997 was 44% less than in 1970 as a result of a population growth rate (109%) that was far higher than growth in total food production (17%).

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Underlying the declining agricultural productivity is an array of interrelated factors. Key among them is land degradation as a result of cultivation of fragile lands (steep slopes and swamps), continuous cultivation with limited use of organic and inorganic fertilizers, and limited investment in soil conservation (National Environment Management Authority [NEMA], 2005). When land degradation is not addressed, the vicious cycle of land degradation, declining productivity, poverty, and further land degradation prevails, putting affected communities in a complex and hopeless situation. Other major factors contributing to decreasing agricultural productivity include pests and diseases, vagaries of weather in a country where agriculture is almost entirely rain fed, and limited use of improved production and postharvest technologies (Participatory Ecological Land Use Management Association [PELUM], 2005; Pender, Nkonya, & Sserunkuuma, 2001).

Food insecurity scenarios lead to nutrition insecurity (malnutrition) because the amount and quality of nutrients required for effective body functioning is limited. The most affected population groups in developing countries are pregnant women and children under the age of 5 (Food and Agriculture Organization [FAO], 2005). The prevalence of child malnutrition at the household level in Uganda (39% of children below age 5 being stunted in 2000–2001) clearly shows that food and nutrition insecurity as well as overall standards of living are problems that require urgent attention (UBOS, 2002). The Ugandan government is the major provider of agricultural and rural development services, but coverage is inadequate (Kamuli District Administration [KDA], 2003). This is due to reforms in social service provisions introduced in the 1990s, under the World Bank-led Structural Adjustment Programs (SAPs). Another challenge, still as a result of SAPs, was reduction in farmers' access to critical farm inputs such as improved seed varieties and animal breeds, fertilizers, credit, and output markets (Ehui & Pender, 2005). These changes greatly affected farm productivity and farmers' livelihoods. Given these conditions, which are prevalent in most rural areas in Uganda, local and international organizations have initiated programs to complement Uganda's efforts of improving farmers' livelihoods.

In this article, we demonstrate the utility of Sustainable Livelihoods and Community Capitals Frameworks in guiding the design of effective programs. We specifically describe how information on the different dimensions of these frameworks was collected and analyzed. We then share our experiences during the initial stages of a livelihood improvement initiative launched in 2004 in the Kamuli district in Uganda.

The Sustainable Livelihoods Framework (SLF) is well suited for examination of smallholder farmers' conditions, especially those operating in vulnerable contexts. The framework is a product of the rural development debate, and has undergone modifications over time (Niehof, 2004). Nevertheless, it still provides for a meaningful approach to addressing sustainable development challenges (Kinsella, Wilson, de Jong, & Renting, 2000). Ellis (2000, p. 10) defines a livelihood as ''the assets (natural, physical, human, financial, and social capital), the activities, and the access to these (mediated by institutions and social relations) that together determine the living gained by the individual or household.'' Scoones (1998, p. 5) adds that ''A livelihood is sustainable when it can cope with and recover from stresses and shocks, maintain or enhance its capabilities and assets, while not undermining the natural resource base.''

From these definitions, it is noteworthy that individuals or households, depending on their contexts, harness the capitals at their disposal in pursuit of livelihood strategies and outcomes.

In the process, their efforts are either encouraged or hindered by government, private sector or community institutions, networks and organizations. To cope with stresses and shocks that may jeopardize or threaten livelihoods, members may intensify production, diversify, or migrate among other strategies. Results of the interactions between processes, institutions, and strategies are reflected in outcomes, exhibited by the quality of life of individuals and households. The theoretical framework, adapted from Scoones (1998), is shown in Figure 1.

