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EVALUATION

USAID/India Country Development Cooperation Strategy Development Objective 4 Mid-term Performance Evaluation

March 2017

This publication was produced at the request of the United States Agency for International Development. It was prepared independently by International Development Group LLC with the following contributions: Nils Junge, Mathilde Laval, Sarah Pedersen, Elly Preotle, and Stephanie Schmidt.

Learning, Evaluation and Analysis Project-II (LEAP-II)

USAID/India Country Development Cooperation Strategy Development Objective 4 Mid-term Performance Evaluation

EVALUATION REPORT

March 2017

Contract Number: AID-OAA-I-12-00042/AID-OAA-TO-14-00046

Cover Photo: The inventor of the Bullet Santi tractor (right) and a cotton farmer (left) using the tractor near Rajkot, India. *(Credit: Stephanie Schmidt)*

CONTENTS

ACRONYMS

AIP	Agriculture Innovations Partnership
CIP	Center for Innovation and Partnership
CDCS	Country Development Cooperation Strategy
DFID	Department for International Development (UKAID)
DIV	Development Innovation Ventures
DO	Development Objective
EQ	Evaluation question
FICCI	Federation of Indian Chambers of Commerce and Industry
FTF	Feed the Future
FGD	Focus group discussion
FSO	Food Security Office
GoI	Government of India
IP	Implementing partner
IDG	International Development Group LLC
KII	Key informant interview
LEAP-II	Learning, Evaluation and Analysis Project-II
MA	Millennium Alliance
M&E	Monitoring and evaluation
ME&L	Monitoring, evaluation, and learning
MANAGE	National Institute of Agricultural Extension Management
NGO	Non-governmental organization
OSSI	Office of Social Sector Initiatives
PACE-D	Partnership to Advance Clean Energy - Deployment
PMP	Performance management plan
RCT	Randomized control trial
S2S	South to South Project
S4S	Science for Society

SCD	Solar conduction dryer
SRISTI	Society for Research and Initiatives for Sustainable Technologies and Institutions
SSP	Swayam Shikshan Prayog
TTP	Triangular Training Program
USAID	United States Agency for International Development
WASH	Water, sanitation, and hygiene

EXECUTIVE SUMMARY

Introduction

This report presents the findings, conclusions, and recommendations of a mid-term performance evaluation of USAID/India's five-year Country Development Cooperation Strategy (CDCS) Development Objective 4 (DO4), which states: "Innovations proven in India increasingly adopted in other countries." The purpose of this evaluation is to examine the progress of the DO4 activities supported by USAID/India. The evaluation captures lessons learned - what worked and/or did not work in terms of partnership choices, policies, strategies and implementing mechanisms - and assesses the extent to which these factors (and their interactions) appear to foster or limit the global adoption of Indian innovations.[1]

Methodology

The evaluation covered 30 innovative solutions from five offices: Health, Food Security, Energy, the Center for Innovation and Partnership, and the Office of Social Sector Initiatives.[2] The USAID/India Mission selected the innovations from at least 342 that the Mission has supported in incubating, testing, scaling, and/or transferring.[3] USAID/India selected the 30 innovations (all innovations supported under DO4, as well as several from DO3 and DO2), and the evaluation team did not review the full portfolio. The team spent three weeks in India and one week each in Kenya and Malawi.

The team used a qualitative approach that included document review, 82 key informant interviews (KIIs), 22 focus group discussions (FGDs), and 11 site visits. These informed a comparative analysis of enablers and barriers across the 30 innovations and an institutional analysis. The team also developed five case studies on select innovations (See Annex F).

Figure 1. Distribution of KIIs, FGDs, and Site Visits

Country/Mission		KII	FGD	Site Visits
India	Mission	21	0	0
	Other stakeholders	31	2	3
Kenya	Mission	2	0	0
	Other stakeholders	12	15	6
Malawi	Mission	2	0	0
	Other stakeholders	5	5	2
Other		9	0	0
TOTAL		**82**	**22**	**11**

