



Village Enterprise Development Impact Bond for Poverty Alleviation

Improving lives for over 13,000 households in Kenya & Uganda

February 2018

Disclaimer

These materials were prepared solely for the purpose of furnishing information to persons interested in The Village Enterprise Development Impact Bond. These materials do not constitute an offer to sell or a solicitation of an offer to buy any security or other financial product. These materials are in summary form and have been prepared solely for informational purposes.

Prospective investors should make their own investigation of an investment in future Development Impact Bonds, including the merits and risks involved, and the legality and tax consequences of such investments. Prospective investors should not construe the contents of this memorandum as legal, tax, investment or accounting advice. Investments in Development Impact Bonds have not been recommended by any U.S. federal or state, or any non-U.S., securities commission or regulatory authority. Furthermore, the foregoing authorities have not confirmed the accuracy or determined the adequacy of this memorandum. Any representation to the contrary is a criminal offense.

These materials may contain “forward-looking” statements. Such statements are statements other than historical fact and relate to our intent, belief, or current expectations, primarily with respect to our future operating, financial, and strategic performance. Any such forward-looking statements, including any financial, performance, or other projections, are not guarantees of future performance and may involve risks and uncertainties. Actual results may differ from those contained in, or implied by, such statements. Neither Instiglio Inc. nor any of its affiliates makes any representations or warranties regarding the accuracy or completeness of any projections or other forward-looking statements and assumes no responsibility to update such statements as a result of new information, future events, or otherwise.



About the Author

Instiglio is a non-profit that provides technical assistance to improve the impact of social programs in developing countries by tying funding to impact. By focusing funding on impact, Instiglio incentivizes high-quality services and improved delivery methods that ultimately improve social outcomes.

At the center of Instiglio's efforts are the design, structuring, and implementation of results-based financing mechanisms, including, impact bonds. Beyond implementation of results-based finance, Instiglio also works with international organizations to develop and disseminate best practices in the design and implementation of impact bonds while developing a market for social outcomes through the use of these instruments.

Acknowledgements

This project is the result of the hard work, original contributions and thoughtful input and feedback from of a group focused and highly committed individuals and institutions. The members of the Village Enterprise Development Impact Bond Design Group, listed below, have all provided not only invaluable feedback throughout the course of the design process, but extensive contributions to this document, especially Village Enterprise and DFID for their crucial work on section 3 – The Intervention. We also thank Richard Sedlmayr from the University of Oxford for providing all the intellectual basis for the creation of Section 4: Payment structure. We also thank IDinsight, the evaluator, for contributing parts of their evaluation design to form Section 5 and Appendix 4 of this report.

Village Enterprise

Dianne Calvi
Caroline Bernadi
Celeste Brubaker
Taddeo Muriuki

IDinsight

Paul Wang
Buddy Shah
Harlan Downs-Tepper
Jeffery McManus
Patricia Pina

Anonymous Donor

USAID - DIV

Joaquin Carbonell
Duc Tran
Anne Healy

DFID

Radana Crhova
Jessica Cartwright

Instiglio

Avnish Gungadurdoss
Siegfried Holler
Douglas Emeott
Jan Witt
Juan Camilo Villalobos

Global Development Incubator

Alice Gugelev
Wesley Panek
Monica Kuo



Table of contents

Disclaimer	2
About the Author	3
Acknowledgements.....	3
1. Introduction	5
Principles.....	5
Development Impact Bonds (DIBs).....	5
2. Participants	7
Project Structure.....	9
Contracts.....	11
Key terms	12
Key costs	12
3. The Intervention	13
Social issue	13
Service Provider	13
The Intervention.....	13
Program components.....	13
Target population	15
Monitoring Systems	16
Geography.....	16
Delivery Experience, Team, and Chain Map	18
4. Payment structure	18
Payment Metrics	18
Prices	20
Payment Formula.....	21
Payment caps	23
5. Impact Evaluation	26
Timeline for evaluation and payments:	26



I. Introduction

The Village Enterprise Development Impact Bond (DIB) intends to improve income levels of the extreme poor through Village Enterprise's microenterprise development program for the extreme poor, known as a Graduation program. The Graduation Model is a cost-effective and evidence-based intervention that can bring about lasting improvements in the income levels for the very poor, as reported in a multi-country study published by Banerjee, et al. in *Science*¹ in 2015. However, the same study showed that, despite the promising impact, outcomes can vary significantly across geographies and implementation teams, as well as within countries, indicating that contextual factors and the quality of implementation are significant success factors. As such, developments are needed to improve program impact and efficiency at scale. Unfortunately, traditional funding modalities provide neither the flexibility, nor the performance incentives to drive impact since funding is typically tied to activities and not to outcomes, presenting a significant missed opportunity to improve livelihoods of the extreme poor. A DIB, however, provides flexibility and incentives to stretch the impact of social programs, presenting a solution to the variability in outcomes seen across Graduation programs

Further, as the deepening body of evidence points to the potential of integrated poverty alleviation interventions, priorities shift to a new challenge: how to administer them cost-effectively at large scale? Donors recognize their own limitations in identifying and prescribing the necessary inputs/success factors for each context. By using a pay-for-success model, donors can challenge entrepreneurially-minded development practitioners to master and demonstrate cost-effective delivery.²

The Village Enterprise DIB is designed to pilot a scalable funding mechanism that allows donors to easily focus their funding on programs that work. To ensure continuous improvement and replicability, the DIB has a detailed learning agenda to identify what works and what can be improved in its scale-up phase.

Principles

The following principles have guided the DIB Design Group's design of the DIB:

The DIB must:

- support the Village Enterprise program to create the largest positive impact on households' consumption and assets in the treatment population;
- maximize the replicability of the design process and the replicability of the DIB;
- allow Village Enterprise staff, from field staff in Kenya and Uganda to upper management in the United States, to easily understand payment metrics and payment design, and how they translate into their work; and
- avoid perverse incentives in the design for any participant in the program, especially as it applies to protecting the program's beneficiaries.

Development Impact Bonds (DIBs)

A DIB is a financing model for achieving social outcomes in international development. In this model, an outcome payer, which can be, for example, a development agency, government, or foundation, enters a pay-for-success contract to compensate a service provider for achieved social outcomes. The service provider, which can be, for example, a for-profit or nonprofit organization, receives up-front working capital from socially-motivated investors to deliver services. Investors, in turn, receive payments from the outcome payer only if outcomes are achieved.

¹ Banerjee, A, et al. (2015). *Science*. "A multifaceted program causes lasting progress for the very poor: Evidence from six countries."

² Sedlmayr, Richard. *Paying for Poverty Alleviation: Rationale and Design Considerations*. Currently, a working paper. Final version forthcoming.





The DIB model differs from standard contracts for social programs given its focus on tying payments to rigorously-measured social outcomes and given the involvement of socially-motivated investors in pre-financing social service delivery. As such, DIBs have the potential to sustain long-term, outcomes-focused partnerships among nonprofits, donors, and investors that address important social issues. In the DIB, performance incentives further motivate Village Enterprise and its investors to maximize their impact and the value-for-money for donors. Further, the measurement of social outcomes generates an evidence base for future efforts, improving all actors' learning and growth towards delivering effective programs.

