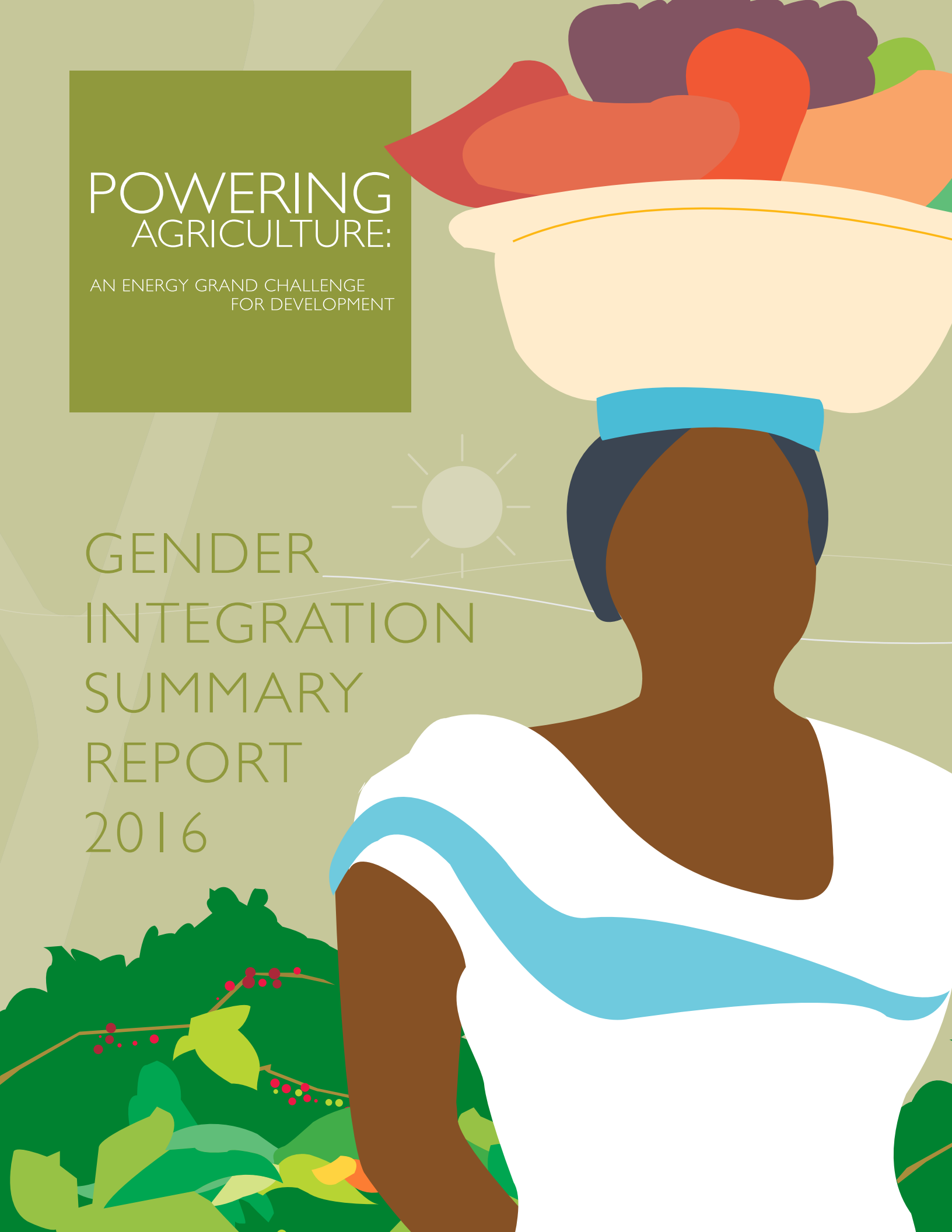
POWERING AGRICULTURE:

AN ENERGY GRAND CHALLENGE FOR DEVELOPMENT

GENDER INTEGRATION SUMMARY REPORT 2016



ABOUT POWERING AGRICULTURE

In 2012, The United States Agency for International Development (USAID), the Government of Sweden (Sida), the Government of Germany (BMZ), Duke Energy Corporation, and the United States Overseas Private Investment Corporation (OPIC) (collectively, the "Founding Partners") combined resources to create the Powering Agriculture: An Energy Grand Challenge for Development (PAEGC) initiative. The objective of Powering Agriculture is to support the development and deployment of clean energy innovations that increase agriculture productivity and stimulate low carbon economic growth in the agriculture sector of developing countries to help end extreme poverty and extreme hunger.

Powering Agriculture utilizes the financial and technical resources of its Founding Partners to support its Innovator cohort's implementation of clean energy technologies and business models for households, farms, villages, cooperatives, and industrial facilities in order to: (i) Enhance agricultural yields/productivity; (ii) Decrease post-harvest loss; (iii) Improve farmer and agribusiness income generating opportunities and revenues; and/or (iv) Increase energy efficiency and associated savings within the operations of farms and agribusinesses.

For more information, visit **PoweringAg.org**

ACKNOWLEDGEMENTS

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FOREWORD

As Program Manager, I am happy to share the latest results of our efforts to address gender equity and reduce gender disparities within the energy and agriculture nexus. The twin concepts of gender equality and female empowerment have emerged within the development arena as key factors in ensuring that energy and agricultural innovations are adopted and utilized by local communities to support economic growth and address food insecurity.

Unfortunately, these twin concepts are sometimes not viewed as core business objectives by innovators or are only focused on as donor 'topline messages' or 'program goals' with no clear implementation plans or understanding of innovators' knowledge gaps, business, and resource constraints. Despite attempts, Powering Agriculture and its innovators are no strangers to these viewpoints and have at times fallen into a somewhat endless waltz of placing importance on gender equality, developing performance indicators but not providing the adequate resources and tools to carry out gender integration work, resulting in dissatisfaction and frustration by donors, innovators, and end users alike.

This report represents Powering Agriculture's earnest attempt to listen to our innovators' needs and provide the innovators with concrete, actionable plans to strengthen gender integration into their clean energy solutions. It is my hope that this report and Powering Agriculture's future work in this space can help other innovators and donor programs ensure greater gender equality in "access to, control over, and benefit from clean energy resources, wealth, opportunities and services".

Sincerely,

Dr. Ryan Shelby

Foreign Service Engineering Officer
Program Manager, Powering Agriculture: An Energy Grand Challenge for Development
United States Agency for International Development (USAID)

ACRONYMS AND ABBREVIATIONS

BMZ	German Federal Ministry for Economic Cooperation and Development
CBO	community-based organization
CES	Clean Energy Solution
FBA	Farm Business Advisor
GBV	gender-based violence
GS	Gender Integration Specialist
HPS	Husk Power Systems
ILPI	International Law and Policy Institute
INGO	International Non-Governmental Organization
M&E	Monitoring and Evaluation
NGO	Non-Governmental Organization
OPIC	Overseas Private Investment Corporation
PAEGC	Powering Agriculture: An Energy Grand Challenge for Development
PAX	Powering Agriculture Xcelerator
SDG	Sustainable Development Goal
Sida	Swedish International Development Cooperation Agency
STEM	Science, Technology, Engineering, and Math
TOR	Terms of Reference
UGARF	University of Georgia Research Foundation
USAID	U.S. Agency for International Development
UVG	Universidad del Valle de Guatemala

INTRODUCTION

The Powering Agriculture: An Energy Grand Challenge for Development initiative represents a partnership of the United States Agency for International Development (USAID) with the Government of Sweden (Sida), the Government of Germany (BMZ), Duke Energy Corporation, and the Overseas Private Investment Corporation (OPIC); collectively known as the 'Founding Partners'.

Powering Agriculture was launched in 2012 to support the development and deployment of clean energy innovations that stimulate low carbon economic growth within the agriculture sector of developing countries to help end extreme poverty and extreme hunger.

Powering Agriculture contributes to the 2030 Agenda for Sustainable Development by supporting the following goals: Sustainable Development Goal (SDG) 1 (No Poverty), SDG 2 (Zero Hunger/Sustainable Agriculture), SDG 5 (Gender Equality), SDG 7 (Affordable and Clean Energy), SDG 8 (Economic Growth), SDG 9 (Innovation), SDG 13 (Climate Action), and SDG 17 (Partnerships for the Goals).

Under its first and second Global Calls for Innovations in 2012 and 2014, Powering Agriculture provided over $30 million of funding and technical resources to a cohort of 24 innovators that are implementing innovations within the clean energy/agricultural nexus that:

1. Enhance agricultural yields/productivity;
2. Decrease post-harvest loss;
3. Improve farmer and agribusiness income generating opportunities and revenues; or
4. Increase energy efficiency and associated savings within the operations of farms and agribusinesses – while stimulating low carbon economic growth within the agriculture sector of developing countries.

One of the features required by all clean energy innovations selected for funding under Powering Agriculture is that the innovation must "contribute to reducing gender disparities in access to, control over and benefit from clean energy resources, wealth, opportunities and services: economic, social, political, and cultural". Moreover, Powering Agriculture will not fund an innovation or implementation approach that can "reinforce harmful gender norms" within the target implementation area.