Despite its potential, the SLF has inadequacies regarding the capitals and their interactions (Baumann, 2000). The framework presents only five capitals as being vital in analyzing livelihoods—namely, natural, physical, human, financial, and social capitals. Niehof (2004) and Baumann additionally suggest cultural and political capitals, respectively, that need exclusive consideration in understanding and improving livelihoods and agro-food aspects. Thus, Flora, Flora, and Fey (2004) suggest a Community Capitals Framework (CCF) that pays attention to the seven capitals (natural, cultural, human, social, political, financial, and physical/built) and how they interact and build on one another in support of sustainable community and economic development outcomes. The SLF and CCF have the potential to guide generation and analysis of information essential for designing truly sustainable livelihood programs. Understanding and supporting the elements of livelihood security in poor communities using the SLF and CCF requires attention to an array of interrelated issues at multiple levels—individual, household, community, and national. In the rest of this article, the study area, methods of operationalizing the capitals and data collection, results and discussion, and changes in program orientation and implementation are presented, along with concluding comments.

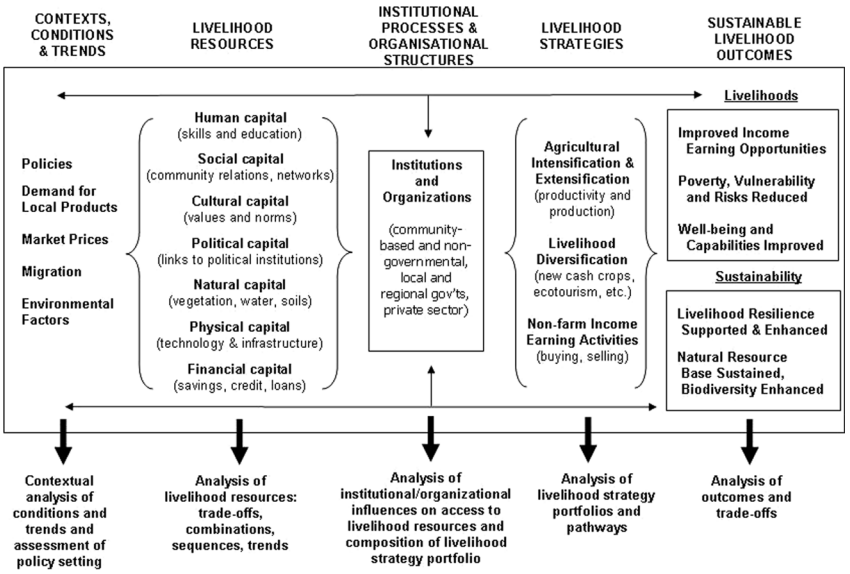

FIGURE 1 Sustainable livelihoods framework.

STUDY AREA

This study was conducted in Kamuli District which is located in southeast Uganda (Figure 2). Since the mid-1980s, as a result of improved peace and security, the government of Uganda has implemented programs and policies aimed at ensuring economic growth and poverty reduction (Agricultural Policy Secretariat [APSEC], 2000). The Poverty Eradication Action Plan (PEAP) initiated in 1997 is one of these, with its key strategies being the Plan for Modernization of Agriculture (PMA), improved healthcare, rural water, roads, and primary education (Ministry of Agriculture, Animal Industry and Fisheries & Ministry of Finance, Planning and Economic Development [MAAIF & MFPED], 2000). The PMA aims at contributing to improved agricultural productivity and rural livelihoods. However, recent analyses indicate that implementation of the PMA has not been effective on a number of aspects, necessitating more concerted efforts (Muwonge, 2007; Semana, 2002). These efforts call for, among others, public and private stakeholder investment in an appropriate mix of physical, human, natural, and social capital, taking into account the diversity of situations (Sseguya, Mangheni, Semana, & Oumo, 2004).

Kamuli district was chosen as one of the areas for implementation of a tripartite livelihood improvement program, paying attention to the different community assets that have the potential to improve social equity, food security, and income sustainability. The district is one of the

