

## 2.2. The Role of the Project Extension Officer in Charge of Agricultural Trade and Marketing

Since 2010, VEDCO Project Extension Officer (PEO) Ronnie Balibuzani has been responsible for facilitating the development of marketing associations, collection and bulking points, strengthening farmers' access to market information, and training farmers to promote post-harvest technologies. This position is executed in close collaboration with the VEDCO/SRL microfinance and enterprise development officer.

### 2.3. IR 2.1. Marketing Systems for Major Value Chains Strengthened

Baseline information indicated that most farm families earned income from the sale of farm produce. This created a niche for VEDCO/SRL to encourage families to broaden their income opportunities by diversifying into high-value, on-farm enterprises and agro-enterprise development. The expected output of these activities was:

- A more effective group of empowered registered associations that collectively plan and market a specific crop; and
- An increased percentage of households targeting a systematic shift from subsistence farming to more market-oriented farming.

#### 2.3.1. *Producer-Group Capacity Building*

Given the critical importance of local producer groups in sustaining the development of more diversified household incomes, a high percentage of the program's initial activities focused on developing the capacity of the local producer groups. A total of 70 groups (comprised of 1430 households) received the basic trainings in 2004, with another 62 groups (comprised of 1,117 households) receiving training in 2005. To date, a total of 141 groups in all 10 parishes have received the basic and refresher trainings on organizational development and conflict management, as well as more specialized trainings in farming as a business, marketing, record keeping, negotiation skills, and quality management for specific crops.

#### 2.3.2. *Technical Advisory Services and Support to Farmer Income-Generating Activities*

Once the groups had the basic training in organizational development, the SRL Program provided them with technical advisory services delivered by the PEOs and rural development extensionists (RDEs), and later by the community-based trainers (CBTs).<sup>43</sup> To initiate this activity, VEDCO/SRL supported 151 farmers with the development of various enterprises such as groundnut, maize, poultry, pig, and banana (with an average of one related to each group the program worked with) starting in FY2006/07 and continuing to the present time.

#### 2.3.3. *Market Information and Marketing Boards*

To facilitate the groups' commercial enterprises, the SRL Program provided market information via radio and published community information bulletins (48 weekly bulletins per year since 2004). In 2009, the SRL Program facilitated the creation of a marketing board for each of the six parishes to inform farmers of prevailing prices and available markets for their produce (Text Box

<sup>43</sup> The transition from the RDEs and CNHWs to CBTs is explained in Chapter Four (SO4).

2.2). Specific RDEs and community nutrition and health workers (CNHWs) were assigned responsibility for managing these boards and updating the market information.

#### 2.3.4. *Private-Sector Linkages*

VEDCO has also facilitated certain producer groups by linking them to specific private-sector buyers like the Uganda Grain Traders Limited, the World Food Program, and AfroKai (a local produce dealer), especially for maize. In the interest of insuring a standard quality product, these companies have generated their own extension guidance on production techniques and product conservation and handling.

#### **Text Box 2.2. Case Study of Five Market Associations Benefitting from the VEDCO/SRL's Facilitation of Market Information Boards, Private-Sector Linkages, and the Community-Based Satellite Collection Points in 10 Parishes of Kamuli District, 2011 and 2012**

The VEDCO/SRL marketing board system started in 2009. Its aim was to provide farmers with marketing information for the various crops. This information was gathered first by the marketing officer for VEDCO then by the Agric-Trade PEO. Market service provider Agrinet in Kampala provided the information. Each week, the officer/PEO downloaded the information and compiled the information into the marketing information bulletin. The bulletins were then disseminated to all SRL-supported farmer groups through the PEOs of the respective parishes.

One impact of the market bulletins was to alert the five associations working on maize to the fact that the price of maize was higher in Busia (which was about 60-100 kilometers from most of the villages). In 2011, for example, maize was selling for 450 shillings per kilogram (kg) in Kamuli and 790 shillings per kg in Busia. This, in turn, stimulated them to become more active in the collection and bulking points in order to develop larger quantities that could be transported to Busia in order to get better price.

The impact of this activity was that the farmers realized a substantial profit of not less than 200 shillings per kg even after deducting the cost of transportation and bulking.

In January 2012, the soybean producer in the same five associations, after realizing that the price of soybean in Kampala was high, they negotiated a deal with the East Africa Basic Foods company and supplied them with 4,000 kg (four metric tons) of good quality soybeans at 1,500 shillings per kg as compared to the Kamuli price which was 1,000 shillings per kg. After deducting the transportation, loading and off-loading costs, each farmer realized a profit margin of approximately 400 shillings per kg.

**Source:** Program notes from John Sembera and Ronnie Balibuzani, November 2012.

#### 2.3.5. *Community-Based Satellite Collection Points*

To help farmers avoid the types of price collapses that typically follow major food productivity increases, the program facilitated the creation of three community-based satellite collection (bulking) points in three of the six parishes (Butansi, Naluwoli and Kasambira) where the production of groundnuts, maize, and beans was especially successful. The first point was created in Butansi in 2009; the second in Naluwoli in 2010; the third in Kasambira in 2011. The collection points are used to store farmers' surplus produce and bulk the produce for collective marketing. In some instances, the points are also used as meeting points and offices for group members. The collection points are operated by one group member who provides space, and other points are located at the CBT's homes. Members who provided space and the CBTs are responsible for overseeing the activities, ensuring that farmers' produce is secure, and keeping records of the collected produce.

All three bulking centers are considered very successful. By facilitating the bulking of huge volumes of farm produce, group members have had access to good storage facilities and they have been able to bargain for better prices (Table 2.2; Text Box 2.2).

**Table 2.2. Evolution of Crops Stored and Bulked at the Three Collection and Bulking Points Supported by the VEDCO/SRL Program in Kamuli District, 2009 -2012<sup>44</sup>**

Sub-County	Crop	2009	2010	2011	2012
Butansi	Maize	6,000 kgs	6,500 kgs	10,000 kgs	12,000 kgs
	Beans	Estimated: 500 kgs*	Estimated: 650 kgs*	Estimated: 980 kgs*	3,000 kgs
Namasagali	Maize	4,000 kgs	Estimated: 3,000 kgs*	Estimated: 8,000 kgs*	4,000 kgs
	Beans	<i>No sales or bulking due to floods</i>	Estimated: 600 kgs *	Estimated: 1,000 kgs *	2,500 kgs
	Cassava	<i>No sales or bulking due to disease</i>	<i>No sales or bulking due to disease</i>	<i>No sales or bulking due to disease</i>	<i>No sales or bulking due to disease</i>
Kasambira	Beans	Estimated: 1,200 kgs**	Estimated: 1,500 kgs**	<i>No sales due to internal conflicts</i>	<i>No sales due to internal conflicts</i>
	Maize	Estimated 2,050 kgs **	Estimated: 2,080 kgs **	<i>No sales due to internal conflicts</i>	<i>No sales due to internal conflicts</i>

Source: Satellite Collection Point Records analyzed by J. Sembera and R. Balibuzani, November 2012.

### 2.3.6. Marketing Associations

Once groups reached a certain level of capacity, the SRL Program encouraged them to join market associations to enable the farmers to improve market access and thereby increase their income-generating opportunities. Once groups joined a market association it was easier:

- For them to get market information;
- To link them with private companies that needed their products (like beer manufacturers and animal feed manufacturers); and
- For SRL to provide them with technical, market, and business training.

To date, SRL has helped to create and/or provide support for eight marketing associations:

- Five for agriculture: Namasagali Farmers Association (NAFA), Namasagali Parish Farmers Association (NPFA), Naluwooli Bisoboka Farmers Association (NABIFA), Bugulumbya Development Farmers Association (BDFFA), and Butansi Development Farmers Association (BUDFA); and
- Three for piggery and poultry (two for pigs; one for poultry).

Currently, four of the five agricultural associations are functional. The NPFA collapsed in 2009 due to a misunderstanding with the sub-county association (NAFA), which wanted NPFA to join them since they had the same ideology of producing groundnuts (Text Box 2.3).

<sup>44</sup> \*Sales were made individually but not tracked by either the PEO or the person in charge of the bulking center. This figure is an estimate based on the marketing specialist's interviews with members.

\*\*Group sales were made but not tracked. This figure is an estimate based on the marketing specialist's interviews with members.

Some associations were formed at sub-county level (e.g., Namasagali and Bugulumbya) and others at parish level (e.g., Butansi), and they each identified the commodity they wanted to produce and collectively sell as follows: NAFA and NPFA selected groundnuts and cassava; BDFA selected poultry and bananas; BUDFA selected bananas and cassava; and NABIFA selected maize. SRL helped these groups get access to special trainings and improved inputs (Text Box 2.3). Each of these commodity enterprises was carried out on a cost-sharing basis, with VEDCO/SRL making a 50% contribution towards each enterprise. The condition, however, was that VEDCO would make its contribution after the group had raised its 50% of the cost. VEDCO's 50% contribution was limited to cash toward the capital required to buy the starting stock, which in this case was crop seed. For example, under the poultry enterprise for BDFA, each of the 53 members was supposed to pay a sum of Uganda schilling (UGX) 90,000 (about \$45, or USD 45), with VEDCO contributing the same amount for each member. The housing, feeding, and treatment costs were the responsibility of all the members in the association. To aid the smooth running of the associations, members were charged a one-time membership fee of UGX 20,000 (about \$10) and required to open a bank account in a pre-existing bank.