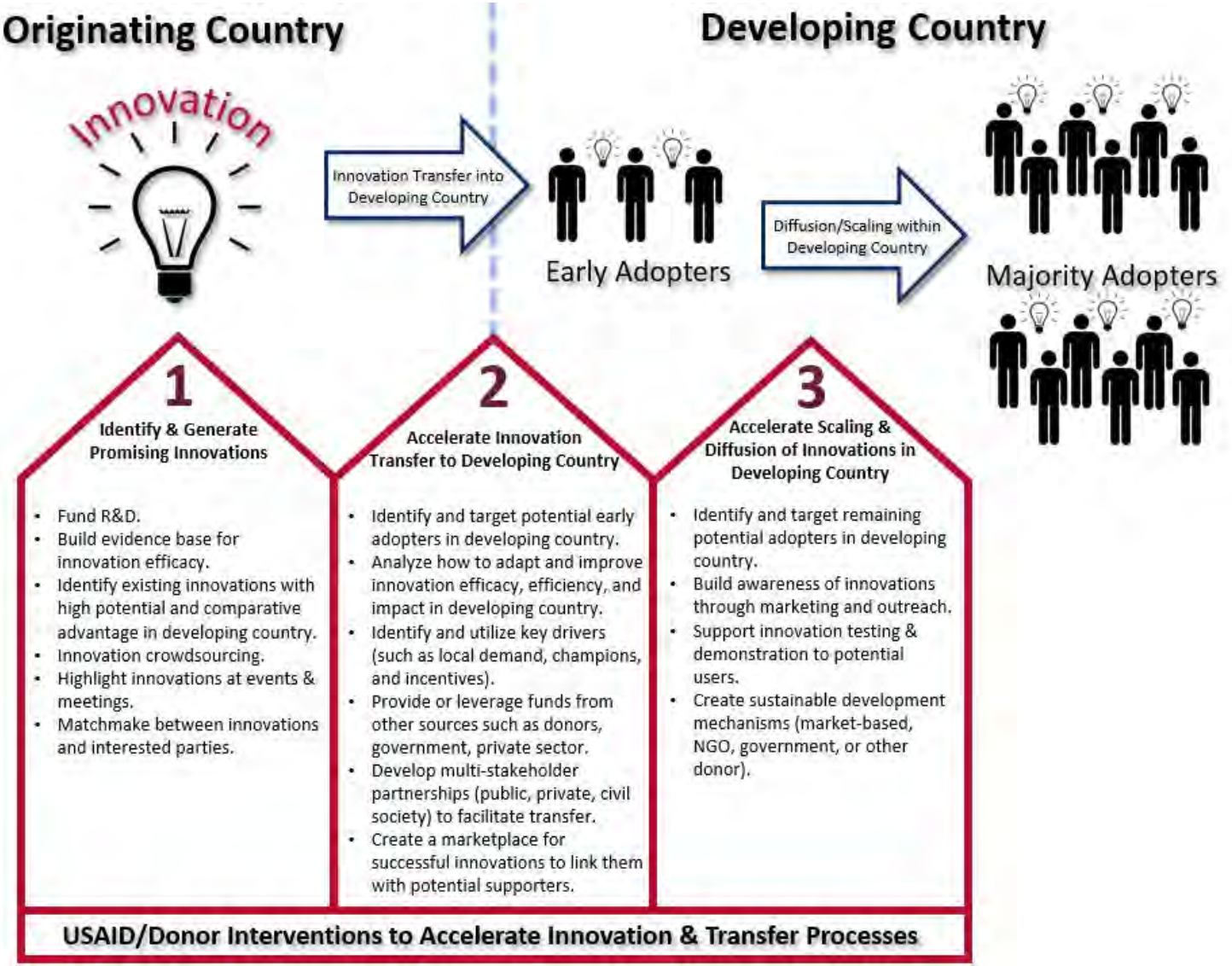
The team examined the different activities donors can undertake to accelerate innovation transfer into developing countries. Figure 2 (next page) presents phases of transfer as well as how donors such as USAID/India can support these processes.

[1] USAID/India's DO3 states: "Development innovations impact people's lives at the base of the pyramid (BOP) in a range of sectors in India." The enablers and barriers of innovation transfer also has potential use for USAID/India's DO3 activities, informing assessments about the potential to transfer innovations internationally in the future. The potential of a DO3 innovation becoming a successful DO4 innovation is likely to depend on the presence, importance, and influence of the identified factors as relevant in a given context and to a particular innovation.