This report summarizes Powering Agriculture's innovators' progress thus far in integrating gender considerations into their projects.

> *"It is important to ensure that gender relations do not become invisible under assumptions of neutrality. Women and men have different roles, perceptions and opportunities in contributing to and benefiting from energy-efficient technologies."*
>
> –UNIDO (2014)

PURPOSE

The purpose of this Powering Agriculture gender integration report is three-fold:

1. Identify gender-related planning and monitoring and evaluation (M&E) activities completed, challenges, and lessons learned to date (through the end of FY 2016 – September 30, 2016).

2. Identify innovator plans for gender integration, as well as demand-driven technical assistance to strengthen gender integration, for the coming quarter and fiscal year (October 2017- October 2018).

3. Ensure learning is taking place, both at the innovator, program, and meta level under Powering Agriculture. Ensure that innovators learn from each other's successes, mistakes, and processes to strengthen work on gender integration now and in the future.

METHODS

Information was gathered from three different sources—innovator project documents, short survey responses, and introductory calls with the Powering Agriculture Gender Integration Specialist (GS)[1]. For each innovator, information was summarized in an individual innovator gender brief. These 24 briefs were then synthesized and analyzed to create this summary document aggregating information and identifying trends across innovators.

Innovators make all of their Powering Agriculture-related materials available via WebMo. Individual innovator work plans, M&E plans, data reported to date, and other materials, such as marketing strategies and business plans available from award to the current date, were reviewed from June-August 2016. Written recommendations for gender integration previously prepared by the International Law and Policy Institute and provided to some 2015 innovators were also reviewed. All relevant information pertinent to gender integration within plans, activities, and data collected to date were extracted and reviewed for each innovator.

In July 2016, each of 22 current grant recipients was sent a Powering Agriculture Gender Technical Support survey via the web platform Survey Monkey. The 10-question survey covered topics including: projects' current stage of clean energy solution (CES) technology development, receipt and usefulness of recommendations on gender integration, involvement of men and

1 The Gender Integration Specialist was contracted through the Powering Agriculture Support Task Order, implemented by Tetra Tech

women with the target technology, and activities undertaken to promote gender integration. Of the 22 projects, 18 innovators responded to the survey for a response rate of 82%.

In addition, the Powering Agriculture Gender Integration Specialist conducted introductory calls with each innovator (June-October 2016) to gather more in-depth information on gender-related planning and M&E, activities accomplished to date, challenges, and lessons learned. Power Agriculture also offered demand-driven technical assistance to innovators for gender integration for the coming quarter and fiscal year. Based on the survey responses and introductory calls, the innovators identified types of support they are interested in receiving to strengthen gender integration. Introductory phone calls were held with 17 of 22 current innovators (77% response rate).

FINDINGS

Although two of the 24 projects are no longer supported by Powering Agriculture, the findings include information gathered from documents across all 24 innovators.[2] Out of the 18 respondents to the web-based survey, two projects (11%) are in the research and development phase for their target technology, eight (44%) are conducting initial pilots, six (33%) are in early adoption/distribution of the technology, and only two (11%) are in the market growth stage. As such, most innovators are in the preliminary phases of implementing activities to promote gender integration with impact remaining to be seen. Nevertheless, there are a number of findings and lessons already learned about how project planning and design affect integrating gender and engaging women in the early stages of an innovation.

Gender Integration in Project Planning Phase

Each innovator work plan and Powering Agriculture agreement was reviewed to identify if there was a strategic vision for the CES technology to contribute to the promotion of gender equality and women's empowerment. Out of 24 innovators, 15 (54%) articulated a specific goal or purpose of the CES to promote gender equality, for example, to reduce women's time. The degree of vision varied from women's economic empowerment as a central project objective (e.g., KickStart, Village Infrastructure Angels, University of Toronto) to projects including a secondary objective or intended benefit to promote gender equality or empower women.

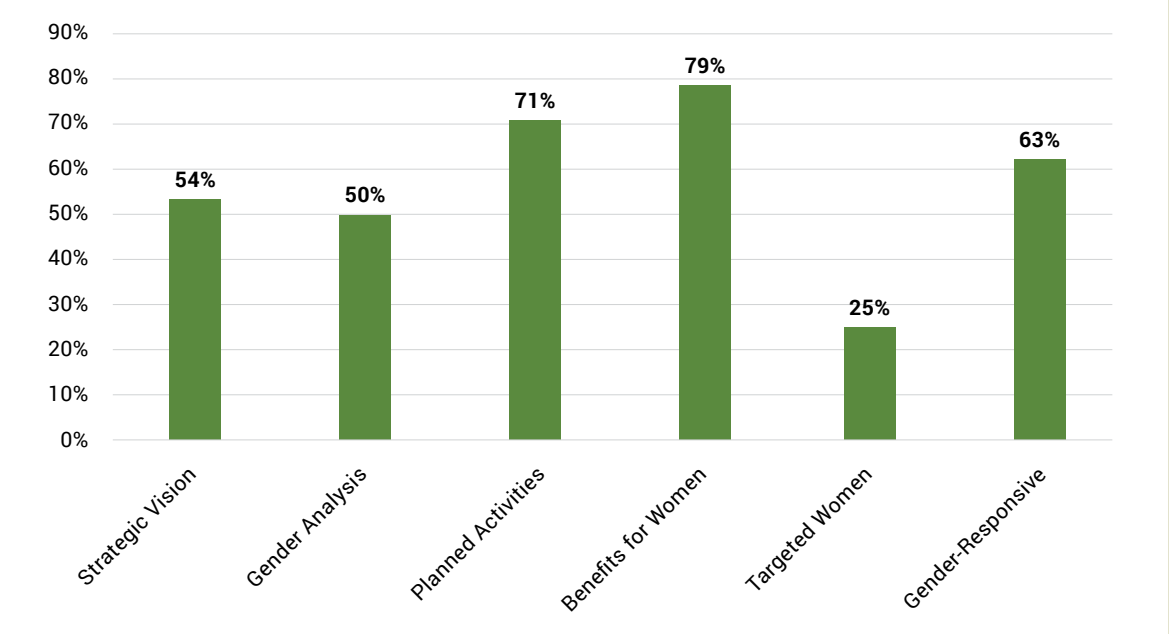
2 For more background information on each innovator and the CES technology, see the Powering Agriculture Innovators Profile Pages available at: https://poweringag.org/innovators

The majority of innovators (79%) articulated some benefit for women within their planning documents, 71% included at least one specific actionable activity to integrate gender, 63% percent described a technology with benefits that could be (pending evaluation) anticipated to be gender-responsive, 50% included in upfront work plans some type of gender analysis to inform strategy and activities, and 25% explicitly targeted women. Figure 1 summarizes these findings across all 24 innovators.

The propensity for articulating a strategic vision for gender integration as a goal of the technology was found across agricultural sectors, technologies and innovator types. Out of the 15 innovators who included a strategic vision, seven (7) were led by private companies, four (4) by non-governmental organizations and four (4) by universities or their associated institutes. They represent projects across the spectrum of Powering Agriculture innovation areas – solar irrigation, hydroponics, biogas cold storage (dairy), solar aeration (aquaculture), solar mills, and renewable energy power grids. The common trait that was shared by these projects was that almost all (94%) targeted smallholder farmers/producers. Those that target medium-sized or large-sized farms are more likely to exclude a strategic vision to promote gender equality.

The majority of innovators (19 out of 24) were able to identify in work planning some benefits for women anticipated from the adoption of the CES technology. Out of those innovators that cited any intended gender-related benefits, the most commonly cited benefits were: time savings (60%), women's empowerment (45%), reduced labor (40%), increased income (40%), healthier and safer living and work environments (40%), increased

Figure 1. Percentage of Innovator Work Plans and Agreements that Integrate Gender



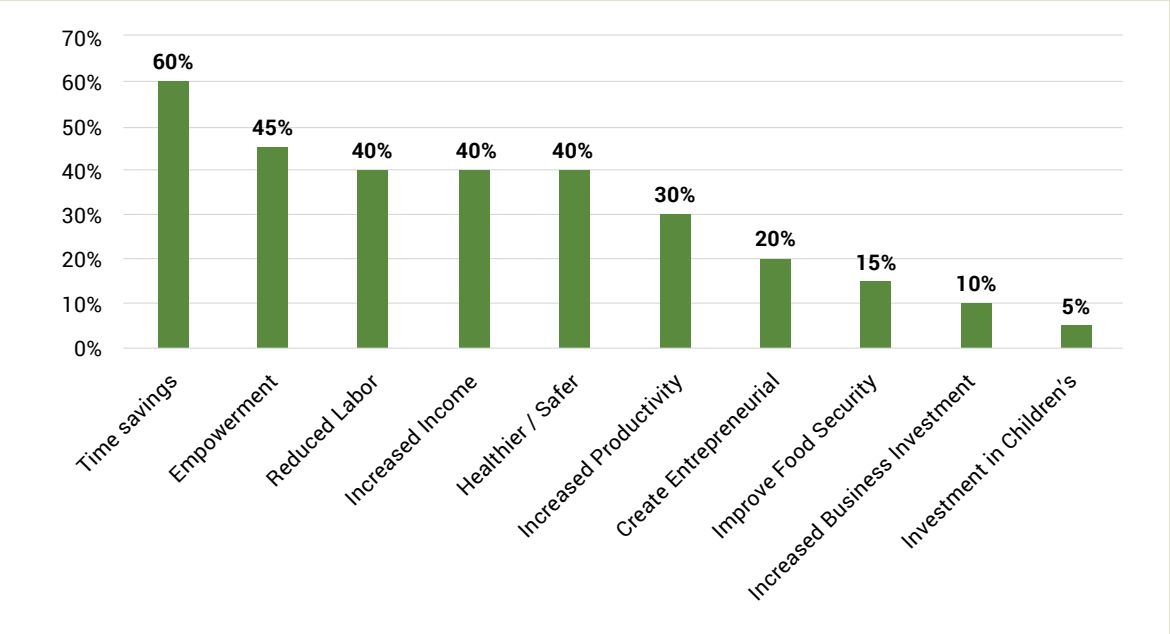
productivity (30%), creation of entrepreneurial opportunity and new jobs (20%), improved food security (15%), increased business investments (10%), and investment in children's, and particularly in girl's education (5%).