**Text Box 2.3. Case Study: VEDCO/SRL Support to the Namasagali Farmers Association and the Bugulumbya Development Farmers Association in Kamuli District, 2008-2012**

**NAFA:** By 2008, SRL was supporting 40 farmers in Namasagali Farmers Association (NAFA) to acquire improved seeds and establish 40 acres of groundnuts, assisting 10 farmers in establishing 15 acres of groundnuts using saved seed. To support these activities, SRL Marketing and Value Chain Development Officer Ronnie Balibuzan—along with Sam Kibuka and John Sembera—provided trainings in record keeping, cost/benefit analysis, negotiation skills, quality control, post-harvest handling, savings and credit, enterprise selection, planning and management of small-scale businesses (IGAs), and refresher courses offered after reviews and when requested by farmers groups. In 2009, various conflicts emerged within the group and the group disintegrated. In 2010, Balibuzan worked hard to revitalize the group by conducting refresher trainings on good governance and conflict resolution. In 2012, NAFA is again active, and the group sold four tons of maize and 2.5 tons of beans (Table 2.2).

**BDFA:** In 2008, BDFA helped 20 farmers (16 women and four men) acquire 400 roosters and 20 bags of feed. The farmers' cost shared 50% toward the purchase of the one-day-old chicks and groundnut seed. Farmers were trained in market analysis and linked to buyers in markets outside Kamuli. VEDCO/SRL Livestock Officer Dr. Gideon Nadioppe trained NAFA members in breeding, disease control and prevention, animal housing, feeding, records keeping, cost/benefit analysis, negotiation skills, quality control, post-harvest handling, savings and credit, enterprise selection, planning and management of small scale business (IGAs), and refresher courses offered after reviews and when requested by farmers' groups. In 2012, the association decided to concentrate entirely on livestock, and they are working with Dr. Nadioppe and to develop deals with private-sector companies, like Farm Africa, in order to access the more profitable markets.

**Sources:** 2008 CSRL Report with an update by Ronnie Balibuzani, November 23, 2012.

## 2.2. IR 2.2. Access to Credit Improved

Given the very limited access to formal credit services, the SRL Program pilot tested a small microfinance scheme in Namasagali and Bwiiza parishes in 2007. The initial portfolio was a grant of \$8,000 dollars (approximately 14,800,000 Uganda shillings).<sup>45</sup> Out of the 14.8 million shillings, 11 million shillings (USD \$4490) was disbursed and the rest was used to partly cover

<sup>45</sup> Exchange rate was 1850 UGX to USD1.

the operational costs. Farmer training on basic principles of saving and the organization and management of credit groups was started in 2007.<sup>46</sup>

To be eligible for a loan, a candidate had to be an active farmer group member, form a credit group of five trusted members, and be considered “food secure” and capable of repaying the loan. This selection criterion made the farmers more selective regarding whom to include within their groups, thus excluding some of the vulnerable farmers.

After initiation of the credit scheme, the SRL Program:

- Started providing basic and refresher courses for credit groups on savings and credit using standard modules;<sup>47</sup>
- Helped create credit groups from the existing producer farmer groups and facilitated their registration with the sub-county;
- Trained farmer groups and credit groups on the selection, planning, and management of small-scale businesses;
- Conducted loan appraisals; and
- Supervised microfinance disbursements and follow-ups.

Between 2007 and 2012, the SRL microcredit component (Table 2.3) increased:

- The number of clients from 40 to 126 group members and 15 individual clients for a total of 141 clients, a 252.5% increase;
- Loan disbursements from 11,000,000 shillings to 94,995,000 shillings, a 763.5% increase; and
- The size of the loan portfolio from 11,000,000 shillings to 27,674,621 shillings, a 151.5% increase.

All of the credit groups continue to be mentored by the program on how to keep financial records and track the production trends in their respective enterprises.

One promising trend—with major implications for sustainability—is 20 of the 25 credit groups have created their own village savings and loan associations (VSLAs) (Table 2.3).

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<sup>46</sup> **Source:** Concept from the PEO microcredit.

<sup>47</sup> The original module for the VEDCO savings and credit training program was developed by the community-based organization (CBO) Rural Credit Extension Finance (RUCREF), which was VEDCO’s sister organization .

**Table 2.3. Characteristics of the VEDCO/SRL Credit Activities in Kamuli District 2004/2005 and 2012**

Characteristics	At the Beginning (2007)	2008/2009	2012
No. of Sub-Counties	2	3	3
No. of Parishes	4	6	8
No. of Credit Groups	8	18	25
Total Group Membership	40	90	126
No. of Individual Borrowers	0	1	15
Total Clientele	40	90	141
Total Loan Disbursement	UGX 11,000,000 (USD \$4490)	UGX 71,215,000 (USD\$35,6075)	UGX 94,995,000 (USD \$37,998)
Total Portfolio	UGX 11,000,000 <sup>48,49</sup> (USD \$4490)	Data not calculated	UGX 27,6744621 (USD \$11,300)
# of Credit Groups That Have Created VSLAs <sup>50</sup>	0	6	20

Source: M&E reports and microcredit reports, John Sembera and Kato Steven, November 20, 2012.

Participating farmers have provided many testimonials on how the microfinance program has helped them expand their farm enterprises, which has enabled them to pay their children's school fees, meet their household expenses, and even accumulate assets they can sell in times of need (Text Box 2.4).

**Text Box 2.4. Case Study of a Farmer Using Loans from the VEDCO/SRL Microcredit Program to Develop Commercial Enterprises that have Improved Cash Revenues and Food Security in Kassambira Parish, Kamuli District**

Nathan Tenywa is married with nine children, five in primary school and four in secondary. They own about 10 acres of land, but are currently farming on only about eight acres. Prior to working with VEDCO/SRL, Nathan was farming less than four acres of his land. He is one of the farmers who have progressed to agricultural trade and is a member of Mpayenda credit group. Since 2010, he has taken out three loans from the microcredit facility, which has helped expand his commercial banana production. Even though he was affected by the prolonged drought and stormy rains in late March and early April 2012, respectively, and lost over 200 banana stems, he managed to repay the loan on an adjusted payment schedule.

Nathan accessed microcredit three times with three loans. In the first cycle he borrowed 200,000 shillings for adding to his banana plantation, in the second cycle he borrowed 400,000 shillings to help him purchase a maize miller, and the third cycle he borrowed 800,000 shillings to help him purchase a sugar cane hawler (a machine used to press juice from the sugar cane) and a motor/engine.

Today, Nathan and his wife specialize in growing bananas for the market, and he supplies suckers and bananas from within the district. He sold bananas and suckers worth 1,200,000 shillings. He is also proud of being able to provide school fees for his nine children every term. He owns a maize miller and a sugar cane hawler, employs six people, and has increased his income such that he is in position to service his loans properly.

Although Nathan would not have qualified for a loan from a commercial bank in 2010, he would easily qualify now.

Source: VEDCO/SRL documents, November 2012 by John Sembera.

<sup>48</sup> The initial portfolio was a grant of \$8,000 dollars (approximately 14,800,000 shillings). Out of this 14.8 million, 11 million was disbursed and the rest was used to partly cover the operational costs.

<sup>49</sup> Exchange rate of one US\$ to UGX 2,450.

<sup>50</sup> In contrast to the SRL microcredit component, the VSLA affected both VEDCO target farmers as well as non-target farmers.

### 2.3. IR 2.3. Post-Harvest Technologies Improved

Since 2004, SRL has collaborated with a number of government and NGO partners on the identification of new post-harvest handling, storage, and processing technologies. To support these activities, SRL developed a module on post-harvest processing,<sup>51</sup> which was used to train the PEOs as well as the community-based agents, the RDEs and CNHWs.

The first community-based trainings focused on the drying and storage of crop produce and shelling of maize. To support these activities, SRL distributed four maize hand shellers in two parishes in 2007. Two mobile maize shellers were given to two farmer groups in two parishes in two sub-counties in 2010, and 12 more shellers (10 of which were bicycle operated) were given in 2011. Although the shellers were given to specific groups, the groups rented them to non-target groups. Seventy farmer groups were trained in 2004 and 62 farmer groups in 2005; in 2008 the training programs were scaled up to 141 groups per year.

The most recent assessment of these technologies was the 2009 mid-term evaluation report.<sup>52</sup> This report mentions that the maize shellers introduced amongst some groups were favored by farmers and perceived as better than prior practices. Farmers that used the maize shellers have requested improvements since the current design cannot handle large-scale shelling. As farmers expand the total amount of land they planted in maize, they need bigger and better maize shellers.

Another key activity involved building and strengthening the capacity of farmer entrepreneurs to acquire and maintain recommended post-harvest and agro-processing machinery and equipment, including drying and storage facilities.

Although SRL promoted new improved models of granaries,<sup>53</sup> their adoption was low due to farmers' fear of theft. Most farmers (over 80%) store agricultural produce inside the houses where they sleep, either separately (43%) or in a shared room (41%).<sup>54</sup> The principal SRL intervention to date has been the establishment of three storage facilities in 2009, 2010, and 2011 after farmers' reported a maize storage problem. In 2009, 2010, and 2011, the SRL Program trained farmers in using tarpaulins to dry their harvest and distributed several of them to farmer groups. They were also trained in a post-harvest technique of smearing the ground, use of airtight containers, using maize shellers, and solar drying of beans.

The PEO for market specialist's records indicated that every one of the 141 groups—including all of the VEDCO target farmers—in 10 parishes has been trained in post-harvest practices. His personal recollection was that on average about eight persons out of 25 were trained per group.<sup>55</sup>

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<sup>51</sup> The initial VEDCO training module on post-harvest processing was based on the one used by VEDCO in Luwero.

<sup>52</sup> Isubikalu, P, 2009. Evaluation Report: Sustainable Rural Livelihood Improvement Program in Kamuli District, Uganda. Ames, Iowa: Center for Sustainable Rural Livelihoods, Iowa State University.

<sup>53</sup> VEDCO/SRL has not introduced any new types of granaries since 2009.

<sup>54</sup> Isubikalu, P, 2009. Evaluation Report: Sustainable Rural Livelihood Improvement Program in Kamuli District, Uganda. Center for Sustainable Rural Livelihoods, Iowa State University, Ames, Iowa.

