Graduating to Resilience?

Evidence from the Village Enterprise Longitudinal Study in Kenya and Uganda

Summary

Village Enterprise implements a graduation program for people living in extreme poverty in East Africa. In 2016, Village Enterprise trained first-time entrepreneurs, establishing micro businesses and savings groups, in the regions of Soroti, Uganda and Kitale, Kenya. Baseline and endline household surveys were administered to a sample of 30% of program participants. In 2021, Village Enterprise followed up with the sample from the 2016 cohort to assess outcomes at the household, business, and savings group levels. Five years later, households who participated in the program showed sustained or improved outcomes.



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Introduction

The objective of this study is to measure household, business and savings group outcomes five years after participants entered the Village Enterprise graduation program.

Village Enterprise's approach to economic inclusion uses rigorous targeting to identify rural households living in extreme poverty, provides trainings around savings, loans, and microenterprise development, supports the establishment of 'Business Savings Groups' of thirty individuals, provides seed-capital grants to start group businesses, and provides ongoing support for a year through mentoring.

The Village Enterprise Graduation Program follows these key steps in Diagram 1 below:

TRAINING

BUSINESS SAVINGS

GROUPS

TARGETING



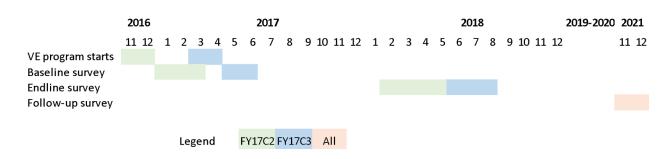
Diagram 1. Five Steps of VE Graduation Program

- **1. Targeting:** Targeting districts and villages with high rates of poverty, we conduct a participatory community mapping exercise, where we facilitate discussions with local leaders with the purpose of updating or creating village rosters and gaining better understanding of the dynamics and needs within the village for consideration during program implementation. We then administer the Poverty Probability Index, a country-specific poverty measurement tool to all mapped households, to identify those with a high likelihood of falling under the poverty line. This multi-step targeting process results in a participant population that falls below the international poverty line and that typically has no current employment (apart from subsistence farming and/or daily labor) and no history of running a business.
- **2. Training:** Our business mentors deliver three to four months of business skills and financial literacy training designed for participants and assist them in building sustainable small enterprises of target three entrepreneurs each. Business mentors live in the area in which they work, which ensures that they are fluent in the local language and fully understand the local context. Our program participants have very little formal education and are often illiterate. In response, in 2021 we developed interactive training materials, which use an approachable, visual, and concise format and focus on learning by doing and interaction using regionally relevant stories. The training curriculum and video review modules are accessible by business mentors digitally on their tablets.
- **3. Savings groups:** At the beginning of the training, we form Business Savings Groups (BSGs) of approximately 10 businesses (30 entrepreneurs) each. BSGs are a self-generating, self-managed form of microfinance that allow members to pool savings and access loans. BSGs provide members with ongoing protection against financial shocks and access to growth capital. Our Business Savings Groups serve as a safety net and a support group, as well as our exit strategy.
- **4. Seed funding:** Village Enterprise provides an initial cash grant of approximately \$120 USD as seed capital to start the business after the business group develops a business plan with the help of their business mentor. A second cash transfer of approximately \$60 USD is provided six months later upon successful completion of the program as assessed by the business mentor. In response to rising costs of business inputs globally, in 2021 we updated our total seed funding from \$150 USD to \$180 USD.
- **5. Mentoring:** Business mentors guide each new group in selecting an enterprise that is best positioned to flourish, taking into account the team's skill set, local market conditions, risk factors, and profitability. Equipped with mobile training and mentoring tools, business mentors provide important ongoing coaching and mentoring throughout the program to ensure that all participants have the skills and knowledge to run a business, save for the future, resolve group conflicts, develop confidence and agency, and successfully graduate out of extreme poverty.

Data

The original sample from the 2016 cohort consisted of panel data from 648 households, 394 (61%) in Kitale and 254 (39%) in Soroti. The sample was comprised of households from two cycles, launched in FY17C2 and FY17C3, and across 36 business mentors. The FY17C2 cohort baseline data was collected from January to March 2017 and their endline data was collected from February to May 2018. The FY17C3 cohort baseline data was collected from May to June 2017 and their endline data was collected from June to August 2018. The follow-up survey was conducted in late November and early December 2021. The full timeline can be seen below in Diagram 2.