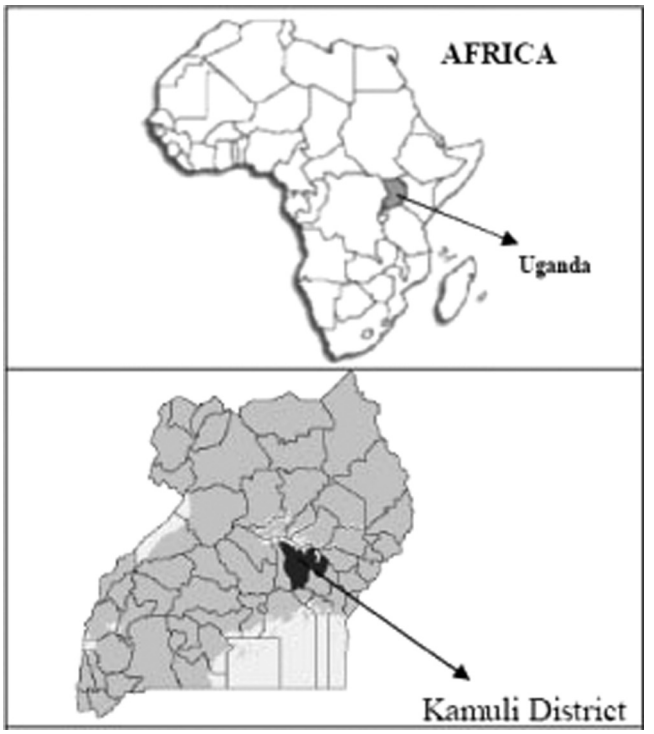

FIGURE 2 Location of Uganda and Kamuli District.[1]

poorest parts of the country, with a population of 700,000—60 people km^2 (UBOS, 2002). According to NEMA (1998), the area has a bimodal rainfall pattern (March to June and September to November) with an average 135 cm annually. Weather patterns have been changing in recent years, leading to more severe dry seasons—annual temperatures range between 19°C to 25°C. The predominant vegetation cover is a forest-savannah type of mosaic consisting of a mixture of forest remnants and savannah trees with grass and shrubs. There has been a noticeable reduction in coverage of vegetation over the past decade due to burning for charcoal, and land clearing for cultivation. Agriculture is the main activity.

The livelihood improvement program was jointly launched in mid-2004, by the Center for Sustainable Rural Livelihoods (CSRL) of Iowa State University, USA, Makerere University, Uganda, and Volunteer Efforts for Development Concerns (VEDCO), a Ugandan nongovernment organization. Selection of the communities for the program was done in September 2004 in consultation with the district-level leadership in the decentralized administrative structure. The main criterion was perceived extent of vulnerability to food and nutrition insecurity at community and household levels. Bugabula County was jointly selected as the first beneficiary. Pilot activities were initiated in four parishes:[2] Bwiiza and Namasagali parishes in Namasagali subcounty, and Naluwoli and Butansi parishes in Butansi subcounty. In 2005, activities were expanded to include Nawanende and Kasambira parishes in Bugulumbya subcounty. Activities in the communities were planned to be jointly implemented with community groups as one of the main strategies to enhance sustainability. At program inception, baseline data on existing capitals-assets, institutions, and organizations and livelihoods (incomes, food and nutrition security including coping strategies) were collected from all the parishes, and it forms the basis of this study.

RESEARCH APPROACH AND METHODS

To encourage their active involvement as well as ensuring that the beneficiaries play a prominent role in the collection and analysis of data, and in the prioritization and selection of activities (FAO, 1997), participatory approaches were used. Participatory approaches and methods enable stakeholders to share, enhance, and analyze their knowledge of life and conditions and to plan, act, monitor, and evaluate interventions (Chambers, 1994). The participatory tools used for data collection included community resource mapping; wealth, food and nutrition security ranking; seasonality calendars; institutional scale and linkage (Venn-Chapati) diagramming, and livelihood assessments through group discussions. The unit of analysis was community, in this context taken as members residing in a parish. These tools were adapted from Bergeron (1999), CARE (2002), and AFRICARE (2003).

Data collection was conducted in February and March 2005, the period when farm activities are not labor intensive. This ensured a high level of participation of community members in the data collection activities. Each community meeting was conducted at the parish level, with each group represented by at least two members, and considering gender representation, as it was assumed that men and women potentially play different roles related to food security, and therefore may have different perspectives on the aspect. In each of the four communities, day-long meetings involved members from 10 farmer groups, on average. In each community, meetings continued for 5 days.