[2] Descriptions of the transfer activities of each USAID/India Office are in Annex C, and a full list of the 30 innovations reviewed is in Annex D.

[3] USAID/India's Program Support Office provided this number of total innovations in initial calls and meetings.

Figure 2. Accelerating Innovation, Transfer, and Diffusion in Developing Countries



Key Findings, Conclusions, and Recommendations[4]

Evaluation Question 1: Transfer & Impacts

To what extent have innovative solutions incubated or tested (proven) in India been scaled or transferred (adopted) in other countries? To what extent has there been a measurable development impact in health, food security, WASH, education, and clean energy outcomes in India or partnering countries?

Transfer

- **Of the 30 innovations reviewed, 21 are being tested in another country. This does not mean they have necessarily been adopted.**[5] However, terms such as 'innovation,' 'test,' 'proven,' 'scaled,' and 'transferred' are not used consistently or clearly defined in practice. This can sometimes create ambiguity in understanding the effectiveness of DO4 activities.
- **Most of the innovations transferred are from FSO (six of eight to Kenya and three of three to Malawi) and have not scaled yet or reached a point of sustainability.**[6] It is still early in implementation for DO4 activities (less than three years), and all are still in the testing phase. Additionally, innovation promotion within India is qualitatively different from international innovation transfer in that specific additional costs and challenges can arise.
- **Offices within USAID/India approach DO4 differently based on their office strategies or mandates, funding requirements, and the existing structures or cultures of their sectors or offices within USAID.** Of the innovations examined, certain offices (OSSI, Energy) focused more on innovation testing and scaling within India (DO3) than on international transfer (DO4). Whether or how offices are engaging in promoting transfer depends on each office's mandate, goals, and financing.

Impacts

- **Field observations and discussions with end-users suggest high potential value of many innovations** in that they are targeting relevant, real-world needs in a new way.
- **This evaluation is unable to draw firm conclusions on the impact of the 30 innovations as a whole (or on the likelihood that any of the innovations reviewed will lead to development impacts).** Many activities are still at an early stage when it would be unreasonable to expect to see significant development impacts. Moreover, most innovation indicators cited by USAID staff focus on outputs, do not capture information on outcomes or impact, and/or are not designed to inform activity-level adaptation. In

[4] USAID/India's Program Support Office developed the evaluation questions. There were revisions from the Scope of Work, which were approved through the project plan.

[5] There may have been knowledge sharing between countries, which are not necessarily transfer (which would require use of the knowledge to lead to any outcome or impact).

[6] We define as sustainable innovations that diffuse without continued support by USAID/India.

some cases, individual innovations in India have been evaluated, suggesting positive, though sometimes modest, impacts.

- **Although the evaluation cannot draw firm conclusions regarding the impact of either transferred or domestic innovations, it proposes factors which appear to contribute to higher adoption rates and successful transfer.** See Evaluation 2 discussion below on enablers and barriers.

Evaluation Question 2: Enablers & Barriers

What are the specific enablers and barriers (both within India and partnering countries) that influenced development outcomes? Barriers and enablers examined by the evaluation must include but not be limited to the following areas:

a) Innovation approaches that encompass institutional capacity building, technology incubation, testing, and transfer, and private sector partnerships that enable local or global transfer;

b) Processes and mechanisms for testing and scaling the innovative solutions.

This section summarizes findings related to enablers and barriers focused on key dimensions in the transfer process: institutions; intermediaries; enabling environment, and business models. The variables were chosen based on technology transfer and scaling literature and with input from USAID/India to inform key decisions in USAID's project conception and design process. As noted, this analysis can also inform determinations of the potential to transfer successful DO3 innovations.

Institutional context

- **The ME&L system appears underutilized and is not serving its purpose.** Awareness of DO3 and DO4 progress across the entire innovation portfolio is limited mainly to number of innovations funded, partners engaged, and financing leveraged. However, there are practical constraints to expanding ME&L on DO4.
- **USAID plays many different roles in supporting innovations.** In addition to providing funding and technical expertise, other roles identified include: institutional mentor; connector/networker; spotlight & legitimizer; leveraging power; convening power; and knowledge repository. Although often indirect and difficult to quantify, these types of support are valued highly by implementing partners (IPs).
- **Institutionally, USAID is not set up for Mission-to-Mission interaction.** Though some Missions welcome collaboration, this tends to succeed due to informal ties or because the cooperation opens up opportunities rather than because of formal systems.
- **Trilateral projects and partner Mission strategies are not always in alignment.** This limits engagement and opportunities for scale-up but has potential to improve innovation activity design and sustainability**.**

Partners

- **A partnership/consortium approach presents both opportunities and challenges.** From a donor perspective, this allows each partner to focus on their comparative advantage within the consortium. At the same time, the model also creates an additional layer of management.