Out of the 648 households, we were able to complete follow-up surveys with 438 households (68% of the sample). The study aimed to follow-up specifically with the Village Enterprise business owner in each household, and unavailability of the business owner to participate in the survey or the business owner no longer being a part of the household (due to divorce, death or other reasons) were among the main reasons for not being able to complete the survey. Other primary reasons for survey attrition were entire households relocating or the enumerator not being able to locate the household.

The follow-up survey used the same household questionnaire that was collected during the original baseline and endline, with additional modules that included specific questions about businesses, savings groups, and retrospective questions related to households coping and welfare in relation to the COVID-19 pandemic.

Methodology

The primary outcomes of interest were household economic outcomes and business and savings group operational and economic outcomes. Secondary analysis also explored resilience outcomes. For primary economic outcomes we used a nonparametric test for trend to determine if there was a statistically significant trend between the year and outcomes of interest, where y is the outcome of interest and x is the year 2017, 2018, or 2021¹. We used difference in difference analysis to check for statistically significant difference in outcomes between baseline and follow-up for primary outcomes across age and gender groups. We adjusted USD values for consumption and expenditure and household savings for inflation using the World Bank annual inflation rates for Kenya and Uganda. In addition, values were winsorized at the 97.5th and 2.5th percentiles to account for outliers. To calculate the proportion of households above the \$1.90 poverty line, we applied the World Bank's purchasing power parity (PPP) conversion factor to our annual consumption and expenditure values.

¹ Specifically, we use the Stata nptrend command to test confirms if there is a systematic and statistically significant change across years. https://www.stata.com/manuals/rnptrend.pdf



Results

Household Outcomes

Primary Household Outcomes

At the household level, the same indicators measured in the 2017 and 2018 surveys were collected in 2021 to compare values across time.

We see positive and statistically significant trends in our primary indicators of household economic wellbeing: consumption and savings. Household average consumption and savings levels increase over time, with both increasing from baseline to endline and continuing to climb after endline, for an 83% increase in consumption and a 933% increase in savings over time. This growth in impact is especially remarkable given that results are adjusted for inflation and the final round of data collection took place in 2021 when millions of households in Africa were being pushed back into poverty due to economic impacts of the Covid-19 pandemic. Table 1 below shows a summary of these primary indicators of household economic wellbeing.

Table 1. Summary of Results for Household Consumption and Savings

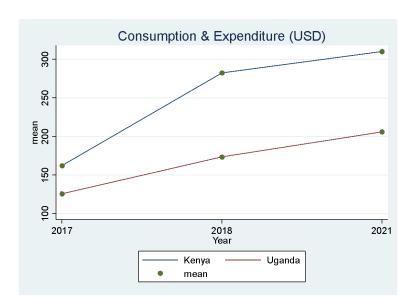
	Annual per capita consumption and expenditure*					
year	N	Mean	standard deviation	variance		
2017	438	\$149.01	92.07	8477.30		
2018	438	\$ 243.05	180.50	32581.23		
2021	438	\$ 272.39	172.96	29913.65		
		Househo	old savings*			
year	N	mean	standard deviation	Variance		
2017	433	\$ 2.82	10.66	113.67		
2018	434	\$ 13.62	34.16	1166.67		
2021	432	\$ 29.12	52.25	2730.33		

^{*}Indicates there was a statistically significant trend in the change in results across years.

When we convert our consumption figures to PPP, we find that at baseline the proportion of households living above \$1.90 was extremely low at 10%, by endline made a large increase with 34% being above the poverty line by then, and steadily increased to 43% by follow-up.

The outcomes, consumption and expenditure and household savings, were also disaggregated by country. As seen in Graph 1, annual consumption and expenditure per capita has steadily risen for households that participated in the Village Enterprise program in both Kenya and Uganda.

Graph 1. Average Increase in Annual Per Capita Consumption & Expenditure



Household savings increased over time in both countries, with the increase in household savings from endline in 2018 to the follow-up survey in 2021 being much higher in Uganda. These trends are depicted in Graph 2.