<sup>55</sup> Personal communication, Ronnie Balibuzani, Marketing Specialist, November 23, 2012.

Unfortunately, this training information was tracked by neither the quantitative survey<sup>56</sup> nor the program.

### 3.0. Early Evidence of Impact

#### 3.1. For the Intermediate Results (IRs)

##### 3.1.1 IR 2.1. Marketing Systems for Major Value Chains Strengthened

One major impact of the SRL support for market development has been a substantial increase in the percentage of target households growing crops for sale (Table 2.4). This has been especially remarkable for three of the key value chains being promoted: maize, sweet potatoes, and beans. Since 2005, the percentage of households growing maize for sale has doubled from 56.9 to 90.9%, with beans increasing from 29.7 to 59.9% and sweet potatoes growing from 31.3 to 65% (Table 2.4).

**Table 2.4. Percentages of Survey Households Producing and Selling Crops Promoted by the VEDCO/SRL Program in Kamuli District, 2006-2011**

Crop	2006 (n=320)	2007 (n=337)	2008 (n=308)	2009 (n=318)		2011 (n=318)	
				Old (n=263)	New (n=55)	Old (n=263)	New (n=55)
<b>Grown</b>							
Maize	95.9	98.5	94.5	95.8	92.7	90.5	94.5
Beans	66.3	89.9	70.7	66.5	51.0	65.0	54.5
Groundnuts	52.2	77.5	35.3	29.7	30.9	33.5	41.8
Sweet Potatoes	55.0	98.2	69.7	66.9	65.5	83.7	87.3
Cassava	51.6	95.3	68.4	49.1	38.1	61.9	70.9
Bananas	17.8	91.4	53.2	25.5	21.8	37.3	29.1
Grain Amaranth	N/A	54.3	9.2	21.7	10.9	11.8	9.1
<b>Sold</b>							
Maize	56.9	72.5	N/A	85.5	90.9	N/A	N/A
Beans	39.7	33.9	N/A	58.5	50.9	N/A	N/A
Groundnuts	31.9	39.4	N/A	29.3	30.9	N/A	N/A
Sweet Potatoes	31.3	34.2	N/A	65.8	65.5	N/A	N/A
Cassava	30.3	53.6	N/A	48.3	38.1	N/A	N/A
Banana	8.1	48.6	N/A	25.1	20.0	N/A	N/A
Grain Amaranth	N/A	20.8	N/A	9.5	7.0	N/A	N/A

**Source:** Annual SRL Program Evaluation datasets 2006-11 in H. Sseguya, R. Mazur and D. Masinde. 212. Evidence of Impact and Transformation in Kamuli. Kampala: VEDCO/SRL. Pp. 18-19.

<sup>56</sup> The 2009 survey did include information which showed that as of 2009, only 7.2% of the farmers in the program since 2005 had been trained in improved harvest technologies: 3% in sorting, 1.9% in grading, and 11.8% in storage (Source: Additional data analysis by H. Sseguya and S. Kato, November, 23, 2012).



**Text Box 2.5. Case Study of the Early Impact of Activities Under IR 2.1 on a VEDCO/SRL Marketing Group in Kamuli District**

In 2009, the VEDCO/SRL PEO for agricultural trade encouraged a group of target farmers who had been successful in increasing their food security to create a marketing association in order to strengthen their connection to more profitable markets. The group selected an initial group of 10 members from five producer groups that were trained in basic organizational skills by the PEO. Other trainings focused on farming as a business, good governance, collective marketing, quality assurance and savings and credit. This group—like all the other market associations—has an elected committee that oversees all the association’s activities, including action plan development, bulking, quality assurance, and sales. Each member is required to pay a 20,000-shilling (\$10.00) member fee to join and continues to make small weekly contributions, which vary from group to group. These voluntary contributions are pooled into an association that the committee oversees.

After being trained, the Kamu-Kamu association developed an action plan for increasing the group’s commercial production that identified individual member targets for the area to be planted in specific crops such as maize, beans, and soybeans. The association also: (a) mobilized the association members to bring their produce to the satellite collection center for bulking after harvest; (b) accessed a loan from the VEDCO/SRL microcredit program to purchase improved seed, fertilizer, and other inputs; and (c) interviewed various wholesalers in order to determine a suitable buyer in Jinja. One result of these activities was that the group was able to sell their product at a much higher price. During the same year (2010), the group developed internal VSLAs to provide members with small emergency loans that they need to avoid selling crops before the optimum price was available.

In 2011, the group added new members for a total of 26 members from five producer groups. The expanded association continued to develop action plans and encourage group bulking through the satellite collection centers and group sales. After the second maize harvest, individual members used the collective savings from the group’s membership fees and weekly contributions to purchase agricultural products from non-members, which they bulked and sold at a substantial profit in Jinja. During the same period, the association began networking with other producer association in other sub-counties as well as private-sector producers, which helped them access a bigger bulking center in Kamuli town that was much larger than the ones supported by VEDCO.

In 2012, the group submitted a grant to the Ministry of Finance to help it purchase a maize mill in order to provide “value added” to their maize. Although this initial grant was not funded, it reflected the increased entrepreneurial skills of the association.

These activities have had a major impact on the individuals who belong to the associations. One example of this is Mitala Johnson. Based on the increased income he has earned from belonging to the association, he has been able to pay for boarding school for three of his female children. One is now sitting for her senior four level examinations. The other one is in senior three; the youngest one is just leaving primary school. The association has also opened up an opportunity for him to become a district chairperson for the largest farmer association in Kamuli District. He has also made improvements on his house and furnishings. None of this would have been possible without the training and income opportunities he acquired from working with the association.

Musoose Agrey is another member who was supported by the internal VSLA of the marketing association to open up a small grocery store in his home in Kiwungu village, Butansi Parish, Butansi Sub-County 2011. The revenue from the grocery store has enabled him to refurbish his house and create other income-generating activities such as piggery and vegetable growing.

**Source:** Ronnie Buzani and John Sembera. November 20, 2012.

*3.1.2. IR 2.2. Access to Credit Improved*

One major achievement of the VEDCO/SRL activities under IR 2.2 has been to develop a system of credit in eight of the 10 parishes covered by SRL for farmers that have had almost no access to the formal bank or microfinance credit institutions in the area. This program has a high

reimbursement rate and has developed a management model that has enabled it to sustain and grow a small core portfolio that has increased to 151.5% since the loan program was created in 2007. The same program has enabled some of the most entrepreneurial food secure VEDCO target farmers to:

- Invest in new income generating activities;
- Improve their ability to manage credit and commercial enterprises; and
- In most cases, achieve a level of assets and experience that would make them eligible for traditional bank and microfinance institution loans.

To date, however, the strict requirements of the credit program—which include requiring all candidates to be considered “food secure” and VEDCO target farmers—in combination with the relatively small size of the portfolio have limited the impact of the programs to only 142 (11%) of the total number of the VEDCO/SRL target farmers. Although a small number of non-target farmer households have benefited from loans generated by the savings and loan facility of 20 to 25 credit groups, the number is limited. Thus, although VEDCO/SRL has developed a successful program, the microfinance component’s impact has been extremely limited both in terms of the target farmers and the general population.

There is, however, some limited data from the quantitative surveys and from a recent PEO survey, which suggests that an exclusive focus on the SRL microfinance component overlooks the broader impacts of the trainings in terms (Tables 2.5 and 2.6) of:

- Increasing target households’ access to the new registered VSLAs created by almost all of the producer associations and every one of the associations (about five to seven percent);
- The larger number of savings and credit cooperatives (SACCOs) (20-36%); and
- The growing number of households getting credit from formal banks and microfinance institutions (about 10%).

Unfortunately, the way questions were posed in some of the quantitative survey forms made this difficult to document (Table 2.5).

**Table 2.5. Percentage of Survey Households Accessing Credit from Different Sources and for Different Purposes by VEDCO/SRL Program in Kamuli District, 2006-2011**

Access to Credit	2006	2007	2008	2009		2011	
	(n=320)	(n=338)	(n=308)	Old (n=263)	New (n=55)	Old (n=263)	New (n=55)
<b>Households Reporting Accessing Credit this Year (% of households)</b>							
	0	63.3%	31.8%	28.9%	23.6%	50.6%	52.7%
<b>Credit Sources (% of households)</b>							
Commercial Bank	1.2%	0.3%	1.6%			3.6%	
FINCA-Uganda	2.8%	0.9%					
Village Bank (rotating credit within the village)	5.9%	4.7%	1%	1.5%			
Other Microfinance Institutions				3.8%	5.5%		
Neighbors			0.3%				
Friends			4.1%	4.8%		12.5%	3.6%
Relatives			2.9%		3.6%	0.8%	1.8%
Money Lenders						0.8%	1.8%
VEDCO Microcredit			2.6%	8.2%		7.6%	1.8%
VSLAs Started by the VEDCO Credit Groups			6.2%	6.8%	1.8%	5%	7.3%
SACCO (savings and credit cooperatives) <sup>57</sup>			1.6%			20.2%	36.4%
Other NGOs			0.6%				
Other Sources (not listed)	90%	94.1%		8.8%	1.8%	49.1%	
No Credit			80.1%	71%	81.8%		10.9%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>
<b>Credit Purposes (% of households)</b>							
School Fees	11.9%	8.9%	1%	8.4%	9.1%	20.2%	21.8%
Buy Land	3.4%	2.1%				1.5%	
Burial Expenses	0.9%	0.9%					
Farming (paying for labor, renting land, etc.)	7.8%			9.9%	1.8%		
Buy Agricultural Inputs		4.4%				8.4%	1.8%
Business		18.9%		4.9%	10.9%		14.5%
Construction				0.4%			
Medical Bills			2.2%	2.3%		6.1%	7.3%
Buy Household Items						2.7%	5.5%
Household Consumption/Expenses			2.3%	2.7%		0.4%	
Investment						16.5%	
Gifts			10.4%				
N/A	70%	64.8%	79.9%	71%	76.4%	43.4%	29.1%
Other Purposes	6%		4.2%	0.4%	1.8%	0.8%	20%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

**Sources:** 1. Sseguya H. and Masinde D. 2005. Toward Achievement of Sustainable Rural Livelihoods in Kamuli District, Uganda: A Baseline Assessment. Centre for Sustainable Rural Livelihoods, Iowa State University, USA 2. SRL Evaluation datasets (2005 – 11). H. Sseguya, R. Mazur and D. Masinde. 2012. Evidence of Impact and Transformation in Kamuli. Kampala: VEDCO/SRL.