The Village Enterprise DIB has four advantages over traditional funding mechanisms:

1. By tying funding to verified outcomes, the DIB ensures the interests of Village Enterprise and their investors, and the donors are well aligned and focused on improving the same social outcomes.
2. As the DIB requires measuring program outcomes, it makes those outcomes more visible, drawing the attention of the service provider to what really matters rather than to the activities performed.
3. The DIB offers flexibility and freedom to Village Enterprise to pursue a range of strategies and adapt the program to maximize impact. The wide range of results observed for other graduation programs³ suggest that successful scale-up or replication of the Graduation model would require that Village Enterprise adapt their model to the context, and rapidly address challenges that arise or lessons they encounter.
4. As donors pay if social outcomes are achieved, the DIB ensures that every cent disbursed creates a real impact, providing a significantly greater guarantee of value-for-money compared to pay-for-inputs funding.

³ Banerjee, A, et al. (2015). *Science*. "A multifaceted program causes lasting progress for the very poor: Evidence from six countries."





2. Participants

This section describes the roles of the main participants in the Village Enterprise Development Impact Bond (henceforth “**VE DIB**”), the structure of the project, the main agreements into which the participants will enter, and the key milestones of the program.

A. Outcome Payers

Outcome payers are organizations that commit to pay for results that are achieved and verified as per the procedure and conditions laid out in this design memo. The three outcome payers for this DIB are as follows:

1. **Development Innovation Ventures from the United States Agency for International Development** (henceforth “**USAID-DIV**”). USAID-DIV seeks to bring in new ideas to solve problems facing millions around the world, especially where those ideas deliver more impact for less money and with greater potential for sustainable scale. Inspired by the venture capital experience, USAID-DIV uses a tiered, evidence-based funding model to test ideas, gather evidence of what works, identify failures quickly and cheaply without long-term commitments, and continue to only support proven solutions.⁴
2. **The Department for International Development of the United Kingdom** (henceforth “**DFID**”). DFID leads the United Kingdom’s work to end extreme poverty. They work to build a safer, healthier, more prosperous world for people in developing countries, as well as in the UK.⁵
3. **An anonymous philanthropic fund.**

B. Service Provider

The service provider will commit to delivering the services to the target population and be paid based on results.

Village Enterprise Fund, Inc. (henceforth “**Village Enterprise**” or “**VE**”) will be the service provider. Village Enterprise is a San Francisco-based NGO with over 30 years of experience. Guided by technological and business acumen, VE has refined a model that is scalable and adaptable. Since its inception, VE has started more than 39,000 businesses, trained more than 156,000 entrepreneurs, and improved the lives of more than 850,000 women, children, and men. Village Enterprise aims to reach millions more through the successful scale up and geographical expansion of its Graduation Model program.

C. Trustee

In an effort to streamline the contracting relationships and financial flows between the outcome payers and the service provider, a trustee will be responsible for i) receiving funds from donors, ii) signing an outcomes contract with Village Enterprise in accordance with the DIB design (as approved by all parties), iii) holding some donor funds in escrow during the project, iv) disbursing payments for the achievement of results as reported by the outcomes evaluator, v) holding the outcomes evaluation contract, vi) holding the contract with the Project Manager and Process Evaluator, vii) completing organizational due diligence on downstream partners to ensure they are capable of delivering on their contracted activities, and do not represent a fiduciary or reputational risk to donors, and viii) ensuring the Project Manager and Outcomes Evaluator deliver their respective work programs and high-quality outputs, disbursing payments to those contractors according to their payment schedules and verifying reported expenditures.

⁴ Information from USAID-DIV Webpage.

⁵ Information from DFID Webpage.





Global Development Incubator, Inc. (henceforth “**GDI**”) will be the Trustee. GDI goes beyond traditional consulting models, capacity builders, and bureaucratic platforms to do hands-on implementation in addition to strategic and networking support. GDI takes initiative to address real-world barriers to growth, offers a critical and independent perspective, and partners with innovators to deliver social impact at scale. GDI will play the important role of holding and disbursing the funds dedicated to the DIB, as well as signing many of the important agreements that build the governance structure of the Village Enterprise DIB. GDI is piloting this Trustee role – a first for any DIB – in hopes of reducing transaction costs and deal complexity, and ideally overcoming two common barriers to broader adoption of DIBs globally.

D. Investors

The investors will provide the required working capital to Village Enterprise. They will be paid by Village Enterprise, if results are achieved, as verified by the outcomes evaluator. Village Enterprise will hold the investor contracts, as well as negotiate the investment terms and manage these financial flows. Investors must be of good standing; that is, not currently or previously engaged in illegal and unethical practices.

Delta Fund will be the lead investor in the VE DIB. Interested in working with Village Enterprise to expand its Graduation Model program, Delta Fund has committed a total contribution of USD\$ 1,000,000 for the DIB.

Other investors have been anonymously gathered. The closing date for the total investment needed (\$2,400,000) is aimed for the end of April 2018.

E. Outcomes Evaluator

The outcomes evaluator will conduct:

1. An audit to verify the transfers of seed funding from VE to beneficiary households (this seed transfer is used to start the business, see VE Project Description for detail), and
2. A rigorous impact evaluation in the form of a randomized controlled trial (RCT) to estimate the effect of the program.

These two activities have two principal purposes:

1. Provide the principal input for calculating the payment based on the success of the program, and
2. Generate relevant evidence of the impact of the program.

IDinsight is the independent outcomes evaluator for the Village Enterprise DIB. IDinsight’s mission is to partner with clients to generate and use rigorous evidence to improve social impact by diagnosing social sector challenges, designing and testing potential solutions, and operationalizing the most impactful solutions. IDinsight believes that client-centered, rigorous, and responsive evaluation is essential to maximize program and has prior experience in the impact bond space as the evaluator on the Educate Girls DIB in India.

F. Project Manager & Process Evaluator

The project manager of the DIB represents the interests of the outcome payers and is responsible for the well-functioning of the project through its lifecycle. Outcome payers will benefit from this work as managerial, coordination, and secretarial tasks are shifted to the project manager (see additional detail on activities in Appendix 3). The project manager already provides technical assistance whenever needed (e.g. addressing technical issues raised by the outcome evaluator, arbitrating disputes brought forward by any party, advising any renegotiation process). The service provider will benefit because it can clarify questions and seek solutions to issues through interaction with the project manager

Instiglio, Inc. | www.instiglio.org

8





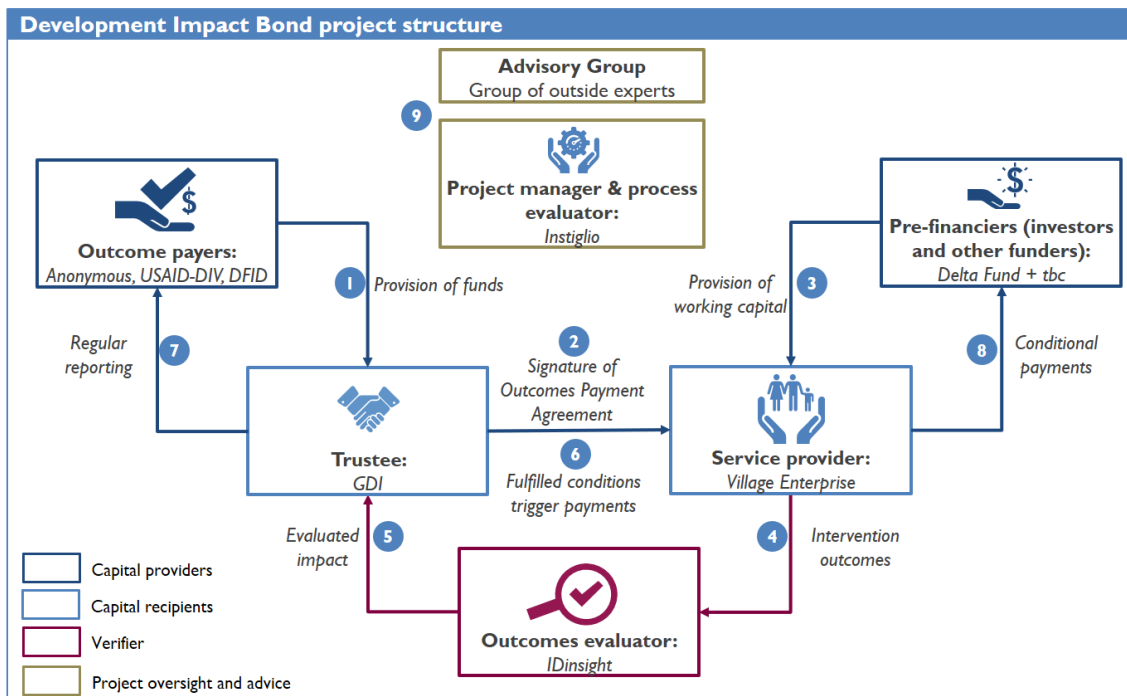
rather than do so with three different donors, which can be burdensome. Stakeholders will benefit from the implementation of a proper governance structure, which the project manager will coordinate.

