



RESILIENCY THROUGH WEALTH, AGRICULTURE, AND NUTRITION (RWANU)



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EXECUTIVE SUMMARY

Resiliency through Wealth, Agriculture, and Nutrition (RWANU) was a five-year Development Food Assistance Program funded by USAID’s Office of Food for Peace that ended in August 2017. ACDI/VOCA implemented RWANU in 16 sub-counties in the districts of Amudat, Moroto, Napak, and Nakapiripirit with Concern Worldwide and Welthungerhilfe. RWANU’s overall goal was to reduce food insecurity among vulnerable people in South Karamoja. Its main objectives were to increase food access among men and women, and decrease malnutrition in children under five and pregnant and lactating women. The Program combined market systems and nutrition-specific interventions to strengthen resilience and meet program objectives. ACDI/VOCA commissioned the present study to assess if and how RWANU’s market systems interventions indeed contributed to improved household and market system resilience, and improved household nutrition (access to food, reduced malnutrition). This report summarizes findings for six market systems intervention areas with a focus on characterizing each intervention’s relationship with household and market system resilience, the likely sustainability of the intervention, gaps that need to be filled to foster or strengthen resilience, and key steps future projects can take to fill these gaps and ensure sustainability.

The target intervention areas are improving access to credit and savings, facilitating block farming and bulk grain marketing, building input and service provider networks, strengthening the honey value chain, and providing grants to women and youth enterprises. Under these intervention areas RWANU helped form and strengthen 580 Accumulated Savings and Credit Associations (ASCAs), fostered the establishment of group farms and privately run grain trading warehouses, supported capacity building for 114 animal health workers and eight local agro-dealers, facilitated supplier-customer linkages in input and output markets, established women’s livestock groups, trained men and women honey producers and linked them to a premium buyer, and provided cost-share grants and business training to XX women and youth enterprises, among other efforts.

Overall, the team found strong evidence that each intervention area was associated with improved household and market system resilience and nutrition. Interventions showed varied levels of likely sustainability, and different needs and gaps for future projects to address to strengthen resilience and sustainability.

Study approach and methodology: The study used USAID’s definition of resilience as the framework for the assessment. “Resilience is the ability of people, households, communities, countries, and systems to mitigate, adapt to, and recover from shocks and stresses in a manner that reduces chronic vulnerability and facilitates inclusive growth.” The assessment considered specific determinants of resilience at the household and market system levels, drawn from ACDI/VOCA’s work on USAID’s Leveraging Economic Opportunities project (Text box). The study was largely qualitative but drew on quantitative data as appropriate and incorporated both secondary and primary research. Secondary data were collected from project reports and records, group records and national-level documents. The field team

Determinants of household resilience

- Access to profitable output markets, affordable inputs and services, extension, and affordable credit
- Use of adaptive agricultural practices and technology
- Diversified income sources and production systems
- Household asset base and access to food
- Social and economic networks
- Women’s participation in decision-making, income generation & allocation

Determinants of household resilience

- Diversity of products and market channels
- Multiple buyers, sellers, service providers (redundancy)
- Communication flows (trust, cooperation, analytics)
- Market governance (transparency, fairness, consistency)
- Predictable, supportive policy environment

collected primary data from 18 focus group discussions (FGDs), 12 in-depth beneficiary farmer interviews, seven key informant interviews with district government staff and leaders, 22 value chain actor interviews¹ and anthropometric measurements of 121 children under five years. The team used thematic analysis and descriptive statistics to analyze the qualitative and quantitative data respectively.