<sup>57</sup> These are grassroots credit cooperatives that are legally registered with the government. Some of them are affiliated with an international or national NGO. VEDCO is currently considering whether it should convert its microfinance program into a SACCO.

**Table 2.6. Number of Target Households That Report Getting Credit from Different Sources, Before and After Being Chosen as VEDCO/SRL Target Farmers (n=# of target households) <sup>58</sup>**

Names of Credit Sources	Baseline (Pre-Involvement in the Program)	2012
Banks	TBD	TBD
VEDCO Microcredit	TBD	TBD
VSLA in Groups	TBD	TBD
VSLA in Associations	TBD	TBD
SACCO	TBD	TBD
Microfinances	TBD	TBD
Village Banks	TBD	TBD
Other Traditional Sources	TBD	TBD
Other Sources	TBD	TBD

Source: PEO data collection underway, December 2012.

Four of the key challenges over the next year include:

- Helping graduate the 141 beneficiary farmers off the VEDCO/SRL credit program onto traditional credit institutions in the zone, for which most of them will now qualify;
- Helping target farmers who might now qualify for traditional credit programs from the pre-existing network of banks and credit institutions to apply for and manage these conventional loans;
- Developing new criteria for the VEDCO/SRL microfinance loans to:
  - Help some of the target households classified as “extremely food secure” or “average” to qualify for loans; as well as
  - Facilitate the graduation of target farmers from the VEDCO/SRL microfinance program to the established network of formal credit institutions or some sort of rotating savings and loan facility (within the credit groups) if the formal credit loans are considered risky for that particular farm as quickly as possible; and
- Exploring different ways to possibly increase the core portfolio of VEDCO/SRL funds available for microfinance loans to vulnerable households through two possible options:
  - Asking for and receiving a grant from an outside source that would increase the size of the loan portfolio that funds disbursement; and
  - For VEDCO to consider creating its own credit cooperative. This status as a credit cooperative would enable VEDCO to increase the scale of its lending programs both in size and in targeting the more vulnerable households.

### 3.1.3. IR 2.3. Post-Harvest Technologies Improved

Since 2009, the VEDCO/SRL Program has played a major role in promoting five promising post-harvest technologies:

- Maize shellers, which reduce the burden of shelling maize;
- Triple bag storage;
- Solar drying for beans, which reduces the post-storage losses; and

<sup>58</sup> In November and December 2012 each PEO was asked to collect this information via the CBTs that they work with.

- Two simple technologies for improved drying of crops before storage of maize, beans, and groundnuts—ground smearing and tarpaulins.

Most of these technologies were identified and tested through SRL collaborative research with centers of excellence like the National Agricultural Research Organization (NARO); one of them—smearing—is an example of local best practice that the program is hoping to scale up.

To date, maize shellers are the post-harvest technology that has been adopted most widely. And there is a great deal of evidence that this adoption has helped create the rapid increase in the total area planted in maize, as well as the 40% increase in the number of households selling maize (Table 2.4 above).

The quantitative survey showed very limited use of improved post-harvest practices in 2009, when SRL started encouraging post-harvest technologies (Table 2.4). The rate of adoption of value-addition practices was still very limited in 2011 (Table 2.7). Given the fact that the marketing specialist either trained or supervised closely the CBT training on post-harvest practices and the demonstrated utility of the technologies in increasing income, this suggests that there may be another constraint—such as affordability—that needs to be examined in greater detail during the next phase.

Unfortunately, the last quantitative survey was conducted in March 2011 when many new technologies were just being introduced, so the recorded levels of adoption were very low (Table 2.7). For this reason, SO2 Team Leader John Sembera and SO2 Marketing and Agric-Trade Officer Ronnie Balibuzani decided to conduct a small micro-survey of post-harvest technologies in collaboration with the PEOs and CBTs working in these areas.

**Table 2.7. Percentage of Households Targeted by VEDCO/SRL in Six Parishes of Kamuli District that Reported Using a Post-Harvest or Value-Added Practice in 2009 and 2011 (n=the sample size)<sup>59</sup>**

Evidence of Post-Harvest Losses and Marketing Processes <sup>60</sup>	2009		2011	
	Old (n=263)	New (baseline for farmers added in this year) (n=55)	Old (n=263)	New (n=55)
<b>Post-Harvest Practice</b>				
<b>Sorting:</b> Reducing the labor improving the quality of the product by separating the sellable product from the crop byproducts (technologies promoted: maize shellers, ground smearing)	25.9% (68)	3.6 % (2)	Not collected	Not collected
<b>Storage:</b> Reduce storage losses (technologies promoted: triple bagging of beans, solar drying of beans)	61.2% (161)	7.3% (4)	Not collected	Not collected
<b>Grading:</b> Separating different qualities of product which enables the farmers to get a higher price for higher grade products and to be more competitive in competitive markets that have higher prices (technologies promoted: ground smearing, solar drying of beans)	6.1% (16)	1.8% (1)	Not collected	Not collected
<b>Harvesting:</b> Reducing the losses associated with harvesting	40.3% (106)	29.1% (16)	Not collected	Not collected
<b>Value-Added Practices</b>				
Milling	n/a	n/a	9.5% (25)	1.8% (1)
Threshing	n/a	n/a	2.7% (7)	1.8% (1)
Packaging	n/a	n/a	12.2% (32)	0% (0)
Slicing	n/a	n/a	8.4% (22)	1.8% (1)

**Source:** Based on analysis of 2009 and 2011 VEDCO/SRL quantitative survey data done by H. Sseguya and S. Kato with input from R. Balibuzani and J. Sembera.

<sup>59</sup> **Methodology:** Quantitative survey on a random sample of 318 households in 2009 and 318 households in 2011 that provided the basis for the annual evaluation of the SRL Program.

**Acronyms:** N/A=non applicable. N= (number of households in the sample).

<sup>60</sup> The survey asked farmers whether their practices: (a) improved practices for grading, sorting, storage, and harvesting in 2009; and (b) in 2011, whether they practiced improved value-added processes. Unfortunately, no data on specific technologies was collected. This is an oversight that will be corrected in 2013.

**Table 2.8. Number of Target Farmers who Report Using a New Post-Harvesting Technology Before and After Becoming VEDCO/SRL Farmers<sup>61</sup>**

Technology Promoted	Before Becoming a Target Farmer	After Becoming a Target Farmer
Maize Shellers	TBD	TBD
Ground Smearing	TBD	TBD
Triple Bagging of Beans	TBD	TBD
Solar Drying of Beans	TBD	TBD
Have You Ever Taken Crops to a Satellite Collection and Bulking Point?	TBD	TBD
Have You Ever Sold Crops through a Satellite Collection and Bulking Center?	TBD	TBD

**Source:** PEO and CBT data collection underway, December 2012.

The key challenge facing the program over the next five years is not to better identify technologies, but to:

- Identify some of the reasons for non-scale up (non-adoption); and
- Have better information (in the form of case studies and applied research) about the impact that this technology is having on household livelihoods and food security.

### 3.2. For the Strategic Objective

#### 3.2.1. *Impact on Household Income on Household Assets Needed to Sustain Rural Livelihoods*

Some of our best indirect evidence about the link between increased income and livelihood improvements is household investments in durable investments, education, and health. A recent longitudinal analysis of household investments in durable household goods, transportation, and electronics showed a substantial increases household ownership of mobile telephones (from 8.8% of target households in 2006 to 38.2 -41.1% in 2009) and lamps (from 8.7% in 2007 to 29.1% in 2009) (Table 2.9). The slight recorded increase in improved housing—from 77.2% of the targeted households to 87.5% of the “old” ones, i.e. households that have been target households for the program since 2004 or 2005—conflicts with other SRL data that shows a substantial increase in the number of sanitation and hygiene facilities in the target households.

Unfortunately, the current structure of the survey does not track these more qualitative investments in housing nor household investment in children’s education or health expenditures (Table 2.9).

<sup>61</sup> **Methodology:** PEOs and CBTs collected the data using a standard form in the course of the regular meetings with CBTs and PEOs.

**Table 2.9. Changes in Household Assets and Possessions in the VEDCO/SRL Program Area in Kamuli District, 2006-2011**

Assets and Possessions	2006 (n=320)	2007 (n=337)	2008 (n=308)	2009 (n=318)		2011 (n=318)	
				Old (n=263)	New (n=55)	Old (n=263)	New (n=55)
<b>Personal/Household Possessions</b>							
Radios	77.8	76.6	85.6	77.2	70.9	N/A	N/A
Watches	23.9	24.6	N/A	18.6	12.7	N/A	N/A
Clocks	25.4	30.5	38.6	26.2	21.8	N/A	N/A
Bicycles	67.1	81.1	84.3	76.4	70.9	N/A	N/A
Mobile phones	8.8	16.3	41.8	41.1	38.2	N/A	N/A
Television sets	3.5	3.0	3.6	2.7	3.6	N/A	N/A
Motorcycles	1.0	4.1	4.2	N/A	N/A	N/A	N/A
Motor vehicles	0.7	0.3	1.0	1.9	1.8	N/A	N/A
Lamps	N/A	8.7	8.8	41.8	29.1	N/A	N/A
<b>Housing Materials</b>							
Brick walls	77.2	78.9	N/A	87.5	81.8	N/A	N/A
Iron sheets	88.1	89.6	N/A	91.3	85.5	N/A	N/A
Cement floor	27.5	28.6	N/A	38.8	30.9	N/A	N/A
Gazebo	29.4	34.0	N/A	24.3	21.8	N/A	N/A

**Source:** SRL Evaluation datasets (2005 – 11). H. Sseguya, R. Mazur and D. Masinde. 2012. Evidence of Impact and Transformation in Kamuli. Kampala: VEDCO/SRL.

