

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



FOREWORD

As Program Manager, I am excited to share the latest fiscal year annual report for the Powering Agriculture: An Energy Grand Challenge for Development (PAEGC) initiative. Since its inception, Powering Agriculture's Theory of Change has been that the usage of an energy/agriculture nexus approach will allow the initiative to source new innovations from a diverse group of entrepreneurs while providing data & evidence on the clean energy technologies and policy reforms that support climate- and energy-smart economic development in some of the most food insecure and poverty stricken areas around the world.

The development impacts and successes that Powering Agriculture has achieved are not solely due to one person or USAID alone. Powering Agriculture's partnership with the private sector and other donors has allowed us to harness our collective intelligence, strengthens, and resources to achieve outcomes that no single Powering Agriculture partner could have reached on their own.

As I prepare to depart Powering Agriculture for a new overseas assignment next year and reflect back on my last three years with the initiative, I am awestruck at the evolution of Powering Agriculture into its current iteration. Powering Agriculture has taken the lessons learned from the management of its first innovator cohort and expanded our gender and acceleration support while also intensifying our knowledge management and mainstreaming activities to better share our results. Moreover, I am humbled by the immense amount of work that will still need to be undertaken within the clean energy/agriculture nexus to address extreme hunger and extreme poverty around the world.

While it is unclear what the full ramifications of climate change will be on global energy and food production, the endeavors of and lessons learned from Powering Agriculture will provide policy makers, farmers, agribusinesses, and other stakeholders with much needed global solutions to make informed decisions on the most viable and cost effective options to increase our resilience to possible climate change impacts and to meet our ever growing need for energy and food.

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)

EXECUTIVE SUMMARY

This annual report describes the key activities of Powering Agriculture: An Energy Grand Challenge for Development (PAEGC) implemented over the financial year period of October 2015 to September 2016. Powering Agriculture: An Energy Grand Challenge for Development represents a partnership of the United States Agency for International Development with the Government of Sweden, the Government of Germany, Duke Energy Corporation, and the Overseas Private Investment Corporation. It 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 will:

- Support clean energy technology and business model innovations for agriculture.
- Ensure that financial intermediaries have the capital they need to help organizations scale their clean energy innovations and reach the farmers and agri-businesses that need these technologies.
- Develop partnerships with public and private sector organizations that want to support the goals of the Powering Agriculture initiative.
- Serve as a clean energy and agricultural information resource hub for people around the world.

Some of the main activities that were implemented during the reporting year period include:

- Establishment of a regional Powering Agriculture hub based in Kenya to integrate clean energy solutions, and support Powering Agriculture within regional/national agriculture production and food security programs in East Africa.
- Development of a gender integration framework and hiring of a gender specialist to expand gender support to all Innovators to better address gender equity, gender as a social construct, and ensure that Powering Agriculture does not reinforce negative gender norms.
- Conducted an in-depth assessment of both Innovator cohorts about their plans for gender integration and activities to date and prepared a summary report based on the results of this assessment.
- Held a week-long Powering Agriculture Xcelerator (PAX) acceleration training program for Powering Agriculture Innovators in November 2015. The week concluded with the Powering Agriculture Innovator Showcase (PAIS), during which the 2015 Innovator cohort was formally introduced.
- Publication of the “Opportunities for Agri-food Chains to become Energy-Smart” study in October 2015, prepared in conjunction with the Food and Agriculture Organization of the United Nations (FAO). The report focused on the energy needs, at all stages, along selected agri-food value chains and includes recommendations on how these value chains may become more energy smart by employing clean energy solutions.
- Preparation of a report in conjunction with the Food and Agriculture Organization of the

United Nations (FAO) focused on costs and benefits of clean energy technologies in the milk, vegetable, and rice value-chains.

- Preparation of a solar powered irrigation systems manual and toolkit for development practitioners.
- The successful launch and execution of the 8-week, free Massive Open Online Course, Powering Agriculture-Sustainable Energy for Food. Nearly 1,700 participants from around the globe took part in the course.
- Completion of a program and Innovator level midterm evaluation that provided findings and recommendations that will be used to make mid-course adjustments to improve the effectiveness of the program and to inform future decision-making by the Powering Agriculture Founding Partners.
- The launch of the PAX webinar series, which has included the following sessions: *Benefits of Becoming a Kiva Field Partner*; *Angel Investor Insights*; and *Gender in Ag Tech: Examples, Issues, and Strategies for Technology Access and Adoption*, to further support gender integration within Powering Agriculture.
- Participation in various conferences, including the National Council for Science and the Environment's 2016 Food-Energy-Water Nexus conference, SE4All Technical Workshop Water-Energy-Food Nexus, Intersolar, Biogas Africa Forum 2016, and International Off-grid Renewable Energy Conference – [IOREC](#).
- Hosted the first-ever Agriculture Innovation Investment Summit (AIIS) in collaboration with the USAID administered Securing Water for Food grand challenge and the USAID Feed the Future Partnering for Innovation program. The two-day summit included an

