The Center for Sustainable Rural Livelihoods (CSRL) in the College of Agriculture and Life Sciences at Iowa State University works side-by-side in Uganda with Kamuli District residents to better their lives with sustainable solutions to challenges the district faces.

The Kamuli District is located within the Kingdom of Busoga. As evidence of the synergetic connection between Iowa State University and The Busoga Kingdom of Uganda, a memorandum of cooperation and understanding was signed August 17, 2023, to formalize cooperation and collaboration to benefit both institutions.

His Majesty William Wilberforce Gabula Nadiope IV, King of Busoga, Uganda, and several members of his team, were in Iowa August 11–18 to learn about the state’s agriculture. In addition to signing the memorandum, their visit, which was supported by the Kolschowsky Foundation, included tours of Iowa State departments and farms, a seminar with College of Agriculture and Life Sciences faculty, staff and students, time at the Iowa State Fair and meetings with various Iowa leaders.

The memorandum was signed by His Majesty and Iowa State President Wendy Wintersteen. During the signing, His Majesty said promoting the importance of agriculture, especially among the country’s large youth population, is essential and a priority of his administration. And that he is pleased to continue to work with us to make positive impacts in Uganda.

It was clear the King has a vision and a set of goals for improving the lives and livelihoods of all citizens in the Busoga Kingdom, which align well with the work Iowa State is doing. Partnering with citizens and institutions in Kamuli, Makerere University in Kampala, and the Kingdom of Busoga will strengthen our common goals of improving education, nutritional food security and income stability.

2024 marks the 20th anniversary of CSRL, and events are planned in both Uganda and at ISU. A film on the progress made by CSRL is under development and will be shared in 2024.

Over the course of 20 years, CSRL has evolved into programming that touches every stage of the life cycle. This multifaceted approach ensures that communities develop their own leadership and resiliency. In this report, you’ll find dozens of examples of how our model that involves education, training and capacity building, combined with access to health promoting and productive resources, leads to sustainable and self-sufficient livelihoods.

David Acker, Director
Don Timm grew up on a dairy farm in southeast Iowa. Times weren’t easy, but his parents were serious about helping others. They were active in their church and charitable work. After World War II, they sent packages of non-perishables overseas to families recovering from the war.

The first charitable giving Timm did was to save and donate quarters to the Heifer Project, now Heifer International. “Bred dairy heifers are given to qualifying recipients, who agree to donate a bred heifer from their gift to another recipient under the same condition,” Timm says. “I could see I was helping people help themselves, and the recipients were keeping the chain of help going.”

Timm was awarded a scholarship to attend Iowa State funded by Successful Farming magazine. He graduated in 1970 with a bachelor of science degree from the ISU College of Agriculture, then entered the University of Iowa’s College of Law, graduating in 1973.

“I always maintained my love for Iowa State,” he says. “As an alum, I regularly donated small sums. As my law career progressed, I had a goal of repaying the scholarship I received. In the mid-1980s, I contacted Carl Hamilton, who I worked with as an undergraduate, and we put together an endowment to fund a scholarship in memory of my uncle, Edgar Timm, who was Iowa State’s first Rhodes Scholar.”

As time went on, Timm contributed again and again, working with the ISU College of Agriculture and the ISU Foundation. He began another scholarship endowment in honor of his parents, Albert and Ruth Timm. One of his contacts was David Acker.

Both Acker and Masinde suggested Timm visit Uganda to see CSRL projects firsthand. Timm agreed and the trip was arranged for summer 2022.

“My traveling companion Susan had been a neonatal intensive care unit (NICU) nurse, so arrangements were made for us to visit the Kamuli General Hospital’s NICU,” Timm says. “Susan was concerned the mothers weren’t getting the nutrition they needed to provide sustenance for their babies. I committed to funding a NEC at the hospital, plus at least two more over the next couple of years.”

Retired and living in Naples, Florida, Timm says the Uganda trip proved his donations make a difference in Kamuli. “Seeing is believing,” he says. “Susan is certain the NEC at the Kamuli Hospital NICU will save lives by reducing infant deaths. That gives me a good feeling, because helping others is the way I was raised.”
New project targets improved amaranth genetics

Grain amaranth first was introduced in the Kamuli District of Uganda in 2005, as part of an early partnership between Makerere University and the Center for Sustainable Rural Livelihoods. In June 2023, the ISU College of Agriculture and Life Sciences (CALS) announced a $40,000 grant from the CALS Academy for Team Science program for a project involving grain amaranth. By using genetic diversity and developing improved varieties, the team seeks to enhance food security and promote the cultivation of grain amaranth in Uganda.