Based on research and innovator identification of potential benefits, particularly in time savings and reduced labor, 63% of innovators were found to have technologies that have potential to be categorized as gender-responsive technologies, following evaluation and meeting other criteria, including the CES is based on needs and interests of both female and male farmers, and the technology is accessible and affordable to both men and women.

> *"Gender-responsive technologies are:*
> *1. Based on needs and interests of both female and male farmers.*
> *2. Those that reduce time and labor for female farmers.*
> *3. Accessible and affordable to both men and women."*
>
> —Global Alliance for Climate Smart Agriculture

Figure 2 below provides a summary of the percentage of explicitly identified gender-related impacts among the 19 innovators who stated any intended benefit was anticipated from use of its technology.

Figure 2. Percentage of Powering Agriculture Innovators Who Anticipate Specific Gender-Related Impacts from Technology Use



Similar trends are found in work planning documents across innovators for those that outline actionable activities for gender integration. Again, although innovators identified at least one actionable gender integration activity in their work plans (71%), the nature of these activities varies across technology, agricultural sector, and innovator type; one commonality is that there is a greater propensity to include at least one actionable gender integration activity if there is focus on smallholder farmers. The box below provides examples of planned gender integration activities from innovator work plans and agreements.

Illustrative Example of Actionable Activities for Gender Integration in Powering Agriculture Innovator Work Plans

- Include gender-specific questions in baseline and post-pilot interviews on household role and labor division, decision-making processes, income distribution, daily routines/time spent on activities of women and men, and cultural norms that hinder women from accessing/benefiting from CES (Husk Power Systems [HPS], SimGas)
- Target communities with a 15% minimum representation of women farmers/producers (Claro Energy)
- Target women-headed households and women-led groups identified in the early stages of site selection (iDE Bangladesh)
- Develop marketing materials targeted specifically to women (iDE, KickStart, SimGas)
- Provide female-focused promotions for new technologies (KickStart)
- Direct outreach to women through strategic partnerships with women's groups and women's cooperatives (Claro Energy, Earth Institute, ECO Consult, HPS, KickStart, SimGas, UGARF)
- Ensure women's involvement in meetings and gender sensitive trainings (iDE Bangladesh)
  - Employ female trainers (ICU, SimGas)
  - Establish targets for percentage of female meeting/training participants (Claro Energy, HPS, Univ. of Toronto)
  - Provide training in local languages and with materials for low-literacy populations (HPS, ICU)
  - Liaise with women to make training compatible with their responsibilities and time (ICU, UVG)
- Deploy female field/technical staff to reach out to women (KickStart, Rebound)
- Link women with micro-finance offerings or other flexible payment systems (HPS, KickStart, SunDanzer)
- Identify women-led groups with access to credit systems (iDE Bangladesh)
- Set targets, recruit, and hire women as technicians and operators of new technologies (HPS, Motivo, Rebound, SunDanzer, UVG, VIA)
- Hire women along the value chain for positions in promotion, demonstration, sales, and financing of CES technologies (SimGas, SunCulture, UGARF)
- Enable and encourage sales contracts to be signed by both male and female in the household, to ensure that the woman of the household also holds ownership (SimGas)
- Give preference to partnerships and contracts with businesses that promote female involvement in management and operations (Univ. of Toronto)
- Train women in new value addition processes and other income-generating opportunities (UVG, VIA, HPS)
- Partner with NGOs with demonstrated experience and success in reaching out to female farmers/producers (Rebound)

Gender-Responsive Monitoring and Evaluation Plans and Data Collection

All Powering Agriculture innovators are required to report on a set of indicators, and may choose to include custom indicators. Across all 24 innovators, 20 (83%) explicitly indicated within their M&E plan that they intended to disaggregate by sex at least one indicator and/or chose to add a custom indicator that included a gender-specific measure or was sex-disaggregated. Indicators that at least one innovator chose to disaggregate by sex include:

- **Indicator 1.2:** Number/Type of beneficiaries, farms/agribusinesses/customer solutions
- **Indicator 1.3:** Number/Type of wholesalers/retailers/maintenance professionals accessible to beneficiaries for selling/servicing CES
- **Indicator 1.4:** Number of new households/individuals with access to reliable electricity attributed to use of Powering Agriculture innovator's clean energy solution
- **Indicator 1.5:** Number of persons attending trainings/demonstrations on CES technology
- **Indicator 2.1:** Change in agriculture production per standard unit attributed to use of Powering Agriculture Innovators' clean energy solution
- **Indicator 2.2:** Change in income attributed to use of Powering Agriculture innovators' clean energy solution

Eight innovator M&E plans (33%) introduced custom indicators in baseline data collection or routine monitoring that collect information on women's use, access, or benefit from CES technologies. These indicators are, as follows:

- Number of women who have access to CES on farm/agribusiness *(ICU)*
- HARVEST adoption, disaggregated by sex *(Motivo, indicator 1.5)*
- Value of financed payment plans taken up by female farmers *(Futurepump, indicator 1.6)*
- Number of farmers, suppliers, and lenders trained (on the use of PVR technology, the economic and environmental benefits of solar milk chilling for rural users, and financing models designed for this technology), disaggregated by type and gender *(SunDanzer)*
- Anticipated result that 50% of beneficiaries of new income-generation opportunities by the Accelerators will be female, measured with two custom indicators: 1) Percentage of producers utilizing value addition processes who are female; Percentage of accelerator operators who are female *(Universidad del Valle de Guatemala [UVG])*
- Number of households with new livelihood opportunities resulting from access and use of clean energy, disaggregated by sex *(iDE Bangladesh, indicator 1.7)*
- Business model appropriateness, disaggregated by type of farmer, including education level, gender, previous loan experience *(University of Georgia Research Foundation[UGARF], indicator 1.6)*
- Clients "satisfied" with CES after three months of use, disaggregated by sex *(iDE, indicator 2.4)*
- Increase in bamboo sourcing cooperative members; Number of people trained in renewable energy generation; Number of trainings in appropriate bamboo plot management for improved quality and productivity properties, all disaggregated by sex *(African Bamboo indicators 2.2, 3.3, and 3.4)*

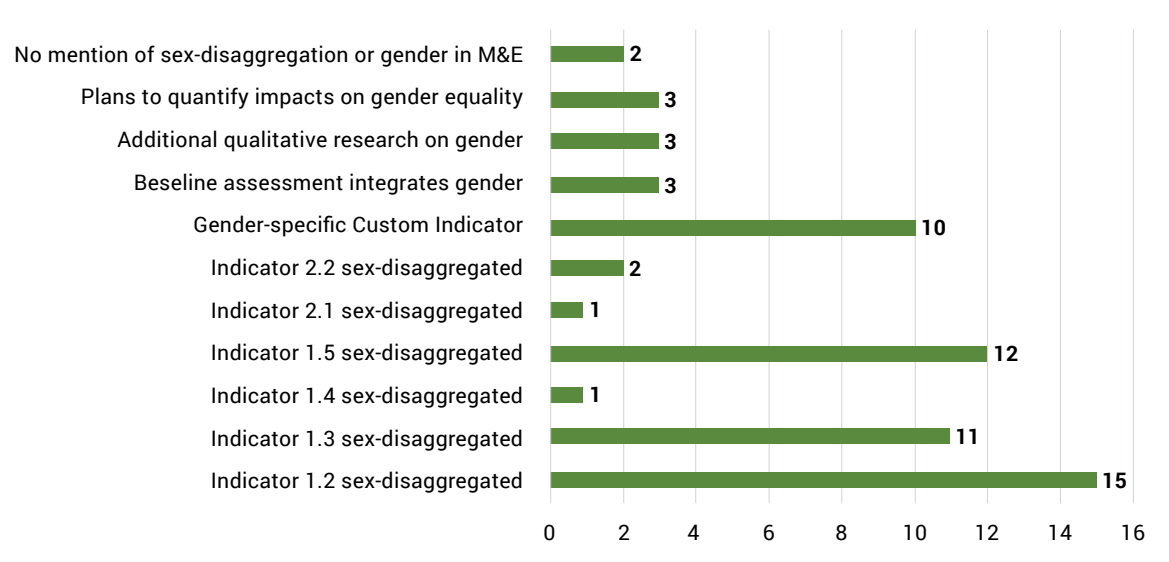
In addition, three innovators included planning for qualitative collection of data related to gender equality impacts, three included specific planning for gender integration in the baseline assessment, and three included plans for quantifying results or benefits to women or gender equality at the outcome or impact level.

Figure 3 provides a summary overview of the number of innovators who included sex-disaggregated indicators or integrated gender in other areas of M&E planning.

Powering Agriculture Innovator Plans to Measure Gender Equality Impacts

- Plans to collect sex-disaggregated data to identify gender gaps and understand women's access and control over resources, labor patterns, resource use patterns, and distribution of benefits between women and men (ICU)
- Engaging researchers from the Busara Center for Behavioral Economics to understand role that irrigation and tools play in women's empowerment (KickStart)
- Will evaluate and measure the status of and relationships between women and their family, business, and community (SunDanzer)
- Needs assessment will take into account social-economic and educational needs and demands from male and female smallholder farmers within the areas of implementation as well as examine the differentiated aspects of access to water and impacts of climate change (SunCulture)
- Strengthen understanding of the market beyond quantitative figures utilizing internationally recognized methods for considering gender aspects to inform next strategic steps based on real time data through these methods (SunCulture)

Figure 3. Number of Innovators Integrating Gender in M&E Plan



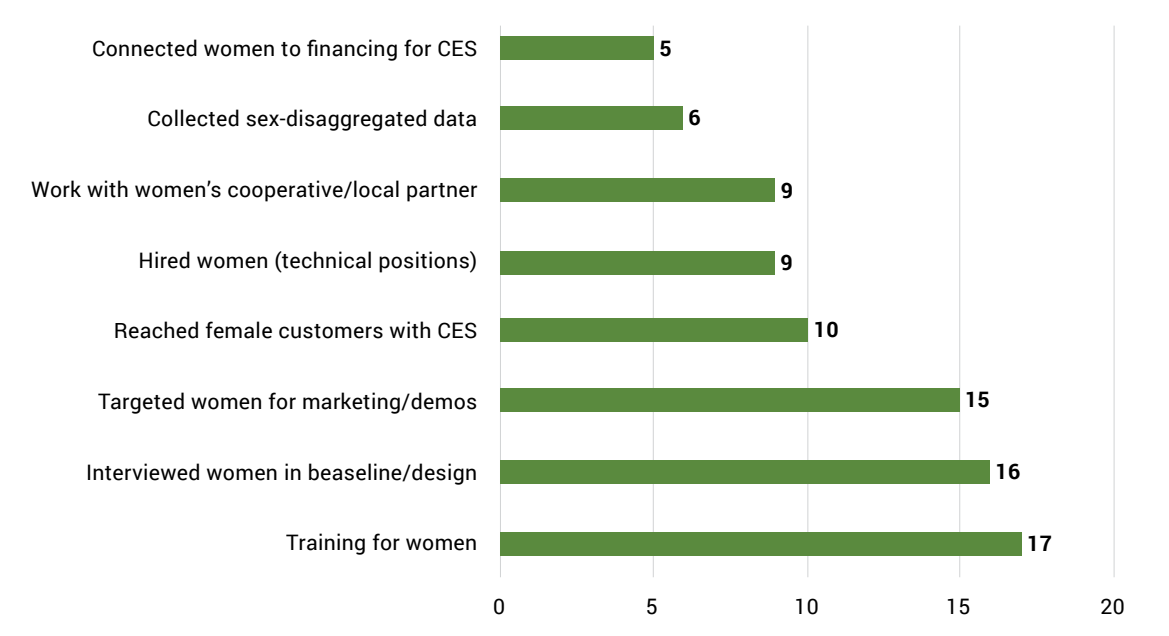
Activities Completed to Integrate Gender (to October 2016)

As noted earlier, at the time of this report the majority of projects were currently in the start-up (44%) or early adoption/distribution stage (33%) for their CES technology. Training is the most frequent activity that innovators engage in, for a total of 17 activities across innovators, followed by interviewing women during baseline assessments or design as part of gender analyses, baseline assessments, market assessments, or research (16 activities). Targeting of women for marketing or female-friendly demonstrations (15 activities) and reaching female customers directly using the CES during piloting (10 activities) were also implemented by innovators. Hiring women in technical positions (9), working with a women's cooperative or local organization (9), collecting sex-disaggregated data (6) and connecting women to financing solutions to purchase the CES (5) were also implemented by innovators. Figure 4 shows the number of times gender integration activities were undertaken across all 24 Powering Agriculture innovators from award to date.

Observed Changes, Benefits, or Impacts Related to Gender (to October 2016)

Unfortunately, there are currently no quantitative data across innovators to quantify benefits described by many CES users. However, some have documented qualitative information regarding perceived changes as a result of the CES technology. Across all 24 Powering Agriculture innovators, from award to the time of this review in October 2016, 15 are not able to demonstrate any tangible impacts, benefits, or change related to gender equality and women's empowerment. This is either due to the early stage of the technology, or in some instances lack of data collected or reported to identify any

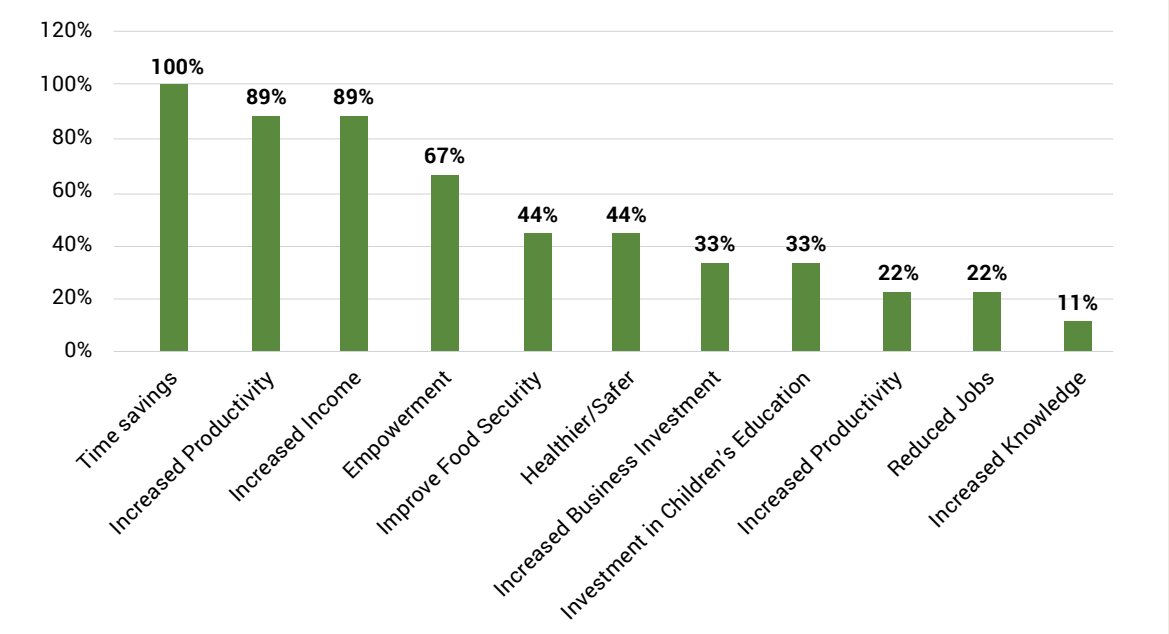
Figure 4. Number of Times Powering Agriculture Innovators Engaged in Gender Integration Activities from Award to Date



gender-related changes or impacts. However, the rest (9) of the innovators qualitatively identified some tangible benefits or changes as a result of use or adoption of their CES, with anecdotal information based on client reports of benefits, vignettes, or case studies. Out of the 15 innovators who have not documented any gender-related changes or impacts, 27% are 2013 innovators and 73% are 2015 innovators. Out of the nine innovators that reported some gender-related change or impact as the result of CES use, 100% reported time savings of women, followed by increased productivity and incomes (89%), women's empowerment through financial independence (67%), improved food security and healthier/safer environments (44%), investment in children's education and business investments (33%), increased jobs but reduced drudgery/labor (22%), and increased knowledge (11%). Out of the 9 innovators who did document some gender-related changes or impacts, 78% were 2013 innovators and 22% were 2015 innovators. Figure 5 shows the frequency with which innovators reported positive gender-related impacts associated with their CES.

At the Bani Kananeh household site where ECO Consult worked with a women's community-based organization (CBO) to train women in hydroponics, 56 women are using the system to cultivate thyme on individual plots in eight villages. ECO Consult reports that increased profits from introduction of the new technology equal "approximately 100 Jordanian Dirham (US$141) per family per month" and could "potentially generate over 390JD (US$548) per year for each family" (PAEGC Annual Report 2016). At the plot of one thyme grower, Umm Ali, ECO Consult found that production had increased five-fold and that Umm Ali was additionally able to grow and harvest

Figure 5. Frequency of Innovators Reporting Positive Gender-Related Impacts of CES (Out of Innovators Reporting Any Impacts)



vegetables, for which she employed local Jordanian and Syrian women.

SunDanzer, which introduced solar-powered refrigeration solutions for smallholder dairy farmers in Kenya, found that the technology has increased income for three female dairy farmers. One farmer reported a reduction in the number of times her evening milk was rejected (before introduction of refrigeration, evening milk was delivered separate from the morning milk and was rejected 1-2 times per week) and that she used her additional income to double her number of cows, purchase more feed, and pay for school fees for her children. Another female farmer previously cooled milk in the river, and the milk usually was rejected. Now that her milk is not rejected, she has 20 liters of increased production per day, and she uses the additional income to buy hay for the dry season. Besides chilling milk, another farmer uses the solar unit to charge cell phones for 10 neighbors daily at US$0.10 each; the earnings are used to hire a motorcycle taxi to transport her two teenage daughters to and from school. Her potential incremental gross earnings gain at the current milk price is about US$125 per month (including cell phone charging) (PAEGC Annual Report 2016).

A site visit to two female dairy farmers benefiting from the University of Georgia Research Foundation's (UGARF) biogas powered evaporative cooling technology project also found increased incomes due to reduction in milk spoilage. The farmers reported that the additional income allowed them to "pay for private education for their children, have greater access to medical care for their families, and have a sense of empowerment from having their own source of income separate from their husbands."

Out of 34 iDE solar pumps and slow drip irrigation systems installed in Zambia, Nepal, and Honduras, iDE reports that 10 were at women's farms. In the case of Herminia Gutierrez in Honduras, she farms 2.5 acres of coffee on a plot in the Western highlands. Gutierrez, a member of local women's cooperative, installed iDE's drip irrigation system and has benefited from more efficient water use. In addition to coffee, she and other women in her village are now growing organic lettuce, beets, cabbage, Mayan herbs, and other vegetables, which they feed to their children and sell at market. She credits the new vegetables she's growing for providing her family with a reliable source of income when a widespread fungal disease recently decimated half her coffee bushes.

> *"If we have solar, then we don't have to use human force. I'm very excited. We can have time do to other things… I think it will lead to more money and a better life."*
>
> —Herminia Gutierrez, coffee farmer benefiting from iDE solar pumps and slow-drip irrigation in Honduras

Challenges Encountered in Implementing Planned Gender-Related Activities

The innovators identified a number of challenges that inhibit their ability to better integrate gender considerations into their projects and to ensure that women benefit from their technologies. The most commonly cited challenges were women's limited access to land and financial capital (5 projects), male dominance in decision-making roles in agricultural industries and in the household (4 projects), and a lack of women in agricultural technical fields (3 projects).

Three main gender integration challenges identified by Powering Agriculture innovators:

- Women's access to land and capital
- Male dominance in decision-making
- Lack of women in agricultural technical fields

Regarding lack of access to land, innovators noted that customary land laws prevent women from owning land and thus from taking full advantage of available, new technologies. Without land on which to conduct horticulture, aquaculture, and similar activities, women's only opportunity to benefit from CES technologies is indirectly through the land of a husband or relative. Despite this recognition, none of the innovators indicated that they were directly working on or liaising with other organizations or government to reform customary land laws or assist female clients in overcoming barriers to land access. Five innovators reported that they are working to link potential project beneficiaries with microcredit or other lending institutions or were providing flexible payment systems for the CES technology, however, additional financial capital does not necessarily translate into greater access to land ownership for women.

Two innovators, having cited lack of women in technical fields (mainly engineering) as a challenge to hiring more female staff, made concerted efforts to identify female technical staff for their projects. The successful approach, as mentioned earlier, was instituted by HPS in Tanzania which liaised with Tanzania's Board of Engineers and the Institute of Engineers of Tanzania to find suitable candidates.

Several innovators also cited women's competing responsibilities in the home as inhibiting their participation in community-project meetings and technical trainings. These projects found this challenge easily mitigated by: 1) consulting with women about the best timing of meetings/trainings; 2) holding women-only meetings, as needed; and 3) requiring a quorum of women before a meeting or training could begin.

SimGas noted a potential challenge of competing, unintended uses for the milk chiller, such as using it to cool beer. SimGas plans to mitigate this challenge by involving all key family members in training and marketing demonstrations, so that household members have a common understanding and respect for the purpose of the milk chiller. SimGas also anticipates that institution of a "pay-as-you-go" plan that involves repayment with regular milk sales will incentivize appropriate use.

An additional challenge noted was that innovators require more tailored, specific guidance on how they can practically integrate gender into their work. The innovators noted that they had received some materials and guidelines from Powering Agriculture Partners at a 2015 Powering Agriculture Xcelerator (PAX) event, but that this information was not sufficiently detailed for them to develop actionable gender integration strategies.

iDE

LESSONS LEARNED FROM THE INNOVATORS

Lessons Learned from the Innovators: Integrating Gender for Success

1. Integrating gender into CES technology projects makes **sound investment and business sense** that positively impacts innovators' bottom line.
2. Integrating **gender analysis in marketing assessments and strategies** helps reach the targeted market and an expanded customer base.
3. Upfront **gender analysis and detailed work planning** to integrate gender at the earliest stage possible can identify ways to facilitate success and avoid costly or time-consuming mistakes, while also laying the groundwork for documenting gender-specific impacts.
4. **Early engagement with community organizations**, local partners, and women's groups can improve entry of the technology into the community with potential benefits in the success of technology adoption and marketing.
5. Although finding women with appropriate skills in science, technology, engineering, and math (STEM) is challenging, **targeted approaches to recruiting and training women pays off**.
6. **Adapting flexible work conditions harmonized with women's roles** at home can successfully open up more income-generating and job opportunities for women.

I. Integrating gender into CES technology projects makes sound investment and business sense that positively impacts innovators' bottom line.

Husk Power Systems (HPS) views gender equality not only as a valuable pursuit but also witnesses how it makes business sense because of their customer base. HPS finds that Tanzanian villages "are dominated by women," while men are fully engaged in other activities, and as a result women demonstrate higher levels of interest than their male counterparts in what HPS is doing. Additionally, HPS is aware that major investors will only invest in HPS if they are demonstrating real inclusion of women—not just mentioning it in plans but actually seeing tangible activities on the ground. HPS estimates that approximately 40-50% of their investors want to see, or require, that their investment is making a positive impact on gender equality and inclusion of women within activities.

As well, **KickStart** highly values gender equality as a critical desired outcome to its work. This has also served KickStart well in securing social impact investment funding to continue its work. KickStart depends on philanthropic support for about 70% of its costs across all its programs in all countries. KickStart notes that funders are prioritizing their investments in meaningful work that promotes gender equality. As such, gender integration is a necessary fundraising tool. KickStart sees the inherent value in gender equality, but also knows they need to excel in this realm to attract and keep major investors. Social impact investors and philanthropic organizations are a key resource for investments in technology, and are increasingly interested in ensuring that their investments are supporting gender equality and empowerment of women.

> *"Our top four funders providing support with multi-year, multi-million commitments expect that we're talking about gender equality. Our investors who account for the lion's share for philanthropic investment, including Exxon, Ikea, and others have high expectations for work on gender equality. We have to speak to gender before they even consider investment…it's a deal breaker."*
>
> –Kickstart International, October 2016

From a corporate perspective, **SunCulture** believes in diversity as a good business practice to stimulate creativity, and views gender equality as a long-term strategy for effective business. In order to bring diverse experiences and perspectives to the decision-making table, SunCulture recently identified a gap in its all-male Board of Directors and is actively seeking to correct this by bringing on a female board member.

2. Integrating gender analysis into marketing assessments and strategies helps reach the targeted market and an expanded customer base.

SimGas views gender integration not as something additional, but as basic to sound business planning and marketing. SimGas' partner, SNV, completed a market assessment in Rwanda in August 2016, after similar assessments in both Kenya and Tanzania. The market assessment in Rwanda integrated more questions regarding gender than did the market assessments in Kenya and Tanzania. This was done explicitly as SimGas and SNV found that the absence of gender-related questions in Kenya and Tanzania limited their learning for the market assessment. SimGas then developed its business plan based on the market assessment, targeting women, as they are dominant in the dairy value chain.

Futurepump also recognizes that women are a key market to tap. There are many places in rural Kenya where women and men farm jointly, and many instances of men migrating to larger cities or out of Kenya for work, while women remain on farms. As such, Futurepump recognizes the importance of female sales team(s) and is currently exploring the possibility of a "Sisterhood of Sales" approach, tapping into existing social capital and networks among female community members. Futurepump is actively seeking to recruit women in sales and marketing positions for this purpose once staff positions open up.

Improved Market Assessment through Strengthened Gender Analysis in Rwanda

After completing market assessments in Tanzania and Kenya, SimGas realized they were missing information. As a result, they ensured the next market assessment in Rwanda integrated more gender-specific questions related to roles and responsibilities across the dairy value chain from feeding and milking to sales, collection, and decision-making over milk.