The process evaluator will evaluate and assess the overall effectiveness of the program, specifically surrounding the use of the DIB as an instrument for scaling up the VE program. This will be critical towards gathering key lessons learned for future Results-Based Financing (RBF) projects and for donors interested in learning from this experience to continue expanding RBF across their programs (see additional detail on activities in Appendix 5).

Instiglio will be the project manager and process evaluator. Instiglio has provided the technical expertise for the design of the DIB, will provide project management and interface for outcome payers and the service provider, as well as will evaluate the process of creating and implementing the DIB to document lessons learned for future DIB and Social Impact Bond (SIB) deals. Instiglio has experience in designing DIBs, SIBs and other results-based financing (RBF) projects across many geographies and sectors, including the income graduation sector.

Project Structure

The following diagram illustrates the relationships between the participants.



As numbered in the diagram above, there are nine principal flows and components in the DIB.

- Outcome payers provide the trustee with the funds to be used for i) signing a pay-for-success agreement with the service provider based on the achievement of predefined results, ii) signing an evaluation agreement with the outcomes evaluator to conduct the RCT, and iii) paying the trustee, project manager & process evaluator for their services.
- The trustee signs a pay-for-success agreement that is pre-approved by the outcome payers with the service provider based on the achievement of predefined results. That is, GDI's agreement with VE commits it to disburse payments to Village Enterprise according to the level of results measured and verified by the outcomes evaluator for the program (steps 5 & 6).



3. The investors provide the service provider with the working capital required to carry out its three-year intervention. The timing and nature of working capital injections are left to the discretion and agreement of Village Enterprise with its investors and are not further treated in this document.
4. The service provider delivers results via its intervention. Results are measured by the outcomes evaluator on a pre-defined schedule, with a pre-defined and agreed-upon methodology.
5. The outcomes evaluator assesses and verifies the results of the service provider's program and reports back to the DIB Design Group, for the outcome payers to approve the report and trigger a release of funds to the service provider by the trustee.
6. Depending on the results reported by the outcomes evaluator, the trustee pays the service provider accordingly.
7. The trustee is responsible for regularly reporting to the outcome payers on the use of funds.
8. Village Enterprise repays the up-front working capital to its investors according to the terms of their agreement with investors and in line with conditional payments made by the trustee. The terms of repayment are also left to the discretion and agreement of Village Enterprise with its investors, and are not further treated in this document.
9. Instiglio, as the project manager and process evaluator, and the DIB advisory group fulfill general project oversight and advisory roles for the VE DIB.

Rationale for project structure

The project structure presents a set of intentional innovations on previous impact bond experience that merit further explanation:

1. The outcome payers have credibly committed their funds via an external trustee, reducing the outcome payer risk that pre-committed funds are not available for outcome payments downstream. This also delegates financial management responsibilities to a third party, asking outcome payers to take a backseat during implementation.
2. The outcome payers and trustee do not interact with investors in the design process or in any contractual or financial sense. There are two main reasons for this:
 - a. Critiques of impact bonds have repeatedly noted that the set-up costs are prohibitively high and limit the scale of impact bonds. In our experience, we find this is mainly because the approach to developing impact bonds has insufficiently leveraged 'market forces,' and instead relied on a central, over-engineered, 'consensus-on-all-things-by-all-parties' approach. Instiglio believes that if donors come together to credibly commit significant outcome funds and specify clear and realistic conditions for a provider to earn payments, capable providers can more confidently build capabilities to mobilize the necessary working capital and negotiate terms with investors. If our hypothesis proves correct and donors can leave capital raising and investment structuring to service providers, they would find DIB structuring much less costly and much more scalable. In this DIB, we set out to test this hypothesis, fully recognizing that capital raising and structuring will be a challenge for Village Enterprise. We will carefully monitor and document how Village Enterprise addresses this challenge to inform future processes.
 - b. This process provides maximum flexibility to the service provider regarding the timing and nature of capital injections and repayment terms. By giving service providers the responsibility of capital raising, they are given control over how to raise and structure capital in the most cost-efficient manner. This could lead to new and diverse investment structures anchored in the contexts and preferences of service providers and their investors, as opposed to structures centrally planned by outcome payers or intermediaries. A bespoke approach to innovation on the financial structure is appropriate at this early stage of the innovation curve. Again, we will carefully monitor and document how Village Enterprise creatively onboards investors and designs agreements to inform the broader DIB practice.