This project is led by Thomas Lübberstedt, professor and K.J. Frey chair of agronomy, Dorothy Masinde, Global Resource Systems teaching professor, and David Brenner, curator for the North Central Regional Plant Introduction Station. Collaborators are David Acker, CSRL director, and Richard Edema, professor for Makerere University Regional Centre for Crop Improvement. The team plans to harness genetic resources for grain amaranth, which is an important crop with high nutritional value and contributes to sustainable agriculture.

Masinde began working for CSRL in Uganda in 2004, and was involved in the initial work with amaranth in that country. She helped develop the proposal for this new project, and is guiding its implementation.

“Amaranth is one of the major ingredients in our supplementary foods that we use to address food and nutrition insecurity challenges,” Masinde says. “Amaranth has transformed lives in Kamuli, both as a cash crop and a nutrient dense food ingredient.”

Grain amaranth has a high protein content, superior protein quality, high content of essential fatty acids and micronutrients. It can be incorporated into soups, plus fried and baked products. Testing has shown grain amaranth leads to improved growth among children.

Most of the seed currently used for grain amaranth production in Uganda originated from the USDA-ARS North Central Regional Plant Introduction Station at Iowa State. The station maintains a 3,200-accession collection of amaranth germplasm and distributes samples free of charge worldwide for research and development.

As interest in grain amaranth increases, there is a need to introduce other cultivars and accessions not only to Uganda but other parts of Africa. This will contribute to increasing the use of grain amaranth as a critical crop in fighting food and nutrition insecurity.

The first step in this project has been taken, with the USDA-ARS Plant Introduction Station at Iowa State shipping 25 accessions of amaranth to Uganda for seed multiplication.

The next step will be a stakeholder symposium focusing on grain amaranth to be held at the ISU Kamuli campus. The focus will be on stimulating a grain amaranth breeding program both in Uganda and neighboring countries in East Africa, plus other factors related to increasing the use of grain amaranth.

“We currently are multiplying the seed sent from Ames,” Masinde says. “The symposium is tentatively planned for April 2024. This will be confirmed once we have enough seed to establish demonstration sites near the symposium location.”
Since 2015, ISU-UP has gradually been expanding amaranth plots at five primary schools and one secondary school. Typical plots in these school gardens are about one-half of an acre.

“Harvesting the high-protein seeds of amaranth is a tedious task that has traditionally required laying the flower heads on a tarp and pounding them with sticks to separate the grain from the plant,” says Tom Brumm, an ISU agricultural and biosystems engineering professor. Brumm has been a faculty leader in the service-learning student program since 2010, and a CSRL associate director since 2015.

In the summer of 2018, Brumm met George Kasangaki, a service learner and agricultural engineering student from Makerere. “I remember sitting on the steps outside of a classroom at Naluwali primary school, discussing ideas for his senior capstone project,” Brumm says. “Having hand-threshed amaranth earlier on the trip by rubbing on a screen and beating with sticks to separate the seed from the plant, we agreed a mechanical thresher would be very useful.”

Over the next year, Kasangaki built the first version of an amaranth thresher that operates with a hand-powered crank. He gave it to ISU-UP in the summer of 2019.

“The machine is similar to what happens in a combine,” Brumm says. “The plant is fed into a chamber in which a high-speed rotor grabs the plant material and beats it against a bar, freeing the seed. The seed drops through a sieve at the bottom of the chamber and the threshed plant material exits through an outlet.”

Brumm says the hand-crank was a good idea, but not practical in reality. “The effort it takes to operate the machine for more than a few minutes is significant,” he says. “In my 2023 trip, we used it and we tuckered out a whole team of seventh grade boys.”

A start-up company was contacted to make the second version of the amaranth thresher. “This latest version is powered by a small gasoline engine,” Brumm says. “We received it this past June and it is working great.”

“The immediate need was for ISU-UP, since we are planting amaranth at every school, and threshing is an issue,” Brumm says. “The impact of the thresher is significant. No more beating amaranth, using more than a dozen people at a time. With this new machine, amaranth can be threshed by two people in about one-fifth the time.”
Clean water access begins with boreholes

When Iowa State University’s CSRL first began to explore what could be done to help rural residents of Uganda, there was immediate recognition improving livelihoods couldn’t happen without clean water.