FINDINGS

Overall household resilience

Interviewees agreed that RWANU's market systems interventions were associated with improvements in the determinants household resilience. **ASCAs**, have proven to be a reliable source of access to affordable credit and have opened access to increased credit from banks RWANU linked ASCAs to and SACCOs that groups of ASCAs formed. This credit has enabled households to keep produce to sell later at higher prices, adopt improved technologies and practices such as more resilient seed and livestock medicine, invest in more diverse income generating activities, buy more food, keep assets such as livestock and join supportive economic networks. **Women and youth grant** recipients have reinvested profits in their ASCAs, diversified their income generating activities and strengthened economic networks within groups. . Through **input and service strengthening**, men and women producers have increased access to affordable inputs and services such as diverse seeds, livestock medicines and livestock health management information and have been able to trial tillage services at lower costs. They are also better able to maintain and increase livestock assets due to reduced animal mortality and improved herd performance. Women's Livestock Groups formed under this intervention have increased their knowledge, participation in decision making and engagement in the livestock sector. Farmers in **block farm** groups have been able to learn and adopt improved practices, expand and diversify their production and market options, produce more food and strengthen supportive ties with other farmers. Women in these groups have increased knowledge to strengthen their decision making around production.

Farmers and traders selling through **bulk grain marketing** warehouses can access better markets by storing grain to sell when prices rise and are part of a new economic network. **Honey** producers are connected to a higher-value market that rewards quality with premiums and a buyer that provides embedded training, and have a strong social network with fellow producers. RWANU engaged women in honey production, involving them in a new economic activity that is largely the domain of men. Overall, producers' diversified and improved income sources have helped them reduce reliance on coping strategies that are destructive to the environment and whittle down their savings and assets. Moreover, improved cash flow has spurred an increase in household assets that supports wealth generation and accumulation.

Overall market system resilience

The market system has grown, diversified and gained capacity at the same time. **ASCAs** have increased the number of financial service providers and products on the market, fostered trust and cooperation among members and given smallholders more equitable market power by collaborating with banks and forming larger SACCOs together. **Grants and business training** has supported the establishment of new and more diverse small businesses and built trust among group members. **Strengthening the inputs and service sector** has increased the range of crop and animal inputs, dealers and service providers farmers can access, and supported cooperation between agro-dealers and suppliers and community animal health workers and veterinarians. **Block farming** groups have increased the number of products in the market and built trust and communication among members. **Bulking centers** have increased market channels farmers can access, and

¹ Actors included private agro-vet dealers, Community Animal Health Workers (CAHWs), tillage service providers, buyers, financial service providers and national seed company.

improved market governance through standardized measurements and simple market information systems that foster transparency and fairness. **Honey** producers have access to markets for both honey and propolis that pay premium prices, with fair trading due to standardized measurements and a more even voice in the market due to the formation of honey producers' associations.

FINDINGS BY INTERVENTION

HOUSEHOLD AND MARKET SYSTEM RESILIENCE

Saving and Credit Associations: This intervention area focused on facilitating increased access to credit among beneficiary households, including crop and livestock producers. RWANU supported the formation of 580 Accumulated Savings and Credit Associations (ASCAs), provided training and a kit for group savings and credit, linked ASCAs to banks and supported ASCAs in forming SACCOs together. This intervention area is associated with **strengthened household resilience**. Men and women beneficiaries are better able to access credit and multiple financial products due to knowledge on financial management, ASCA membership, access to affiliate providers like Centenary Bank and the Micro-Finance Support Centre. ASCAs members have access to more profitable markets because they can retain produce for consumption or later sale when prices increase. This outcome has a multiplier effect by enabling bulk grain marketing. Credit has helped farmers invest in improved inputs and technologies such as seeds, tractor tillage services and drugs for treating and spraying livestock. ASCAs also have helped beneficiaries diversify income sources by enabling them to invest in and scale up income generating activities like brewing, produce trade and food vending. Additionally, ASCA members have are able to purchase more food and build assets by avoiding distress sales of productive assets such as livestock, which has a multiplier effect by enabling herd growth. Finally, groups represent strong social and economic networks where women have increased involvement in decision making and resource allocation. Together, these impacts have helped beneficiaries improve farm outputs and economic opportunities, access better markets and build assets to withstand future shocks better.