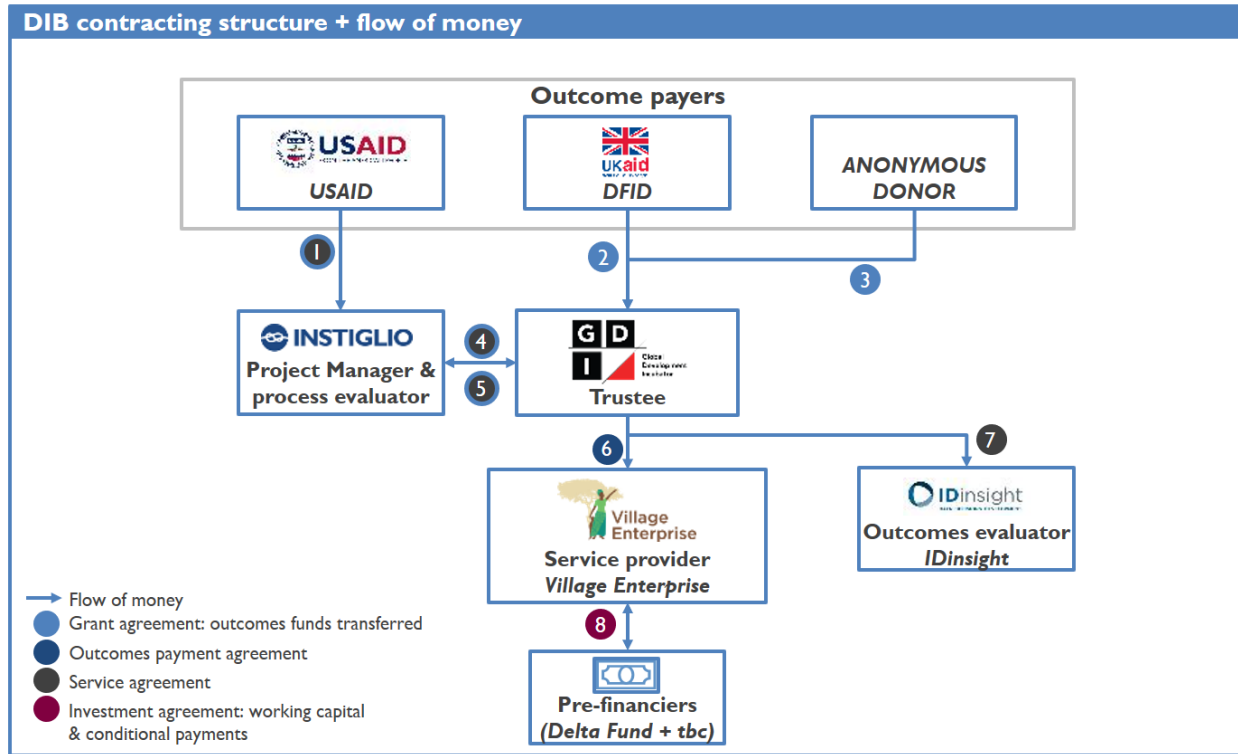




- To further support the above goal, Instiglio does not play the 'typical' intermediary role (i.e. assisting service providers and investors). Instead, Instiglio helps donors structure a realistic, clear, and scalable pay-for-success proposition and providing a streamlined contract management process on behalf of donors that is sympathetic to the new implementation challenges imposed by the DIB and aims to make reporting and outcome-payer interaction as easy as possible for Village Enterprise.

Contracts

The obligations of the parties to one another, with respect to the DIB, are described in the following set of contracts.





Key terms

This table outlines the key terms of the agreement. The details of these terms are described in subsequent sections.

Program Characteristics	
Budget	Total budget committed by outcome-payers: USD\$ 5,280,642 Budget to pay Village Enterprise based on results: USD\$ 4,280,618
Program size	Minimum number of households treated: 12,660 Expected number of households treated ⁶ : 13,830
Unit of analysis	Household
Number of cohorts	7
Target area	Western Kenya; and Northern Uganda
Intervention duration	Three years, beginning November 2017 and ending November 2020
Project duration	Three and a half years, beginning November 2017 and ending in the first quarter of 2021

Key costs

This table outlines some key costs⁷ of the agreement.

Program Characteristics	
Outcomes measurement cost	\$478,162 for IDinsight to conduct the RCT evaluation, beginning November 2017 and ending approximately June 2021.
Trustee structure costs	\$105,300 to GDI to create and manage the outcomes fund structure (receiving, managing, and disbursing funds) and hold/manage contracts with respective stakeholders throughout the course of the DIB.
Process Review cost	\$70,915 to Instiglio to conduct a Process Review of the DIB design and implementation processes as a learning generation exercise.

⁶ Indicative from the financial model based on latest assumptions for select inputs. These inputs and, thus, the actual number of households VE will treat under the DIB may be subject to change, i.e., left to Village Enterprise's discretion. These are current best estimate.

⁷ As part of the Process Review, Instiglio will calculate the total level of effort expended on DIB design as estimated by stakeholders as a proxy of DIB design cost. This assessment will also include stakeholder responses on this cost relative to other, non-DIB projects they typically conduct. These findings will be reported in the Process Review baseline report due later in 2018.



3. The Intervention

Social issue

Around 744 million people in the world are extremely poor, which is defined by the World Bank as living in less than \$1.90 a day.⁸ Of these, one-third reside in Sub-Saharan Africa. While the global rate of extreme poverty has plummeted from 36% to 14% over the past 25 years, those numbers in Sub-Saharan Africa have declined at a much slower rate. As Africa's population continues to grow, the number of people living in extreme poverty has nearly doubled – reaching a staggering 415 million. This group contains more people than the United States and Canada combined.

Service Provider

Village Enterprise has been working for over 30 years to end extreme poverty in rural Africa through innovation and entrepreneurship. Since their inception, they have started over 39,000 businesses, trained more than 156,000 entrepreneurs and improved the lives of more than 850,000 women, children and men. Village Enterprise is now poised to reach potentially millions more. The organization focuses on promoting local leadership by hiring East African staff who are familiar with the villages in which they work, passionate about the mission, and speak the regional dialects, and by significantly investing in training and capacity building which enables them to promote from within, all the way up to the Country Director-level. VE is an evidence-based organization that has built comprehensive monitoring and evaluations systems which were highly rated by ImpactMatters.

The Intervention

Village Enterprise implements a cost-effective Graduation program for people living in extreme poverty that aims to equip them with resources to create sustainable businesses. Experience has shown that the extreme poor lack business skills and financial literacy, as well as access to capital, financial institutions, and markets, limiting their opportunities for generating enough income to break out of poverty. Village Enterprise's unique Graduation approach helps entrepreneurs launch and run a business, increase household income and savings, and improve standards of living – all with the goal of permanently breaking the cycle of poverty.

From 2014 to 2017, a randomized controlled trial evaluated the impacts of diverse components and variants of the Village Enterprise program. Results are encouraging, suggesting that Village Enterprise is capable of reducing extreme poverty, with comparable cost-effectiveness to those found across evaluations of a range of ultra-poor Graduation programs.

Program components

Village Enterprise's intervention has the following five main components:

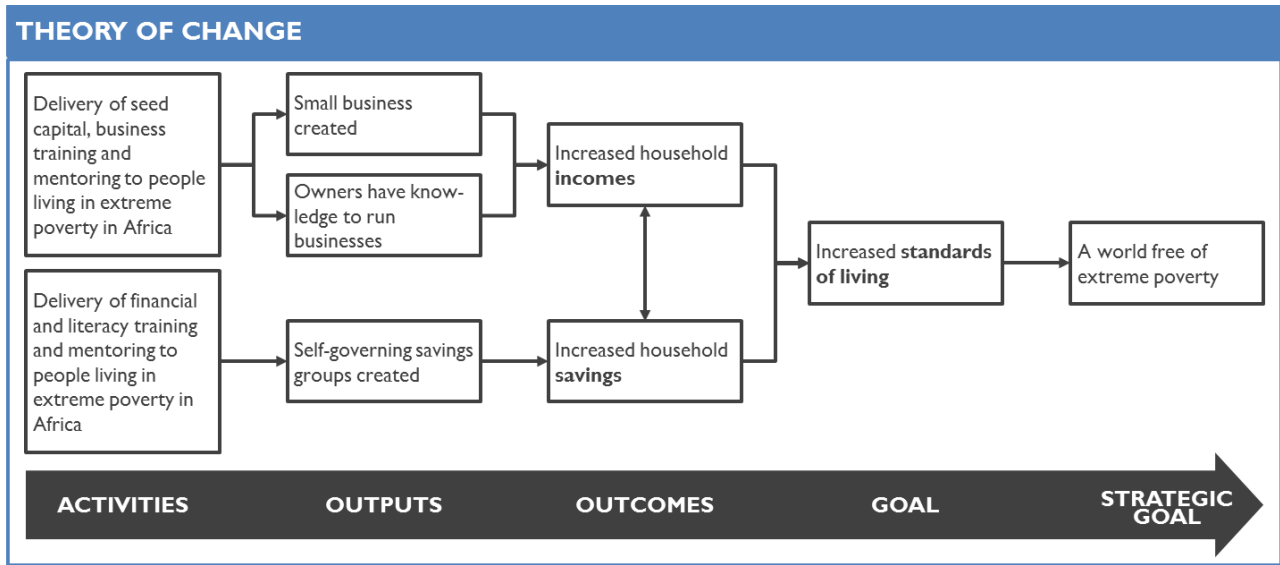
1. **Targeting:** VE identifies individuals who live under in extreme poverty, and are unable to provide for their family's basic needs. VE assesses poverty levels through a community-based Poverty Wealth Ranking exercise coupled with the Progress-out-of-Poverty Index.
2. **Business savings group (BSG):** BSGs are self-governing councils of 10 businesses comprising 30 individuals, each BSG with its own constitution. BSGs create the platform through which VE carries out the training program, as well as develop trust and respect between the participating community members.
3. **Training:** Local mentors deliver a four-month training program to equip participants with the necessary knowledge to run a business.
4. **Seed funding:** A seed capital is granted to start businesses of 3 participants. Approximately 65% of business will receive a \$50 seed with the remaining 35% receiving \$150. The capital investment is a grant, rather than a loan.
5. **Mentoring:** Mentors provide continuous guidance to the participants for 1 year.