Tom Brumm has made 12 trips to Uganda since his first in 2009. One of his responsibilities as a CSRL associate director is the borehole program.

“Drilling a well, or borehole, in Uganda is not that much different than in the United States,” Brumm says. “Costs today are about $15,000 to $20,000. Installation costs are funded by donors. We now are budgeting two per year.”

As co-funding, communities provide shelter, security and, where possible, food to borehole construction personnel. Four new boreholes were installed in 2023. There now are 34 boreholes, with 29 in Kamuli District and five in Buyende District. Each has a hand pump to draw water from the borehole. Users walk or bike to the borehole to fill their “jerry cans.”

Thomas Buyinza oversees the borehole program. “Each borehole is managed by a community-based water and sanitation committee, made up of seven people, with at least three of them being female. This committee is democratically elected by the community members from amongst themselves,” he says. “The responsibilities of these committees include guarding the borehole, training water users on how to operate the boreholes, hygiene and sanitation. The committee also collects water user fees.”

Buyinza collaborates with the Kamuli and Buyende districts’ water offices to identify needy communities with no clean water source. “We mobilize, sensitize and train the community members and their leadership committee to prepare them to manage operation and maintenance of the borehole, plus work to improve hygiene and sanitation facilities and practices,” he says.

“The local committees do simple servicing such as greasing the chain of the hand pump,” Buyinza says. “Borehole mechanical technicians, trained by government officials, do the principal servicing, maintenance and minor repairs, funded by the water user fees collected by the committees.”

More than 50,000 people now have access to clean water because of the boreholes created through ISU-UP. “Besides having safe, clean water, having a borehole closer to home means much less time spent fetching water, freeing people to do other things to make their lives better,” Brumm says.
“We used to fetch water from a borehole in a neighboring village, after crossing a highway. Besides waiting in long lines due to congestion at that borehole, our lives were always in danger crossing the highway while carrying cans of water. These challenges could many times make us resort to fetching water from a swamp within our village, which was always dirty and not safe for human consumption. Thanks to ISU-UP for constructing a borehole for us. Now we have access to safe water within our village.”

Buyumba community member
“During the prolonged dry season in Kamuli, my banana crops could have died if it was not for the daily watering I did using water from the overflow cistern at the borehole. I now sell at least two bunches of bananas weekly, and use this income to pay school fees for my two children.”

Sharifah Nangobi, 28 years old

When filling jerry cans, there is inevitably some splash and overflow at the boreholes. An overflow cistern (right) is included in the construction of each borehole to make use of every drop possible. The water captured in overflow cisterns is utilized for watering plants and livestock.
Uganda is home to approximately 48 million people, with an abundance of fresh water bodies. Yet despite these bountiful fresh water resources, more than 24 million people lack access to clean water. Also, an estimated one in two Ugandans do not have access to improved sanitation facilities.

If a community and its people are to prosper and live sustainable lives, access to clean water, sanitation and hygiene is essential.

CSRL has spent the last 20 years working alongside local communities and the Kamuli District government to support them in the improvement of their access to WASH (Water, Sanitation and Hygiene) services. An estimated 76 percent of the 462,000 people in the district now have access to clean water and sanitation facilities.

Gideon Nadiope is the National Director for ISU-UP. “WASH has a number of components. The biggest is borehole drilling in communities. Within the borehole system, there is a cistern,” he says. “This is a tank where overflow water that drips off is collected, which can be used for growing crops, watering livestock, making bricks, watering plants and other things.”

Another component is above-ground tanks that provide water for households and livestock. Suzan Nangobi is a Kamuli resident. “Our home now is a model home for WASH, since ISU-UP installed a water tank, and trained us how to harvest rainwater,” she says. “They also taught us how to establish a waste pit, and how to build a hand washing facility to use after going to the latrine. With the borehole provided by ISU-UP nearby, I have been able to increase my livestock farming due to access to the overflow cistern,” she says. “It has been very useful to me and the community at large to have access to water.”

Joseph Takayula started farming in Kamuli in 2015. He began with just two pigs, but now has 37. Last year he was able to sell 13, which gave him enough money to build a new house. He also bought one cow in 2015, and now has three. “The reason [for the increased number of animals] is that I now have access to water from the borehole provided by ISU-UP,” he says. “It has been very useful to me and the community at large to have access to water.”