- **Selecting effective, relevant, and efficient implementing partner consortiums is challenging.** Several projects feature a high number of IPs with the value of each partner's contribution not always clear. However, a long chain of partners creates risks as more opportunities for inefficient communication, management, or budget utilization arise. It also makes interventions more susceptible to changes within any one partner.
- **Certain factors seem to facilitate more successful innovation outcomes,** such as community trust, organizational mission, and/or technical or management expertise.

Enabling Environment

- **In some cases, there is limited analysis of the varied institutional and social context between countries at the design stage.** Without a clear understanding of the new context, different conditions may then require reengineering of the innovation or changes in approach.
- **Partner country selection is based on few factors and limited analysis.** FSO geographies were based on Feed the Future focus countries. A different enabling environment – such as access to credit, cost of inputs, population density, or social norms – can change the economic, social, or political costs or benefits of using an innovation and affect adoption.

Program Activities & Approach

- **USAID/India offices implement DO4 mostly through a 'project approach.'**[7] This contrasts with other potential models such as partnerships, markets for innovation solutions, or challenge competitions.
- **The sampled innovations appear to be well-matched with a need in India and/or trilateral countries.** They provide a new approach to an existing gap or challenge.
- **The nature of an innovation influences the testing/adaptation process, the diffusion or marketing method, and the observability of its effectiveness and impact over time.** The innovations evaluated can be divided into three categories: i) Knowledge and Good Practice Sharing; ii) Physical Technology/ Product; and iii) Business Model (see Figure 9 for more details).
- **When transferred, the cost of an innovation (such as parts and materials) can be significantly higher,** both in absolute terms and relative to income levels of local adopters. To address this, sometimes donors subsidize costs. However, while free or low-cost innovations may get more uptake, potential for sustainability/scalability are unclear: if subsidies are required for an innovation to be widely adopted, scaling will require an expansion in those subsidies, which may not be available.
- **Projects did not account fully for the potential effects of a shift from individual to collective ownership in transfer from India to Africa.** Although IPs made the decision to promote collective ownership of innovations, new challenges arose from this approach.

[7] 'Project approach' means treating an innovation as if it were a development intervention, with financing and technical support provided during the design and implementation phase. This is characterized by a higher degree of USAID resource investment in and management of individual innovation activities. It contrasts with other more indirect approaches, such as a partnerships/consortium approach (e.g. Millennium Alliance).

- **Targeting innovations at the 'bottom of the pyramid', i.e. the poorest members in a system, can result in challenges to diffusion and scaling.** Early adopters do not generally belong to the poorest population groups, especially for fee-based innovations or those that involve risk. Early adopters tend to be more willing to take risks, and have more income to try new things.
- **Scaling up, a key indicator of successful innovation, may not happen spontaneously after USAID/India support ends.** Some innovations may be successful for individual users but not taken up at a broader level. Success of an innovation does not automatically mean it will scale without outside support.
- **Innovations seem to do well that are: embedded in processes; part of a facilitating ecosystem; implemented by a partner that knows the region and adopters.**

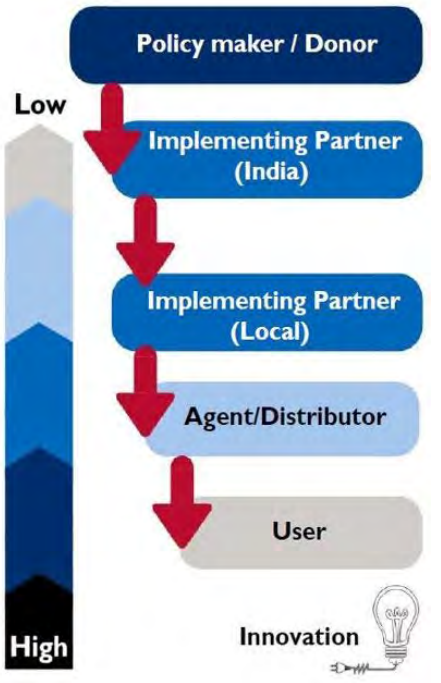
Evaluation Question 3: Additional Capabilities & System Changes

What additional capabilities and system changes would be required for USAID/India to elevate its leadership and strategic role in global transfer?