In terms of capitals, the resource mapping exercise was used to obtain information on physical-built and natural capitals. Institutional linkage diagramming was used to capture social capital, whereas livelihood assessments were vital in accessing information on social, human, financial, cultural, and political capitals. The wealth, food and nutrition security ranking enabled characterization of each household's status with regard to the three key parameters, based on indicators established by the community members. To acquire information about seasonal variations in food availability and accessibility, gender-specific seasonality calendars were developed. Livelihood assessments were also used to generate strategies which community members use to address food and nutrition security challenges.

Identification of intra- and inter-community differences in dimensions of SLF and CCF that are relevant when developing and implementing the program have been of particular interest in this study. Attention paid to ensuring high levels of participation among all sections of the community during data collection helped generate widespread legitimation. For instance, in situations where female community members or youth would likely be dominated by adult males in a ''community'' discussion or if their views might differ significantly, participants were subdivided to effectively obtain the independent views of each interest group. Finally, it was interesting to note the extent to which reliable data could be consistently obtained across all four communities. The predominantly qualitative data were organized into basic units, categories, and patterns in order to determine and summarize the essential characteristics (Okechukwu & Maser, 2003). Graphics such as photographs, diagrams, sketches, frequency tables, and maps facilitated the analysis in addition to verbatim presentation of some information. Data analysis also involved developing a draft report with results validated through subsequent meetings with beneficiaries at the community level.

RESULTS AND DISCUSSION

Community Capitals and Livelihood Activities

Natural Capital

The area in all the communities is dominated by sandy loam soils of high to low fertility. The dominant vegetation is forest remnants and savannah trees with grass and shrubs. Much of it is secondary vegetation that has succeeded the original forest cover as a result of farming, fuelwood harvesting, and other forms of land use. Although the acreage under cultivation has increased in the past 30 years (from 2 ha to 2.5 ha on average), per unit production has reportedly decreased. This is attributed to erratic and adverse weather conditions, pests and diseases, and low adoption of agricultural technologies. This situation is exacerbated by poverty, high population growth rates, and minimal diversification opportunities. This observation is corroborated by Ellis and Bahiigwa (2003), based on their study conducted in three districts in Uganda, including Kamuli. Commenting on the impact of human activity and increasing population density on the natural assets, one community member noted that:

> The problem of land fragmentation in this area is serious. Every child who grows up wants a share of the family land. With few off-farm employment opportunities available, the soil is overworked, since there is minimal or no replenishment of nutrients in addition to soil mining for brick making and cutting of trees for baking the bricks and for cooking .... Tree cutting is not usually reciprocated

with replanting. . . . The result is a degraded environment, changes in weather patterns and other environmental problems. (community resident of Butansi Parish, personal communication, January 3, 2005)

Built-Physical Capital

This area had a railway line that was constructed under colonial rule in the 1930s to facilitate transport of raw materials from the interior to the Indian Ocean, for eventual delivery to Europe. The railway facilitated the migration of community members from other parts of the country and neighboring Kenya to the area, thus contributing to a diverse ethnic mix. A network of gravel roads in fairly good condition makes accessibility relatively easy. However, two of the four communities (Butansi and Bwiiza Parishes) had roads which were prone to flooding and inaccessible during rainy seasons. The mapping exercise also revealed existence of water sources in form of boreholes (20) and springs (4), at distances that ranged from a few meters to 2 km for most households. Access to water was reported as potentially affecting productivity, especially of women and children, who spend lots of time searching for water. Other physical assets included schools, maize mills, a community credit bank, health centers, mosques, churches, and a community center. The area also has an unidentified number of trading centers where community members purchase groceries and other supplies.

Human Capital

More than half of adult community members had 7 years of elementary education or less. As a result, the majority were involved in farming as the main activity since none had acquired skills that would enable them obtain nonfarm employment. Further, community members experienced health problems, notably malaria, HIV/AIDS (10% of the entire community), and malnutrition—especially for children under 5 years of age.

Financial Capital

The main source of income is farming. Women mainly grow crops for food, which include potatoes, maize, beans, cassava, millet, and groundnuts; men grow crops for cash—maize and groundnuts. The average cultivated land area is 2.5 ha. A few households also keep small livestock (goats, pigs, and chickens). Other activities include charcoal burning, brick making, fishing, and formal employment.