Assessment responses revealed that women dominate most areas of the value chain; thus, the integration of gender analysis into their market assessment assisted SimGas to better tailor their marketing strategy to women. SimGas expects that they can now better determine how to incorporate gender equality into the entire customer journey, starting with awareness creation and marketing targeted at women, enabling women to access proposed milk payback schemes, customer trainings targeted at women, forming groups of female ambassadors to promote the product in their communities, etc. SimGas created a female persona and customer journey map that is incorporated into their business plan.

3. Upfront gender analysis and detailed work planning to integrate gender at the earliest stage possible can identify ways to facilitate success and avoid costly or time-consuming mistakes, while also laying the groundwork for documenting gender-specific impacts.

After many years of global experience, **iDE** has found that women are as likely as men to benefit from CES technologies, and vice versa, if women are involved in the consultation and design stage. As a result, iDE actively encourages and facilitates women's participation by identifying and addressing their specific needs and aspirations, and by monitoring and evaluating the impacts on both women and men. iDE has further concluded that the most successful way to reach women is through existing organized women's groups which serve as a platform for women to engage with local product and service providers.

University of Toronto read studies about gender equality in Bangladesh, including women's and men's roles in fish farming and included some of this analysis of constraints and opportunities in their original work plan. However, they did not have discussions with their local implementing partner, BRAC, early on to discuss how this would affect their work. University of Toronto noted that this impacted their first field visit and selection processes for farmers that they met with, who happened to be all male. Looking back, University of Toronto learned that it would have been advantageous to have had discussions with BRAC earlier on in the process, and to request sex balance in initial meetings with farmers. This would have ensured a better distribution of men and women in the first field trip in order to identify more about male/female dynamics, challenges, expectations, and realistic activities to mitigate challenges earlier on to inform the rest of the process.

SimGas' business planning and marketing strategies are strengthened by gender analysis, as noted in the previous lesson learned which noted that gender analysis was strengthened in subsequent marketing surveys after identifying this key gap. In addition to positively benefiting SimGas' marketing strategy and business plan, they also note the potential positive impacts on gender equality where they operate, which may only be quantified if they are actively collecting quantitative and qualitative data from baseline to end. First, they are actively analyzing and documenting how the milk chiller saves time for women to focus on productive, reproductive, or leisure activities, thus improving their quality of life. Second, they are aware of potential changes in gender roles that may occur with technology use, and plan to track these changes. Women typically deliver milk during the day by foot, and men in the evening by bike/motorcycle, if they are involved at all. The chiller can change this dynamic by cutting out the dangerous evening delivery—reducing women's time burden by potentially shifting a once daily delivery run to women—or potentially men—just once in the morning. Further, the end impact of reducing women's time and labor has significant positive gender impacts, and their continued attention to how women and men make decisions, for example, about the use of the milk chillers, can have significant impacts on equitable decision-making and roles within households.

VIA has found that women in off-grid villages spend up to one hour per day processing crops by hand to feed their families. VIA estimates

that saving one hour per day for 250 million women globally would result in an additional 100 billion hours/year of productivity – the equivalent of an 8-hour day for the entire workforce of the United Kingdom or France. Saved time can translate into more time spent in fields and gardens increasing food security and engaging in non-agricultural income-generating activities. VIA estimates that women can earn 5-10 times more per hour if they switch from processing crops by hand for 0.5-1 hour per day to some other income-generating activity. (PAEGC Annual Report 2016).

4. Early engagement with community organizations, local partners, and women's groups can improve entry of the technology into the community with potential benefits in the success of technology adoption and marketing.

UVG, in identifying communities for its micro-grid project, took its time to make sure that partnerships with organizations with a strong gender component were present in the communities with which they worked. The project was slow starting up because they re-evaluated the community selection criteria and processes to make sure the selections were sound. Selection criteria included the existence of community networks with partners that already have a strong gender component and female empowerment at the household level. They consider these communities to be more "mature" and viable for success. A key lesson learned for UVG is that, looking back, they realized that their first step into community engagement should have been, and should be moving forward, identifying and contacting all of the non-governmental organizations (NGOs) and international non-governmental organizations (INGOs) that already operate within the communities to request existing community maps and gender analyses in order to help inform their community engagement and outreach for each individual community. UVG found that work was already done by many organizations and that in some places there was existing extensive information on community mapping and contact details for female community leaders and active women.

During **ECO Consult's** first year of implementation in Jordan, the Hydroponic Green Farming Initiative was successful in laying the foundation for achieving the program's objectives. ECO Consult noted that CBOs such as Bani Kananeh, a women's cooperative, had great success managing and marketing their hydroponic produce, indicating a possibility for replication and expansion in other communities throughout Jordan. ECO Consult drew on lessons learned in year one to note that it is most important to continue documented success by *"Focusing on vulnerable demographic groups, namely women and youth, when designing key outreach and dissemination activities"* (PAEGC 2016 Annual Report). Indeed, ECO Consult's documented benefits in terms of increased job opportunities, incomes, and observed women's empowerment is noteworthy as a case study for lessons learned for others.

On a note of caution, **Ariya** found that NGO partners should be selected with care. Ariya has in the past discussed the possibility of working with a client and NGO to provide life improving services to farm employees; however, that client previously had a very negative experience with an NGO that was perceived as looking for

gaps, rather than providing complementary support services. Ariya identifies this client as "one of the best," a woman-owned company with fair treatment of their workers. However, the NGO was perceived by the client to be destructive, rather than constructive, and as such there is a wariness on the part of Ariya and large farms that NGOs could be a threat, and potentially disastrous. As such, it is recognized that in order to have a positive interaction with NGOs to connect farm employees to life improving services, NGOs must be well selected, memoranda of understanding should be in place, and there should be a focus on provision of services and positive complementary services.

5. Although finding women with appropriate skills in science, technology, engineering, and math (STEM) is challenging, targeted approaches to recruiting and training women pays off.

iDE is helping women smallholders receive access to extension services. Significant evidence points to the lack of access to extension services that women face, a gap which iDE is specifically focusing on in Zambia through recruiting of female farm business advisors (FBAs) to ascertain how iDE can best serve women smallholders. Globally, iDE employs female staff and recruits female FBAs to better engage women farmers. iDE's intention is that this will lead to a model of best practice of how FBAs (both male and female) can ensure they are addressing the needs and aspirations of women farmers while improving outcomes.

In their work on various projects in STEM, **UVG** has realized that there are not as many girls/women going into the fields of science and engineering, so when they set targets to reach 50% females, it can be quite challenging. However, UVG recognizes that this does not mean that it cannot be done, but it rather means they need to be aware of the challenges and identify how to reach more women/girls and reach their 50% target. UVG also sees an inherent benefit in hiring more women—they view them as desirable technical operators on their micro-grid projects because men tend to migrate out of the communities, especially once the men have learned skills or received technical training. UVG invests time and resources into

Targeting Females as Technicians and Operators in Guatemala Makes Good Business Sense

Universidad del Valle de Guatemala's (UVG) solar photovoltaic project is one that intentionally hires female operators, not only to meet gender empowerment objectives, but because they see a direct benefit to project operations. UVG states that they "seek to only recruit and train local women as [solar photovoltaic] accelerator operators" because it improves staff retention, as women are less likely to migrate to urban centers and because "female entrepreneurs in emerging markets on average reinvest more of additional income than male entrepreneurs" creating opportunities for "new value addition processes such as cardamom drying." Among the nine organizations that planned to specifically target women as beneficiaries of CES technologies, most planned to do so by linking with existing women's agricultural cooperatives or other women's groups.

training operators, and they find women are less likely to leave the communities because women have young children and strong connections to their communities. Thus, UVG employs specific strategies to meet their 50% target, including strong upfront community engagement and linkages to women's organizations, as well as targeting of trainings (location, timing) in order to accommodate women's schedules and household responsibilities.

Husk Power Systems worked doggedly in Tanzania to find qualified female engineers. In Tanzania, similar to other places, there are fewer female engineers, so it would be easy to simply continue to employ and train male engineers. However, they have worked with the Board of Engineers and the Institute of Engineers of Tanzania to provide them with the Terms of Reference (TOR) and job descriptions/ solicitations to circulate among engineers. In addition, they tell these organizations that they have a 50/50 male/female requirement, and specifically request unemployed female engineers to send CVs. This has been successful—they are still receiving applications for an upcoming solar power training, and so far they are receiving applications from enough qualified female engineers that they expect it will be easy to achieve their requirement of 50/50 male/female trainees out of the total of 25 targeted engineers.

VIA found that men almost always dominate mechanized milling, whereas women dominate manual milling activities. VIA finds that women are very interested in operating the solar mills, so it is an opportunity for women to break into more commercially lucrative value chains. Men are predominantly involved in income and commercialization from selling various products, so it is traditionally more challenging for women to break into the sector without those connections. However, in VIA's projects in Vanuatu and Honduras, they have developed strategies which facilitate easier targeting of women, reaching female involvement of 50% and 100%, respectively, in milling and commercialization.

6. Adapting flexible work conditions harmonized with women's roles at home can successfully open up more income-generating and job opportunities for women.