Access to credit is likewise associated with **improved market resilience**. ASCAs have diversified financial products and engendered a more stable financial environment by offering savings, welfare loans for emergencies and main loan fund with clear terms to beneficiaries who could access loans only from relatives or neighbors that were not reliable. Beneficiaries also have access to multiple providers, in the form of 580 ASCAs. Additionally, the number of commercial banks in the region increased from one in 2012 to three in 2017, though they are all based in Moroto. Finally, trust and market governance have improved, as ASCAs have started forming umbrella organizations such as Kopopwa SACCO that unite groups of small borrowers and give them more equitable market power and access to bigger loan products.

The **sustainability** of ASCAs appears promising. Several organizations are involved in capacity building for credit associations, providing ASCAs with continued access to capacity strengthening. It is highly likely that the ASCAs will continue to serve their members well beyond end of RWANU. The SACCOs are built on strong foundations, but are still young and need nurturing to ensure longevity. Emergency of government programs that promote rural financial inclusion also provide a foundation for continued community access to financial services. However, several needs remain to improve ASCA offerings and sustainability. Identified challenges include weak links between ASCAs and financial and material service providers, low savings volumes, and the relative immaturity of savings groups. Future programs should continue to support ASCAs' growth and bank linkages, engage in advocacy for banks to enhance their outreach through agency banking, and promote a village agent model among the ASCAs.

Business development support to youth and women: RWANU provided 36 groups (8 women groups and 28 youth groups) with business development grants, training on business skills, group dynamics and leadership, and support for business plan development. Grants were associated with improved *household* and market *resilience*. Grant recipients have been able to access higher value markets, positioning them to earn more. For instance, members of the Apeded Tyre Mending youth group were able to expand to sell milled rice in Jinja, Kanegu, and Kanamokol livestock trading groups were able to trade in markets outside the district. Beneficiaries' credit access has increased due to investing proceeds from grant-supported enterprise into ASCAs. Grants and training also helped beneficiaries invest in new income generating activities and run a business enterprise sustainably, diversifying their livelihoods and improving their ability to handle shocks and stressors like floods and drought that impact farm output, and family emergencies and receive mentoring from men as they go together in the market to sell the livestock.

On the *market resilience* end, products, providers and sellers have increased due to grant groups being able to form and run new enterprises in the marketplace. Grant groups have cultivated trusting, including entrusting some members with marketing and declaring proceeds from sales to group members. Governance has improved, as sharing of market information among groups and other traders engaged in the same enterprises has facilitated informed decision making and market identification.

Sustainability appears promising but future projects could strengthen it with additional capacity building. The grant-funded enterprises in this study seemed to be stable and likely to continue beyond RWANU. However, the risk of individuals taking advantage of other members in the group presents a threat to continued realization of benefits from the grant enterprises. Groups need to institute clear processes for sharing benefits from their enterprises. Grant enterprises also need stronger linkages with other actors, and improved abilities to visualize and take advantage of existing opportunities to further diversify and grow incomes to strengthen resilience.

Access to crop and livestock production inputs and services: This intervention was geared at facilitating the development of a larger and stronger rural input and services sector to foster adoption of improved crop and livestock management practices. RWANU trained 114 community animal health workers (CAHWs), fostered engagement between CAHWs and private providers to enable CAHWs to bring more services to local communities, provided business training, mentoring and in-kind grants to eight agro-dealers and linked them to national seed companies, linked input and service providers to communities, and provided cost-share grants for tillage to increase farmers' uptake. A total 6,279 RWANU farmers and 2,462 non-RWANU farmers were linked to input dealers to access improved seeds and other inputs. RWANU also facilitated training through Farmer Training Groups (FTGs) and Women's Livestock Groups (WLGs).

This intervention was tied to improved *household resilience* in several ways. Households have increased access to inputs and services including affordable options such as CAHWs. Producers have access to seed for

a wider range of crops, enabling income diversification, and have been able to use improved technology such as tillage services. Increasing farmers' access to suitable varieties and their knowledge of good agronomic practices, has led to increased production (see examples in text box), resulting in higher marketable surplus and access to food. Access to livestock inputs has helped to reduce losses and improve herd size, increasing household assets. Women in FTGs and WLGs have enhanced access to training, technologies, and awareness on sources of inputs that will help improve their long-term decision making and resource access. These outcomes all increase the households' capacities to absorb and respond to shocks and stressors such as weather events and increased prevalence of livestock diseases.