⁸ The World Bank. *Ending Extreme Poverty*. June 2016.





Village Enterprise’s theory of change is presented below:



The Village Enterprise Graduation program is unique in that the seed grant is used to create an income-generating, three-person business, which provides our business owners with new incomes and savings. Increased income directly leads to increased consumption. Importantly, quality of consumption also rises with increased funds available for expenditure on items such as protein, education, and medical supplies. When coupled with financial literacy skills and access to a mechanism for saving, higher incomes lead to an improved ability to meet infrequent higher lump payment needs, such as education fees, investment in productive assets, and home improvement purchases. Increased household savings help ensure that improved standards of living can be maintained, even in with the occurrence of economic shocks.





Asset Transfer Process

Over the years, Village Enterprise has developed administrative tools to ensure accountability and traceability of grant disbursements, and that the funds are used for the intended purpose.

Business mentors work with business groups to complete grant applications in both hard and soft copy forms. Soft copy applications are synced into Village Enterprise's database. Field coordinators review applications, ensuring business plans are complete and logical, and that signatures of each business group member are present. Field coordinators also double check that each business group member has met the training attendance requirements before approving the first grant and that each group has passed their business spot-check before approving the second grant. The Assistant Country Director or the Country Director who conducts a final review of the business applications and a final quality control audit, as well as records the total volume of funding to be disbursed based on the approved applications.

The Business Applications are then sent to the Finance and Administration (F&A) team for preparation for disbursements. F&A sends a request to the US team to transfer the needed funding for approved businesses. Approval status is documented in the database.

On the morning of each disbursement day, the Country Director or the Assistant Country Director withdraws the funds to be disbursed that day from the bank. The Finance and Administration team then distributes the funds into pre-prepared envelopes, one for each business group approved to receive funding. Grant receipts containing the name of the business group and the names of the group members are attached to the envelopes.

The disbursement team-lead for the day will sign to receive the funds as a cash advance, which is cleared after the return of the grant receipts. All business group members are required to be present to receive the disbursement and each must present identification and sign the grant receipt against his or her name. Illiterate participants may use thumbprints as their signature. Signatures are verified against signatures recorded on the grant applications. In cases where a business group member truly cannot be present, the chairperson of the business savings group is permitted to sign on behalf of the absent group member. In such a case, the chairperson must ensure that the absent member is informed that his or her respective group has received the funds. A minimum of two Village Enterprise staff members must be present at each disbursement and must sign each grant receipt upon transfer of funds. The date of each grant transfer is documented in the database. We are in the process of pursuing mobile money options that might replace the actual cash transfers, further limiting the risk of theft or fraud.

Target population

Village Enterprise targets individuals who live on under \$1.90 per day, have no experience operating a business, and are unable to provide for their family's wellbeing. The organization uses a multi-step targeting process to identify individuals who meet these criteria: First, they target the poorest geographies based on poverty data. Then, within those areas, they conduct Participatory Wealth Ranking exercises to identify the poorest households. Finally, they verify the results of the exercise with a Progress Out of Poverty Index survey, as well as an assessment against several locally relevant exclusion and inclusion criteria.





Inclusion and Exclusion Criteria

Locally relevant inclusion and exclusion criteria are meant to ensure the targeting process accounts for local drivers of poverty or affluence not captured in the Progress out of Poverty Index whose indicators are defined based on national data. To remain relevant, inclusion and exclusion criteria must be periodically updated to account for new geographies as well as changes in local context over time. While the inclusion and exclusion criteria will be updated prior to targeting for Development Impact Bond programming, one can also look to the criteria used for Village Enterprise’s impact study for illustrative criteria:

Inclusion

- Eight or more children living in the household
- The household head is widowed, disabled, or an orphan under the age of 18
- The household suffered from an unnatural catastrophe
- The household head suffers from HIV/AIDS

Exclusion

- Teacher or salaried worker in the household
- Ownership of three or more cows
- Structurally complete house (cement floor, brick, metal roof)

Through the implementation of the VE DIB, minimum 4,220 microenterprises will be created, minimum 12,660 program participants will be trained in business skills, financial literacy, and natural resources management, and minimum 422 business savings groups will be created. This translates to minimum 75,000 lives transformed by the intervention. However, VE may be able to work with more households to increase the probability of maximizing outcome payments. Given this, an estimated 4,610 microenterprises will be created, around 13,830 program participants will be trained in business skills, financial literacy, and natural resources management, and 461 business savings groups will be created. This translates to around 83,000 lives transformed by the intervention.

Monitoring Systems

Village Enterprise routinely monitors all five aspects of program implementation – targeting, business training, savings groups, business formation, and mentoring. Village Enterprise staff collects data using android devices equipped with TaroWorks, a suite of mobile data collection tools built on the Salesforce platform. Use of TaroWorks facilitates remote data collection through offline data entry in areas without mobile or WiFi signal. Key monitoring indicators are defined in the monitoring logframe.

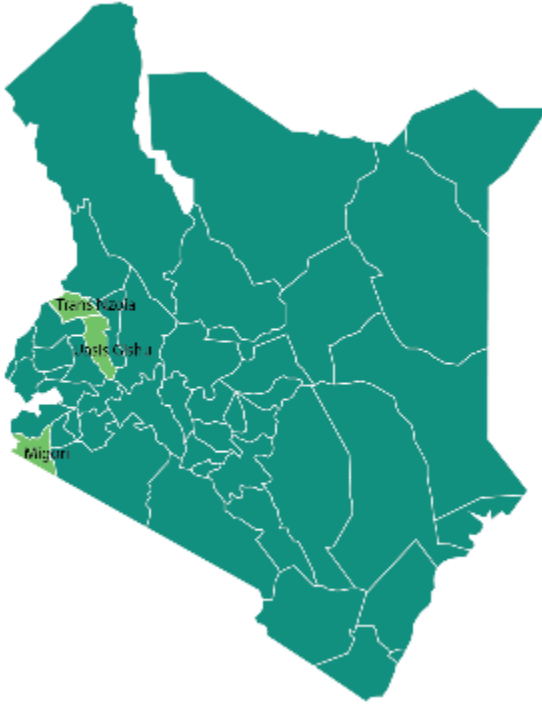
Geography

The program will be rolled out in remote rural areas where more than half of the population lives below the extreme poverty line. Studies estimate that more than 24 million people across these two countries are affected by extreme poverty, defined as individuals who live under \$1.90 a day. The planned locations are Western Kenya and Northern Uganda.