In India, **Husk Power Systems** innovated a way to convert rice husk char (by-product of gasification) to incense sticks. In order to manufacture these incense sticks HPS recruited and trained approximately 150 women from communities for which HPS supplies power. To employ women, HPS mandated a production-based payment system and not a regular 8am to 5pm schedule. This flexibility in work was necessary for women in these villages as they are typically responsible for household chores and sending children to school. Given the success of this model, HPS plans to replicate a similar process in Africa by converting rice husk char to briquettes and employ women for manufacturing. HPS plans to provide similar time flexibility to these women in Africa so that they can send their children to school as well as earn a living by manufacturing these briquettes (PAEGC Annual Report 2016).

Observations by the Powering Agriculture Gender Integration Specialist

- Most innovators understand the "why" and are interested in doing something but require specific nuts and bolts on the "how." Innovator-specific and technology-specific guidance with concrete actionable items is more valuable to innovators than provision of general guidance.
- A gender integration scoring index that presents specific actionable criteria for gender integration may be helpful in providing business-minded innovators with motivation to reach a particular score.
- Many innovators are collecting basic sex-disaggregated data. However, there remains a gap in collecting quantitative data about how their technologies affect women and men differently and are changing gender norms. Innovators are anecdotally making strides in positively closing the gender equality gap—strengthening quantitative data collection will contribute to learning about what works and what doesn't to close the gender equality gap, and help to make sound business decisions.
- In order for more women to benefit directly from technologies, they need access to land. Although innovators are not in a position to work on land policy reform, market assessments should identify whether or not land ownership could constrain potential male and female customers' ability to qualify for credit or acquire and the technology. Based on this, partnerships with existing NGOs, bilateral donors, or others working toward increasing land ownership and empowerment of women could be explored. This could support, in particular, women to become land owners and credit-worthy borrowers—in effect increasing the innovator's client base.
- Auxiliary projects for women, such as growing mushrooms or producing handicrafts, are beneficial, but should not replace efforts to improve women's access to technologies, financing, training in male-dominated technical fields, land, and inputs that may provide greater opportunities for increased income and sustainable business development.

Learning from Past Recommendations Provided—the need for Targeted Assistance

Out of the 18 innovators who completed a brief Powering Agriculture gender integration survey, most are positive about gender integration, with 50% responding that gender integration is "something I don't know a lot about but find interesting and relevant to my work," and 33% responded that, "I love gender integration and we're already doing some cool stuff to promote gender equality!" Only three innovators responded that they found gender integration was a donor requirement distracting them from their work or found it irrelevant to their work. This demonstrates, in general, an openness and interest in the majority of Powering Agriculture innovators to gender integration activities and technical assistance.

In a 2015-2016 gender analysis of 2015 Powering Agriculture innovators conducted by the International Law and Policy Institute (ILPI), they provided individual recommendations, predominantly focused on M&E indicators, although they also provided some recommendations regarding activities. ILPI found a lack of quantitative and qualitative indicators which "measure how technology is reducing inequality gaps between the genders." Some innovators took these recommendations, or were already measuring this in some way qualitatively or quantitatively. ILPI recommended that projects include quantitative indicators and qualitative data collection, which measure:

- **Number of women using the CES technology in demonstration installations**
- **Number of women who have taken out loans for the technology**
- **How women are involved with the technology**
- **Number of women as end-users of the new technology**
- **Number of women who claim that they benefit from the technology (described as narrative)**
- **How women perceive the benefits of the technology as implemented**
- **How user households are using their increased income from the technology**
- **Number of women attending training on income-generating activities**
- **Percentage of female participants in functions along the value chain in financing, agricultural extension advice, and connection to retail markets**

However, many innovators, including 2015 innovators, could not recall receiving past recommendations when asked. Only eight innovators (50%) out of the 15 who received ILPI recommendations could recall receiving any recommendations on gender integration from Powering Agriculture in the past. This lack of recollection of previous gender support could be due to a changeover in innovator staff and/or poor onboarding of new staff to previously given guidance. Five innovators found it mostly true or very true that the recommendations were practical, and five found it mostly true or very true that the recommendations were relevant to their work.

Additionally, many innovators who recalled receiving general guidance on gender integration in the past were able to recall some session held at the PAX event in 2015. Some noted that they received useful guidance. Many innovators noted that the guidance they received was not specific enough or targeted enough to their technology solution or business plan so they were not sure how to put the generalized information into action. It seems that the general trend is that information received that does not seem relevant is disregarded.

Two key lessons learned from this to inform how gender integration technical assistance, which the majority of innovators express interest in, is provided is as follows:

1. Any learning or sharing regarding gender integration needs to be tangible, practical, specific to the innovators, and action-oriented.
2. Technical assistance on gender-integration should be individualized to innovators, needs-based, and practical to the individual innovator's scope, current innovation phase, and business plan.

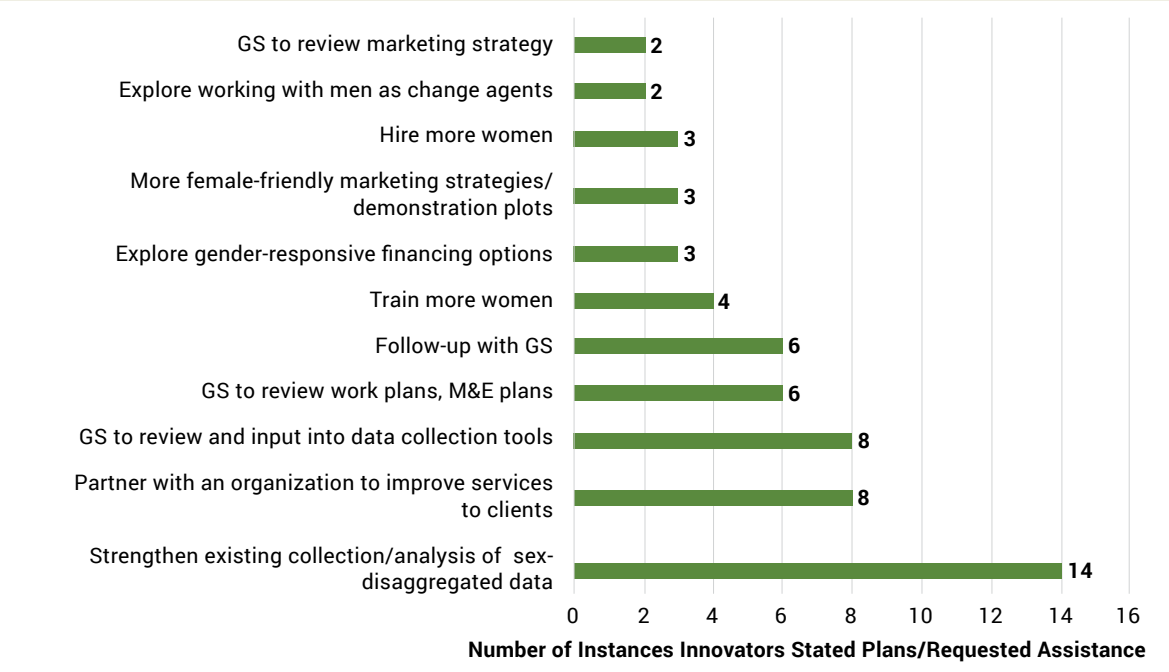
PLANS TO STRENGTHEN GENDER INTEGRATION: NEXT STEPS

Many of the Powering Agriculture innovators, particularly those with more recent 2015 awards, are just beginning to pilot or test their innovation on the ground. As such, many have yet to implement plans to integrate gender as laid out in their work plans. However, based on planning, activities accomplished to date, and known challenges and lessons learned, innovators have identified specific areas of demand-driven technical assistance they wish to receive to strengthen their efforts in gender integration.

Areas for which innovators have plans to improve or request support include: review of and input on work plans, M&E plans, or marketing strategies to incorporate gender integration (8 innovator requests); follow-up or check-in calls with the Gender Integration Specialist (6 innovator requests); training more women (4 innovator pending actions); exploring female-friendly financing options (3 innovator pending actions); rolling out female-friendly marketing strategies and demonstration plots (3 innovator pending actions); hiring more women (3 innovator pending actions); and exploring working with men as agents of change to foster a supportive environment for female productivity (2 innovator pending actions).

Figure 6 shows the number of instances, across all Powering Agriculture innovators who spoke with the Powering Agriculture Gender Integration Specialist, which identified a particular activity or requested assistance for gender integration support.

Figure 6. Innovator Gender Integration Plans and Technical Assistance Requests



Additionally, via gender integration survey responses, innovators also expressed interest in exploring other opportunities for gender integration. Eight innovators expressed interest in exploring potential partnership, or strengthening of partnerships, with local community organizations or NGOs to expand critical services to their clients in order to: 1) better reach and understand their male and female client base; 2) identify life-improving services (e.g. health, HIV, gender-based violence, financial literacy) to maximize technology impact and sustainability; and 3) expand access to adoption and purchase of the technology (e.g., financial inclusion, access to credit).

Innovators are also interested in sharing and learning opportunities about gender integration. Out of the 18 Powering Agriculture innovators that responded to the gender integration survey, many innovators are interesting in learning and sharing with their peers. Two-thirds, or 67%, are interested in webinars specific to their technology, 61% are interested in receiving case studies and tips from other innovators, and 45% are interested in sharing their own strategies and stories on gender integration with others. Five innovators (28%) expressed interest in participating in a regular online forum or working group on gender integration with other Powering Agriculture-supported innovators. Five innovators (28%) said that, realistically, they are simply too busy to engage in additional learning or sharing opportunities about gender integration.