### 3.2.2. *Impact on Food Access: Household Food Security and Dietary Diversity Score Indicators*

Since 2005, the SRL Program has tracked the impact of its program on food access with two of the most widely accepted food access indicators: the Household Food Security Scale (HFSS);<sup>62</sup> and the Household Dietary Diversity Score (HDDS) for Measurement of Household Food Access.

<sup>62</sup> “The United States Department of Agriculture (USDA) developed a household food security scale (HFSS) based on an 18-item questionnaire that measures household food security status in the preceding 12 months (Hamilton et al., 1997). The questions measured four underlying conditions or behaviors in the households: (1) anxiety about the food budget or food supply; (2) perceptions that food is inadequate in quantity and/or quality; (3) reduced food intake in adults; and (4) reduced food intake in children. The series of questions were then converted into a food security scale using a Rasch Measurement Model. The scale is a continuous measure ranging from a zero to ten. These scales have cut off points, which signify the food security status of a given household (Smith, 2001).

The HFSS has undergone minor modifications over the years and has been reliably used to measure food security in the USA annually. Realizing that the scale can be potentially used in developing country contexts, USDA jointly worked with developing country governments, scientists and non-governmental organizations to adapt it to the different cultural contexts in these countries (Coates et al., 2006). Results of tests conducted in Burkina Faso, Bangladesh, Bolivia, Ghana, and the Philippines indicated that the HFSS approach to developing an experiential Household Food Insecurity Scale (HFIS) can be applied successfully to different developing and developed country contexts. However, similarities can only be adduced on four underlying domains of food insecurity (access) represented by nine questions that appear to be universal across different countries and cultures (Coates et al., 2007). These include anxiety and uncertainty about the household food supply, insufficient food quality, insufficient food intake, and its physical consequences. These are the questions [SRL] used to measure food access. Because of problems of recall, [SRL] adapted the recall period and reduced it from one year to four weeks.” (H. Sseguya, R. Mazur, and D. Masinde. 2012. Evidence of Impact and Transformation in Kamuli. Kampala: VEDCO/SRL. Pg. 21.



The HFSS that VEDCO/SRL uses was adapted to an African context through a series of applied research grants organized by the USAID-funded Food Aid and Technical Assistance (FANTA) Project and Cornell University. SRL has used an adapted version of the original questionnaire—which asked nine questions for a one-month period of reference in all of its survey except for the original baseline.<sup>63</sup>

The second access indicator was the HDDS. The version of the HDSS used by SRL organized foods into eight groups: cereals, legumes, nuts, tubers, vegetables, fruits, animal products and fats, and oils and sugars. Farmers were asked whether they had consumed the above foods in the last 24 hours, last three days, last week, and last three weeks (last one month).

### 3.2.2.1. Household Food Security Scale

The longitudinal analysis of the HFSS shows a substantial increase in the number of households classified as food secure. Although the global trend is positive (i.e. in the direction of an increase in the number of food secure household), there is still a substantial peak in the number of households classified as “extremely food insecure” from 2007 to 2009 due to floods, delayed rains, and crop diseases which had a very negative effect on crop yields. The fact that more of the “old” households (i.e. households who had been working with the SRL Program for seven years) were less food insecure than the “new” households (households who had been working with the program for only two years) is important since it suggests that longer involvement the program has indeed increased resilience (Table 2.10).<sup>64</sup>

**Table 2.10. Changes in Food Security Levels Percentages for Households Participating in the VEDCO/SRL Program in Kamuli District (2005 – 2011)<sup>65</sup>**

Status	2005* (n=800)	2006 (n=292)	2007 (n=336)	2008 (n=308)	2009		2011	
					Old (n=263)	New (n=55)	Old (n=263)	New (n=55)
Food Secure	9.2	48.6	82.1	63.7	43.7	43.6	67.3	56.4
Food Insecure	48.3	17.8	10.4	18.8	24.0	25.5	23.2	36.4
Extremely Food Insecure	42.5	33.6	7.5	17.5	32.3	30.9	9.5	7.4

**Source:** SRL Evaluation datasets (2005 -11). In H. Sseguya, R. Mazur and D. Masinde. 2012. Evidence of Impact and Transformation in Kamuli. Kampala: VEDCO/SRL.

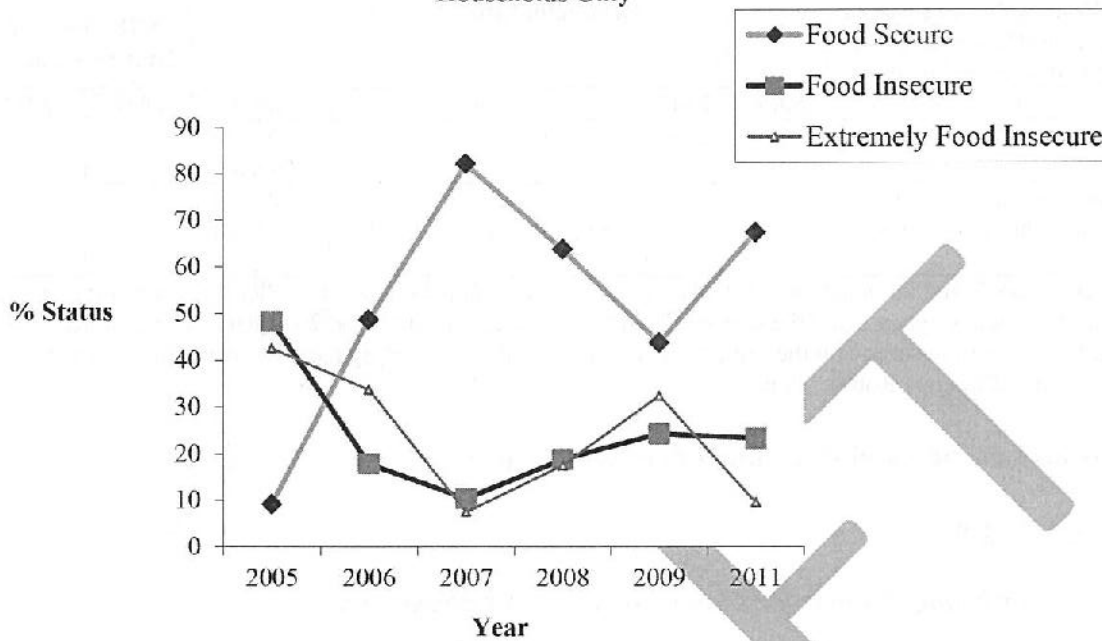
<sup>63</sup> These modifications are discussed in H. Sseguya, R. Mazur, and D. Masinde. 2012. Evidence of Impact and Transformation in Kamuli. Kampala: VEDCO/SRL. Pg. 21-24.

<sup>64</sup> SRL Evaluation data sets (2005 -11). In H. Sseguya, R. Mazur and D. Masinde. 2012. Evidence of Impact and Transformation in Kamuli. Kampala: VEDCO/SRL. Pg. 24.

<sup>65</sup> **Methodology:** (a) Measurement of food security status in 2005 was based on the indicators generated by community members using the food security rating participatory tool

(b) The HFSS scale questions have undergone minor modifications over time and since 2008, we have been using the recently released scale that replaced one of the questions in the scale. It is noteworthy that the measurement approaches and interpretation have not changed a great deal.

**Figure 2.1. Food Security Trends in the SRL Program Area (2005-11) - Old Households Only**



**3.2.2.2. Household Dietary Diversity Score (HDDS)**

The program analysis from 2006 to 2008 showed the average household dietary diversity score as being 7.5 in 2006, 2007, and 2008. In 2011, the HDDS analysis that the SRL nutrition and HIV/AIDS officer conducted on the same households showed a net decrease to five (out of eight groups). The general consensus among the team is that the current way the team is recording the data on the adjusted form is not working. Future SRL surveys need to help VEDCO adopt either a better indicator or better-standardized procedures for the collection and analysis of the data.

**Table 2.11. Changes in the Household Dietary Diversity Score for Households Participating in the SRL Program (2005 – 2011)<sup>66</sup>**

Number of Households and Foods Consumed out of the Basic Eight Food Groups in the Last Month	SRL Quantitative Survey				SRL Health & Nutrition Survey		
	2006*	2007	2008		2009	2010	2011
Number of households in the survey	320 <i>hh</i>	338 <i>hh</i>	308 <i>hh</i>	308 <i>hh</i>	<i>Not collected</i>		308 <i>hh</i>
Number of food groups consumed out of the basic eight food groups in the last month	7.4	7.8	7.5 ( <i>time of plenty</i> )*	5.9 ( <i>time of scarcity</i> )*	<i>Not collected</i>		5

**Source:** The 2006, 2007, and 2008 data was calculated as part of the annual quantitative SRL Program survey under the leadership of Haroon Sseguya using the standard HDDS guidance. The 2010 and 2011 data was generated by a separate Health and nutrition survey on the same sample of households covered by the SRL quantitative survey under the leadership of Magezi Robert Winx.<sup>67</sup>

#### 4.0. Lessons Learned and Recommended Next Steps

##### 4.1. Lessons Learned

##### 4.1.1. *IR 2.1. Marketing Systems for Major Value Chains Strengthened*

##### Observations:

There is abundant anecdotal data that the vulnerable households targeted by VEDCO benefited from the business and market training offered to them through their producer groups and market associations. To date, however, it is unclear:

- Which elements of this component of the program have been most effective in building market access;
- What is the best means for VEDCO to sustain the most critical elements with local partners; or
- Which associations are strong in which areas and which are not.