Graph 2. Household Savings

The positive trend in number of meals per day and number of times animal protein is consumed per week were both statistically significant. As seen in Table 2, daily meal intake and weekly animal protein increased from baseline to endline and then remained relatively stable over time.

Table 2. Summary of Results for Daily Meals and Protein Consumption

	Daily meals*						
year	N	mean	standard deviation	variance			
2017	438	1.71	0.58	0.33			
2018	438	2.45	0.57	0.32			
2021	438	2.44	0.57	0.32			
	Wee	ekly animal	protein consumption*				
year	N	mean	standard deviation	variance			
2017	438	0.44	0.69	0.47			
2018	438	1.31	1.23	1.52			
2021	437	1.25	1.23	1.52			

^{*}Indicates there was a statistically significant trend in the change in results across years.

Households in both Kenya and Uganda demonstrate sustained meal consumption from when exiting the program to the time of follow-up. These trends are depicted in Graph 3.

Daily Meal Consumption

Solution 2018
2017
2018
2021

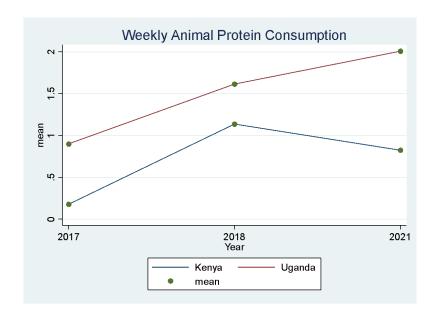
Graph 3. Daily Meal Consumption

Households in Uganda show an increase in their weekly consumption of animal protein from exit to follow-up, while households in Kenya show a slight decrease in their levels of weekly animal consumption. These trends are depicted in Graph 4.

Kenya

mean

Uganda



Graph 4. Weekly animal protein consumption

Subgroup Results for Primary Household Outcomes

Gender

Table 3 below shows differences in outcomes based on the gender of the business owner. Within the sample, 78% of the business owners were female. While the magnitude of change is greater for female business owners than male business owners, the differences were not statistically significant other than for savings, which was statistically significant at the 10% level.

Table 3. Primary Outcomes by Gender

		Female		Male	
Outcome	DiD	2017	2021	2017	2021
Annual per capita consumption and expenditure	\$18	\$149	\$276	\$151	\$260
Household savings	\$10*	\$2	\$31	\$5	\$23
Weekly animal protein consumption	0.03	0.4	1.2	0.64	1.4
Daily meal consumption	0.02	1.8	2.5	1.6	2.3

^{*}p<0.1, **p<0.05, ***p<0.01

Age

Tables 4 and 5 below show outcomes based on the age of the business owner, where we compare youth to the general non-youth and non-elderly population and elderly to the same general population. Within the sample, 14% of business owners were youth, aged 30 and under as this would make them 25 and under at time of participating in our program, and 12% of business owners were elderly, aged 70 and under as this would make them 65 and under at time of participation. While we see positive change over time on all of these primary indicators for both youth and elderly populations, the direction of most difference in difference estimate is negative, implying higher improvements over time among the general population compared to youth and compared to the elderly.

Table 4. Primary Outcomes by Youth Status

		Youth		General	
Outcome	DiD	2017	2021	2017	2021
Annual per capita consumption and expenditure	-\$66***	\$136	\$222	\$152	\$286
Household savings	\$23**	\$4	\$51	\$3	\$27
Weekly animal protein consumption	0.1	0.6	1.3	0.4	1.3
Daily meal consumption	-0.1	1.8	2.4	1.7	2.5

*p<0.1, **p<0.05, ***p<0.01

Table 5. Primary Outcomes by Elderly Status

		Elderly		General	
Outcome	DiD	2017	2021	2017	2021
Annual per capita consumption and expenditure	-\$41*	\$144	\$244	\$152	\$286
Household savings	-\$12*	\$1	\$16	\$3	\$27
Weekly animal protein consumption	-0.2	0.3	1.1	0.4	1.3
Daily meal consumption	-0.09	1.6	2.4	1.7	2.5

*p<0.1, **p<0.05, ***p<0.01

Household Resilience

In the follow-up survey, respondents who indicated suffering any kind of situation for the past year (52% said they had) were asked follow-up questions to gauge resilience and adaptability to such shocks. 61% of these respondents indicated being able to get support during the time of the difficult situation (an indicator of strong social capital) and 61% said that they fully or partially recovered from the difficult situation. All households were asked if they believe they will be able to cope with future shocks, of which about half indicated yes. All households were asked if they have made livelihood adaptations to prepare for future shocks, of which 44% indicated yes.