- I got 50 bags of 6000kg of maize from 6 acres of hybrid 520 compared to 1200kg I used to get from 3 acres before RWANU. 2400kg were kept aside for home consumption and 3600kg were sold. I bought 3 acres of land, 2 goats and 2 cows (Teddy Akol, Lokana FG, Namalu).
- Last year I got 840kg from 1 acre of maize compared to 120kg I used to get from 0.25 acres before RWANU (*Losik David, Namalera FG Mourita, Nakapiripriti*)
- I got 600kg of maize from 1 acre of maize compared to less than 100kg I used to get from about 0.25 acres before RWANU (*Zipola, Mwoto FG Agule, Karita Amudat district*)
- Bought oxen using proceeds from cassava we planted in 2015 (Cristine Maranga Lokungurit, Lorengechorwa, Napak)

The **market system** has shown increased resilience at the same time. Agro-dealers and community animal health workers have been able to increase the amount of products (inputs, advice, and services) in the market. Agro-dealers and CAHWs are more able to sustain their businesses for continued provider diversity, due to training, mentoring and linkages to markets. There is increased trust and community between the agro-vet dealers and suppliers, and public veterinary service providers and CAHWs, providing a strong foundation for a sustainable inputs and services sector.

Regarding **sustainability**, agro-dealers and CAHWs noted that they will continue to provide services to farmers. Capacity building of agro-dealers and CAHWs, improved linkages to suppliers and a larger number of customers provide a foundation for continued provision of services. Farmers, too, have increased their willingness to purchase improved varieties and livestock medications, and know where to find them. It is highly likely that they will continue to source inputs from agro-dealers, CAHWs and veterinary providers. However, there are needs and opportunities for further sustainability improvement. RWANU promoted a limited range of crops, and farm sizes are relatively small (equating to limited demand), there is still limited awareness of agro-dealer shops among some farmers, agro-dealers have limited knowledge on the regulatory framework relevant to their businesses and lack of diversity in their income streams, and there are no standardized certification criteria for CAHWs. Future projects should address these areas to strengthen household and market systems resilience.

Grain bulking and block farming: RWANU promoted establishment of collective marketing groups and bulking centers and linked them to buyers. Bulking centers use standardized measurement instead of using local containers of various sizes. These interventions were associated with numerous improvements in **household resilience**. Bulking has enabled farmers to access more profitable markets by storing grain to sell when prices rise. Households that sold through bulking warehouses received UGX 150/kg (2015), 200/kg (2016), and 500/kg (2017) more than those who didn't. Block farms have helped beneficiaries access inputs more affordably through group input purchasing and shared labor, and increased beneficiaries' use of improved inputs and agronomic practices including those that help them adapt to drought, their orientation toward commercial production, and adoption of new varieties for cassava, positively impacting on adaptive capacities of the households. The bulking centers have enabled farmers to diversify their income sources by buying from other farmers after harvest or buying from other places to resell to community members. This, in turn, along

Members of bulking groups earned an average of UGX 280 (USD 0.08) per kg more than those who sold individually from 2015-17.

with improved prices from bulking and production from block farms, has improved households' access to food. Apart from this, farmers have realized enhanced social capital through collaboration and sharing of information in block farms.

These two interventions are associated with several improvements in **market system resilience**. Farmers have access to more buyers and market channels as they can sell to bulking centers in addition to middlemen they sold to before. Large buyers and traders have started engaging with the groups, providing a foundation for building trust among buyers and sellers. Bulking groups' engagement in produce trading and record keeping has enhanced accountability and trust, increasing their capacity to meet operational expenses, supply quality grain consistently, and attract buyers. Block farm groups also have enhanced trust through shared learning and management. Bulking centers have clear record keeping procedures to ensure accountability and transparency and offer a good foundation for continued use of the bulking centers. Bulking groups also share market information, adding transparency that enables members to make informed decisions about selling prices. The use of standardized measurement at bulking centers ensures fairness.