Cultural Capital

The Basoga is the indigenous group that originally populated the area. A number of other ethnic groups representing the different train stops came in the area and eventually settled at different periods, and people of varied ethnic origins were assimilated into the local milieu. The main religions are Christianity, Islam, and local beliefs; the existence of difference belief systems are sometimes reported as a cause of conflicts in all the communities; however, ethnic diversity was not a potential cause of conflicts.

Social Capital

Community members reported harmonious coexistence in the area and self-interest groups have been formed to enhance development efforts. Sseguya et al. (2004) note five main categories of rural producers' group orientations and origins in Uganda: self-help, cooperative movement, nongovernment organizations, government agriculture department, and the Uganda National Farmers' Federation—all of which were represented in the communities. Regarding participation in community activities, youth participation was generally considered to be low unless they would be able to attain something of value in a short period of time. On the other hand, improvements have been observed with regard to women's participation. To this end, one male community member noted that:

> In the past, women could not attend most of the development-oriented meetings. . . . It was thought that their best place was at home—to attend to home issues. But after sensitization on the side of both men and women, women started attending. . . . They are serving on committees and are positively contributing to development. (community resident of Naluwoli Parish, personal communication, February 9, 2005)

These variations in participation by gender and age are similar to findings by FAO (1995) and, Devas and Grant (2003) about low youth participation and gains in women's participation in development efforts in Uganda.

Political Capital

Political capital is exhibited in two main forms of community leadership: traditional and local government. Traditionally, the primary unit of leadership is the lineage, based on clans, communities through subcounties, counties up to the kingdom, led by the traditional king. This system of leadership was administratively relevant until 1967 when kingdoms were abolished by the central government, relegating it to a cultural role. However, it still influences opinion in the community.

In the 1990s, Uganda adopted a decentralized system of governance (Kullenberg & Porter, 1998), with two categories of local governance. The first one is government merit-based appointment and deployment of staff in the various departments for technically led development interventions including the chief who is the administrative officer of the subcounty. The second category of leadership is the locally appointed leaders. Five levels of local councilors are elected by adult suffrage: village, parish, subcounty, county, and district elections. The main duties of the elected local government councils are to provide political guidance and supervision as well as coordinate the planning, implementation, and evaluation of local development activities.

Regarding the political and leadership context and how these affect access to services, all community members noted significant improvements in conflict resolution, especially by the village local councils, and information flow to community members. However, information flow from the community to the outside is inadequate. This was attributed to poor exposure and linkages of local leaders with the outside world. Other improvements as a result of the current political and leadership support compared to the past systems include roads and water services. The local leadership at district and subcounty levels has both fiscal and administrative authority for resource utilization (Kullenberg & Porter, 1998), and this has had positive impacts on the quality of services.

Since 1997, significant achievements have also been attained in the primary education sector in terms of enrollment. The government of Uganda launched a Universal Primary Education (UPE) program whereby each child of school-going age must enroll in any public school, free of charge (Aguti, 2002). Government pays full tuition, whereas parents pay for school supplies and lunches. However, because of high poverty levels, most community members could not afford meeting their part, as reflected in these comments:

> It is true we are supposed to provide six cups (about 3 kg) of maize grain per pupil per term, but if we do not even have enough food to eat at home how can we be expected to afford generating the amounts required at school?.... We are aware that a hungry person cannot learn well but we are also constrained by factors beyond our control. We are hopeful that we will finally be able to get a solution through collaborative efforts like this one.... (community resident of Namasagali Parish, personal communication, February 24, 2005)

Other positive improvements in service delivery were reported as a result of existing political capital in the agricultural sector (access to extension and training opportunities), although it was noted that more efforts are required to improve coverage, include nutrition, public health, and environment in the messages, and enhance access to improved crop, livestock and postharvest technologies. Credit and marketing systems and opportunities were also reported as constraints. The available few sources of credit and markets are exploitative.