Nadiope says a third component is keeping clean water clean “right from the source. If you are removing water from the boreholes, we need to make sure the containers being filled also are clean. That’s why we have water user committees, where people come and inspect the jerry cans (20-liter plastic containers), clean the borehole sites and make sure the water is clean.”

Bernard Isiko is the Director of Studies at Nakanyoni Primary School. “When ISU first came to our community, we had a number of challenges, especially when it came to access to clean water,” he says. “They suggested putting up a borehole, which has really helped us a lot. This has provided us the water access we needed, and has made it possible for us to emphasize sanitation and hygiene with students.”

Thomas Buyinza is the WASH program coordinator for ISU-UP. “Water is the backbone for all WASH services,” he says. “You need water to attain good sanitation in the environment, and in the households. You need clean water to attain good personal hygiene. You need clean water to prepare food. Even if you are serving animals, you still need clean water.”

Buyinza says there are reduced incidences of waterborne diseases, such as cholera and typhoid, because now people drink clean water. “The WASH program also has led to better household incomes and improved livelihoods,” he says. “That’s because the cistern water can be used for making bricks for sale, irrigating crops, and watering livestock.”

Over the last 20 years, generous donors have made it possible for ISU-UP to help thousands of households gain access to clean water, improved latrines, hand washing stations and other related materials and knowledge. The result is greater self-sufficiency, and healthier, more prosperous and more sustainable communities.

Yet there still is work to be done before every person in the region has the means to meet their basic needs. To that end, ISU-UP will keep working with communities to achieve clean water and sanitation for all.
The Center for Sustainable Rural Livelihoods uses the power of education to develop responsible global citizens and thriving local communities that benefit from food and financial security, health care, civic participation, social inclusion and environmental stewardship. One key to achieving this mission is skills development for self-reliance.

FundISU is a crowdfunding platform that helps Iowa State University community members raise money to support their passion projects. Using this ISU Foundation platform, CSRL began a fundraising effort in June 2023 with a goal of $50,000. Seven weeks later, that goal was reached with the help of 56 donors. Those funds now are being used to support several ISU-UP programs that focus on helping Ugandans be self-reliant.

The concept of Community Income Generation Innovations (CIGI) first was introduced as an income diversification strategy for mothers at the Nutrition Education Centers to help them sustain their families’ nutritional gains after graduating from the centers. Later, youth in school and out-of-school also were included. CIGI projects include jewelry making, tailoring (production of clothing, bags, face masks and reusable sanitary pads), basket weaving, leather goods, soap making and lesson books for school children.

Miriam Namata is the CIGI field specialist for ISU-UP. “The women and students form groups in the community,” she says. “The groups come up with the different products they want to make. ISU-UP provides them with advisory services to select products and also startup capital.”

The groups meet weekly. They track the group’s savings and loans, and what each person creates. “ISU-UP ensures the items are sold and the income accrued is given to the different clients,” Namata says.

Marion Naigaga, 21 years old, teaches mathematics, reading and writing in primary grades 1-5. She is married, with one child, and a member of the Tusubila (Hope) craftmaking group.

Naigaga’s father died when she was one-and-a-half years old. Her mother wasn’t able to provide for her, so she lived with her grandmother, who also didn’t have much. “I started working in people’s gardens, fetching water and washing clothes for them, so I could get my school fees,” she says. “I used to pay the little I could so I would not get sent home from school.”

When she reached secondary school, students were encouraged to learn weaving and join a craftmaking group. “I was among the first to be trained,” Naigaga says. “The women welcomed us and individually started to train us how to weave.”
There are 54 members in Naigaga’s group. They make various crafts, including baskets. “When I started weaving baskets, my life started becoming better,” she says. “Because the more baskets you weave, the more money you get. I knew that when I would weave about 30 baskets, I would be able to pay my school fee for the term.”

Naigaga hopes the money she makes teaching and weaving baskets will allow her to someday go to school again, to fulfill her dream of becoming a fashion designer.

Bette Kabono is a member of the Twayunge (Let’s Unite) soapmaking group, which meets each Thursday morning. “I was in a really poor state. My son got sick. He had to be admitted to the Mulago Hospital to receive blood and his nutrition was not good,” she says. “But ever since I joined the ISU-UP soapmaking project, I have gained a lot. I now have a cow, pigs and goats. I have also built a good house.”