Although the ideal location for the DIB in Kenya is Kitale, other regions may be incorporated if necessary. The map below highlights the targeted regions based on current reach of Village Enterprise’s program in Kenya:

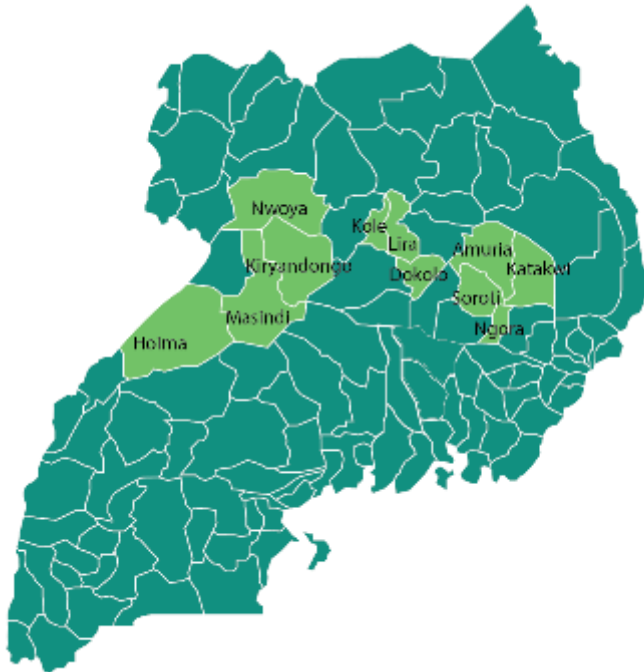
1. Kitale
2. Eldoret
3. Migori





Although the ideal location for the DIB in Uganda is Soroti, other regions may be incorporated if necessary. The map below highlights the targeted regions based on current reach of Village Enterprise's program in Uganda:

1. Soroti
2. Hoima
3. Masindi
4. Lira
5. Nwoya



Delivery Experience, Team, and Chain Map

Village Enterprise has been working in Kenya and Uganda for over 20 years. In the last six years alone, VE started 16,000 small businesses (6,670 in Kenya and 9,330 in Uganda) and trained 48,000 people (20,000 in Kenya and 28,000 in Uganda). In the last three years, VE has increased the number of businesses started and the people trained by 60%. This past year, VE started 3,532 businesses across Kenya and Uganda and plan to start 4,440 businesses this fiscal year (starting July 1, 2017). The number of businesses planned for the DIB over two and a half years will help VE double the size of the organization in just three years. Village Enterprise currently has five different offices in Kenya and Uganda and over 120 on-the-ground staff. Village Enterprise has strong M&E systems and practices that were highly rated by ImpactMatters, Dean Karlan’s new research organization, as well as experience implementing a large RCT.

Village Enterprise’s Ugandan and Kenyan staff has strong experience managing operations and partnerships (e.g. FHI 360 Uganda Community Connector Project, Geneva Global Speed School program, Integrated conservation programming with the Budongo Conservation Field Station, and Lwala Community Alliance partnership) and a reputation of being “easy to work with.”

Village Enterprise employs a unique rural service delivery model, which distinguishes it from other organizations in this field. Village Enterprise works through a network of Business Mentors, local leaders, who live and work in the rural communities VE serves. Recruited, trained, and managed by local staff, Village Enterprise capitalizes on Business Mentors by cost-effectively targeting the poorest of the poor in the rural villages and providing locally-adapted training and mentoring services that improve the success and sustainability of microenterprises. Village Enterprise’s local leadership model was recently highlighted in the 10th anniversary issue of The Stanford Social Innovation Review.

4. Payment structure

This section describes the overall structure of payment from the trustee, GDI, to Village Enterprise.

Payment Metrics

The payment metrics of a DIB determine payments from the outcome payer to the service provider, and are designed to measure, or proxy for, the intended outcome of the program. The goal is for the payment metric to be closely tied





to the ultimate impact and to be applicable to a wide variety of livelihoods or income-generating projects. For this reason, we reward improvements in **income** as it is closely tied to poverty graduation and is an outcome that a large portfolio of livelihoods, income-generation, and workforce development programs share. We are optimistic this design can be relevant to a broad space of actors and may be easily adapted to suit their needs.

As mentioned, this DIB intends **to reward increases in income**, using consumption and assets as payment metrics. Measuring income in poor, low-data contexts is very difficult. To approximate income as precisely as possible, we propose measuring the two uses of income at the household level: consumption and assets. By doing so, and comparing the results with those of a control group, the impact of VE's intervention on income is approximated.

The payment formula follows closely the theory of change of the poverty Graduation Model, paying attention to sustainability considerations:

- It captures and rewards increases in consumptions during the lifecycle of the project, which is a reliable proxy for financial welfare of the households, an essential objective of poverty graduation.
- At the same time, it rewards the improvement in the household's assets as well. This is a critical feature of this payment formula for two reasons.
- First, growth in assets provides some guarantee that impact will sustain. The theory of change of the poverty Graduation Program rests on the ability of the program to build the skills of households in investing in, maintaining, and growing assets that they use to generate additional revenues. Therefore, the impact we observe during the program is more likely to sustain if the household succeeds in growing its asset base as well.
- Second, the inclusion of assets ensures that the service provider does not face a perverse incentive to distort the household's preferences regarding how additional income is used (i.e. consumed, saved or invested). This would exist if we were just to reward consumption. Giving assets comprises savings and household and business assets, the service provider can be agnostic towards how the household spends its extra income, which largely neutralizes potential perverse incentives.

Below, we further expand on the methodology for measuring assets and consumption, and later detail the payment formula that maps impact measures onto payments. The definitions of assets and consumption use the same definitions as the past RCT of Village Enterprises program.

Assets

Definition

Net assets (represented as a) are defined as net household assets (i.e. household savings and tangible household assets, net of household liabilities) plus net business assets (i.e. business savings and tangible business assets, net of business liabilities), accounting for business ownership by the household. No distinction between productive and non-productive assets is drawn; business assets are collected separately because VE specifically promotes the creation of multi-member businesses.

Measurement

Initial effect on assets: The initial impact of the program on net assets (represented as a_0) is known: it corresponds to the size of the transfer per household. It is not necessary to subject this measure to impact evaluation; it can simply be reported and audited.

Future effect on assets: Measuring net assets in a future period of time (represented as a_n) must be derived from an impact evaluation. We propose a cluster-level randomization, roughly following the same village-level assignment rules as the impact evaluation that VE recently finalized. The methodology to measure assets used in the finalized evaluation will be used, with some adjustments to expand upon asset definitions and facilitate the accurate distinction of household and business assets. Prices of generic assets will be measured only once at the regional level and assumed to be constant throughout period n . Value a_n may be determined either as the simple difference between treatment and control groups; or if baseline data is collected, as the difference in differences since baseline. No covariates are used, and the statistical significance of the outcome measures is ignored.



Consumption

Definition

Consumption (represented as c) is defined as the sum of household food and beverage consumption, household recurring consumption, and household infrequent consumption. Consumption effects c_i are measured using the same impact evaluation framework described for measure a_n .

Measurement

Consumption will be measured based on the widely-utilized Consumption and Expenditure (C&E) survey.

Prices

As the payment metrics aim to approximate the income generated by the household during and after the intervention, the idea is to pay for every dollar the household gained due to VE's intervention. To be more precise, the payment formula proposes for outcome payers to pay \$1 for every \$1 of 'proxied' income increase (as specified by the payment formula presented below).

To determine the specific price per unit of outcome we had two key considerations:

- 1) **Capturing the social value generated:** The price paid for an outcome should not exceed the social benefits created. In this case, a conservative view on social benefits would correspond to the incremental income generated for the treated households, as captured by the payment metrics (\$1 of outcome payment for \$1 of incremental income). This is a conservative estimate because the poverty Graduation Model's theory of change also aims to build social capital, increase financial literacy, and build business skills in a way that the monetary gains do not necessarily capture. Therefore, we are confident that the payment formula is reasonable from this perspective.
- 2) **Sufficient incentives to encourage progress and compensate for risks:** The price per unit determines the intensity of the incentives and the effort required of investors and service provider to achieve results. We need to ensure that the price is such that with the expected results and the planned program size, the service provider and its investors will receive sufficient compensation for the risk they are taking and sufficient incentives to improve performance. We built several simulations using the past RCT and a financial model (see Appendix 2) that confirms – using the proposed payment formula – that the service provider and investors are estimated to earn a 12% internal rate of return,⁹ which is reasonable when compared to relevant benchmarks of other impact bonds and impact investing opportunities. By varying the pricing formula inputs (e.g. max per household payment cap and the discount rate) the stakeholders can vary the expected internal rate of return available to investors.