Observations by the Powering Agriculture Gender Integration Specialist

Powering Agriculture will strengthen the integration of gender at both the program level, and within the individual projects of innovators, throughout FY2017 in the following key areas:

- Provision of on-demand gender integration technical assistance based on individual innovator needs and asks to date and on a rolling basis, including: advice on integrating gender in implementation plans; review and input into marketing strategies and other documents; strengthening gender integration in M&E plans and data collection tools; and identifying local partners such as women's NGOs to assist in the implementation of engendered activities.
- Ongoing updates to individual innovator gender briefs for the purpose of reporting, learning, and identifying additional areas for action and follow-up.
- Summary PowerPoint presentation that can be used by the Powering Agriculture Founding Partners at various meetings to describe information presented in this report for learning and sharing.
- Development of six guides on integrating gender into 1) the deployment of clean energy solutions, 2) product development, 3) financial products, 4) marketing, 5) monitoring and evaluation, and 6) human resources. The guides provide a brief overview of relevant gender-related issues, resources, examples, and tools, as well as check-lists that innovators may use to self-assess how well gender is integrated into their work.
- A How to Guide on Writing a Beneficiary Impact Story with a Gender Focus to provide innovators with a standardized way to tell tangible and meaningful stories about gender integration for inclusion in marketing materials, investor pitches, and learning documents.
- Gender integration technical assistance visits will be needs-based, demand-driven, and budget dependent. The visits will focus on providing technical assistance and support for selected innovators to strengthen work on gender integration with the goal of achieving set gender equality and overarching project outcomes.

ANNEX A: SUMMARY OF POWERING AGRICULTURE INNOVATOR PLANS AND NEXT STEPS FOR GENDER INTEGRATION

The following table outlines the plans and next steps that 16 of the 24 Powering Agriculture innovators indicated that they will undertake to strengthen gender integration into their projects. Excluded from this table are innovators who recently completed their Powering Agriculture awards, declined future support on gender integration or did not discuss their plans with the Powering Agriculture Gender Integration Specialist (GS).

Table 1 Summary of Powering Agriculture Innovator Plans and Next Steps for Gender Integration

INNOVATOR	GENDER INTEGRATION NEXT STEPS
2015 **Ariya Capital Group**	• Conduct on-the-ground research to determine potential partnerships with NGOs to provide life-improving services (health, financial literacy, gender-based violence (GBV) prevention) may be beneficial to female staff at clients' farms • Ariya Capital will retroactively and moving forward collect sex-disaggregated data for meetings and for trainings.
2015 **Futurepump**	• GS to provide suggestions on work plan and M&E • GS to provide suggestions on marketing strategy for strategy, messages, and approaches • Futurepump will consider testing approaches with small sex-disaggregated focus group discussion in area • Explore possibility of choosing marketing demonstration plots (1 with single woman, 1 with man and woman working jointly/cooperatively in decision-making) to appeal to a broad base of farmers and ensure women feel comfortable/targeted • Review potential partners' financing requirements for inclusive approaches accessible to women
2015 **Horn of Africa Regional Environment Center**	• Ethnographer working with Horn of Africa will provide drafts of the impact assessment methodology and tools developed to GS who will review and provide input • Ethnographer will consider in design basic sex-disaggregated information (time spent on productive and reproductive activities, what is done with time savings, quality of life changes, how additional income is invested and who decides, and observed changes in roles/relationships within households as a result of changes in productive work and incomes)
2015 **Husk Power Systems**	• GS to provide suggestions on work plan and M&E • HPS aims to hire more women to work in sales/marketing • HPS will explore options to work with existing district-level organizations as partners to provide life improving services for women and men (e.g., health services, literacy, and GBV interventions) • HPS sees value in promoting male change agents at work and in the community to foster supportive men and boys, and will explore opportunities, especially as they train 50/50 male/female engineers • HPS will re-review all of their planning, documents, etc. and identify specific areas to request GS technical assistance • HPS will start disaggregating all indicators about people by sex • Some sex-disaggregated data already exists on technology use and marketing; HPS will make a point to analyze this data to inform marketing strategies • HPS will identify opportunities to collect data on how HPS is making a difference on gender equality, which may also be used in pitches for investors

	INNOVATOR	GENDER INTEGRATION NEXT STEPS
2015	**Institute for University Cooperation (ICU)**	• Plan to hold additional roadshows with women's cooperatives working in the target areas • Plans to conduct six extension trainings next year (2017) focused on finance, technology, etc. and will look at possibility of working with an INGO in Lebanon to piggy-back on extension trainings to include information with guidance/making the business case to farm owners on gender equality, labor rights, human rights • Will engage more female extension agents on the project, and provide more gender equality trainings to both male and female extension agents—explore university linkages to explicitly target women/girls in tech/science/agriculture • Will explore opportunity for providing incentives for farm owners to provide decent work, work conditions, and gender equality—perhaps through provision of training/extension • Will explore opportunity to assist female clients in securing their land rights, work with them as leaders to encourage other women in agri-business, either through demonstration plots or other inter-farm knowledge sharing opportunities
2013	**International Development Enterprises (iDE)**	• iDE will reach out to GS to assist with work planning and prioritization with Gender Action Plan development after they hire a full-time gender specialist in their Zambia office
2015	**International Development Enterprises (iDE) Bangladesh**	• iDE will target women's groups, identify challenges for women in adopting CES, and initiate stakeholder dialogues to mitigate barriers • GS to provide suggestions on work plan and M&E • iDE will provide draft surveys for GS to review and provide input • GS will support iDE to identify partner organizations, groups, or others in Bangladesh that could partner with iDE to encourage more gender equality among female/male farmers, users, or buyers with whom they work
2015	**KickStart International**	• KickStart is in the process of designing a survey and will send to GS for review and input for gender integration • Hold a follow-up call to further discuss lessons learned, challenges, and identify other opportunities for strengthening gender integration
2013	**Motivo Engineering**	• GS will provide resources and guidance documents on community engagement, engaging women, and female skills development/recruitment in mobile technology fields • Motivo will send GS data in future to help target analysis • Will select a female administrator who can operate from a cellphone interface from their home • Will consider engaging female engineers, technicians, and community liaisons to participate so women feel comfortable • Will consider identifying NGOs working in the community for outreach strategies and contact details for female community leaders • Will consider working through existing social structures where women already gather and work • Will try to understand women's time constraints to design days and times they can gather/meet and accommodate them
2015	**SimGas**	• SimGas is currently analyzing and documenting how the CES saves time for women; they will continue conscious efforts to analyze roles of women and men in the dairy value chain • Continue to assess how male and female end users are using the product and benefiting the product • GS will review and provide comments on the SimGas Business Plan • GS will review and provide comments on the SimGas customer marketing materials • SimGas will also reach out to the GS following commencement of fieldwork to discuss challenges and solutions as they arise

	INNOVATOR	GENDER INTEGRATION NEXT STEPS
2015	**SunCulture**	• SunCulture will begin tracking more closely who is actually operating the technology on a day-to-day basis • SunCulture will provide surveys to GS for review and input • SunCulture will provide strategy for prototyping products (currently is gender-natural) in the future for GS review and input
2013	**SunDanzer**	• SunDanzer will share the Gender Integration Survey with Winrock, their partner, and discuss activities to strengthen gender integration • SunDanzer will send the GS a draft survey that will be given to farmers testing units in next phase for review and input
2015	**Universidad del Valle de Guatemala (UVG)**	• GS will provide suggestions to UVG on how to measure its indicator in its M&E plan about sense of ownership • In upcoming community agreement processes, UVG will ensure women leaders are visible publicly and promoted • UVG will send draft baseline survey to GS for review and input • UVG interested in exploring possibilities for male engagement/fostering male support for female community leaders in their community engagement processes; GS to send resources
2015	**University of Toronto**	• Partner organization BRAC will explicitly try to target farms that have females in operation for part of the study • UT will identify critical questions to include in the monthly surveys, and will include gender-related questions in bi-annual surveys • UT will reach out to GS to share progress on working with the female fieldworker, data collection with males and females, etc. • Facilitate connections for male and female farmers to financial products (e.g., savings accounts, loans, mobile money apps, etc.) • Support female mentors to provide professional leadership training to female entrepreneurs and employees • Bring female operations within fish farmer's greater visibility, primarily through data collection and fieldwork • Ensure a proportionate and representative sample of male and female fish farmers are included in its randomized control trials
2015	**Village Infrastructure Angels**	• GS to review and provide input into baseline assessment survey that will be rolled out in new areas early 2017 • GS to meet with VIA partner in Zambia to discuss potential opportunities to engage with other partners, women's agricultural co-ops • GS to create a standardized case study template for VIA (and other innovators) to use in any country that directs them on the type of content that highlights vignettes on male and female beneficiaries for use in investment/ marketing materials

POWERING AGRICULTURE: An Energy Grand Challenge for Development
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