“I used to lack school fees for my children,” Kabono says. “Meat to eat was just a dream. I now have a stable supply of clean water, and I can drink some milk. I am getting money and my children also are happy. I would like to start my own soapmaking business, and expand my income.”
Isaac Kitamirike is a 24-year-old advanced Youth Entrepreneurship Program (YEP) beneficiary who joined the program in 2020. He dropped out of school in 2016 because he didn’t have money for school fees. He joined his father growing maize on a subsistence level, started a family and was overwhelmed with responsibilities. In 2020, he attended YEP community trainings organized in Kabalira. The program assisted him with quality seedlings and other inputs to start both passion fruit and tomato enterprises. This year he started a small agro-input supply shop in Kabalira trading center and a poultry enterprise, which provide a steady income for him and his family. The integration of different enterprises has made it possible for him to join a village savings and loan association. Now he is saving weekly and borrowing to expand his enterprises, reducing his dependence on program support.

Matia Lubaale is a 33-year-old male who joined the program at the end of 2021. In 2022, he started a passion fruit nursery and also grew eggplants and maize. The program assisted him with agricultural inputs. He currently makes weekly sales of passion fruit and is able to save money with his village savings and loan association as well as meet his day-to-day expenses. The income has helped him take care of his family and pay school fees for his children. He continues to receive technical and market support from the program. His goal is to acquire his own garden plot so he can stop renting land.

Youth entrepreneurship programs have been part of CSRL since 2014. The need to help children learn skills for their future is critical as Uganda has the world’s fifth highest birth rate.

“Youth in Uganda need training and opportunity and these programs provide both.”
Gail Nonnecke, Global Professor in Global Resource Systems
Dr. Gail Nonnecke is University Professor, Morrill Professor, and Global Professor at Iowa State University. She has been involved with CSRL since 2005 and is Associate Director for Education Programs. “Life skills training helps organize small-scale young entrepreneurs in commercially viable enterprises, including food and agriculture, tailoring, baking and hairdressing,” she says.

The Youth Entrepreneurship Program (YEP) trains young adults 15-35 years of age who are either in or out of school. Learning about the many facets of agricultural entrepreneurship, young people gain practical skills in crop and livestock management, marketing and leadership, and grow towards self-reliance.

A school garden program involves students in both primary and secondary schools. Pupils engaged in school garden projects and clubs get hands-on experience learning best practices in local food production while earning funds for school fees and scholastic materials. Garden produce is used in school lunch programs and taken home to families. With the knowledge acquired from the school gardens, students and their families have increased yield and quality of vegetables produced for home consumption and for sale.

A program to help youth earn school fees through home gardening and entrepreneurship operates in both primary and secondary schools, and is available to out-of-school youth who want to return to school. These extra-curricular activities include tailoring, with the students learning to sew school uniforms and reusable sanitary pads, home gardening, and product sales of juices and baked snacks.

A vocational training program is available for young mothers 19 years of age and younger. This is the first full year for this new program, which operates in nine centers. Training is conducted by qualified tutors, three days a week for six months. Young mothers have the opportunity to learn tailoring, hairdressing, baking and gardening skills. The young women choose the specific areas in which they wish to acquire skills. After completing the program, they begin group or individual enterprises.

What impact has Nonnecke seen because of these skills development programs for youth?

“Children in primary school learn agriculture is not a punishment, but rather an opportunity to grow food and earn income,” she says. “Practices they learn in the school gardens are transferred to their homes; they can have small gardens at home to earn school fees and scholastic materials.”

“Young adults in secondary school learn about possible entrepreneurial enterprises, including agricultural production and culinary arts,” Nonnecke says. “These incomes are used to live on and for school fees. They develop leadership skills as they develop an enterprise either in a group or individually. They learn business skills to achieve a profitable and sustainable enterprise.”

“Youth in Uganda need training and opportunity and these programs provide both. Young people learn together, develop and make new friends, and create a support system in their communities,” Nonnecke says. “They also develop leadership skills that are important for their communities. Mainly, these programs allow children and young adults to have hope for their future.”
It’s been more than a decade since ISU-UP opened the first Nutrition Education Center (NEC) in the rural Kamuli District. First inspired by the severe malnutrition of one baby boy and his mother, NECs provide proper nutrition for children, from birth to age five, plus pregnant and breastfeeding women.