In addition, a value-for-money analysis regarding Village Enterprise's program was conducted to understand if outcome payers receive as good, or better, "bang for their buck" with the VE program as they could with other programs.

Based on Village Enterprise RCT results, Village Enterprise programs have a high cost-effectiveness: the full cost recovery is achieved in three to four years.

Accounting for these considerations, and the intention to pay for the overall increase in income, there is a predefined, fixed price-per-outcome of a one dollar payment for every one dollar increase in household consumption. Since the program's impact in consumption may continue, the impact in assets is used as a proxy of the capacity of the household to continue to generate income and, therefore, consume more. Consequently, the future household increase in consumption is estimated based on the impact in assets.

⁹ Indicative from the financial model, which uses latest and best estimates based on past performance. These may be subject to statistical variations.





Payment Formula

Below, we define the payment formula, which will define the payment to be made to Village Enterprise in each period where payment is due. There are two types of payments, defined as Type I: Reimbursement of seed capital and Type II: Outcome payments, described further below.

Variables definition

- P_1 : payment type I: reimbursement of seed capital per household for cohort c
- $P_{2,x}$: scenarios (i.e. A, B or C) for payment type 2: outcome payment per household
- i : impact estimation for cohorts 1, 2, 3, & 4 (i.e. impact estimation 1) or for the 7 cohorts (i.e. impact estimation 2)
- P_{2i} : payment type 2: outcome payment per household considering impact estimation i
- $P_{2i\ total}$: payment type 2: total outcome payments considering impact estimation i
- $P_{2\ cap}$: maximum payment type 2 per household defined at \$265
- m_i : weighted average of number of months from seed transfer to data collection, accounting for the size of transfer and timeline of transfers made, for impact estimation i
- a_0 : seed transfer made to each household (i.e. \$50 or \$150)
- $\overline{a_{0i}}$: weighted average seed capital size made to each household under impact estimation i
- a_{m_i} : average increase in assets (i.e., ATE in assets) in month m_i calculated with impact estimation i
- c_{m_i} : average increase in consumption (i.e., ATE in consumption) in month m_i calculated with impact estimation i
- r : interest rate
- s : annual discount rate of 10%, monthly $\approx 0.8\%$
- d_i : monthly depreciation rate, calculated based on $\overline{a_{0i}}$ and a_{m_i}

Assumptions

- Given the current market conditions, and the limited timeline of the project, we propose the use of constant prices throughout the project. This means we are assuming $r = 0\%$,
- If assets increase over time ($a_m \geq \overline{a_0}$), then the increase in consumption of the household will at least remain constant in the future. If assets decrease ($a_m < \overline{a_0}$), then the increase in consumption will eventually go to zero. To calculate the diminishing rate of consumption the monthly depreciation rate (d) will be used.
- All the monetary variables (i.e. consumption, assets, and outcome payments) are calculated in USD nominal terms. To do this, the conversion rates should be revised on a monthly basis based on the estimations published by the World Bank for each country.

Payment type I: Reimbursement of seed capital

An initial payment will be made to VE once they transfer the seed capital to the groups of 3 households to start the business. There is no uncertainty around this initial income increase. Based on this, the initial payment per treated household is as follows:

$$P_1 = a_0$$

Here, a_0 is the immediate effect of the program on tangible net assets per household upon program initiation. Payment P_1 is made immediately after VE disburses a_0 and it is audited and verified by the outcome evaluator.

Payment type I will be discounted from the payment type II. For this, the average ($\overline{a_0}$) should be considered.

$$\overline{a_0} = \frac{\#of\ households\ that\ receive\ \$50 + \#of\ households\ that\ receive\ \$150}{\#of\ households\ treated}$$



Payment type II: Outcome payments

Following this payment, trends in outcomes (i.e. consumption and assets, as previously described) are monitored to establish if VE generates sustained benefits to the households that warrant additional payments. In month m , an additional payment P_n is made to account for the benefits that may have accrued to date, as well as ones projected to accrue in the future, based on initial trends. There are three variants of this payment corresponding to scenarios A, B, and C above: P_{2A} , P_{2B} and P_{2C} . Their selection depends on the success of the program to produce increases in assets.

Scenarios

The three scenarios related to the value of assets are:

- A. Pessimistic scenario:** The increase in assets, compared to the control group, is negative ($a_{m_i} \leq 0$).
- B. Medium scenario:** The increase in assets, compared to the control group, is positive, but smaller than the initial transfer ($\bar{a}_0 > a_{m_i} > 0$).
- C. Optimistic scenario:** The increase in assets, compared to the control group, is positive and greater than the initial transfer ($a_{m_i} \geq \bar{a}_0$).

A. Pessimistic scenario: $a_{m_i} \leq 0$

In this case, the tangible assets revert to the original levels by month m (i.e. no effect on tangible assets persists). In other words, if a_{m_i} is the household-level effect of the program on the stock of tangible net assets in month m_i , then $a_{m_i} \leq 0$ in this scenario. This implies that the asset that is critical to the theory of change has been consumed and, therefore, does not warrant the expectation that a further stream of benefits will continue to accrue beyond month m_i . However, it is possible that up to the current date, the flow of benefits has exceeded of the value of the asset. At minimum, P_2 should account for these benefits. For this case, the variant of the payment, P_{2A} , is therefore:

$$P_{2A} = \sum_{n=1}^{m_i} c_n(1+r)^{m-n} - \bar{a}_0(1+r)^{m_i}$$

Here, the first term is the accumulated household-level consumption effect c over the course of the m months, adjusted to present value using discount rate r . The second term is the present value of the program's initial impact on household asset stock, which was already compensated through payment P_0 and must therefore be subtracted. Given the assumption explained before, the formula simplifies as follows:

$$P_{2A} = \sum_{n=1}^{m_i} c_n - \bar{a}_0$$

A proposed *assumption* is that all monthly consumption effects c_{m_i} that have accumulated to date are adequately represented by the measured monthly consumption effect c_{m_i} . This simplifies the above to

$$P_{2A} = c_{m_i}m_i - \bar{a}_0$$

Hopefully, VE can demonstrate that it has achieved a degree of sustainability that warrants a payment in excess of P_{2A} . As the theory of change holds that tangible assets are necessary enablers of sustained change, the assumption of sustainability can only be warranted if $a_{m_i} \geq 0$.

B. Medium scenario: $\bar{a}_0 > a_{m_i} > 0$

In this case, by month m , assets have neither fully persisted nor fallen to zero, but have fallen somewhat. In this case, it is neither reasonable to expect that the stream of benefits has disappeared completely, nor that it will remain constant. Following this theory of change, the *assumption* is made that past trends in asset growth or depreciation are indicative of future consumption trends.