Below Table 6 shows a summary of the proportion of respondents who agreed with the statements listed. More than half of respondents are optimistic and believe that they can cope with future shocks. These high levels of agreement paired with the increases seen in primary outcomes demonstrate strong resilience in Village Enterprise program participants.

Table 6. Household Resilience

	2021
Household was able to get support during the time of difficult situation	61%
Household has fully or partially recovered from difficult situation	61%
Household believes they will be able to cope with any future shocks	52%
Household made any advance livelihood adaptations in expectation of future shocks	44%

Business Outcomes

At the business level, we collected information about the business launched by the household during the Village Enterprise program as well as other additional businesses that they may have started after exiting the program. Respondents were asked about business group size, record-keeping practices, business employees, business value, business profit, and how the business has changed since Covid-19.

We found high ongoing participation in business activity, with two-thirds of business owners (66%) either continuing to operate their original businesses launched with support from Village Enterprise and/or operating new streams of income generating activity.

Respondents were asked if they were still active in the business that was launched during the program, and 162 (37%) said yes. Respondents were also asked if they started any other additional business on their own or with others, and around 42% said yes. When comparing respondents who were active and not active in the original businesses launched with support from Village Enterprise, about half of those who were not active had started another business.

The participation status of the respondent in the business group is broken down below by country, and gender in Table 7. In Uganda, program participants are more likely to be active in their business group compared to Kenya. There is no difference in gender.

Table 7. Proportion of Participants Still Active in Original Village Enterprise Business

	All	Kenya	Uganda	Female	Male
Active	37%	32%	54%	37%	37%

Table 8 shows the participation status disaggregated by four age groups. The two younger age groups, those 50 years and under, have the largest percentage of respondents who said they were still active with the business launched in the VE program. The older the participant is, the more likely it is that they might lose touch with their business group, with those who are 71 and older when they start the program being those most likely to leave their original business group.

Table 8. Proportion of Participants Still active in Original Village Enterprise Business by Age

	30 and under	Ages 31-50	Ages 51-70	71 and over
Active	44%	41%	32%	26%

The majority of these businesses continued to operate as a group business. Just 20% of groups had one member, 30% had two members and 49% had three members.

Few businesses (27%) were keeping business records. This is a programming component that Village Enterprise has significantly increased since FY17 and made a priority as we know from our adaptive management system that we have adopted since 2017 that high-quality record keeping is a strong predictor of business health and success. Previous internal analysis showed that keeping business records correlates with higher household outcomes compared to households where the business did not keep records. This held true in the follow-up survey where households whose businesses kept records had an average \$46 higher per capita household consumption & expenditure compared to those who did not keep records.

When asked if businesses employed workers in their original businesses, 8% said yes. Out of those businesses, 62% had one employee, 30% had two employees and 8% had three employees. When asked if additional businesses had employees working for them, 11% said yes. Out of those businesses, 50% had one employee, 30% had two employees, 15% had three employees, and 5% had 5 employees. Only 16% of these additional businesses were keeping records.

Respondents were asked about the value of their original business, which is the total value of their inventory, inputs purchased, and cash on hand. In addition, respondents were asked their monthly and annual revenue as well as costs. Tables 9 and 10 show the business value, monthly profits and annual profits. During the Village Enterprise program, business groups were given \$150 of seed capital to invest in their business. Median business value for the sampled businesses in FY17 was \$117 in Kenya and \$159 in Uganda, demonstrating that despite challenges due to Covid-19 restrictions and inflation, business value held mostly constant over time.

Table 9. Median Business Value

	FY17			FY21	
All	Kenya	Uganda	All	Kenya	Uganda
\$138	\$117	\$159	\$120	\$112	\$138

Table 10. Business and Profit

Table 101 Basilless and 1 Tolle						
	All	Kenya	Uganda			
Average Monthly Profit	\$14	\$20	\$8			
Average Annual Profit	\$135	\$168	\$70			

Table 11 shows the breakdown of business type for the original businesses that are still active. The most common business types that have proved to be sustainable over time are livestock and retail businesses.