<sup>66</sup> **Methodology:** The version of the HDSS used by SRL grouped foods into eight groups: cereals, legumes, nuts, tubers, vegetables, fruits, animal products and fats, and oils and sugars. Farmers were asked whether they consume the above foods in the last week. Surveys used a standard form adapted to Uganda from the FANTA-recommended HDDS that asked households to recall their consumption of foods from eight food groups for the previous month. Figure represents the weighted mean for all of the case. The 2008 survey asked household to calculate the food groups in a time of plenty and a time of scarcity. This was the only time this was done.

<sup>67</sup> “Dietary diversity score was calculated from eight food groups of cereals, legumes, nuts, tubers, vegetables, fruits, animal products and fats, oils and sugars. Analysis indicates that the average dietary diversity score in the period of a week is five, i.e. households consume foods from five groups. Further analysis indicates that 90 percent of the households consume equal to or more five groups indicated in the questionnaire as seen in the appendix. However, results show that 90% of the households do not have kitchen gardens required in the promotion of consumption of fresh vegetables.” Source: Magezi Robert Winx. 2012. VEDCO/SRL Nutrition and Health Survey Report 2011-2012. Kampala: VEDCO. Pg. 16.

### Recommendations:

- Prior to the next planning session (in March 2013), conduct a thorough review of the training and capacity activities for the market associations and solicit their feedback on which elements they consider to be most effective;
- In conjunction with the market associations, devise better methods and tools to analyze markets and market information to identify local, regional, and national market opportunities and link with partners specializing in business strategies and support tools for small-scale enterprises; and
- Work with VEDCO/SRL experts in charge of capacity building to develop an adapted version of the Food Security Community Capacity Index (FSCCI) self-assessment tool which will help market associations “self-assess” themselves on the key capacities that they need to develop more effective marketing systems. If this tool is used regularly (i.e. biannually or annually) it will provide useful feedback to the SRL managers that will help them to better tailor training and support.

#### *4.1.2. IR 2.2. Access to Credit Improved*

### Observations:

There is abundant anecdotal evidence that the small SRL microfinance credit program has helped a large number of farmers who were already classified as food secure<sup>68</sup> to develop profitable commercial activities that are likely to help them to further consolidate their food security. And, there is additional evidence that this microcredit facility helps a tranche of farmers who would not have had this opportunity through the mainstream bank and microcredit facilities in the zone, and that it increased farmers’ willingness and ability to look at other credit sources as well, including the VSLAs, SACCOs, and other microfinance and banking institutions.

### Recommendations:

Prior to the next planning meeting in March 2013, the microfinance and enterprise development officer should collaborate with the M&E officer on the design and execution of a simple impact survey that would describe the:

- Credit requirements of other actors in the eight (out of 10 total) parishes where the SRL credit program is active; and
- Impact of the SRL microfinance program to date on the 141 target farmers that it currently serves in terms of the:
  - Shift in their food security status, income, and assets;
  - Likelihood that they could get credit from one of the existing area institutions; and
  - Impact of the internal savings and loans programs that 20 of credit groups (out of 25) have developed which benefit both target and non-target farmers.

Based on this analysis, VEDCO/SRL needs develop a revised plan for microfinance activities over the next five years during its forthcoming March 2013 meeting that will:

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<sup>68</sup> This is a criteria for receiving a loan.

- Develop a plan for graduating the current credit beneficiaries;
- Revise the SRL credit requirements (interest rate, repayment schedule, eligibility requirements, etc.) needed to encourage a wider base of participation and impact; and
- Determine if VEDCO/SRL wishes to explore either of the options identified above for expanding its microfinance portfolio.

During the same meeting, VEDCO/SRL needs to identify a revised list of indicators that will take into account this revised program model—i.e. a tracking table that tracks both graduates and households still in the entry microfinance program as well as target farmers and non-target farmers that are benefiting from the savings and loan facilities of the loan groups.

#### *4.1.3. IR 2.3. Post-Harvest Technologies Improved*

##### Observations:

Since 2009, the VEDCO/SRL Program has played a major role in promoting five promising post-harvest technologies that it identified through its linkages with NARO and local best practice. To date, however, the maize sheller is the only new post-harvest technology that has been widely adapted.

Two of the key challenges facing the program over the next five years are not to better identify technologies, but to:

- Identify some of the reasons for non-scale up (non-adoption); and
- Collect better information (in the form of case studies and applied research) about the impact that this technology is having on household livelihoods and food security.

##### Recommendations:

- Prior to its next planning meeting in March 2013, it would be useful for VEDCO/SRL staff to conduct a series of focus group discussions to help it better understand some of the reasons that the promising new technologies have not been adopted on a wider scale; and
- Based on this information, VEDCO/SRL needs to develop a plan for accelerating the adoption of the most promising new technologies in conjunction with its other activities among the target farmer.

#### 4.2. Cross-Cutting Lessons Learned

##### *4.2.1. Monitoring and Evaluation*

##### Observations:

One major achievement of the SO2 team's extensive review of the current output and impact indicators being proposed for this IR is to identify the strengths, weaknesses, opportunities, and threats (SWOTs) of using this indicator for future planning and evaluation. The team has also developed a priority list of internal indicators they would like to track (Text Box 2.6).

## Recommendations:

Based on the analysis in this report and the indicator review which was conducted during the September 2012 workshop (Text Box 2.6), the SO2 team should be better placed to develop a revised list of output indicators (or monitoring indicators [MI]) for tracking key activities as well as impacts for the revised program during the November 2012 planning session.

### **Text Box 2.6. Preliminary Proposals for Issues to be Tracked by the SO2 Team Developed During the September 2012 VEDCO/SRL M&E Workshop**

#### **IR 2.1. Marketing Systems for Major Value Chains Strengthened**

- *Capacity in agro-enterprises development*
- *Access to microcredit*
- *Access to post-harvest technologies*
- *Enterprises develop both agro-enterprises and off-farm activities for markets*
- *Agro-processing initiatives*
- *Sources of information for market information*
- *Number of trainings on enterprises that farmers attend/participate*
- *Number and type of farmers associations formed and their characteristics*
- *Number of market and enterprise visits by farmers. This includes visits to major markets, supermarkets, hotels and restaurants, wholesale and retail markets, and food and agro-processing companies in nearby towns and cities, including capital cities*
- *Home and household/personal investments from selling to markets*
- *Number and type of inputs and service providers that farmers have access to*

#### **IR 2.2. Access to Credit Improved**

- *Outreach (Total number of borrowers and their basic characteristics)*
- *Financial status and poverty level of borrowers*
- *Education status of borrowers and their families*
- *Health status of borrowers and families*
- *Durable/nondurable household goods in the household*
- *Current borrower bill payments*
- *Cash resources and incomes*
- *Average value of food expenditure*
- *Total loan portfolio, repayment, and recovery rates*
- *Business type and its location*
- *Enterprises developed from loans (both agro-enterprises and off-farm activities)*
- *Financial sustainability, e.g., is the scheme profitable enough to maintain and expand its services without continued injections of subsidized donor funds?*
- *Efficiency—how well does the scheme control its administrative costs?*

To track the above indicators, develop an Indicator Performance Tracking Table (IPTT) database that is incorporated into the loan-application system. As the farmers apply for loans, the PEO interviews the borrower and enters the data directly into a computer. The indicators are updated or recollected when the farmer re-applies. This allows for tracking changes in these indicators over the time whenever the farmer borrows.

In addition, an annual or biannual multicomponent impact analysis including a cross-sectional comparison of borrowers and non-borrowers, in-depth interviewing of samples of multiyear borrowers, a survey of ex-borrowers, and focus group interviews should be conducted.

#### **IR 2.3. Post-Harvest Technologies Improved**

- *Number and type of post-harvest technologies and new farmer innovations*

- Number and gender of farmers attending post-harvest training courses
- Energy use of post-harvest technologies

Source: SO2 Working Group, VEDCO/SRL M&E Workshop. September 2012.

#### 4.2.2. Complementary Applied Research Topics

##### Observations:

Each year, between 20-30 undergraduate students participate in the service-learning program. Another five to 10 Iowa State University (ISU) and Makerere University (MAK) graduate students are either directly or indirectly involved with the SRL Program, and many faculty members are interested or actually come out for short-term support.

##### Recommendations:

One of the key recommendations from the September 2012 workshop was to develop a list of applied research topics that could provide input and management decisions that the program is likely to face in 2013 and 2014 (Table 2.12).