We assume that future consumption will continue to diminish at a rate that is equal to the periodic depreciation rate observed in assets to date, i.e., $d_i = 1 - \left(\frac{a_{m_i}}{a_0}\right)^{\frac{1}{m_i}}$, which is a positive number

Note that a perpetuity starts depreciates at rate d and is discounted¹⁰ at rate s can be summarized as follows:

$$\sum_{n=1}^{\infty} \left(\frac{1-d_i}{1+s}\right)^n = \frac{1-d_i}{s+d_i}$$

Therefore, in scenario B, an amended perpetuity must be added to the benefits that were quantified in Scenario A. Therefore, if $a_0 > a_m > 0$, then the variant of the payment, P_{mB} , will be:

$$P_{2B} = P_{2A} + c_{m_i} \frac{1-d_i}{s+d_i}$$

C. Optimistic scenario: $a_{m_i} \geq \bar{a}_0$

Assets in month m have grown, compared to the control group and to the initial transfer (i.e. $a_{m_i} \geq \bar{a}_0$). Based on our assumptions, if this is the case, it is reasonable to expect that benefits will persist on time, which means it is reasonable to expect that benefits will persist, or that the average monthly consumption will remain at least constant. In this case, the variant of the payment, P_{2C} , will be:

$$P_{2C} = P_{2A} + c_{m_i} \frac{1}{s}$$

Here, $\frac{1}{s}$ is a multiplier of a value that lasts into perpetuity. Note that a distinction between discount rates r and s is drawn deliberately: the former only accounts for the time value of money while the latter also accounts for substantial risk inherent in a projection.

Total payments

Given that there will be two payments type II calculated with the Average Treatment Effects, the following formulas detail the way of calculating the payments.

$$P_{21total} = P_{21} * \text{#of households treated in cohorts 1, 2, 3 \& 4}$$

$$P_{22total} = P_{22} * \text{#of households treated in cohorts 5, 6 \& 7}$$

Payment caps

The overall outcome payment from outcomes payers to Village Enterprise is capped at USD\$ 4,280,618. Payments for seed funding are capped at a total of USD\$ 1,200,000, and \$150 for each household. All funding not used as seed funding may be transferred and used as outcomes payments.

In addition, there is a payment cap per household for the outcome payment (excluding the initial payment, a.k.a. “seed funding” reimbursement) equal to \$265. As a floor, P_2 must not be negative to limit the exposure of Village Enterprise to the risk of possible measurement error.

¹⁰ A distinction between discount rates r and s is drawn deliberately: the former only accounts for the time value of money while the latter also accounts for substantial risk inherent in a projection.





The purpose of this payment cap is to limit the IRR of the program, as well as to increase the number of households the service provider will work with, avoiding scenarios of outcome payers paying for too few households.

Payment Formula Summary

Reimbursement of seed capital per household

- $P_1 = a_0$, where $a_0 = \$50$ or $a_0 = \$150$

Outcome payments per household

A. Pessimistic Scenario: $a_m \leq 0$ THEN $P_{2i} = \text{Median}[0, P_{2A}, P_{2cap}]$

• Where

- $P_{2A} = C_{m_i} m_i - \bar{a}_0$

B. Medium Scenario IF $\bar{a}_0 > a_m > 0$ THEN $P_{2i} = \text{Median}[0, P_{2B}, P_{2cap}]$,

• Where:

- $P_{2B} = P_{2A} + c_{m_i} \frac{1-d_i}{s+d_i}$

- $d_i = 1 - \left(\frac{a_{m_i}}{\bar{a}_0}\right)^{\frac{1}{m_i}}$

C. Optimist Scenario IF $a_{m_i} \geq \bar{a}_0$ THEN $P_{2i} = \text{Median}[0, P_{2C}, P_{2cap}]$

• Where:

- $P_{2C} = P_{2A} + c_{m_i} \frac{1}{s}$

Total outcome payments

- $P_{2_1 total} = P_{2_1} * \#of \text{ households treated in cohorts } 1, 2, 3 \& 4$
- $P_{2_2 total} = P_{2_2} * \#of \text{ households treated in cohorts } 5, 6 \& 7$

Following this payment, trends in outcomes (i.e. consumption and assets, as previously described) are monitored to establish if Village Enterprise generates sustained benefits to the households that warrant additional payments.

In month m , an additional payment P_{m_i} is made to account for the benefits that may have accrued to date, as well as ones projected to accrue in the future, based on initial trends. There are three variants of this payment corresponding to scenarios A, B, and C above: P_{2A} , P_{2B} , and P_{2C} . Their selection depends on the success of the program to produce increases in assets as measured by a_{m_i} .

Two potential outcome payments will be made. The initial outcome payment is expected to occur once Village Enterprise has intervened with the first 4 cohorts, which equates to an expected minimum of 101 villages (~6,060 households). This first outcome payment acts as an interim payment by outcome funders that is based on the results data available from these first 4 cohorts and villages.

The second outcome payment will occur after Village Enterprise has completed its services delivery, by which time Village Enterprise is expected to have intervened in 212 Villages (~12,660 households) across 7 cohorts. This Final outcome payment is designed to enable Village Enterprise to be compensated for the remaining cohorts that were not





included in the first outcome payment, while also enabling the overall impact of the intervention to be more precisely measured and accurately compensated.

The Outcome Evaluator will pool the results data generated across all 7 cohorts to calculate the total outcomes payments earned by Village Enterprise across the 7 cohorts. This will be calculated using the Average Treatment Effect measured across all 7 cohorts multiplied by the number of households treated across the 7 cohorts. The Outcome Evaluator will then deduct the first outcome payment already paid from the total outcomes payment, creating a final second outcome payment value. Provided that the final outcome payment value is positive, it will be paid to Village Enterprise. This approach enables all parties to use the increased precision available with the pooled 7 cohorts of data to adjust for any over or under estimation of outcomes made for the first outcome payment.

A key requirement for DFID to make outcome payments is that the outcome evaluation includes a minimum number of treatment villages and households to ensure sufficient confidence in the results estimates reported by the Outcome Evaluator and to create sufficient incentive for the project to be delivered for the intended number of beneficiaries. As a result, DFID will only make outcome payments if the following additional conditions are met by Village Enterprise and the Outcome Evaluation:

1. DFID contribution to the first outcome payments will only be triggered if at least 101 treatment villages were included in the project and outcome evaluation and payment calculation.
2. DFID contribution to the final outcome payment will only be triggered if at least 212 treatment villages have been included in the project and final outcome evaluation and payment calculation.

This restriction does not apply to USAID and the Anonymous Donor, who are willing to make outcome payments even if the number of villages are below these thresholds. In the event that fewer villages are included in the outcomes evaluation, DFID will review the results of the evaluation and may, at its discretion, decide to make a payment exceptionally if the results are found to be statistically significant.





5. Impact Evaluation

The main objective of the outcome evaluation is to audit the seed funding transfer and accurately estimate the causal impact of the Village Enterprise program on consumption and assets. These estimates will be reported to the trustee, who will determine the outcome-based payments to Village Enterprise based on the impact in consumption and assets.

The evaluation will answer the following key questions:

- Are the tangible assets being maintained?
- Is value being derived (in the form of increased consumption)?

The evaluation will be a randomized control trial (RCT) conducted by an independent evaluator. The evaluation firm will conduct two instances of data collection, through which end line data will be collected from a sample of households from each cohort. Baseline data collected by Village Enterprise may be used for creation of covariates to be used during the analysis. Accordingly, each group of cohorts will have its own impact estimation based on which the trustee will pay Village Enterprise. The RCT design is an improved version of the RCT performed between 2014 and 2017 to evaluate Village Enterprise’s intervention in Uganda. The randomization will be made at the village level. The evaluator will randomly assign the villages to receive the Village Enterprise program. Further details about the evaluation design are available in the evaluator’s Statement of Work in Appendix 4.

Timeline for evaluation and payments:

A couple of options are proposed for the timing of payments. This will depend on the finalization of the outcome verification approach, where discussions will identify the most robust and cost-effective verification process:

