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DEVELOPMENT INNOVATION VENTURES

PROGRAM REVIEW: UGANDA

APPENDICES

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USAID/UGANDA LEARNING ACTIVITY

DEVELOPMENT INNOVATION VENTURES (DIV)

PROGRAM REVIEW UGANDA

FEBRUARY 2021

FINAL INTERNAL DIV REPORT APPENDICES

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OBJECTIVES

- To determine the current operating status of the grantees and to establish which factors led to the success or failure of each grantee while scaling their innovation following DIV's grant.
- To obtain the cumulative and current data for six core KPIs specified by DIV.
- To derive lessons on innovation processes for both USAID/Uganda and for USAID DIV.
- To derive lessons on grant management for both USAID/Uganda and for USAID DIV.
- To assess the structures, systems, and processes that are used for data management (manage, collect, clean, store, and report) within the KPIs.

DATA SOURCES AND METHODS

ULA employed a mixed-method approach to this Program Review, collecting both qualitative and quantitative data as well as a combination of primary and secondary data. Primary data was collected from the 11 grantees through an online survey and KIIs which included KPI data, and MEL system assessments. Secondary data was obtained from the Desk Review.

Given COVID-19 restrictions, ULA conducted virtual data collection. Additionally, in initial email exchanges, many grantee respondents indicated that they were based outside of Uganda, which rendered face-to-face interviews impractical.

The ULA team pre-tested the data collection tools with a Ugandan innovator who previously received USAID grant funding through the ResilientAfrica Network program. The innovator completed the online survey tool prior to participating in a scheduled interview with the ULA team. This allowed the ULA study team an opportunity to review and improve the tools, ensuring the questions were clear and that adequate time was allotted to conduct KIIs. Pre-testing the online tool ensured there was opportunity to determine if grantees could access the tool given internet bandwidth issues in Uganda. Given that multiple grantees were private sector actors, DIV and ULA had concerns whether the terminology used in development contexts would be understood the same way by private actors. Pre-testing of both the online tool and the KII tool helped to ensure that question wordings were understood related to development concepts that may be unfamiliar to private sector actors. One of the lessons learned from piloting the online tool was that ULA should remove time limits on completing the online survey to ensure that the respondent had time to gather the necessary information to complete all questions.

SAMPLING

Relevant staff and/or former staff of the grantee organizations were identified as key respondent groups to take part in both the online survey and KIIs. Grantee organizations refer to the organization that directly received DIV funding as the prime. DIV sent emails to each Grantee Point of Contact (POC) associated with past DIV grants to invite grantee participation in the study. ULA followed up and requested an interview with the contact person that was identified by DIV or requested the grantee to suggest other suitable interviewees according to the grantee's knowledge of the implementation of the grant. In certain cases, DIV listed two POCs on the invitations sent out, and when there was no response from the primary POCs, ULA followed up with the secondary POC.

For each KII, ULA only interviewed one grantee respondent as part of the study, except in three cases. In one instance, the grantee, Bear Valley Ventures (BVV), indicated that their DIV funding was split across three countries and expressed preferences for ULA to include their Implementing Partners (IPs) in all parts of the study. Bear Valley Ventures worked fully through implementing partners Water for People (WfP), a non-governmental organization (NGO); and ATC, a government entity affiliated with

the Ministry of Water and Environment (MWE). ULA researchers were able to conduct a KII with WfP, ATC and BVV participating. In the second instance, after interviewing the prime grantee, Innovations for Poverty Action (IPA), IPA indicated that other sub-contracted implementing partners were more knowledgeable about specific questions, in which case the prime (IPA) POC introduced the study team to other individuals to interview from Private Education Development Network (PEDN). In the third case, the prime grantee's legal organization, W2E Wisconsin, LLC (W2E) no longer exists as an entity in Uganda, and the ownership of the innovation merged to a private company that had spun off the project, Green Heat International (Green Heat). ULA researchers were able to conduct a KII with Green Heat and Green Heat, alongside a W2E former Chief Executive Officer (CEO), provided answers to the questions contained in the online survey tool. In this case, ULA interviewed both the former CEO at W2E as well as the CEO of Green Heat. The CEO had also been a part of the grant implementation and was the secondary POC identified by DIV.

USAID DIV used census sampling to select grantees, with only closed DIV grants invited to participate in the study. Figure 1 provides detailed information related to the 11 grants that are part of the study. Of the 22 grants DIV funded in Uganda, 17 have closed and are no longer operational as of April 2020. The closed grants within the study started as early as 2010, with the most recent project beginning in 2017; all projects ended between 2011 and 2020. Of the 17 closed DIV awards, three different grantees received two awards each (EFA Africa, BURN Manufacturing and d.light design). And for each of these awards, the grantees continued developing their initial innovations; therefore, ULA conducted data collection only one time for each of these grantees. Of the remaining 14 grants, one grantee[1] took part in the DIV Program Review in Kenya, and therefore was not targeted in this study. Two targeted grantees, although indicating initial consent to participate, did opted out of data collection efforts. In the end, 11 grantees as noted in Figure 1 took part in the study.

DESK REVIEW

ULA reviewed documents provided by DIV to gain insight and understanding into both the review objectives and the 11 grants under review. Documents provided by DIV included: the SOW, grantee awards and reports. Additionally, ULA reviewed publicly available information on DIV's website, individual grantee websites, and relevant USAID technical reports, among others.

ONLINE SURVEY

The online survey collected both quantitative KPI data and quantitative data related to the study objectives from the identified study respondents. Quantitative data related to the study objectives included resource mobilization partners, data management structures, systems, and processes and DIV performance data as identified by respondents. A soft copy of the online survey was emailed to the identified respondents prior to the interviews to ensure respondents had the necessary information at hand before completing the online survey via the Qualtrics platform. Eleven of the thirteen (85 %) identified respondents fully participated in the study and completed the online survey in the KIIs. There was not a time limit set for completion of the online surveys, respondents could respond at their convenience. For the two respondents that did not complete the surveys, the respondents initially agreed to complete the surveys and one of the two entered basic demographic information. ULA reached out at to enquire if the respondents still planned to participate but after five attempts, DIV was notified of the respondents' non-response.

The online questionnaire design allowed respondents to skip questions in cases where information was missing or further clarification was required. ULA reviewed the completed surveys prior to the interview to identify any gaps requiring further probing. For example, grantees may not be familiar with DIV's new, core KPIs and thus might have questions requiring clarification during the interviews.

[1] Evidence Action

KEY INFORMANT INTERVIEWS

With the support of DIV, ULA contacted respondents to schedule KIIs. The interviews were conducted via online and mobile platforms (e.g., Zoom, WhatsApp), with each interview lasting a maximum of 60 minutes.

Interviewers from the Uganda Learning Activity team, Deborah Bryant and Emily Kemigisha-Ssali, followed a semi-structured process to conduct KIIs. A semi-structured process was utilized to ensure that the process remained consistent for all grantees. A set of questions was constructed based upon the study goals and was further supported by relevant literature and reports, including a similar review of DIV grantees in Kenya. The set of questions were primarily open-ended to better understand the scaling pathways of grantees and identify success factors, and challenges encountered by grantees. The covered domains Collaborating, Learning, and Adapting (CLA), Business Strategies including scaling and pivoting and Resource Mobilization. Alongside the questionnaire, interviewers utilized a structured tool for note taking[2].

REVIEW OF KEY PERFORMANCE INDICATORS

DIV's approach for tracking KPIs has evolved over time and now includes a set of 6 core indicators required for all new grantees.

The Core KPIs include:

- Number of innovation units deployed (whether product, service, or process)[3];
- Number of direct beneficiaries;
- Amount of follow-on funding received after the start date of the award, disaggregated by type of funding (public, private, or other);
- Number and type of new resource partners contributing additional funding after the start of the grant, disaggregated by public, private, or other;
- Semi-annual sales; and
- Demonstrated uptake of the innovation by types of organizations, disaggregated by public, private, blended, or source unknown.

RAPID MONITORING, EVALUATION AND LEARNING SYSTEM ASSESSMENT

The MEL systems assessment examined the structures and processes each grantee used to collect data for DIV reporting. ULA adapted a USAID MEL System Assessment tool. The adaptation consisted of obtaining an abridged version of the tool since this was a rapid assessment, but also focused on the components that would reflect the MEL systems of the grantees and dropped the less relevant components. However even within the selected components, some sections that were not relevant in the context of grantees were dropped. The adapted MEL tool included five components: Organizational Governance/Leadership, MEL Structures and Functions, Data Management Systems, Organizational Learning and Collaboration, and documentation detailing Standard Operating Procedures (SOPs). The findings from the KIIs were used alongside the findings from the online survey, to give ULA insight on MEL aspects of the DIV grants. ULA was not able to verify the existence and functionality of these systems and structures because of the virtual nature of the exercise, coupled with the time constraint.

[2] Nowell, L.S., Norris, J. M., White, D. E., & Moules, N, J. (2017). https://doi.org/10.1177/1609406917733847 International Journal of Qualitative Methods.

[3] "Innovation unit" is an indicator tracked more broadly by USAID and means different things in the context of different grants. For example, in the case of clean cookstoves, it could mean the number of clean cookstoves sold/distributed by the grantee during the period of performance. For a solar home system (SHS) provider, it could mean the number of SHSs sold by a given organization. In some cases (e.g., training), it was possible that the innovation unit count was similar to the beneficiary count. ULA proposed an innovation unit in the context of each grant and received confirmation from its DIV point of contact (POC) that the chosen innovation unit was appropriate prior to interviewing the grantee.

UPDATING CONTACTS

ULA verified and updated grantees' key personnel contact information, including names, titles, phone numbers and e-mail addresses. Information was collected using an email Microsoft Word template. Additionally, ULA requested each grantee provide five, high-resolution photographs, a high-resolution organizational logo, and a quote from the organization's Chief Executive Officer (CEO) as part of the data collection process. This information was obtained from 9 of the 11 grantees.

RESPONDENT CONFIDENTIALITY

Respondents were assured that the publicly available version of the final report would be redacted or anonymized as appropriate to protect sensitive information and to allow for complete reporting of data. Grantees were asked to approve the draft Program Review document and reach an agreement regarding any items that required redaction or edits prior to the final document being published.

DATA QUALITY CONTROL

To control data quality, ULA ensured that the tools used were consistent across all respondents with each grantee receiving the same online survey, KII questions, and MEL assessment. ULA sought permission from the respondents to record interviews in order to fully capture all of the information shared by the respondents. Audio interviews were shared on ULA's secure online platform and deleted after analysis.

To ensure data reliability, strategies such as triangulation checks with respondents, and peer review[4] were utilized. In order to ensure respondent confidentiality and anonymity the draft reports and data were only shared with ULA team members actively working on the study.

ULA engaged with grantees via email after results had been written up, in order to seek for additional information and/or clarity. The individual draft reports were also shared with each grantee prior to sharing them publicly, to enable the grantees to provide their feedback on the draft Program Review report and individual grantee reports before sharing with the public. Grantees provided general comments via email. If specific comments were required, grantees were encouraged to provide feedback via email or on a PDF version of the document. This process allowed the grantees to own the findings that would be shared publicly and request any necessary redactions.

DATA ANALYSIS

Key Informant Interview qualitative data was triangulated with the data collected through the online survey, and available information within grantee reports and award documents provided by DIV.

ULA created an analysis framework, which provided necessary linked concepts and categories, such as success factors, business models, and challenges, that, when meaningfully organized, allowed the team to capture emerging themes.
An inductive analysis approach was used, and other themes that emerged from the qualitative interview were integrated into the analysis framework during the data analysis and coding process. Data related to success factors, business models, and challenges were coded for analysis. The analysis framework consists of the following concepts related to the organization/enterprise: Manufacturing, Policy and Regulation, Consumer Financing, Sales and Distribution, Branding and Marketing. The framework also includes cross-cutting themes: Business Strategy, Resource Mobilization, and CLA including Partnerships. The research team used coding to better understand what was happening in the qualitative and

[4] Nowell, L.S., Norris, J. M., White, D. E., & Moules, N, J. (2017). https://doi.org/10.1177/1609406917733847 International Journal of Qualitative Methods.

secondary data. In conducting the initial coding, an open approach was utilized. In a second round of coding the researchers used a focused approach to make determinations about which codes contributed most to the analysis.

The pivot types were analyzed by using Atli's model with five stages of pivots[5]. Atli's model depicts pivots in the form of a pyramid that begins with the customers and moves up to address pivots related to the problems organizations are solving, the solutions offered, and the technology used and ends with growth. Four types of pivots were observed among grantees: Customer Pivots, Problem Pivots, Solutions Pivots and Growth Pivots.

LIMITATIONS

- Some of the grants closed as far back as 2011, which presented a challenge in verifying some of the documentation required for the study or establishing contact with individuals who implemented the grant. However, ULA endeavored to verify documents that the grantees could access and reported any unavailable documents as a part of the findings.
- It was anticipated that the virtual interviews would take approximately 60 minutes per grantee; therefore, there was a possibility that the respondents would experience interview fatigue. To help mitigate interview fatigue, a soft copy of the interview questions was sent to each grantee prior to KIIs. Additionally, questions that were appropriate for an online survey format were included in the Online Survey and the link to the survey was sent to respondents prior to the KII.
- In DIV's portfolio, for much of the last decade KPIs were selected or defined by each respective grantee based on their innovation and delivery model. However, for this study DIV chose to investigate the data available from closed grants related to the set of six core KPIs that DIV currently requires[6]. While some of these indicators might have been new to the grantees, ULA ensured that the grantees had a common understanding of the indicator definitions and measurements. Only KPIs with relevant findings are discussed in this report.
- Because the grantees were not collecting data and reporting on the core KPIs, ULA was not able to assess the quality of the data reported by the grantees during grant implementation. The quality of the data would further validate the MEL systems and structures of each grantee if it had been assessed.
- Most grantees have experienced changes since the closure of the DIV grants, including pivots in their business models, alterations to the products/services offered, or through relocation of their operations. Given the varied changes and the length of time since DIV grants ended, it was difficult for some grantees to provide detailed data for the KPIs and other relevant indicators requested as part of this study. Each grantee worked with ULA to provide as accurate of a record of their indicators as possible for the purposes of this study. However, in some cases grantees were not able to disaggregate data in the requested manner. Instances for which this is the case are noted as such in the document.
- Restricting all of the reported KPI data to include only Uganda based results was problematic for all grantees that delivered their innovation across multiple locations. In some cases, grantees had expanded operations or pivoted to other countries outside of Uganda. Although this is consistent with DIV's overall scaling goals, it makes data analysis difficult in some cases. Disaggregating data just for Uganda did not reflect the full story of the organization's success.

[5] Atli, S. (2016 in Goldenberg, J. (n.d.) Pivots: Part 6 Types of pivots. MaRS Startup Toolkit. https://learn.marsdd.com/article/pivots-part-6-types-of-pivots/

[6] DIV provided ULA with a KPI Selection Matrix template that provided Performance Indicator Reference Sheet (PIRS) information, including: Indicator Definition, Disaggregation Type and Values, Unit of Measure, Outcome, Data Type, Data Collection Method, Data Source, Frequency, and Rationale for each of the 6 core KPIs.

Therefore, ULA worked with the grantees to carry out several additional follow-up interviews, or email consultations to better understand the status of the innovation.

- In relation to the qualitative portions of this study, generalizability to other DIV grantees may not be achievable given the small sample size.

APPENDIX 2: ONLINE SURVEY - DATA COLLECTION TOOL

DIV Uganda Online Survey

DIV Grantee Information

Q1 **Name of organization implementing DIV innovation grant in Uganda.** _____

Q2 **Provide the contact information of the respondent.** Full Name _____

Email Address _____Mobile Phone Number _____

Innovation Units

Q3 **What is the number of innovation units deployed (whether product, service, or process)?** The questions below relate to the total number of innovation units that were deployed as part of the DIV award provided by the United States Government (USG). The number of USG-funded product/service/process deployed/implemented through USG assistance. Products include items that are sold or given directly to a customer or beneficiary. Services include tasks performed by the awardee to enhance a process (e.g. improve farmer production levels, sanitation-as-a-service, etc.) or address a problem (e.g. health issue) for beneficiaries and customers. Processes include innovations where awardees provide support to enhance a discrete function (e.g. elections, CO2 monitoring, etc.).

Number of innovation units deployed/implemented at DIV project closure? _____
What is the number of innovation units deployed/implemented in the previous semi-annual period (Sept 2019 - Mar 2020)? _____
What is the number of innovation units deployed/implemented in the last semi-annual period (Apr 2020 - Sept 2020)? _____

Q3a **In relation to the total number of innovation units that you shared, tell us how you are counting the innovation units (products or services) that were deployed at the close of the DIV grant and then also at the last semi-annual period (April 2020 – September 2020)?**

	At DIV project closure		In the last semi-annual period. (Apr - Sept 2020)

	At DIV project closure	In the last semi-annual period. (Apr - Sept 2020)

We count number of products distributed. We count number of products sold. We count the number of individuals receiving/benefiting from the service. We count the number of organizations receiving/benefiting the service. Other, (If other is selected, it will be discussed further in the interview.)	

Q4 **Does the organization still sell/provide the innovation in Uganda (i.e., the innovation financed by the DIV award)?**

Yes No - If no, to Q4, then display Q4a.

Q4a **Why is the organization no longer selling/providing the innovation? Please check all that apply.**

___We introduced a better innovation (product/service/process).
___Product/market fit for the innovation was not good (e.g., customers/beneficiaries did not need product).
___Company/organization no longer exists.
___Carrying out the innovation was dependent on project monies, which are no longer available.
___Organization is now focused on other markets/countries.
___Full cost to deliver the innovation is now too costly.
___Other, please specify. _____

Q4b **Does the organization sell/provide the innovation in a different country (i.e., the innovation financed by the DIV award)?**

___Yes - If yes to Q4b, then display Q4c. ___ No

Q4c **Which country(ies) does the organization sell/provide the innovation in?** (Please list in the space provided.)_____

Q5 **What is the number of direct beneficiaries served? Direct beneficiaries include those who purchase, use (paying or non-paying customers), or directly benefit from innovation.** To calculate the direct beneficiaries you will need to think about the nature of the product/service/activity that was part of the DIV award. In some cases, an entire household or institution (i.e. a school) may have benefited from the award. For example, the deployment of a clean cook stove in the household benefits the health of all household members. In this case, we would like data on the number of household members residing with the purchaser of the cookstove. Alternatively, for innovations that benefitted an entire household (clean cookstoves, container-based toilets, solar home systems, etc.), it may be more appropriate to report on the number of Client Households multiplied by the

Client Household Size to estimate the number of individuals served. Direct beneficiaries should not be confounded with indirect beneficiaries.

5a. Please define who counts as a direct beneficiary for your innovation and, if possible, who does not count. _____
5b. What is the number of the direct beneficiaries served at project close? _____
5c. What is the number of the direct beneficiaries served during the previous semi-annual period (Oct 2019 – Mar 2020)? _____
5d. What is the number of the direct beneficiaries served during the last semi-annual period (Apr 2020 – Sept 2020)? _____
5e. What is the total number of the direct beneficiaries served to date?_____

Q6 **Did your organization sell your innovative product or service to the customer?**

___No ___Yes, customer paid 100% for the product or service.

___Yes, customer paid part of the cost, remaining cost was subsidized. Please share the breakdown. _____

If yes to Q6, then display Q6a.

Q6a **How much in semi-annual sales were received for the sale of the product/service? (USD currency)? In the previous semi-annual period (Oct 2019 - Mar 2020) and in the last semi-annual period (Apr 2020 - Sept 2020)?** Also, please describe which service or product sales are measured, and in which markets.
This metric tells the total value of semi-annual revenue (USD) derived from the sales and/or deployment of a USG-funded product/service as a result of USG assistance. _____

Q7 **How often does the organization measure the full cost of delivering the innovation?** (Please note, by delivering we mean providing the product/service/process to the beneficiary or customer, including production, sales, administrative, transportation, and overhead).

___Never ___Weekly ___Quarterly ___Semi-annually ___Annually ___Other, please specify _____
If in Q7 Weekly, Quarterly, Semi-annually, Annually or Other is selected, display Q7a.

Q7a **What is the most recent full cost of delivering the innovation per beneficiary or customer?** (USD currency. Please note, there is extra space provided in case the grantee has additional details that need to be shared. Also, by delivering we mean providing the product/service/process to the beneficiary or customer.) In relation to the full cost of delivering the innovation we are considering the direct expenditures attributable to the sale/delivery of the product/service/activity to reach each direct beneficiary. To calculate this cost, you would include all project and core costs, costs of purchase, costs of conversion, and other direct costs incurred in producing and selling the innovation (product/service/activity) funded by the DIV award._____

Q7b **Has the cost of selling or delivering the innovation changed since the end of the grant?** (Please note, by delivering we mean providing the product/service/process to the beneficiary or customer, including production, sales, administrative, transportation, and overhead).

___No ___Yes, increased ___Yes, decreased

Scaling

Q8 What is the pathway to scale for the innovation - purely commercial, purely public or a hybrid? (Please note, hybrid is defined as a mix between commercial and public.)

	Purely Commercial	Hybrid	Purely Public

8a At award of grant			
8b Currently			

Q9 Has there been any demonstrated uptake of the innovation by other organizations since the innovation was launched?

Demonstrated uptake includes any support for, or adoption by, the public and/or private sectors at any point during the reporting period. This does not include uptake by beneficiaries (i.e. individual customers or end users) or by bilateral or multilateral donor organizations (including adoption by USAID Missions). The key performance indicator (KPI) is reported as one of the following: None, Yes-Blended, Yes-Private, Yes-Public, or Yes-Source(s) Unknown.

- The public sector includes: Non-Governmental Organizations, Higher Education Institutions, Recipient Country Governments (including any department, office, subdivision, or other entity within the national or sub-national government of the country where the innovation is supported), and other organizations that are part of the public sector but not included in the categories above.
- The private sector includes: Private organizations (including businesses and corporations; business, industry and trade associations; corporate foundations; social enterprises; financial institutions, investors, and impact investors), Private Philanthropy (including private foundations and philanthropists), and other organizations that are part of the private sector but not included in the categories above.
- Blended adoption includes uptake by both the public and private sectors. This could be simultaneous uptake by both, or separate uptake by each, during a reporting period.
- Examples of demonstrated uptake include:
  - Procurement or other financial support provided through public, private, or public-private agreements (i.e. non-revenue monies from non-donor sources), including - but not limited to - private investments, grants, loans, funds, or government bonds
  - Regulatory approval or incorporation/institutionalization into a host country government's national or sub-national guidelines, policies, or other legal frameworks (e.g. Essential Medicines List, Patient Safety Framework)
  - Market introduction (e.g. a product developed/supported by USAID is offered for sale, and providers trained, through the public or private sectors)
  - Distribution or delivery of an innovation or service to an end-user via the public and/or private sectors, such as distribution by community health workers or agricultural extension agents

	At DIV project close	In previous Semi-Annual period (Oct 2019 - Mar 2020)	In last Semi-Annual period (Apr 2020 - Sept 2020)
No			
Yes-Blended			
Yes-Private			
Yes-Public			
Yes-Source(s) Unknown			

Q10 Was the organization able to receive follow-on funding for this innovation from public or private sources after the initial award? Please check all that apply.

The awardee should **report all financial or in-kind contributions by non-USAID partners against a USG/USAID/DIV award.** At baseline, i.e. at time of award, the awardee should report external funding received

until that point. Post-baseline, follow-on funding will include additional contributions made after the start date of the award. **Follow-on funding should only include *Received* funds** (not Committed). Follow-on funding should be reported at time of award, and incrementally from then on (i.e. new Follow-on funding only).
In-Kind contributions include services, materials, staff hours, and other non-monetary contributions to support the innovation. Financial contributions are strictly monetary transfer.

	Public	Private	Other
No			
Yes, in-kind follow-on funding received			
Yes, financial follow-on funding received			

If yes in Q10, then display Q10a.

Q10a **If follow-on funding was a mix** of private, public and other, please provide an approximate amount for each contribution type.

Approximate amount of follow-on funding that was public: _____ (USD currency)
Approximate amount of follow-on funding that was private: _____ (USD currency)
Approximate amount of follow-on funding that was other: _____ (USD currency)

Total: _____

Q11 What is the **number of new resource providers** contributing this follow-on funding (in-kind or financial)?
_____

Q11a **What type of new resource partner(s) contributed additional funding for this innovation after the start of the grant and what were the amounts of funding per funder?** Please share the names of the funding organizations in the space provided as well as the amount of funding provided for each funder._____

DIV

Q12 **On a scale of 1-10, how satisfied were you with DIV during the pre-award process?**

Q13 **On a scale from 1-10, how satisfied were you with DIV during the life of the grant?**

Reporting and Metrics

Q14 **How often were you collecting and reporting** any kind of grant progress/performance information/data to DIV during the grant period?

___Monthly
___Quarterly
___Semi-annually
___Other, please specify. _____

Q15 **Did DIV provide the reporting guidelines/format/templates prior to reporting?**

___Yes ___No

Q16 **Who was responsible for collecting, tracking and reporting metrics** during the grant implementation? Please check all that apply.

___Project Coordinator / Manager ___Monitoring & Evaluation Officer (M&E) ___Sales Manager

___Researcher ___Team Lead ___Grant Administrator ___Member of Organizational Management Team

___Other, please specify

Q17 **For this innovation grant, how many staff were involved in tracking metrics and reporting?**_____

Q18 **For this innovation grant, did the organization**

	Yes	No
18a Provide training/mentoring to the staff in relation to tracking metrics?		
18b Have sufficient information technologies (IT) infrastructure to carry out data management, data analysis, and interpretation of data?		
18c Conduct any **events** with stakeholders or **joint reviews** and **share learned knowledge**?		
18d Have quality control procedures in place for paper-based and computer data entry (e.g. double entry, post data entry verification)?		
18e Conduct any data supervision to ensure that the quality of the data collected and reported is dependable?		
18f Have an established mechanism to address late, incomplete, inaccurate and/or missing reports including following up with sub-reporting levels on quality of information reported?		
18g Provide reports to any other stakeholders/donors regarding the progress of this innovation in this grant?		

Q19 **Did the organization have documented and appropriate Standard Operating Procedures (SOPs) for dealing with:**

	Yes	No	Not sure

19a Data collection and storage?			
19b Back up procedures for data processing in case of computerized system failure?			
19c Data quality control?			
19d Data aggregation where relevant?			
19e Data analysis and reporting?			
19f Data dissemination, use and learning?			
19g Data confidentiality and security?			

Q20 Were these SOPs

	Yes	No	Not sure
20a Shared and used by staff and sub-partners if any?			
20b Accessible in all places of operation for easy reference by all the relevant staff?			

Q21

	Paper-based	Computerized	Both
What kind of information filing system did the organization have in place at the time to hold the data/records related to this innovation grant?			

APPENDIX 3: QUALITATIVE KII TOOL

QUALITATIVE QUESTIONS	SUB-QUESTIONS	NOTES FOR RESEARCHERS
Q1. What level of maturity is the innovation currently at Stage 1, 2, or 3?		To probe if needed Probe and explain DIV Stages as needed DIV Stage 1: Testing the proof of concept of a solution DIV Stage 2: Building evidence, positioning the innovation for scale DIV Stage 3: Transitioning to scale
Q2. In the online survey you indicated that the "innovation unit(s)" were _____. Were there other innovation units that we should capture?		This question is to ensure that researchers have accurately captured this KPI. Researchers will first review Lookback Online Survey Data to see what may need further probing. ULA will also provide to the grantees in an email that we send to grantees with the tools the "proposed innovation unit" that has been approved by DIV. ULA will gather this from grantee reports/award documents and propose to DIV before the interview.
Q3. How does the organization define/measure the success of the innovation?	**3a.** How do you measure the success of this innovation, what metrics or indicators do you use to know that you are on track?	Probe: From Adapted DQA - What important milestones/indicators did the organization periodically report to DIV during grant implementation? Please state the milestones/ indicators that you tracked that were important in decision making, but not were reported to DIV?
Q4. Can you tell us more about the semi-annual sales?	4a. In the Lookback Online Survey, you indicated your semi-annual sales for this innovation to be _____. Please describe which service or product sales are measured, and in which markets.	This question is for Commercial/Hybrid organizations only. Researchers will first review Lookback Online Survey Data to see what may need further probing.
	4b. In the Lookback Online Survey, you noted in Q7b that the cost of selling/delivering the product has changed. Can you tell us more about the reasons for any change observed in the cost for delivering the innovation? If subsidized, has the amount of the subsidy changed, and if so, how has it changed?	

Q5. Tell us about your organization's experiences trying to scale the innovation. If you have succeeded, please describe how you did it?	5a. What strategies or models have you used to scale up?	Probes include: Organizational growth; Multi-stakeholder partnership; Licensing out; Open Licensing; Getting Acquired; Franchising; Multiplication including federations; Diversifying revenue streams; Replication, Involves replicating a model; Expansion into another country; Partnerships; Horizontal diversification
	5b. Which success factors have contributed to your scaling up and what challenges did you face?	Probes include: What would have enabled you to reach more beneficiaries faster? What unanticipated external factors had negative effects? Driving scale-up with strong in-house capabilities; Ensuring appropriate partners; Ability to fundraise; Multiple partners and/or funding sources; Potentially sizeable market; Compelling commercial value; Creating enabling conditions 'spaces' for innovation; High performing innovation teams; Adapting/ Pivoting/ Reinvention/ Learning; Adopting a strong data driven / tech solution; Expanding Services; Including output, value addition, new market channels; Increasing efficiency
	5c. Are there key networking relationships or partnerships that have been helpful to the success of scaling the innovation?	Probes include: Key stone actors; Concerted promotion through informal and formal networks; Embedding the organization within social and professional networks. Why would you say these relationships/partnerships helped you to scale? How did they help exactly? DQA Probe: Did the organization conduct any events with stakeholders during the grant implementation for joint reviews and share learned knowledge? DQA Probe: Which stakeholders and forums and frequency of learning reviews.
Q6. To be asked if in the Lookback Online Survey, the responded answered yes to Q9 related to demonstrated uptake.	In Q9 in the Lookback Online Survey you indicated that there had been demonstrated uptake of the innovation by other organizations since the innovation was launched. Please provide information on how the innovation was taken up by the other organizations. Was there anything in particular that you, a partner organization, or USAID DIV/another funding organization did that facilitated uptake?	Probes: Procurement or other financial support provided through public, private, or public-private agreements (i.e. non-revenue monies from non-donor sources), including - but not limited to - private investments, grants, loans, funds, or government bonds Regulatory approval or incorporation/institutionalization into a host country government's national or sub-national guidelines, policies, or other legal frameworks (e.g. Essential Medicines List, Patient Safety Framework) Market introduction (e.g. a product developed/supported by USAID is offered for sale, and providers trained, through the public or private sectors) Distribution or delivery of an innovation or service to an end-user via the public and/or private sectors, such as distribution by community health workers or agricultural extension agents Other, please describe

Q7. Did you organization participate in an impact evaluation?	7a. If the organization participated in an impact evaluation, how did the evaluation help to shape the future behavior with respect to the innovation?	
Q8. Did the learning while implementing the innovation, cause you to pivot or change direction? In the case you implemented an impact evaluation during the grant period, what impact did the results from the evaluation, in particular, have on your organization?	8a. If yes, how did the organization pivot in relation to this innovation?	Probes include: Product, service, delivery method, model, etc. different than what was funded by DIV What were the main unexpected learnings for the organization?
	8b. If yes, what led the organization to pivot with this innovation?	
	8c. If yes, did the DIV grant play a catalytic/critical role in the pivot?	
	8d. What were the main unexpected learnings for your organization?	
Q9. At the conclusion of your DIV grant, was any additional amount of funding needed to continue scaling the innovation?	9a. Was the organization able to raise all additional funds that were necessary or only a portion?	

	9b. If yes, what was needed and why? Would the organization have preferred 1) Targeted assistance to help develop better systems or 2) Unrestricted funding?	Probes: What specifically contributed to the organization being able to or having difficulty raising additional funding to continue scaling? Would the organization have preferred technical assistance during and/or after the grant period ended? What kinds of TA would have been useful? Would the organization preferred to have a "pool of money" to use as it wished on TA or something else? (Versus having strings attached to the funding such as connecting it to milestones) Would the organization prefer procuring its own vendors or prefer that DIV does it and why? Prompt with: Business Diagnostics, Sales Strategy, Marketing/Communications Strategy, Market Expansion Strategy, Finance/Investment Readiness, Human Capital, Legal/Regulatory Advisory, Monitoring and Evaluation, Product Development/Engineering, Technology, Partnership Development, and General Advisory.
10. Is there anything that DIV did well to support your innovation? (Open-ended question)	**10a *Is there anything that DIV could have done better?***	
Q11. What practices did the organization have in place to protect beneficiary/customer data?		
Q12. What systems did you have in place to prevent unauthorized access to electronic databases and/or manual forms/reports?		

APPENDIX 4: RAPID MEL TOOL

This tool contains all MEL related questions that are embedded in the Online Survey tool and the Qualitative KII Tool.

RAPID MEL			
	Question	**Response**	**How to Verify**
1	**Information Gathering**		
1.1	**DIV Reporting**		
1.1.1	Were you collecting and reporting any kind of grant progress/performance information/data to USAID/DIV during the grant period?	Yes No	*Q14 in Online Lookback Survey/ verify*
1.1.2.	How often were you reporting to DIV?	Monthly Quarterly Semi Annually Annually	*Q14 in Online Lookback Survey*
1.1.3.	Did DIV provide the reporting guidelines/format/templates prior to reporting?		*Q15 in Online Lookback Survey/ Verify documentation*
1.1.4	What specific issues/indicators were you reporting?		*Verify*
1.2.	**Other Reporting Responsibilities**		
1.2.1	Were you required to provide reports to any other stakeholders/donors regarding the progress of this innovation in this grant?	Yes No	*Q18q in Online Lookback Survey*
2	**Organizational Governance/Leadership, Monitoring, Evaluation and Learning, Structures and Functions**		
2.1	**Organizational Governance/Leadership**		
2.1.1.	Were any of the staff in charge of the data/reporting or tracking metrics also a part of the Management Team?	Yes No	*Q16 in Online Lookback*
2.1.2.	Who was responsible for reviewing the data/information/metrics reported prior to the submission/release of reports to the various stakeholders?	*Mention all position(s)*	*Q14 in Online Lookback /Verify sign off details*
2.2. Structures and Functions of the Monitoring, Evaluation and Learning Team			

2.2.1.	For this innovation grant, how many dedicated data management staff did you have tracking metrics and reporting?	*State the number*	*Q17 in Online Lookback*
2.2.2	Did the organization provide training/mentoring to the data/information management staff in relation to tracking metrics for this innovation grant?	Yes No No	*Q18a in Online Lookback /probe to verify*
2.2.3	Did the organization have sufficient information technologies (IT) infrastructure to carry out data management, data analysis, and interpretation of data from this innovation grant?	Yes No No = 0	*Q18b in Online Lookback*
3	**Organizational Learning and Collaboration**		
3.1	Did the grantee conduct any events with stakeholders during the grant implementation to conduct joint reviews and share learned knowledge?	Yes No	*Q18c in Online Lookback Survey*
3.2	Is there evidence of learning that has impacted decision making (in the planning and implementation of the interventions), or in adapting the innovation in relation to this innovation grant? (Probe if lessons learned have influenced the grantee planning and implementation processes.)	Yes No No	*Q9 KII Interview/probe to verify*
4	**Data Management Systems**		
4.1.	**Data Collection and Reporting**		
4.1.1	What practices did the organization have in place to protect beneficiary/customer data?	 No No Yes	*Q10 KII Interview/probe to verify*
4.2.	**Data Quality Control**		
4.2.1.	Did the organization have quality control procedures in place for paper-based and computer data entry (e.g. double entry, post data entry verification)?	Yes No	*Q18d in Online Lookback Survey/probe to verify*
4.2.2.		Yes	

	Did the organization have established mechanism to address late, incomplete, inaccurate and/or missing reports including following up with sub-reporting levels on quality of information reported?	No	*Q18f in Online Lookback Survey/probe to verify*
4.2.3.	Did the grantee conduct any data supervision to assess reliability, validity, accuracy, timeliness and completeness of the data collected for required indicators? (Ask for documentation)	*Yes* *No*	*Q18e in Online Lookback Survey/*
4.3.	**Data Storage and Management**		
4.3.1.	What kind of information filing system did the organization have in place at the time to hold the data/records related to this innovation grant?	*Describe*	*Q21 in Online Lookback Survey*
4.3.2	Was there a system for preventing unauthorized access to electronic databases and/or manual forms/reports?	*Yes = 1* *No = 0* *No = 0* *No = 0*	*Q11 KII Interview*
5	**Documentation detailing Standard Operating Procedures (SOP)**		
5.1.	**Documentation of Standard Operating Procedures (SOP) for Data Handling (Data Collection, Data Storage, Data Quality Control, Data Aggregation, Analysis, Confidentiality, Reporting & Dissemination)**		
	Did the grantee have documented SOPs for dealing with:		
5.1.1.	Data collection and storage?	*Yes = 1* *No = 0*	*Q19a in Online Lookback Survey/ Verify documentation*
5.1.2.	Back up procedures for data processing in case of computerized system failure?	*Yes = 1* *No = 0*	*Q19b in Online Lookback Survey/ Verify documentation*
5.1.3.	Data quality control?	*Yes = 1* *No = 0*	*Q19c in Online Lookback Survey/ Verify documentation*
5.1.4.	Data aggregation where relevant?	*Yes = 1* *No = 0*	*Q19d in Online Lookback Survey/ Verify documentation*
5.1.5.	Data analysis and reporting?	*Yes = 1* *No = 0*	*Q19e in Online Lookback Survey/ Verify documentation*
5.1.6.	Data dissemination, use and learning?	*Yes = 1* *No = 0*	*Q19f in Online Lookback Survey/ Verify documentation*

5.1.7.	Data confidentiality and security?	*Yes = 1* *No = 0*	*Q19g in Online Lookback Survey/ Verify documentation*
5.2.	**Access and Use of SOPs**		
5.2.1.	Were these SOPs shared and distributed to all staff and sub-partners if any?	Yes = 1 *No = 0*	*Q20a in Online Lookback Survey/ Verify documentation*
5.2.2.	Were the available SOPs accessible in all places of operation for easy reference by all the relevant staff?	*Yes = 1* *No = 0*	*Q20b in Online Lookback Survey/ Verify documentation*

APPENDIX 5: DIV GRANTEE CONTACT INFORMATION TEMPLATE

NAME AND ADDRESS OF ORGANIZATION	GRANTEE AWARD NAME	NAME OF POINT OF CONTACT	TITLE OF POC	EMAIL ADDRESS	PHONE NUMBER(S), INCLUDING MOBILE

Additionally, DIV would like for each grantee to provide five high-resolution photographs, a high-resolution corporate logo, and a quote from the organization's Chief Executive Officer (CEO) as part of this data collection process. We would ask that you provide these via email to ULA if agreeable by the organization.