Institutions and Organizations

The contextual-political atmosphere is supportive of government departments and nongovernment organizations (NGOs) operating in the area. Linkages between community members and these organizations were captured using institutional linkage diagramming, whereby relationships existing between the different organizations and the community groups in terms of contact, cooperation, flow of information, and perceived quality of service(s) provided were analyzed. Most of the organizations do not work through community groups. Instead, they approach the communities at the individual or general community level. Further, those who do so do not prioritize capacity building for the community groups, yet building human, social, and political community capacities are vital for sustainable interventions (Niehof, 2004).

In addition, although the community members' groups are numerous, they are not strong in terms of focusing on objectives and operational effectiveness due to low social capital. Paarlberg (2002) suggests starting with investments in social capital by building strong local and regional rural producers' organizations, because they are vital for information exchange, collective action, and decision making for achievement of food and nutrition security goals.

Status of Income, Food and Nutrition Security

Wealth ranking revealed that households in the area belong to one of three categories: wealthy, ordinary, and extremely poor. Community members generated criteria for each wealth category and eventually ranked each of the group members. We did not find meaningful differences in these criteria among the four communities or along gender and age lines. Table 1 shows the criteria for wealth ranking.

TABLE 1
Criteria for Household Wealth Ranking in Bugabula County

Wealthy	*Ordinary*	*Poor*
Natural capital		
• Owns much land (minimum of 10 acres) • Owns many livestock (minimum of 10 cattle)	• Owns about 4 acres of land • Owns about 2 cattle and 3 goats	• Has less land (about one acre) • Owns no livestock (in some instances, they own hens)
Human capital		
• Attained good education and children are in good schools • Members rarely fall sick. • Has fewer children (around five)	• Attained medium education (up to standard seven) and children attend school • Has many wives and many children (more than one wife and over 10 children)	• Children do not attend school • Members untidy most of the time • Appear sickly and 'pale'
Social capital		
• Usually entertains visitors • Has hired laborers	• Relates well with other people • Does not use hired laborers • Occasional quarrels occur in the home	• Does not relate well with other people—averse to interaction with others, are laborers for others • Rarely entertains visitors • Regular misunderstandings common in the home
Financial capital		
• Has regular and diverse sources of income—dairy farm, tenants' houses	• Has minimal sources of income. Sometimes in debt	-
Built capital		
• Owns a car and a good house (may be made of burnt bricks; has a tin roof; plastered; a cement floor or carpet)	• Has a fair house (may be made of burnt bricks or mud; has a tin roof; no cement floor or carpet; no plaster) • May have a bicycle for means of transport	• Has a grass thatched mud house, sometimes with holes • Has no means of transport
Political capital		
• Has easy access to traditional and local government leaders	• Has easy access to traditional and local leaders	• Rare or no relation with either local government or traditional leaders

Households in the wealthy and ordinary categories have a better political and social capital base which the poor lack, and this advantage tends to exacerbate the gap in terms of how the capitals can be harnessed for livelihood improvements. Although empirical research is inconclusive regarding how capital interactions can contribute to improved livelihoods for different wealth categories, most research indicates that the poorest are the most affected (Beard, 2005; Behera & Engel, 2006). Poor households tend to be more reliant on cultural capital. We cannot assign causality at one point in time, but our research suggests that at the household level the capitals spiral up and down. In this regard, Emery and Flora (2006) observe that access to and investment in one type of capital can lead to achievements in other capitals, potentially leading to improvements in overall livelihood status; the opposite is also possible. Participatory ranking revealed the following distribution of households: 11% wealthy, 47% ordinary, and 42% poor. There were differences in the four communities, with the majority of poor households being from Namasagali parish (48%) and significant percentages (45%) in Bwiza and Naluwoli parishes, reflective of variations in interhousehold and community differences in relation to access to resources, which translates into different standards of living. The rating of food security, based on indicators generated by the community members (Table 2), revealed that only 9% were food secure, 48% food insecure, and 43% extremely food insecure. There were no significant intercommunity differences in food security status as was observed with wealth ranks. This finding is likely due to similar levels of food availability and access (almost exclusively through own production) as opposed to different opportunities for wealth generation among the different communities.