Caroline Nambafu, community nutrition specialist in Uganda, says the nutrition education program is committed to fighting malnutrition in the first 1,000 days of a child’s development, and rehabilitates malnourished children under 5 years of age.

“We are able to achieve this by providing a nutritious porridge made from a composite flour of millet, soybeans, grain amaranth, maize, small fish, sugar and milk,” she says. “We also train caretakers of the children and equip them with knowledge in nutrition, hygiene, good health practices and good agronomic practices.”

Currently, ISU-UP has 10 active NECs located in community neighborhoods throughout the district. Administering supplemental nutrition and related training, the NECs save lives while preparing women to maintain their families’ improved health indefinitely.

When the health of NEC mothers and their children improve, and mothers or other caretakers have learned new skills that enable them to maintain their nutritional gains, they graduate from the NECs. When a community no longer needs a NEC, ISU-UP can open a new NEC in a community with greater need.

Dorothy Masinde makes regular trips to Uganda to work with the community nutrition program.

“We open new NECs after we either close or scale back operations at an existing one, or when we receive funding to open a new NEC in response to needs,” Masinde says. “Need for a new NEC is identified through trends at an existing NEC, where we determine distance covered by clients attending, or when we receive requests for a new center from local leaders or government clinics.”

ISU-UP opened two new NECs in September 2022, broadening the geographic area served. A new NEC was recently established at the Kamuli General Hospital’s Neonatal Intensive Care Unit (NICU).

“This was identified because of the need to improve nutrition of preterm babies admitted at the NICU,” Masinde says. “The facility has limited resources and the mothers are expected to provide milk for their babies, which was a challenge because the mothers were hungry and undernourished.”

Donor Don Timm provided funding to open the new NEC. “This is going to go a long way towards increasing survival rates for preemie babies admitted at the NICU, and reducing admission times there, which will provide opportunities for other babies to use the facility,” Masinde says.
As the needs of a community evolve, so does the purpose of NEC facilities constructed for that community.

“The Food and Nutrition Security Support Groups (FNSSG) project was designed to address the issue of sustainability,” Dorothy Masinde says. “The Community Nutrition Project was facing lots of challenges with clients who would regress once discharged or graduated, leading to readmission. The FNSSGs were started to encourage group members to collectively prepare nutrient dense composite flour, with members contributing ingredients they could secure.”

As groups formed, members started diversifying to include other activities that focused on financial empowerment. Facilities that had been built for NECs became meeting places for these and other groups.

The FNSSGs are largely self-organized and self-managed. The goals are to sustain food and nutrition security, plus generate income for members. Group members pool funds to buy livestock (chickens, goats, pigs, ducks, turkeys), sewing machines, pay school fees, purchase household utensils, buy seed, hire labor to work the land and more.

Moureen Mbeiza, ISU-UP agronomy and land use specialist, provides FNSSG oversight, technical support and training. Currently, there are 60 groups with 916 members. The groups are overwhelmingly female, with 877 women and 39 men. Each group has about 10 to 18 members.

“The groups have their own rules and policies, but the aim is to help all members remain food and nutrition secure,” Mbeiza says. “They sustain their groups with activities ranging from trainings, garden work, income savings and sharing, and regular follow-ups with each other through home visits.”

An example of a successful group is the Dhibulatyme FNSSG. The group was formed in August 2019 and has 15 members, with 13 women and two men. The group is comprised of graduated clients from Kikonko NEC.

Members started with each person contributing nutrient dense porridge ingredients, such as grain amaranth, millet, soybean and maize, to mill together and then share the flour. Each member takes a portion of the flour to make the same porridge they received at their former NEC. Group members have met more than 32 times to mill flour to share.

In addition, group members contribute money as agreed upon in their meetings to rent land for group gardens, and buy farm inputs such as seed. Part of the harvest is used to make porridge and the rest is sold, with the money used for other items for group members.

For instance, household items were purchased for each member, including a mattress, blankets, two dozen plates and two dozen cups.

Three cycles of saving money for livestock were conducted. The result was each member of the group received one chicken, one goat, and one young cow or bull. Some members sold their chickens and goats to pay school fees for their children, buy land, buy more livestock, or spend on household supplies and medication expenses.
Two ISU-UP projects that involve shared livestock are having a significant impact on both families and communities in the Kamuli District.

Curtis Youngs is a Morrill Professor and M.E. Ensminger Endowed Chair of International Animal Agriculture in the Iowa State University Department of Animal Science. “My first trip to Uganda was in August 2015,” Youngs says. “It was a fact-finding trip to gauge my interest in becoming involved with the Center for Sustainable Rural Livelihoods.” Now Youngs is the CSRL associate director for the livestock and animal health program.

The first project, titled “send-an-animal,” has led to 18 community groups being formed, with a total of 784 members. Here’s an example of how these groups function. Members pool funds to buy a goat. Funds continue to be pooled until all group members have purchased a goat. Members can borrow money from the group to help them buy more animals or related items.

So far, 269 goats have been shared, plus 20 pigs, and 752 chickens. Youngs says the send-an-animal program has had a huge impact in some communities, and he sees a bright future for more communities to reap the same benefits.

“Group members organize themselves, manage themselves, and have become mostly self-sufficient,” Youngs says. “For long-term sustainability of the program, this is exactly what needs to happen. It does very little long-term good if local efforts halt the moment a donor pulls back funding or resources. Our goal is to be put out of business by these groups; let them rise to the point where they don’t need us.”

Yvette Nikuze, ISU-UP livestock extension specialist, guides the livestock and animal health efforts in Kamuli. Two community-based animal health workers, and a livestock demonstration farm at the Mpirigiti Rural Training Center, also are critical to the success of the programs.

“We provide management training on proper animal husbandry, animal disease prevention and control, and livestock facility designs,” Nikuze says. “The send-an-animal program is a key development for farmers to improve their livelihoods and increase sustainability. They mobilize themselves, save their own money, and purchase their animals to lift each other out of poverty.”

The second livestock and animal health project targets improved goat genetics. Mubende and Galla breeding males are placed in one farm household within a community. Other community members pay a small fee for access to the high-quality genetic breeding males.
Breeding males are replaced periodically to avoid inbreeding, and sometimes male goats are rotated among communities.

Youngs says this project is having a "tremendous impact in the communities. Community members with access to higher productivity goat genetics, in the form of the breeding males, will see long-lasting gains in production. This project also is providing an opportunity for entrepreneurship, both for adult community members and youth."

The black-haired Mubende breed was brought to Kamuli from western Uganda. It is a breed that is slightly larger, meatier and heavier-boned than the local native goat breeds. The white-haired Galla breed came from an area close to the border with Kenya. Youngs says in terms of both heat and disease tolerance, the Galla breed seems to be a better fit for the Kamuli region.

Youngs lists several reasons goats are the perfect animal for rural Kamuli residents to get a start in livestock production. “Goats can be managed easily, and the financial barrier to entry is much lower than with cattle. Goats do not consume as much water and feed each day as a cow,” he says. “Goats have the capacity to produce twins or triplets each time they give birth, so a goat herd can expand more quickly than a cattle herd.”

“If a doe gives birth to twins, a female can be kept to expand the herd while the second goat kid can be sold or bartered for things the family needs,” Youngs says. “The length of pregnancy of a goat, which is about five months, is shorter than the length of pregnancy of a cow, which is more than nine months. Also, goats reach sexual maturity at a younger age than cattle, making it possible for a farmer to breed a goat female and produce income much more quickly than with cattle.”

Despite these advantages for goats, Ugandan farmers want to own one or more cows. “That is why we are initiating a cattle artificial insemination project, to bring higher productivity genetics to cattle farmers, too,” Youngs says.

The first project, titled “send-an-animal,” has led to 18 community groups being formed, with a total of 784 members. So far, 269 goats have been shared, plus 20 pigs, and 752 chickens.

Nakisuyi Silina, a mother of five, is one of 30 members of the Twezimbe send-an-animal group. In November 2022, she and other group members pooled funds that totaled about $28 US dollars. Silina was chosen to receive these funds, and decided to buy a two-month-old pig. She also requested a $40 US dollar loan from the group’s savings. She used some of the money to buy three hens, and the rest to pay school fees for her children.

The three chickens hatched 30 chicks, and Silina sold 10 chickens for $40 US dollars. She now has 10 hens, five cocks and 30 chicks. She is grateful for the knowledge and skills she has learned from various training opportunities through the send-an-animal program. Her family now has a supplementary diet of eggs and chicken, she can pay her children’s school fees, and she has made friends at the village level and beyond as a member of the Twezimbe send-an-animal farmers group.
Youth Entrepreneurship Program participants are now consistently selling chili peppers to Europe thanks to linkages established with assistance from ISU-UP.