APPENDIX 6: KPI TABLES

DIV Core KPIs

1. Number of innovation units deployed (whether product, service, or process)

1. INNOVATION UNITS BY GRANTEE							
GRANTEE	CURRENT ORG TYPE	STAGE	INNOVATION TYPE	SECTOR	INNOVATION UNITS (PROJECT CLOSE)	INNOVATION UNITS (OCT 2019 - MAR 2020)	INNOVATION UNITS (APR 2020 - SEPT (2020)
BURN	Hybrid	2	Product	Economic Growth (EG)	330,402	N/A	N/A
Solar Sister	Hybrid	2	Product	Energy	38,761	54,810	49,977
SPOUTS	Hybrid	1	Product	WASH	38,000	7,500	10,000
d.light	Hybrid[7]	2	Product	Energy	35,373	165,742	125,683
BrightLife	Hybrid	1	Product	Economic Growth	6000	N/A	N/A
LRUS	Hybrid	1	Product	Energy	3,421	0	0
EFA Africa/ IMPACT	Hybrid	2	Product & Service	Energy	1050	6114	0
IPA / PEDN	Public	1	Service	Education	136	0	0
Agriworks Uganda	Hybrid	1	Product & Service	Agriculture/ Food Security	14	25	26
BVV/ WfP/ ATC	Hybrid	1	Product & Service	WASH	10	3	1
W2E / Green Heat	Hybrid	1	Product & Service	Agriculture/ Food Security, EG	60000	8100000[8]	8100000

[7] d.light takes a purely commercial in some markets and a hybrid approach in other markets depending on the maturity of the market.
[8] W2E / Green Heat provided data around the number of kg of fertilized produced.

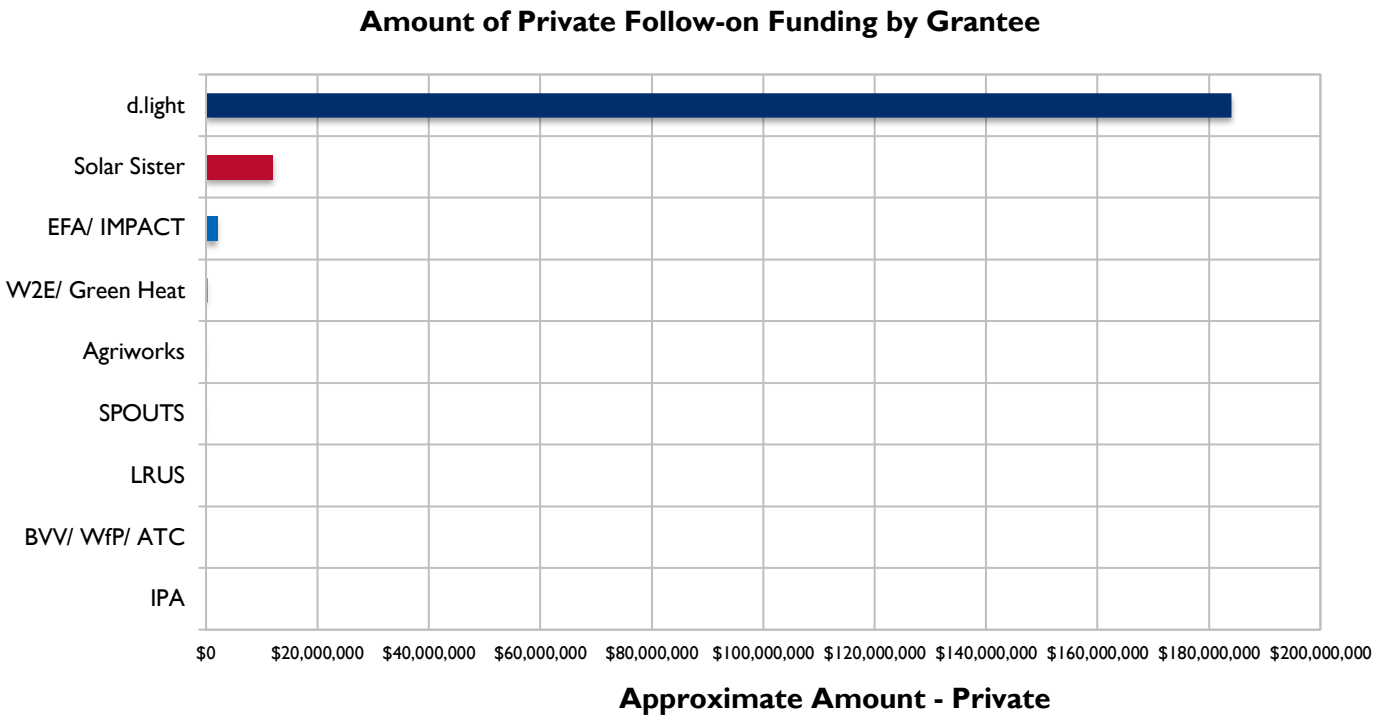
2. Number of direct beneficiaries

GRANTEE	PROJECT CLOSE	LAST SEMI-ANNUAL PERIOD (APR 2020 - SEPT 2020)	SERVED TO DATE	METHOD OF CALCULATION
LRUS	24,000	0	24,000	Not provided
IPA	60,000	0	*60,000	Number of students benefitting from the program in the 136 schools.
d.light	176,865	628,315	*5,000,000	Number of HHs multiplied by the client HH size.
Solar Sister	193,805	221,129	*2,100,000	Uses GOGLA calculations to determine # beneficiaries per product sold.
W2E/ Green Heat	1,500	149,000	*400,000	For HH installations, counts the average HH size as 7 persons while institution population average is 1000.
EFA /IMPACT	262,500	Unknown	1,528,500	Counts the micro-franchise groups and the number of HHs reached.
BVV/ WfP/ ATC	50	15	70	Number of toilets multiplied by HH averaging 5 people (per toilet).
FINCA PLUS/ BrightLife	28,200	N/A	N/A	Sales multiplied by average Ugandan HH size (4.7).
Agriworks Uganda	40	728	4634	Tracks equipment sales and the number of users per set of equipment and multiply the number of users by the average household size,
BURN	1,594,665	608,738	3,996,901	Calculated as a client HH. The average HH is approximately 4.5 people in the regions where BURN sells to in Kenya and approximately 6 people in Somalia.
SPOUTS	210,000	65,000	350,000	Number of beneficiaries is based off the average household size in UG (5) and the average household in refugee camps in UG (ranging from 7-10).

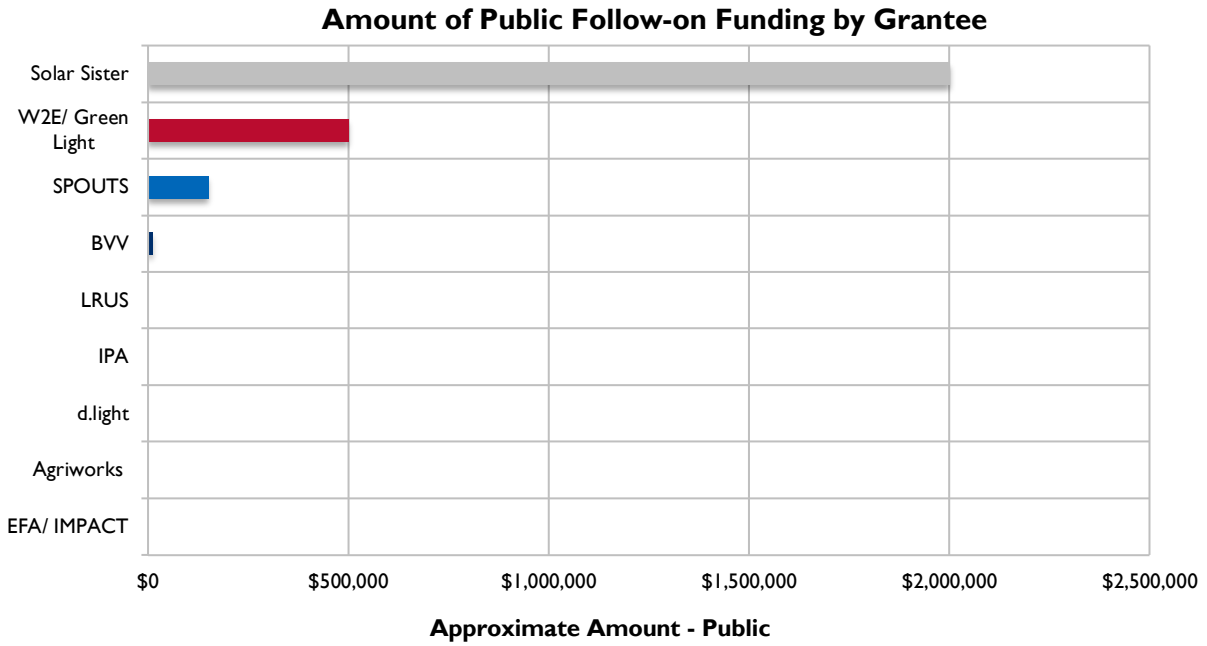
3. Amount of follow-on funding received after the start date of the award, disaggregated by type of funding (public, private, or other)

GRANTEE	FOLLOW-ON FUNDING RAISED
LRUS	0
IPA	0
d.light	$184,000,000
Solar Sister	$14,000,000
W2E/ Green Heat	$790,000
EFA /IMPACT	$2,000,000
BVV/ WfP/ ATC	$13,754
FINCA PLUS/ BrightLife	N/A
Agriworks Uganda	$78,641
BURN	N/A
SPOUTS	$166,000
Totals	$208,884,754

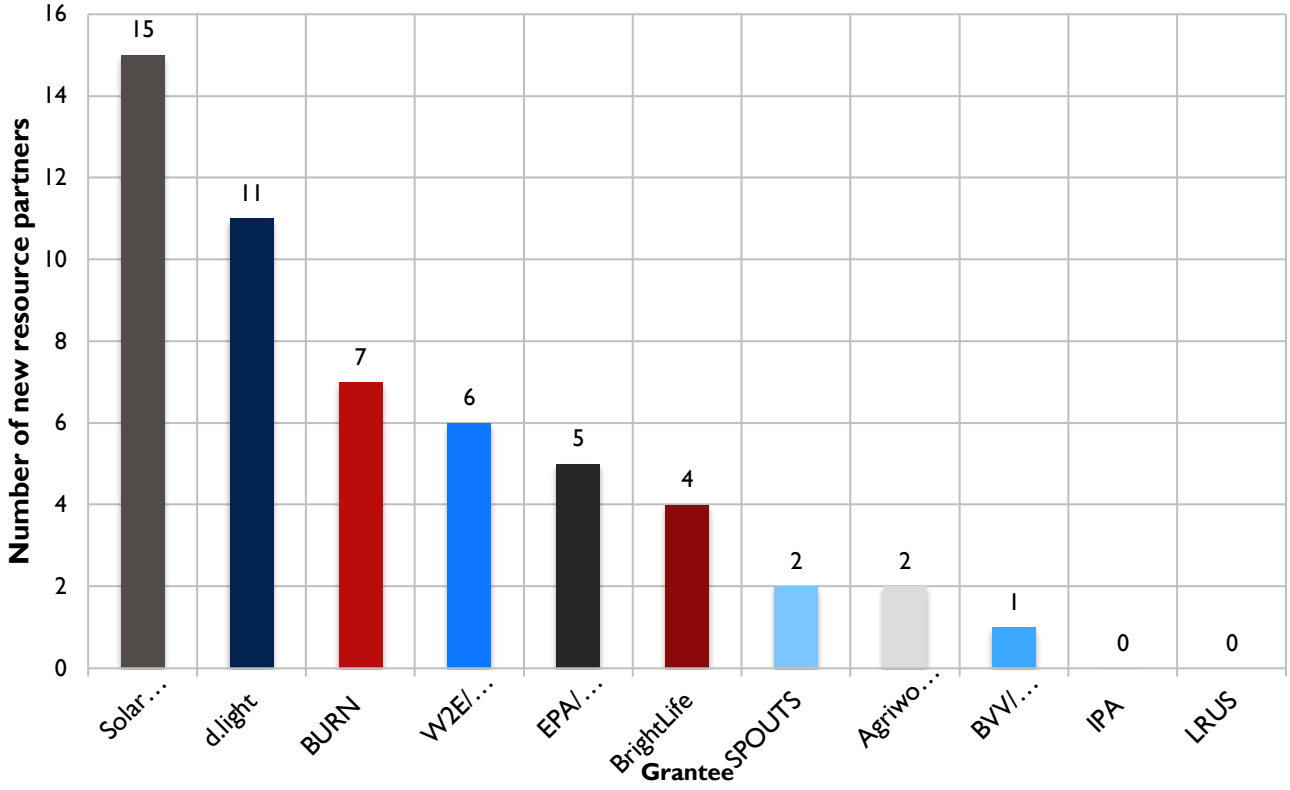
Amount of Private Follow-on Funding by Grantee



Amount of Public Follow-on Funding by Grantee

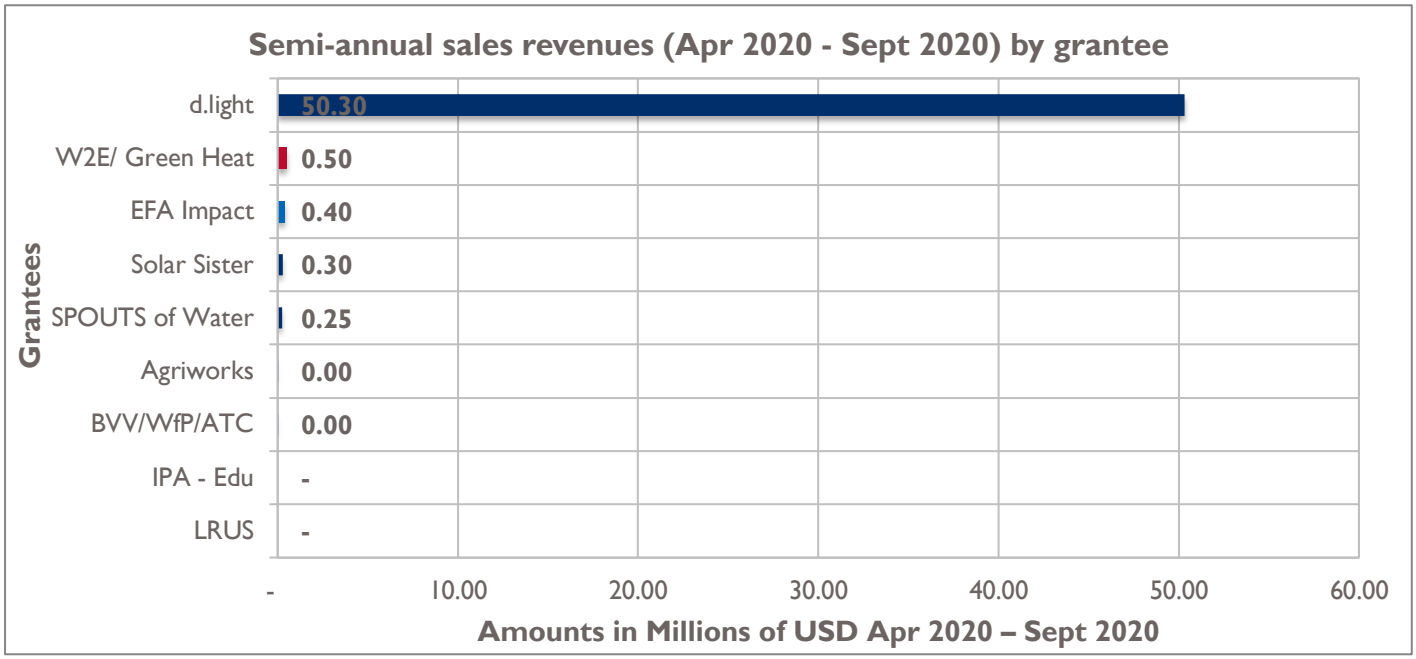


4. Number and type of new resource partners contributing additional funding after the start of the grant



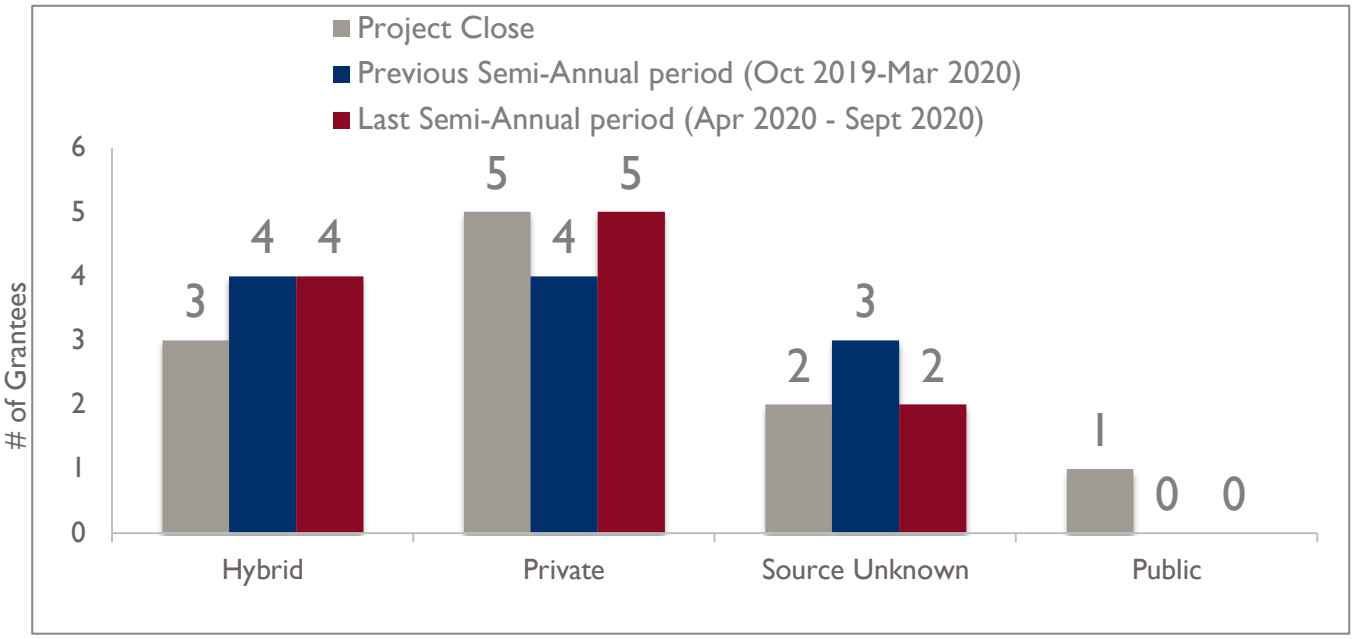
5. Semi-annual sales revenues (Apr 2020 – Sept 2020) by grantee

Organization Name	Semi-annual sales Revenue
d.light	$50,297,706
BURN	N/A
EFA /IMPACT	$400,000
FINCA Plus/ BrightLife	N/A
Solar Sister	$299,828
SPOUTS of Water	$250,000
W2E/ Green Heat	$500,000
Agriworks Uganda	$424
BVV/ WfP/ ATC	$1,054
IPA	0
LRUS	0



6. Demonstrated uptake of the innovation by types of organizations, disaggregated by public, private, blended, or source unknown

Number of grantees reporting demonstrated uptake across reporting periods



APPENDIX 7: FACTORS FOR SCALING SUCCESS

PARTNERSHIPS.

DIV grantees benefited from a wide variety of partnerships, including go-to-market partners, product design partners, manufacturing partners, academic partners and community partners.

STRONG GO-TO-MARKET PARTNERS

In relation to finding strong go-to-market partners, grantees looked to find partners that could provide capabilities such as: a primary conduit to customers, brand presence, support for supply chain logistics, last mile distribution networks, access to capital, or some combination of these capabilities.

BrightLife's partnership with FINCA Uganda proved critical during its initial startup phase. FINCA was the primary conduit to early customers and a source of *Consumer Financing*. During the DIV grant, BrightLife relied heavily on the FINCA partnership, tapping into its large branch network. The 27 branches across Uganda served as stock warehousing points, where agents were able to pick up stock and receive training. The ready availability of physical branches saved BrightLife on the expensive logistics costs of setting up branches on its own. This is a go-to-market strategy that BrightLife intends to adopt in other markets.

STRONG PRODUCT DESIGN PARTNERS

Agriworks Uganda noted that their partnership with Global Good (GG), an organization that does xyz, was valuable at the design stage. Global Good offered both funding and strong *Technical Assistance*, particularly in engineering as Agriworks Uganda used *In-house Manufacturing* for portions of its mobile irrigation units. Global Good offered funding to help develop prototypes, hire staff, and test out business models, as well as work through challenges as they arose due to the available funding.

Agriworks Uganda obtained strategic *R&D Partnerships* with universities (most notably, the D-Lab at the Massachusetts Institute of Technology) in order to develop a market ready prototype and secure funding (*Funding Partnerships*) to keep the project running. After transitioning to a *Fee-based Service* business model, Agriworks Uganda's partnership with GG also helped them further improve the technical performance of the irrigation system via development and testing (*Technical Assistance*).

STRONG MANUFACTURING PARTNERS

BrightLife also considers *Manufacturing Partners* critical to its success. After the DIV grant ended, BrightLife lost a manufacturing partner, Green Light International (Green Light), and BrightLife had to quickly source new partners. Green Light, originally operating as a distributor, made a decision to open retail outlets in Uganda, causing sudden disruption for multiple actors in the market. Since 2017 BrightLife has developed strong partnerships with two U.S. owned/China-based manufacturers.

STRONG LOCAL PARTNERS FOR COMMUNITY ENGAGEMENT

EFA/ IMPACT works with a variety of local partners to carry out its energy innovation. It works with cooperatives as well as NGOs that are searching for new ideas to implement with women beneficiaries. Often the NGOs share project costs with EFA, or pay for women to be included in the project. Additionally, EFA often works with community development officers at the district level to find women groups to bring into the program. Provided with eligibility criteria, community development officers are helpful in providing information, saving EFA time and expense. This approach allows EFA/ IMPACT to work remotely, and in most cases the outcomes have been positive.

W2E also relied on a strong partnership with the Centre for Research on Energy and Energy Conservation (CREEC) in Uganda to gain additional *Technical Assistance* related to biogas digester engineering.

Although LRUS did not have success in scaling its innovation, the commercial company did report that partnerships with Savings and Credit Co-Operative Societies (SACCOs) helped in their efforts to fund the purchase and servicing of solar lighting product

STRONG GOVERNMENT PARTNERS

W2E (which evolved into Green Heat) built strong partnerships with public Ugandan institutions like Makerere University Agricultural Department, and the National Water and Sewerage Corporation (NWSC) demonstrating *Government Uptake in the form of contracts to provide biogas units.*

VERTICALLY INTEGRATED BUSINESS MODEL

Three companies (d.light, SPOUTS, and BURN) noted their use of a vertically integrated business model as a factor for successful scaling. While others indicated that some vertically integrated components were impactful, d.light felt that their integrated model was their most important success factor. This approach allowed d.light to maintain a high level of control of the whole value chain, resulting in smoother operations.

d.light also credited their use of a well-crafted distributor model as a key part of its success in scaling. However, d.light's first attempt at implementing the model was not successful in Uganda. Unlike BrightLife, d.light's distributor model was not related to their connection to a strong go-to-market partner. d.light had originally partnered with M-Kopa Solar a in 2012, but that partnership restricted d.light in terms of control over its operations. In this first DIV grant, the partnership with M-Kopa Solar dissolved as competition between the partners emerged. d.light uses regional distributors that stock products through the distributors' retail network on consignment. These regional distributors pay a deposit (~$10) for each product that they stock and receive their deposit back plus a stocking commission for each product sold through their retail network. d.light has a network of thousands of commission agents that are recruited and trained by d.light and these agents pick up stock from retail points throughout the country to do face-to-face sales. These commission agents earn a commission for each sale that they make. A customer can purchase a product either from a commission agent or from a retail outlet. If the product is purchased directly from a retail outlet, the retail outlet earns the stocking commission plus the sales commission. This means that each retail outlet earns stocking commissions for products that are sold by commission agents attached to that retailer in addition to stocking plus sales commissions for each product sold at the retail outlet. d.light sells its products in

multiple countries with both an in-country presence in five to six countries, and by selling through distributors in another forty plus countries.

Some experts in the Off-grid Solar (OGS) sector note that vertically integrated models may be constraining growth in the sector and recommend de-verticalization of the sector[9].

SIMPLIFYING INTERNAL PROCESSES (E.G., CREDIT PROCESSES) FOR RAPID SCALE-UP

Initially, BrightLife intended to sell primarily to FINCA Uganda customers, but experienced challenges providing incentives for FINCA's loan officers to service the loans for the solar products. BrightLife had to make adjustments to its model and simplify the *Traditional* loan process.

FINANCING MODELS

As BrightLife scaled, it began to offer the products to others outside of the FINCA customer base. In order to offer financing for these customers, BrightLife adopted *PAYGo* financing. The shift to PAYGo also increased the data analytics that are available to the company in order to help create credit profiles for customers[10].

USE OF DATA-INFORMED APPROACHES

In general, the grantees valued the use of data evidence for decision-making, but some grantees relied heavily on market data as well as customer data to inform strategy and growth. Some examples of using data for decision-making include:

- SPOUTS, which used data from their customer relationship management systems to inform product design and *Technical Performance* at their in-country manufacturing plant; and
- BrightLife, which uses data/evidence from *PAYGo* data analytics to predict viable repayment schedules/trends (*Market Performance*) to access capital from international debt providers.

FUNDING PARTNERSHIPS

d.light noted the access to additional subsidized capital from follow-on funding as pivotal to its success. Likewise, BURN noted the importance of private equity capital, as well as carbon financing. BrightLife has also obtained an influx of private equity capital from FINCA International that has been critical to its ability to scale. EFA/ IMPACT mentioned the revolving fund forms as a consistent source of income. The revolving fund was created as part of the DIV grant as EFA/ IMPACT pivoted and decentralized production. EFA/IMPACT also noted the importance of grant money from the Greater Impact Foundation, as well as the use of private money in providing their operation with the resources required to scale.

[9] Doyle, M. (2018). Enabling early-stage experimentation in Africa's off-grid solar sector http://www.scalingoffgrid.org/blogs/enabling-early-stage-experimentation-africa%E2%80%99s-grid-solar-sector

[10] Grundman, S., (2018) Pairing microfinance and social enterprise for clean energy access. FINCA. https://finca.org/blogs/pairing-microfinance-and-social-enterprise-for-clean-energy-access/

OTHER SUCCESS FACTORS NOTED BY GRANTEES

SPOUTS reported their *Direct to Consumer* sales channel, having key partnerships, having keystone individuals that are efficient and reliable, staying locally relevant, and having a *Local Factory* with both local employees and high levels of customer satisfaction as key factors in scaling.

APPENDIX 8: GLOSSARY OF TERMS

Agent Based Network
An agent-based network is often used as a distribution mechanism in micro-franchising businesses to help expand a business by using existing community members, agents, that sell products or distribute information for a business[11]. Agents generally sell directly bypassing small shops and intermediaries[12].

Design Partners
Design partners are often used when an organization undertakes designing products that require hardware and/software components. Partners may come from a variety of disciplines including engineering (mechanical/electrical), industrial design or have specialties such as firmware design[13]. Design partners though may be more a wider group that include humanitarian and development organizations. Design partners can help an organization conduct Customer Value Chain Analyses and introduce or strengthen emphatic and participatory design practices[14]. Design partners should also include users of the products/services[15] as early in the process as possible.

Go-to-Market (GTM) Strategy
A go-to-market (GTM) strategy relates to the plans that an organization makes to ensure product to market fit, target audience, competition and demand, and distribution modalities including how to engage customers and gain competitive advantage[16].

Micro Finance Institutions
Microfinance institutions (MFIs) work towards financial inclusion of individuals and communities that may be considered un-bankable by providing small scale loans.

Micro-franchise Model
Often targeting young people with limited capital and job experience, microfranchising in emerging markets offers opportunities that the standard franchising concept offers (licensing, training, support), but on a smaller scale[17]. The model is often used in emerging markets by large companies and nonprofits as a distribution model[18].

Mobile Service Model
The mobile service model is a relatively new business model that involves businesses bringing services to customers instead of customers coming to storefront locations or customers renting tools to provide services for themselves. A mobile service model in the context of emerging markets allows customers to access services, such as crop irrigation, and tools that are not easily affordable for individual small scale producers (SSP). Such for-hire services may mitigate the risks of tool ownership and misuse for some SSPs.

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[11] Shah, S. Spotlight on Microfranchising: A Look Into the Future of Social Enterprise. https://nextbillion.net/spotlight-on-microfranchising/
[12] Kubzansky, M. & Cooper, A. (2013). Direct Sales Agent Models in Health: SHOPS Project, Abt Associates. https://www.cleancookingalliance.org/binary-data/CMP_CATALOG/file/000/000/135-1.pdf
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Organizational Types

In relation to pathways to scale DIV views organizations as public, purely commercial or hybrid. Public organizations do not engage in commercial or for-profit activities. Purely Commercial organizations are engaged in commercial or for-profit activities, but do not receive any funding from public or humanitarian/development focused sources whereas Hybrid organizations are a combination of Public and Commercial.

PAYGo Model

The PAYGo (pay-as-you-go) model can be traced to Kenya where it emerged to meet challenges with energy access, last mile distribution, end-user financing and payment collection for solar home systems (SHS)[19]. Generally targeted at low-income customers, the model provides payment by instalment for either renting or buying SHS through the use of technologies that remotely disconnect units upon non-payment[20]. Companies offering PAYGo must have access to significant working capital to provide the SHS on credit[21]. The model has been used extensively in solar markets, but can also be for other energy access projects[22] and is being more widely as a consumer financing tool[23].

Pivot

Pivots are seen as critical in the start-up space and are often embraced by organizations working on innovation projects. DIV defines a pivot as a significant change to a product, service, delivery method, model, etc. from what was funded by DIV. Atli's model depicts pivots in the form of a pyramid that begins with the customers and moves up to address those related to problem organizations are solving, the solutions offered and the technology used and ends with growth[24].

Replicable Business Models

Replicable business models are designed to help organizations scale and add value by ensuring capabilities for local production/services[25] and often this happens by creating franchises or micro-franchises and/or licenses. When creating a replicable business model, an organization is focused on large-scale and rapid leveraging of the business model that incorporates learnings from previous implementation of the model to ensure valued features of the products/services are utilized, and the procedures involved in the local context are incorporated[26].

Savings and Credit Co-Operative

Savings and Credit Co-operatives (SACCOs) are a type of cooperative that is able to operate within Uganda without regulation by the Bank of Uganda. The organizations are legal, and are considered member-based Micro-Finance Institutions (MFIs)[27].

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Vertically Integrated Business Model

An enterprise that uses a vertically integrated business model controls multiple parts of the supply chain, for example, production and distribution.

APPENDIX 9: BUSINESS MODELS USED BY GRANTEES

DIV GRANTEE	VERTICALLY INTEGRATED BUSINESS MODEL	PAYGO MODEL	MFI[28] / SACCO PARTNERS[29]	MICRO-FRANCHISE MODEL	SERVICE MODEL	REPLICABLE BUSINESS UNIT	AGENT-BASED NETWORK	SALES & SERVICE PACKAGE
d.light	x	x					x	
Agriworks Uganda					x			x
EFA/ IMPACT	x			x		x	x[30]	x
Solar Sister				x		x	x	
BrightLife		x	x			x		
SPOUTS	x							x
LRUS			x					x
W2E / Green Heat	x		x					x
IPA/ PEDN			x					x
BURN	x							x
BVV/ WfP/ ATC								x

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APPENDIX 10: PIVOT EXAMPLES

Types of pivots

GRANTEES	PIVOTS
BURN	Customer Pivot - Geographical Markets - Changed from selling in Uganda to selling in Somalia (Puntland & Somaliland).
d.light	Solutions Pivot - Partnership/Model - Changed from utilizing implementing partner (M-Kopa Solar) to a more vertically integrated model
Solar Sister	Customer Pivot - Geographical Markets - Solar Sister, pivoted and began to target customers in Tanzania and Nigeria after it found a disabling environment in Uganda.
SPOUTS	Problem Pivot – Added new product lines
W2E / Green Heat	Customer Pivot - Change in Scale - Changed from installing a large municipal level bio-digester to selling/servicing small units; Expanded product offerings (biomass briquettes, etc). Solutions Pivot - Pivoted and developed the Slurry Separation Technology (SST).
EFA / IMPACT	Growth Pivot - Change in Scale - Changed from producing biomass briquettes to creating micro-enterprises to produce and distribute briquettes
BrightLife	Solutions Pivot - Change in Consumer Financing Models – Changed to a PAYGo Model and moved away from traditional microfinance

DIFFICULTY IN SETTING UP LONG-TERM CONSUMER FINANCING WITH FARMERS

Agriworks Uganda noted a *Pivot* when trying to implement an innovation aimed at reducing the capital cost of irrigations systems by developing a mobile system that could be shared by farmers. The company targeted what they defined as 'commercial smallholders' which were described as farmers who cultivate small acreages and sell the majority of their harvested crops. The enterprise planned to offer in-house asset financing, as well as financing in partnerships with third party financial institutions. However, this scaling up pathway was not scalable within the target market. While implementing the grant, Agriworks Uganda experienced unexpected challenges in obtaining partners willing to offer asset financing for their irrigation equipment. The company found that it was difficult to align company models with interests of the financial institutions (SACCOS and banks).

> *"...local partnerships who try to work with, NGOs, SACCOS, banks to try to help with scaling up has not worked very well, mostly just because it's very hard to get interests aligning in that regard." Agriworks Uganda Founder Abraham Salomon*

Agriworks Uganda found that the repayment period for paying back the loans for the mobile irrigation system was not the initial one or two seasons as originally thought. In reality, the repayment period turned out to be from three to five years. The grantee attributed these difficulties to the variable nature of agriculture (e.g., drought, excessive rain, and pests, as well as personal farmer issues). To address the challenges of farmers not wanting to share equipment (See 5.1.5.2), Agriworks Uganda pivoted and began to offer fee-based irrigation services directly to farmers. This *Fee-based Services* model is related to options for Financing which is a critical component that grantees must consider when structuring their innovations.

FARMERS SHARING EQUIPMENT DID NOT WORK

The mobile, modular irrigation system that Agriworks Uganda developed fits on a motorcycle chassis and was offered with financing. Agriworks Uganda operated from a hypothesis that farmers would share equipment, however the team found that farmers were unwilling to share the irrigation services, and were also unwilling to purchase the equipment with long-term credit financing. Agriworks Uganda made a pivot after the DIV grant to begin to offer fee-based irrigation services to farmers through branch offices in areas where there's a high potential for irrigation services. Agriworks Uganda had originally considered the service model at the initial phase, but the company thought it would be too expensive and too difficult to manage. However, in the last two years the company has developed a streamlined process for the new model. This pivot is related to changes to the business model and was further enhanced with research and development. Agriworks Uganda reported *R&D Partnerships* with MIT and Global Good. It would be helpful to better understand how the current model fits in with the initial ideas that Agriworks Uganda envisioned for this service model, as well as what roles the *R&D Partnerships* played in the ideation and pivot. This pivot to a service model has allowed the company scale since the end of DIV grant.

ADJUSTING PROGRAM COMMUNICATIONS MODEL

IPA partnered with FINCA Uganda (*Financial Partner*) and PEDN (local development partner) to implement its DIV grant. The grantee was provided funds to carry out a randomized evaluation to explore the use of micro-savings in Ugandan Primary Schools. This was a very early-stage pilot to better understand what a financially viable savings model might look like. The grantee and IPs noted that during the implementation the IPs experienced challenges when working to help primary children open bank accounts. Regulations require that a parent or guardian be the one to open the accounts. Thus, to get buy-in from the parents, PEDN made a small pivot in the model and decided to offer a parent outreach program that provided sensitization for parents.

ADDING MOBILE MONEY AGENT COMPONENT INTO SAVINGS PROGRAM

Another challenge faced by IPA's partners in implementing the children's savings accounts was the high cost for the banking partner, FINCA Uganda, to travel to schools to collect funds. In the last year of the project, the partners experimented with having a mobile money agent travel to the schools to collect money. Although not identified specifically as a pivot, the partners were trying to better understand how the innovation could be financially viable for FINCA Uganda to continue after the pilot.

OTHER CHALLENGES

The IPs implementing Tiger Toilets in Uganda experienced challenges related to the cost of constructing the toilets for peri-urban households. The cost to construct this innovative toilet, approximately 1.6 million UGX ($310 USD), is considered prohibitive for the average Ugandan. During the pilot, the costs were subsidized. To address this challenge, WfP is currently working with Post Bank and Housing Finance to develop financing options for this and other WASH innovations that it implements. The financing option offers incentives for discounted prices with specific hardware shops and/or discounts on the cost of servicing the toilets.