Seasonal calendars depicting availability of food throughout the year were also generated, the main food crops being sweet potatoes, maize, beans, cassava, millet, and groundnuts. As previously mentioned, there are gender differences regarding the foods grown. Thus, during the development of seasonality calendars, participants were subdivided by gender, to effectively obtain information reflecting their particular roles and interests. Generally, for all crops, men dominated bush clearing and marketing, whereas women participated more in weeding. Planting and harvesting were equally shared. Table 3 shows the major contribution, planting, and harvesting periods for the different crops grown in the study area.

TABLE 2
Criteria for Household Food Security Rating in Bugabula County

Food secure	*Food insecure*	*Extremely food insecure*
• Have a full granary or store of food • Eat four times a day • Eat a variety of foods • Are happy most of the time • Rarely fall sick • Possess cultivated land with a variety of crops	• Have a half-full granary or store of food • Eat two times a day • Occasionally eat a variety of foods • Occasionally fall sick • Buy food at times	• Have no granary or store of food • Eat once a day • Do not change foods eaten at home • Work for food from other community members • Usually appear sickly • Children usually eat from the neighbors' homes • Have malnourished and stunted children • Husband and wife always absent from home

TABLE 3
Major Crops Grown, Their Roles, Planting and Harvesting Periods in Bugabula County

Crop	*Major role in the household*	*Period planted*	*Period harvested and consumed*
Maize	Cash	March–April; October–November	July–September; December–January
Groundnuts	Cash	April–June	August–October
Beans	Cash and food	May–July; September–November	August–October; December–January
Sweet potatoes	Food	May–June	August–November
Cassava	Food	April–May	March–August
Millet	Food	July–August	November–December

It was noted that the major crops grown for cash are planted earlier than most of the food crops. It was also revealed that most households do not store the foods after harvest. They are either sold after a few days or consumed in the next few months. As a result, food scarcity progressively sets in before the next crops are harvested, especially since all the major crops are seasonal not perennial. From the analysis, February, March, April, and May are the months of food scarcity for most households, especially those with no cassava and potato gardens. Unlike other crops, cassava and potatoes store for long periods and can be harvested over a long time period.

In times of food scarcity, households usually purchase food from shops using resources saved from previous surplus sales and other income sources. Some community members borrow from colleagues who have stocked enough; they are expected to pay back in kind at a rate of 2 units (bags, tins, or baskets) for one. For members with inadequate resources, the number of meals in the household is reduced. All these strategies appear to be unsustainable, as they depend on how well the household performed in the previous seasons.

In regard to nutrition security, our results confirmed the assertion by Todd (2004) that food security and nutrition security do not necessarily mean the same thing. Different criteria were thus generated for a nutritionally secure household (Table 4) after which the households were rated. During the ranking exercise, it became apparently clear that ''whereas a given household may be in a given category of food security, it does not necessarily mean that their nutrition status is in the corresponding rank, as they may not meet the criteria'' (I. Mbadhi [VEDCO extension staff], personal communication, March 3, 2005). Analyses indicated that 10% of the households considered their members to have a good nutrition status, 52% ordinary, and 38% poor. It also seems that the community-based criteria for nutrition ranking of the

TABLE 4
Criteria for Household Nutrition Status Ranking in Bugabula County

Good nutrition	*Ordinary nutrition*	*Poor nutrition*
• Rarely fall sick • Have bright children • Are energetic • Are happy most of the time	• Have a fairly healthy appearance • Rarely fall sick • Have 'pale' looking children	• Frequently fall sick • Sad most of the time • Have violent, malnourished, and low-weight children

community members are characteristic of human capital, because nutrition and health security are linked to food utilization (Todd).

Use of participatory techniques contributed to a better understanding of the status of community context, assets-capitals, institutions, and livelihood strategies and outcomes compared to conventional methods such as surveys. Community members' experiences and expertise were the main sources of information. This approach enhances the value of contributions made by local people and their sense of ownership in programs designed for development. The data collection process was also an enriching experience for both community members and facilitators, whose contributions stimulated and complemented each other. Repeating the processes in different communities using the same data collection instruments yielded comparable data. So, reliability was not a problem. Community feedback sessions also served to validate the data collected before further program decisions were made.

CHANGES IN PROGRAM ORIENTATION AND IMPLEMENTATION

Based on the assessment of assets-capitals, institutions, organizations, and livelihoods as a result of the processes discussed above, modifications were made to the draft program before implementation. The analysis of assets-capitals revealed a need to address human, social, and natural capital as priorities. Further, provision of training to community members in community nutrition to complement agriculture—the main focus at the draft program design stage—was considered.

Human capital enhancement was addressed through inclusion of a plan for selection of local people to serve as peer trainers. The rationale for this decision was based on the nature of the existing public extension system which had a low coverage for farm households. Thus, to increase the quality of these services and provide opportunities for skill and knowledge enhancement in food and nutrition security, volunteers were selected to undergo intensive training in agricultural production, nutrition, and health issues and would be assisted in mobilization and outreach for 3 years.

Program graduates were, in turn, expected to train their peers through a farmer-to-farmer extension system either as Rural Development Extensionists (RDEs) for food security or Community Nutrition and Health Workers (CNHWs) for nutrition and health. To facilitate their activities, they are provided toolkits (a bicycle, farm tools, etc.). Further, each farmer group is provided with improved crop varieties and livestock breeds to be multiplied through group gardens and livestock units before distribution to group members. In this way, local people gain enhanced knowledge, farm inputs, and skills to grow enough food to improve their nutrition and health status and, ultimately, incomes. RDEs and CNHWs were provided with tools (built capital) to facilitate their volunteer training and outreach work in their communities; this was the only material ''incentive'' that they received. Farm group members who are assisted to achieve food security and marketing success are in a position to purchase their own tools.

For social capital, the program committed itself to working with communities through farmers' groups, both existing and new, rather than with individual households. These groups were encouraged to operate with an appropriate level of formal organization (e.g., having a constitution, elected leadership, etc.) and official registration with the local government system. In addition to providing support to these groups in technical areas (i.e., food security and nutrition), the program enhanced the capability of these groups in terms of internal management

techniques and competencies for members, and initiating linkages with other groups and actors in development. The nature and relatively adequate level of cultural, built, and political capital, as well as enabling institutional frameworks (like decentralization), suggested that leveraging of their benefits was important. Thus, partnerships with the local leadership and staff and promotion of marketable agricultural produce in which area farmers have a competitive advantage were considered valuable avenues for enhanced livelihoods. For natural capital, a full-time natural resource management specialist was recruited to the program, to strengthen the natural resource management component through training of farmers, RDEs, CNHWs, and other forms of support.

CONCLUSION

Addressing the problem of livelihood security in poor and deprived communities is a formidable challenge because it requires attention to a multiplicity of issues. One of the additional challenges associated with this task is accessing information on these diverse issues and the interrelations among them. SLF and CCF have demonstrated potential to guide the generation and analysis of information essential for designing truly sustainable livelihood programs. Participatory methods not only facilitated measurement of various components of the frameworks, but also contributed to effective engagement of all segments and their myriad contributions to program design and implementation. Further, data collection was timed to avoid any conflict with community members' key livelihood and community activities. It proved extremely valuable to organize feedback sessions with the communities and other stakeholders to validate and discuss findings from preliminary analyses; this effort ensured and enhanced their contributions from the earliest stages of the program. The focus of our analysis at baseline led to realization of gaps in human, social, and natural capital components that led to their prioritization compared to other capitals and institutions. Resulting modifications in program orientation and implementation to address these gaps were detailed in the preceding section.

Future work in the program area will include validation of information collected in this study (with subsequent data collected through focus group discussions and surveys). Key program components are evaluated annually. The 5-year evaluation which uses both qualitative and quantitative methods (appreciative inquiry, secondary data, surveys, key informant interviews, group interviews) has recently been undertaken. All these data collection processes have drawn on experiences and lessons learned from this study.

NOTES

1. From *World Factbook*, by the Central Intelligence Agency, 2009, http://www.cia.gov/library/publications/the-world-factbook/. Images in the public domain.

2. A parish is an administrative subunit comprised of 200 households, on average.

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