Table 11. Business Types

	All	Kenya	Uganda
Crops	19%	25%	12%
Livestock	40%	38%	44%
Retail	35%	31%	40%
Service	3%	3%	3%
Skilled	3%	4%	3%

For the livestock and retail businesses, Tables 12 and 13 show the breakdown of sub-types. In Kenya, the most popular sub-type is Chicken; whereas raising goats is the major sub-type in Uganda. For retail sub-types, the breakdown is less clear where selling might be localized at the village-level.

Table 12. Livestock Business Sub-Types

	All	Kenya	Uganda
Chicken	41%	84%	0%
Cows	9%	5%	14%
Sheep	16%	9%	23%
Goats	29%	0%	57%
Duck	1%	2%	0%
Pigs	3%	0%	7%

Table 13. Retail Business Sub-Types

	All	Kenya	Uganda
Beans	7%	2%	13%
Cereals	13%	7%	21%
Clothing	9%	14%	3%
Fish	15%	7%	23%
Grains	4%	0%	8%
Household goods	10%	16%	3%
Livestock	12%	5%	21%
Milk	6%	12%	0%
Other	9%	12%	5%
Vegetables	16%	26%	5%

Table 14 shows the business value, monthly profits and annual profits of additional businesses. In Kenya, additional businesses are realizing higher profits than the original businesses started in 2017. Program participants may have taken the skills from the training received during the program along with lessons learned from their past business and created more profitable businesses.

Table 14. Business Value and Profit of Additional Businesses

	All	Kenya	Uganda
Median Business Value	\$79	\$90	\$60
Average Monthly Profit	\$21	\$29	\$7
Average Annual Profit	\$278	\$355	\$60

Table 15 shows the business types for the additional businesses started after the Village Enterprise program ended. The most common business type is retail in both Kenya and Uganda.

Table 15. Additional Businesses Started

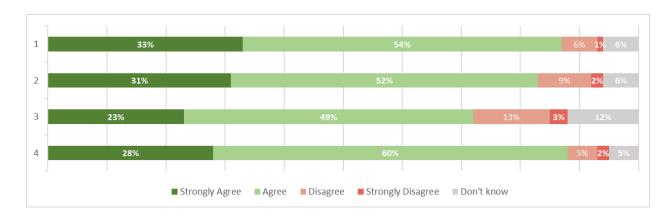
	All	Kenya	Uganda
Crops	22%	25%	19%
Livestock	26%	35%	14%
Retail	48%	55%	40%
Service	10%	3%	21%
Skilled	3%	3%	3%

In order to measure the satisfaction and experience of program participants, respondents were asked to rate four statements based on their level of agreement. In the Box 1 below, the four statements are listed. The results in Graph 5 convey that respondents mostly felt positive about the training received by Village Enterprise. Some respondents felt they were lacking record-keeping skills.

Box 1. List of Statements Given to Respondents

Number	Statement
1	I operate my business using the skills my Village Enterprise Business Mentor taught me.
2	I am capable of creating and following a business plan.
3	I have the skills to properly keep my business records up to date.
4	The skills I learned from Village Enterprise helped me to cope with the economic shocks due to COVID 19.

Graph 5. Respondent's Level of Agreement



Business Savings Group Outcomes

As outlined in Table 16, 72% of respondents reported using any financial services. Of those using financial services, 28% reported using both formal services and savings groups, 57% reported using savings groups only, and 15% reported using formal services.

Table 16. Financial Service Access

Any Financial Services?	If any financial service, type of financial service:		
Yes - 72%	Both formal and savings groups – 28%		
	Savings groups only – 57%		
	Formal only – 15%		
No - 28%			

Of those reporting participation in savings groups, 62% of respondents report participation in one savings group, 30% report participation in two savings groups, and 8% report participation in 3 or 4 savings groups.

The survey included questions about the business savings group (BSG) that the household belonged to during the Village Enterprise program. From the BSGs launched by Village Enterprise, 37% of respondents reported that their Village Enterprise BSG is still active. The still active BSGs seem to be operating well with 95% meeting on a weekly basis and all indicating they meet at least once a month.