**Table 2.12. Suggested Areas for Applied Research and Case Studies that Could Contribute to the VEDCO/SRL M&E System**

Topic	Short-Term Case Study (One Week; Undergraduate, Graduate, or Faculty)	Three-Month Project (Masters Thesis)	One- to Two-Month Research Project	Long-Term Research Project
<b>IR 2.1. Marketing Systems for Major Value Chains Strengthened</b>				
Case study of one marketing association (including five members) with photos essay following a standard format to be developed	X			
Case study of the Butansi collection and bulking point	X			
An applied research project comparing marketing associations with recommendations for modifying the FSCCI as a self-assessment tool for measuring core capacities in key areas		X	X	
Longer-term research project (by a MAK and/or ISU faculty member) to track the execution and impact of activities under this IR				X (linked to M&E)
<b>IR 2.2. Access to Credit Improved</b>				
An applied research project looking at the impact of the SRL microfinance activities.	Case study of a particular farmer or group of farmers loan histories	An economic analysis of the 141 farmers that have benefitted from the SRL	An economic analysis of the 141 farmers that have benefitted from	

Topic	Short-Term Case Study (One Week; Undergraduate, Graduate, or Faculty)	Three-Month Project (Masters Thesis)	One- to Two-Month Research Project	Long-Term Research Project
		credit facilities	the SRL credit facilities	
An applied research project comparing credit groups with recommendations for modifying the FSCCI as a self-assessment tool for measuring core capacities in key areas			Yes	
Longer-term research project (by a MAK and/or ISU faculty member) to track the execution and impact of activities under this IR				X (linked to M&E)
<b>IR 2.3. Post-Harvest Technologies Improved</b>				
Case studies of existing food processing and storage technologies to identify the major constraints to adoption (one per technology per parish) with photo essays following a standard format to be developed	X	X (of specific technologies for specific crops)	X (of specific technologies for specific crops)	X (of specific technologies for specific crops)

Source: VEDCO/SRL staff recommendations, M&E Workshop. November 2012.



## Chapter Three

### Strategic Objective Three (SO3) Reduce Malnutrition Levels Among Women of Reproductive Age and Children

Esther Matama, Benon Musaasizi, and Laura Byaruhanga<sup>69</sup>

#### 1.0. Background

#### 1.1. Baseline Nutritional Situation of the Program (2001-2005)

##### 1.1.1. *Baseline Nutrition and Health Statistics in Uganda*

Protein Energy Malnutrition (PEM), together with micronutrient deficiencies (Vitamin A, Iodine, and Iron), are among the most serious health and nutrition problems in Uganda.<sup>70</sup> In 2001, the Uganda Demographic and Health Survey (UDHS) estimated that (Table 3.2):

- 28% of children in Uganda below five years of age suffer from Vitamin A deficiency (VAD)—the total VAD prevalence rate is 5.4%;
- 64% suffer from iron deficiency anemia (IDA);
- 60% suffer from various iodine deficiency diseases; and
- 73% of children under five years old are anemic.

Despite rapid growth in the country's gross national product over the last 25 years, Uganda still suffers from very high malnutrition rates (Table 3.1):

- Stunting rates in children under five decreased slightly from 45% in 1988 to 39% in 2000 and 38% in 2006; and

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<sup>69</sup> **Benon Musasizi** is currently the VEDCO project coordinator for developing and delivering bio-fortified crops (Vitamin-A sweet potatoes and high iron beans) in Uganda funded by USAID through Harvest Plus (February 2012-present). Previously he was project coordinator for sustainable wealth creation in Uganda, funded by NOVIB (May 2011-February 2012); project coordinator for the VEDCO Food Security and Livelihoods Recovery Project Amuria, funded by Concern World Wide (February 2012-April 2011); and project officer of Nutrition & Health for Sustainable Rural Livelihoods funded by the Iowa State University/VEDCO/SRL Program (February 2006 -January 2010).

**Esther Matama** recently joined SRL as a community nutritionist, ISU/VEDCO/SRL Program. She heads the nutrition component of the SRL Program and is responsible for providing technical support to staff, CBTs, and the community to identify and screen malnourished cases in the community for counseling and referrals. She conducts trainings on basic nutrition principles, nutrition care and support for vulnerable people, and conducts food demonstrations on nutrient-dense porridge and foods for malnourished children and PHAs. She also provides support to WASH activities where the community is encouraged to establish and use hygiene and sanitation facilities such as tippy taps, toilets, bathrooms, and compost pits, among other activities.

**Laura Byaruhanga** has been working as a community nutritionist for SRL since 2010. She is currently responsible for managing and establishing sustainable school feeding programs in rural communities and providing technical expertise on nutrition, including nutrition education to primary school children, women of childbearing age, and pregnant and lactating mothers at the Nutrition Education Centre. The school feeding is a program that addresses a cross-cutting IR under the program's SO1, SO2, and SO4, as well as SO3. She is in the process of completing a masters thesis on the topic of "Cost Effectiveness and Nutrient Adequacy of a Garden-Linked Feeding Program in Rural Kamuli District Uganda: Case of Namasagali Primary School."

<sup>70</sup> H Bachou, 2000. Nutrition Situation in Uganda. Kampala, Uganda..

- The percentage of children under five classified as underweight decreased from 23% in 2000 to 16% in 2006; but
- The proportion of children under five classified as “wasted” actually increased from 2% in 1988 to 4% in 2000.

One of the principal causes of Uganda’s high rates of child malnutrition is the poor nutritional status of the mothers (Table 3.1):

- Over 12% of women of reproductive age have chronic energy deficiency (low body mass index, or BMI);
- 50% of women are anemic; and
- 19% of women between 15-49 years have VAD.

### 1.1.2. Baseline Nutrition and Health Statistics in Kamuli District

In 2001, the recorded levels of wasting in children under five years of age was substantially higher (9.9%) than the national average (4%) and underweight was rated at 22.5%, almost equaling the national average of 23% (Table 3.1).<sup>71</sup>

**Table 3.1. Standard Health and Nutrition Indicators for Kamuli District and Uganda in 2001 and 2006**

Standard Health and Development Indicators	National Figures		Kamuli District (East Central or Eastern Region) <sup>72</sup>	
	2001 <sup>73</sup>	2006 <sup>74</sup>	2001	2006
Stunting Under Five Years	39%	38%	38.3%	35.4%
Underweight Under Five Years	23%	16%	22.5%	22.9%
Wasting Under Five Years	4%	6%	9.9%	4.3%
Children Under 5 Years with Vitamin A Deficiency	28%	20%	27.6%	32.3%
Children Under 5 Years with Iron Deficiency	64%	73%	40%	52%
Women with Anemia	30%	13%	9.7%	10.6%
Women with Vitamin A Deficiency	>50%	26.4%	51.7%	19%

Source: Uganda Bureau of Statistics (UBOS) 2001. Uganda Demographic Health Survey. Calverton Maryland USA for ORC Macro International, Kampala, Uganda. December 2001.

## 1.2. Baseline SRL Survey Data

### 1.2.1. Classification of Household Nutritional Status in Namasagali Sub-County

The SRL Program’s baseline participatory rural appraisal (PRA) used an operational definition of nutrition as “the means by which food is processed in such a way that it benefits the body.”<sup>75</sup>

<sup>71</sup> Uganda Bureau of Statistics (UBOS) 2001. Uganda Demographic Health Survey. Calverton Maryland USA for ORC Macro International, Kampala, Uganda. December 2001. Pg. 154.

<sup>72</sup> Note: In 2001 all UBOS health statistics for Kamuli are grouped with those for the Eastern region and in 2006, it was placed in East Central Region. Therefore these figures reflect these grouped statistics.

<sup>73</sup> UBOS 2001. Uganda Demographic Health Survey. Calverton Maryland USA for ORC Macro International, Kampala, Uganda. December. 2007. Pp.154, 158,160,163 and 164.

<sup>74</sup> UBOS 2006. Uganda Demographic and Health Survey. Calverton Maryland USA for ORC Macro International. August 2007. Pp.152,153,164,171,177-179.

Criteria for good, ordinary, and poor nutrition were also generated by the community, after which participating households were rated in terms of nutrition status. Based on this analysis, it was concluded that six-nine percent of the participating households in Namasagali and Bwiiza parishes had “good” nutritional status based on popular perceptions of what this constituted (Table 3.2).<sup>76</sup>

**Table 3.2. Criteria for Nutritional Status Ranking in Bwiiza and Namasagali Parishes and Percentage of Households Ranked in Each Category (HH=Households)<sup>77</sup>**

Good Nutritional Status	Ordinary Nutritional Status	Poor Nutritional Status
<b>Namasagali Parish</b>		
10% IIII	48% HH	42% HH
<ul style="list-style-type: none"> <li>• Healthy looking</li> <li>• Rarely fall sick</li> <li>• Bright children</li> <li>• Energetic</li> </ul>	<ul style="list-style-type: none"> <li>• Fairly healthy looking</li> <li>• Rarely fall sick</li> <li>• Pale looking children</li> </ul>	<ul style="list-style-type: none"> <li>• Unhealthy looking family members</li> <li>• Not energetic</li> <li>• Frequently fall sick</li> <li>• Sad most of the time</li> <li>• Pale skin</li> </ul>
<b>Bwiiza Parish</b>		
6% HH	47% HH	47% IIII
<ul style="list-style-type: none"> <li>• Healthy looking</li> <li>• Rarely fall sick and quick recovery</li> <li>• Diversity of foods eaten</li> <li>• Happy and bright children</li> <li>• Do not eat at neighbors' places</li> </ul>	<ul style="list-style-type: none"> <li>• Fairly healthy looking</li> <li>• Rarely fall sick</li> <li>• Sometimes changes food diets</li> </ul>	<ul style="list-style-type: none"> <li>• Unhealthy looking family members</li> <li>• Frequently fall sick</li> <li>• Malnourished</li> <li>• Lightweight children</li> <li>• Sad most of the time</li> <li>• Not energetic and lethargic</li> </ul>

Source: H. Sseguya and D. Masinde, 2005. Towards Achievement of Sustainable Rural Livelihoods in Kamuli District: Uganda. A baseline assessment. Sustainable Rural Livelihoods. Ames, Iowa: Iowa State University for Makerere University and VEDCO. Pp. 31, 32, 40, and 41.

### 1.2.2. Major Health Problems in Nahuwoli, Bwiiza, and Namasagali Parishes

The SRL Program utilized participatory methods to identify and rank community health problems and further analyze the root causes and joint actions needed to address these issues at the household and community levels. Community members were asked to list major health problems, after which they were scored between 1-10, with the most prevalent having the highest score (Tables 3.3 and 3.4).