It is likely that the bulking centers will remain **sustainable** beyond RWANU as they are profitable private businesses. The sustainability of block farm groups rests on their ability to continue to receive benefits from collective work without training and support from a project, such as selling produce collectively for higher profits or filling gaps in extension that help members improve farm outcomes. The limited number of groups and farmers involved in grain bulking and block farms, coupled with side selling, limit the impacts of these interventions. Future projects can help bulking groups increase quantities they trade, enhancing access to more and larger buyers, better prices and higher earnings. Bulking centers also have inadequate provision for marketing staff and limited ability to use ICTs to access market information. These two areas are gaps that future projects and/or buyers should address to strengthen resilience of the system. Overall, future programs should continue to sensitize members of farmer groups on the benefits of collective marketing, facilitate links with specific buyers, and strengthen traders' and producers' capacity to use ICTs for market intelligence.

Honey value chain development: RWANU supported capacity building for honey production among beneficiaries and linked beneficiaries to Golden Bees, a buyer that pays premium prices for high-quality honey and offers embedded training to producers in its supply chain. RWANU provided starter kits to new producers, engaged women to enter a sector dominated by men, trained community-based facilitators who trained farmers, and trained artisans to produce hives. Honey producers acquired knowledge on siting, baiting hives to enhance their colonization, pest management in apiary, and processing.

Beneficiaries in this intervention area showed improved **household resilience**. Honey producers had access to more profitable output markets through Golden Bees' premium pricing. However, total impact on incomes was low, limited by low scale of investments and number of beneficiaries involved, and seasonality. Beneficiaries received affordable training on apiary management and quality-improvement practices from Golden Bees and community-based facilitators, and can buy modern hives from trained artisans who use locally available materials. Provision of starter kits and hives spurred farmers' use of new technologies and fostered willingness to purchase them. Honey production diversified income sources for households that began doing it under RWANU, enabling them to mitigate risk and build adaptive capacities. Groups worked together in setting up and managing the apiary sites which increased their social capital and shared learning. Women's participation in income generation increased as they entered an activity that was previously the domain of men.

These are a resource that will continue to be used by the community members well after end of RWANU.

The market system shows strengthening, too. Producers have access to more buyers than they did before RWANU. Golden Bees established an outlet in Moroto, there is a local buyer in Iriiri, Napak and Karita who process, packs and sells in Kampala, and other buyers come from Kenya. The presence of many buyers has led to price increased over 200 percent, from below UGX 3,000 in 2014 to UGX 7,000-8,000 in 2017. Market governance has improved since buyers purchase honey using standard measurements, ensuring fairness. Honey producers also have established associations that foster trust, position them demand services and engage with buyers more equitably and support stronger engagement of honey producers in the market beyond the farm gate.

The **sustainability** of this intervention appears strong, given that RWANU fostered market linkages around shared incentives. It is highly likely that farmers will continue to engage in honey production and buyers will continue to operate in the region. Opportunities for improvement remain. The limited number of farmers engaged in honey production coupled with small number of hives owned by each farmer limit household and community income increases. Golden Bees has not reached all bee keepers that RWANU supported and honey associations are relatively young and inexperienced. These are gaps that need to be addressed to strengthen market resilience. Future projects should increase market linkages to Golden Bees and other buyers, and support honey associations in building capacities needed to thrive.

NUTRITION

RWANU's market systems interventions were also associated with improved food security and nutrition outcomes. The field team's research and prior RWANU evaluations provide evidence for this.