13 youth (10 female and 3 male) who had dropped out of school due to lack of school fees have resumed their education with support in the form of short-term scholarships and income-generating enterprises.

20 schools expressed their eagerness to participate in the school gardening program. This reflects a shift in community attitudes, highlighting a deeper appreciation and understanding of agriculture’s significance.

74 youth benefited from capacity building and community-based training in areas including small enterprise, agronomy, financial literacy, marketing, and post-harvest handling.

130 youth from 22 schools worked in teams to develop 31 projects to solve their community problems through the ISU-UP annual youth institute.

247 mothers participated in the Young Mothers program; 100 were in the first enrollment (Aug 2022) and have graduated; 5 went back to school; 142 are active in the second enrollment. The program operates in 9 centers at subcounty headquarters and gazebos constructed by the ISU-UP nutrition program. The program offers training in 4 areas—hairdressing, tailoring, culinary, and agriculture.

436 Nutrition Education Center clients graduated from the program.

What your support made possible this year
• 482 individuals (463 female, 19 male) received livestock management training through 15 Nutrition Education Centers (NECs).

• 512 members (302 female, 210 male) of 7 school entrepreneurship clubs nurture leaders, create a sense of belonging, and receive training to initiate agricultural enterprises, generate income, pay school fees, and buy scholastic materials.

• 784 members of 18 community groups are participating in the “send-an-animal,” livestock program. So far, 269 goats, 20 pigs, and 752 chickens have been shared. Members pool funds to buy livestock and continue to pool funds until all group members have made a purchase. The process can continue as long as members wish.

• 813 youth (455 female, 358 male) from various schools remain in school due to support through the Youth Earning School Fees program.

• 828 clients are receiving services in 10 Nutrition Education Centers (NECs) currently operating in community neighborhoods throughout Kamuli District, and a new NEC is being established at the Kamuli General Hospital’s Neonatal Intensive Care Unit.

• 916 community members (877 female, 39 male) are participating in 60 Food and Nutrition Security Support Groups (FNSSGs), with 10-18 members per group. ISU-UP provides members with technical training in growing commercially viable crops and livestock value chains that link them to inputs, production, and markets to help all members remain food and nutrition-secure.

• 1,733 craft items sold by the Community Income Generation Innovations groups: 6 bucket hats, 16 hand fans, 19 head bands, 25 pairs of leather sandals, 27 fabric shopping bags, 40 jugs of liquid soap, 95 pieces of jewelry, 388 woven baskets, 520 kg bars of soap, 597 books (journals and school exercise books).

• 3,386 pupils are benefitting from school garden programs across 5 primary schools. The program includes training pupils on different methods of growing vegetables, water harvesting, soil and water conservation, sanitation and hygiene, and pest and disease control. The harvested produce is incorporated into school lunches for pupils. Proceeds from the sale of excess produce is used to purchase scholastic material for the young farmers club members.

• 3,450 indigenous chickens in 145 households were vaccinated against Newcastle Disease

• More than 50,000 people now have access to clean water because of the boreholes created through the ISU-Uganda Program. 4 new boreholes were installed in 2023. 34 boreholes facilitated by ISU-UP are now in operation, with 29 in the Kamuli District and 5 in the Buyende District.

**WHERE YOUR GIVING GOES**

<table>
<thead>
<tr>
<th>Category</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community Nutrition</td>
<td>20.8%</td>
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<tr>
<td>School Nutrition</td>
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<td>Education / Scholarships</td>
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<tr>
<td>Water / Sanitation</td>
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<tr>
<td>Other</td>
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<tr>
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<tr>
<td>YEP / Microfinance</td>
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<tr>
<td>Post-harvest</td>
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</tr>
<tr>
<td>Young Mothers</td>
<td>2.5%</td>
</tr>
</tbody>
</table>

**HOW OUR WORK IS FUNDED**

TOTAL: $1,323,144

- Donor funding: $1,898,738
- ISU support: $330,195
- Student fees: $9,931

**CENTER FOR SUSTAINABLE RURAL LIVELIHOODS**
The Center for Sustainable Rural Livelihoods uses the power of education to develop responsible global citizens and thriving local communities that benefit from food and financial security, quality education and healthcare, civic participation, social inclusion, environmental stewardship, and overall sustainable livelihoods.

Thank you for helping this vision become reality.