Forty-eight percent of respondents said they joined other savings groups. For respondents who said their original Village Enterprise BSG was inactive, 44% reporting having joined another savings group. For respondents who said their original Village Enterprise BSG was active, 53% had joined an additional savings group.

For those active BSGs, 80% of respondents said they were still participating in that BSG. The participation status of the respondent in their BSG is broken down below by country, and gender in Table 17. The difference between Kenya and Uganda is small, with Kenya having a slightly higher percentage of people participating in BSGs launched by Village Enterprise. There is a larger percentage of female business owners who are active in their BSG compared to males.

Table 17. Proportion of Participants Still Active in their Village Enterprise BSG if the BSG is Active

	All	Kenya	Uganda	Female	Male
Active	80%	83%	78%	83%	68%

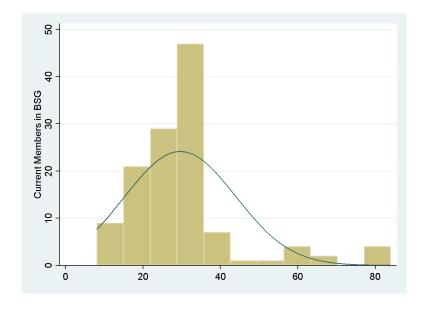
Table 18 shows the participation status disaggregated by four age groups. There is little difference across age in the participation status in Village Enterprise BSGs.

Table 18. Proportion of Participants Still Active in Village Enterprise BSGs by Age if the BSG is Active

	30 and under	Ages 31-50	Ages 51-70	71 and over
Active	86%	75%	82%	81%

The active BSGs had 30 members on average. Of the BSGs that are still operating, respondents reported an average nine members dropping from the BSG as well as an average nine members newly joining the BSG. The distribution of current members in the BSGs can be seen in Graph 6 with the smallest having eight members and the largest having 84 members.

Graph 6. Distribution of BSG Membership



Discussion

Results from this longitudinal study are generally very positive, in particular as they show not only sustained but improved economic outcomes for Village Enterprise participant households, five years after households started the program and despite the Covid-19 pandemic. The proportion of households living above \$1.90 was 10% at baseline, 34% at endline and increased to 44% at follow-up. The data suggests training and mentoring received by participants provided them with skills that allowed households to increase their consumption and expenditure as well as grow their savings. Additionally, meals per day and weekly animal protein consumption also increased at the time of follow up. These positive trends in household level outcomes were found to be statistically significant.

Disaggregated results show women benefiting equally and sometimes more from the program compared to men, but suggest more could be done to help the youth and the elderly benefit from our program as much as the general population. Village Enterprise might also consider incorporating an age cap into programming, as we saw a precipitous drop in participation in Village Enterprise businesses among those aged 70 and up.

We found high-continued entrepreneurial spirit among past Village Enterprise participants, with two-thirds of business owners (66%) either continuing to operate their original businesses launched with support from Village Enterprise and/or operating new streams of income generating activity.

While savings at the household level increased over time, BSG operability decreased after the program ended. More research is needed to understand the determinants of success or not of sustained Village Enterprise BSG operations and in the context of savings groups and formal financial services expanding, how Village Enterprise BSGs can be the most effective and sustainable.

Overall, these results provide strong indication that Village Enterprise households end the program equipped with the skills and resources to start and sustain income generating businesses activities. Taking into account the economic, social, and health consequences of the global Covid-19 pandemic that began in early 2020 and continued to affect communities even while this study data was being collected in Fall 2021, provides further evidence that Village Enterprise participants are graduating into a state of resilience, able to adapt to changing circumstances and mitigate against external shock.

Village Enterprise has made strides in improving programmatic areas for business groups and business savings groups since 2017. Mentoring guidelines and training module topics have been more targeted to the populations we work with and streamlined across regions. Our adaptive management system has also increased effectiveness in integrating real-time data into staff's decision-making and work plans, and has been an opportunity for greatly improving business health throughout the entire program lifecycle. On top of all of this, the use of digital technologies such as videos and mobile cash transfers has continued to improve our efficiency and impact. Future longitudinal studies are being planned for every two years to allow for continued learning and adapting at Village Enterprise.

Acknowledgements

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