Impact on household access to and availability of food: As indicated above, several market systems interventions have helped increase food availability in beneficiary households. This has been attained through both increased and more diversified production, and better incomes that enable households to buy more food. Thus, RWANU interventions mainly impacted on the income generation and production for consumption agriculture to nutrition/food security pathways. Beneficiaries noted that credit access, input and service strengthening and block farming helped them increase production levels due to using more productive and resilient varieties that are available for some crops (*see Teddy Akol example above*), expanding cultivated acreage, adopting good agronomic management practices including improved inputs and services, and cooperating more as couples in producing food crops. These interventions also helped producers increase livestock output and crop and dietary diversity through access to more seed varieties. Access to credit helped households address the need for immediate cash to buy food. Households involved in business grants, bulk grain marketing and honey production reported that they could access new and higher-value markets, increasing income available to buy food. diversified incomes. Due to households' increased appreciation of crop production as a livelihood and food production strategy, and the likely sustainability of RWANU interventions as discussed above, it is expected that the resulting improved access and availability of food will be sustained beyond RWANU's implementation.

Impact on nutrition for Pregnant and Lactating Women (PLW) and malnutrition for children under five years: Household interviews and project monitoring and evaluation data indicate that those involved in market system interventions show improved nutrition outcomes. The mean number of food groups consumed by women of reproductive age (WDDS) increased from 2.6 at baseline to 4.0 in FY 16, a figure that surpasses the end of project target of 3.5. Child malnutrition has reduced as results for weight-for-age, an overall indicator of a population's nutritional health. The proportion of children under 5 who are moderately-severely underweight has reduced by 19% from 21% at baseline to 17% at the time of this study in May 2017. The 17% of prevalence of underweight children in the study sample is well below the 20.4% and 26% reported for the

Karamoja sub-region (Food Security and Nutrition Assessment for Karamoja, 2016; Uganda Demographic and Health Survey, 2016). Qualitative findings from fieldwork suggest women and children are now getting adequate meals and households have increased their dietary diversity by consuming their own production and buying from the market using income from the market systems interventions.

CONCLUSIONS AND OVERALL RECOMMENDATIONS FOR FUTURE PROJECTS

RWANU's market systems interventions are associated with improved household and market systems resilience along numerous determinants of resilience, increased household access to food and better maternal and child nutrition. Thus, findings suggest that *RWANU's theory of change has held true. "The improvement in household and market system resilience has resulted in reduced malnutrition in Karamoja."* Diversification of income sources and increased food production (albeit from very low levels), along with better credit access and incomes, triggered improved household access to food and nutrition. ASCAs have facilitated consumption smoothing, food purchases, access to better markets, asset building, and investment in enhanced crop production and other income generation activities. Block farms led to increased production while grain bulking and honey production boosted incomes. Business development grants to youth and women supported income diversification that helped households mitigate production and market risks and keep buying food and reserving their production for household use. However, impacts are limited according to the length of time households have engaged in the market system interventions, and limited to the households involved in the interventions.

Recommendations for strengthening and sustaining household level resilience: Future programs should adopt an inclusive, systems-based, multi-prolonged approach as RWANU did to improve household incomes from farm to market and benefit men, women, girls and boys equitably. Subsequent interventions should continue to foster access to affordable credit, inputs and services, engage buyers in service provision such as training, support local enterprise development and group marketing, diversify crops and livestock in line with market demand and nutritional needs, encourage the use of suitable and resilient improved crop varieties, good agronomic practices (e.g., soil fertility improvement, soil and water conservation) and better livestock management; promote sustainable expansion of acreage, link producers to better markets and ensure equitable, empowered participation of women and youth. Subsequent programs can augment these proven market systems interventions by strengthening farmers' capacities to identify genuine inputs, informing group farm members about the financial and non-financial benefits of shared farming and mutual training, and building actors' abilities to utilize ICTs to access agricultural and market information.

Recommendations for strengthening and sustaining market system resilience: Future development programs can continue to develop more ASCAs and link them to banks and government programs that promote financial inclusion; support the growth and diversification of the input and service sector; foster collective action in production, marketing, credit and off-farm enterprise development, bringing new buyers and financial institutions into the market, facilitating trusting, mutually beneficial linkages among actors and engaging actors to use standard measures and transparent record keeping. Beyond this, projects can help develop new financial products and services, strengthen the capacity of groups to lobby for support and services from buyers and government programs and advocate for local governments support to market systems, and foster the development of market information systems.