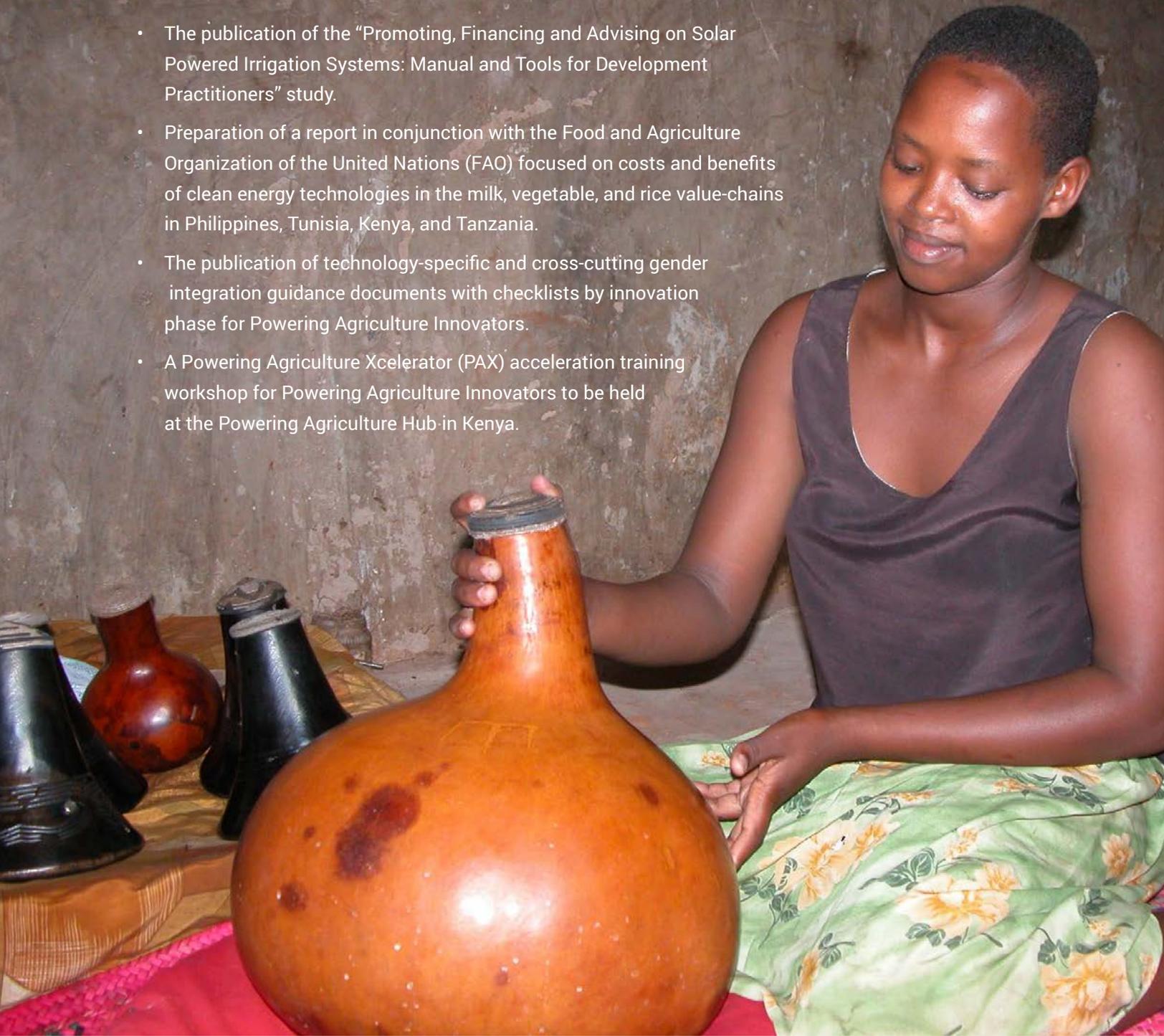
Innovator Marketplace, a pitch competition, and TED-style talks from Innovators, including 14 from Powering Agriculture.

- Site visits to 10 of the 11 Innovators from the 2013 cohort were conducted, during which progress was verified and beneficiaries were interviewed.

In the next financial year (October 2016 to September 2017), Powering Agriculture expects to implement the following major items:

- Establishment of a public-private partnership investment fund to support the commercialization and scale-up of clean energy technologies and innovative business models for farmers and agribusinesses.
- Expansion of regional support from the Powering Agriculture Hub to Innovators via workshops and training programs such as *"Increasing Efficiency in Industries in the Agricultural Value Chain"* to be held on October 26th, 2016.
- Gender workshop at SIDA's headquarters on October 26th, 2016, to review the lessons learned and findings on gender integration support to Innovators within the Powering Agriculture and Securing Water for Food Grand Challenges for Development initiatives.
- The publication of "Costs and benefits of clean energy technologies in the milk, vegetable and rice value-chains" study, prepared in conjunction with the Food and Agriculture Organization of the United Nations (FAO). This follow-up study utilizes the same agrifood value-chains in the October 2015 study, each linked with two or three clean energy technologies selected by their potential for adding value and/or for saving fossil fuel demands.

- The publication of the “Promoting, Financing and Advising on Solar Powered Irrigation Systems: Manual and Tools for Development Practitioners” study.
- Preparation of a report in conjunction with the Food and Agriculture Organization of the United Nations (FAO) focused on costs and benefits of clean energy technologies in the milk, vegetable, and rice value-chains in Philippines, Tunisia, Kenya, and Tanzania.
- The publication of technology-specific and cross-cutting gender integration guidance documents with checklists by innovation phase for Powering Agriculture Innovators.
- A Powering Agriculture Xcelerator (PAX) acceleration training workshop for Powering Agriculture Innovators to be held at the Powering Agriculture Hub in Kenya.



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