<sup>75</sup> H. Sseguya and D. Masinde, 2005. Towards Achievement of Sustainable Rural Livelihoods in Kamuli district: Uganda. A baseline assessment. Sustainable Rural Livelihoods. Ames, Iowa: Iowa State University for Makerere University and VEDCO. Pg. 31.

<sup>76</sup> H. Sseguya and D. Masinde, 2005. Towards Achievement of Sustainable Rural Livelihoods in Kamuli District: Uganda. A baseline assessment. Sustainable Rural Livelihoods. Ames, Iowa: Iowa State University for Makerere University and VEDCO.

<sup>77</sup> **Methodology:** Based on the analysis of focus groups discussions during which community members were asked to rank the population based on their own system of categorizing nutritional security.

**Table 3.3. Major Health-Related Problems in Three Parishes Where VEDCO/SRL Worked in Kamuli District in 2005<sup>78</sup>**

Health Problem	Score (10 being the most prevalent and 1 least prevalent amongst the community)		
	Naluwoli Parish	Namasagali Parish	Bwiiza Parish
Malaria	10	10	10
HIV/AIDS	9	9	9
Syphilis	9	8	9
Ring worm	9	* <sup>79</sup>	6
Uterine infections	9	8	9
Back ache	9		
Head ache & dizziness	9	9	9
Measles	9	6	5
Eye infections	9		
Whooping cough	8		3
Dental problems	8	7	9
Malnutrition	7	6	7
Meningitis	7		5
Anemia	7		8
High blood pressure	6	4	7
Ulcers	6	5	
Yellow fever	6		4
Epilepsy	5		
Goiter	5	2	
Gonorrhea	5		
Impotence	5		
Diarrhea	8	7	8
Kwashiorkor		8	
Night blindness		4	7
Tuberculosis		5	4
Joint/bone pains			9
Dysentery			8
Mumps			1
Intestinal worms			6
Trachoma			3

**Source:** H. Sseguya and D. Masinde, 2005. Towards Achievement of Sustainable Rural Livelihoods in Kamuli district: Uganda. A baseline assessment. Sustainable Rural Livelihoods. Ames, Iowa: Iowa State University for Makerere University and VEDCO. Pp: 31, 32, 40 and 41.

<sup>78</sup> **Methodology:** Based on the analysis of the results of four focus group discussions in three parishes, during which community members listed all the major health problems and scored them on a scale of 1 to 10 with 10 being the most prevalent and 1 least prevalent.

<sup>79</sup> Indicates that the disease was not ranked as a major health problem in that specific parish.

**Table 3.4. Analysis of Community-Level Perceptions of the Root Causes of Nutrition-Related Problems and the Recommendations for VEDCO/SRL Interventions to Address the Issues in Kamuli District in 2005<sup>80</sup>**

Problem	Parish	Community-Level Perceptions of the Root Causes of the Problem	Community-Level Recommendations for VEDCO/SRL Interventions to Address the Issues	
			Household Level	Community Level
Diarrhea	Butansi	<ul style="list-style-type: none"> <li>• Untidiness in homes</li> <li>• Improper disposal of waste</li> </ul>	<ul style="list-style-type: none"> <li>• Improvements in waste disposal</li> <li>• Proper boiling of water and cooking food</li> <li>• Visiting health centers</li> </ul>	Drawing on partners such as health workers in conjunction with local leaders to provide sensitization and training to community
	Namasagali	<ul style="list-style-type: none"> <li>• Eating dirty food and half-cooked food</li> <li>• Lack of pit latrines</li> </ul>	<ul style="list-style-type: none"> <li>• Visiting health units</li> <li>• Properly cooking food</li> </ul>	Sensitization by public health officials and local leaders
	Bwiiza	<ul style="list-style-type: none"> <li>• Drinking dirty water</li> <li>• Poor hygiene in homes</li> </ul>	<ul style="list-style-type: none"> <li>• Boiling water</li> <li>• Constructing latrines, racks</li> <li>• Burning rubbish</li> <li>• Visiting health centers</li> </ul>	Sensitization and encouraging people to observe hygiene practices
Anemia	Butansi	<ul style="list-style-type: none"> <li>• Poor diets in homes</li> <li>• Overworking</li> </ul>	<ul style="list-style-type: none"> <li>• Visiting health center</li> <li>• Attempting to improve diets (but limited knowledge)</li> </ul>	None
	Bwiiza	<ul style="list-style-type: none"> <li>• Lack of enough Proteins in diets</li> <li>• Overworking/heavy workload</li> <li>• Eating half-cooked food</li> <li>• Lack of pit latrines</li> </ul>	<ul style="list-style-type: none"> <li>• Visiting health centers</li> <li>• Planting and eating a variety of foods</li> </ul>	None
Kwashiorkor	Butansi	<ul style="list-style-type: none"> <li>• Poor diets</li> <li>• Poor beddings, especially blankets</li> </ul>	<ul style="list-style-type: none"> <li>• Giving malnourished children warm food</li> <li>• Attempting to improve diets</li> <li>• Visiting health centers</li> </ul>	Sensitization by health trainers and local leaders
	Namasagali	<ul style="list-style-type: none"> <li>• Improper feeding</li> <li>• Eating cold leftover food</li> </ul>	<ul style="list-style-type: none"> <li>• Eating warm food</li> <li>• Visiting health units</li> </ul>	None
Worms	Butansi	<ul style="list-style-type: none"> <li>• Eating half-cooked food</li> <li>• Drinking un-boiled water</li> <li>• Improper waste disposal</li> </ul>	<ul style="list-style-type: none"> <li>• Cooking food thoroughly</li> <li>• Boiling water</li> <li>• Improving waste disposal</li> <li>• Visiting health centers</li> </ul>	Sensitization by health trainers and local leaders
Poor Eye Sight and Night Blindness	Butansi	<ul style="list-style-type: none"> <li>• Failure to eat balanced diets</li> </ul>	<ul style="list-style-type: none"> <li>• Visiting health centers</li> <li>• Attempting to improve diets by eating fruits</li> </ul>	None
	Namasagali	<ul style="list-style-type: none"> <li>• Not eating fruits</li> <li>• Not cleaning eyes</li> </ul>	<ul style="list-style-type: none"> <li>• Eating fruits</li> <li>• Visiting health center</li> </ul>	None

<sup>80</sup> **Methodology:** Based on focus group discussions in the 2005 baseline survey, during which the participants identified those health problems that are a result of inappropriate nutrition practices and analyzed them further in terms of causes and actions taken at household and community levels.

Problem	Parish	Community-Level Perceptions of the Root Causes of the Problem	Community-Level Recommendations for VEDO/SRL Interventions to Address the Issues	
			Household Level	Community Level
	Bwiiza	<ul style="list-style-type: none"> <li>• Not eating fruit with vitamins</li> <li>• Drunkenness</li> </ul>	Visiting health centers	None
Malnutrition	Namasagali	<ul style="list-style-type: none"> <li>• Alcoholism</li> <li>• Eating half-cooked food, especially pork</li> </ul>	Visiting health Centers	
	Bwiiza	<ul style="list-style-type: none"> <li>• Eating cold food that is not well covered</li> <li>• Poor housing</li> <li>• Drunkenness</li> <li>• Poor child spacing practices</li> <li>• Poor feeding</li> </ul>	<ul style="list-style-type: none"> <li>• Visiting health centers</li> <li>• Improving the feeding in homes</li> </ul>	None
Tuberculosis	Namasagali	Drinking un-boiled infested milk	<ul style="list-style-type: none"> <li>• Proper boiling of milk</li> <li>• Visiting health units</li> </ul>	Sensitization by public health officials
	Bwiiza	Drinking un-boiled infested milk	<ul style="list-style-type: none"> <li>• Latrine digging</li> <li>• Water boiling</li> </ul>	None
Dizziness	Namasagali	Improper eating schedules	<ul style="list-style-type: none"> <li>• Eating meals on time</li> <li>• Visiting health center</li> </ul>	None
Dental Problems	Namasagali	Eating sweet foods without brushing	<ul style="list-style-type: none"> <li>• Brushing teeth</li> <li>• Visiting health units</li> </ul>	None
	Bwiiza	Inadequate brushing of teeth	<ul style="list-style-type: none"> <li>• Visiting health centers</li> <li>• Improving brushing practices</li> </ul>	None
Intestinal Worms	Bwiiza	<ul style="list-style-type: none"> <li>• Drinking un-boiled water</li> <li>• Poor hygiene</li> <li>• Eating raw unwashed food</li> <li>• Eating half-boiled food</li> </ul>	<ul style="list-style-type: none"> <li>• Visiting health centers</li> <li>• Improving sanitation in homes</li> </ul>	<ul style="list-style-type: none"> <li>• Community sensitization</li> <li>• Encouraging people to build toilets, racks</li> <li>• Construction of borcholes</li> </ul>
High Blood Pressure	Bwiiza	Stress, psychological and physiological	Visiting health centers	None
Bone/ Joint Pains	Bwiiza	<ul style="list-style-type: none"> <li>• Overwork</li> <li>• Eating food that does not 'strengthen' bones</li> </ul>	Visiting health centers	None
Dysentery	Bwiiza	<ul style="list-style-type: none"> <li>• Drinking dirty water</li> <li>• Poor hygiene in homes</li> <li>• No latrine</li> </ul>		
Goiter	Namasagali	• Eating food without iodine	<ul style="list-style-type: none"> <li>• Eating food with iodized salt</li> <li>• Visiting health units</li> </ul>	None

Source: H. Sseguya and D. Masinde, 2005. Towards Achievement of Sustainable Rural Livelihoods in Kamuli District: Uganda. A Baseline Assessment. Sustainable Rural Livelihoods. Ames, Iowa: Iowa State University for Makerere University and VEDCO.