At present, offices use either a project approach or a less direct partnership approach to support the innovation agenda. Using the project approach, a USAID/India office is involved in many aspects of innovation promotion, as with FSO and DO4 innovations. In contrast, under what can be called the 'partnership/consortium approach,' USAID supports many innovations indirectly, e.g. through Millennium Alliance (MA) (see Annex F for a case study on the MA platform). The project approach can be time-consuming given the operational and partnership management involved. Findings summarized under Evaluation Questions 1 and 2 highlighted the risks and challenges to promoting innovations both in India and abroad.

The above constraints may reduce incentives for offices to allocate part of their budgets to innovation transfer given the higher costs, potentially lower returns, and (in some cases) competing priorities. As the stakeholder farthest removed from the innovations and their adopters, donor agencies like USAID have less control to influence the outcomes of innovation promotion activities. This control further deteriorates in international transfer due to lower innovation proximity (see Figure 3, or for full discussion see Annex B).

Figure 3. Innovation Proximity



In practical terms, this means expanding approaches to how offices can contribute to DO4, such as through building on USAID/India's comparative advantage to deploy its resources more strategically in supporting innovation transfer through more indirect as well as direct (project- or activity-focused approach).

Recommendation 3.1. Define DO4 terminology and use consistently throughout the Mission. Many terms pertaining to innovations and innovation transfers are not understood clearly or used consistently. Establishing common definitions of key terms would facilitate

communication as well as innovation identification, implementation, measurement, and comparison.

Recommendation 3.2. Expand indirect support for innovation transfer through other approaches. In addition to the project approach, other approaches identified through the evaluation and used within the innovation promotion space include: partnerships (such as Millennium Alliance); market for innovations; grand challenge/crowdsourcing; brokering/matchmaking. Broadening the approach to DO4 would allow various offices to continue to contribute to DO4 but not exclusively through project activities.

Recommendation 3.3. Coordinate more strategically with other Missions. To increase the likelihood of partner Mission engagement, options include:

- Establishing innovation partnership goals within partner Mission strategies or project appraisal documents.
- Assigning a point of contact between Missions for DO4 work.
- Marketing to Missions based on their existing sector priorities to build interest an demand.

Once communication is established, various measures can be introduced to smooth cooperation. Coordination between Missions on supporting the transfer of a given innovation could include:

- Strengthening institutional engagement in the trilateral country. This might include a point of contact for IPs and for mission to mission engagement, especially to establish strategic priorities for cooperation.
- Agreement on how contacts with the implementing partner(s), national, and local institutions are handled.
- Agreement on the amount and type of resources to be contributed by each Mission.
- Regular discussions/calls to monitor progress.

Recommendation 3.4. Improve coordination with the USAID Global Development Lab and the Bureau for Policy, Planning and Learning (PPL). USAID's Global Development Lab is an institutional resource that can be used to develop connections with other missions and to collaborate for mutual learning on innovation work. The Lab has expressed interest in closer cooperation with USAID/India. USAID's Bureau of Policy, Planning, and Learning (PPL) also has resources available to support ME&L. Stronger collaboration could involve:

- Information sharing on ongoing innovations (by USAID/India) and information on innovations and stakeholders (by GDL).
- Regular meetings/teleconferences.
- GDL disseminating USAID/India's lessons learned to other countries.

The CIP would be the most appropriate contact point within USAID/India for coordination with the Lab, and Program Support is best placed to coordinate with PPL.

Recommendation 3.5. Enhance and develop learning from innovation support. Ongoing learning should be built into the DO3/DO4 program. This goes beyond M&E, reviewing the PMP table, and commissioning evaluations. USAID/India should consider the following:

- Creating a robust system for monitoring risks, identifying issues that may impede diffusion, and measurement of outcomes or impacts. While PS is mandated to manage M&E, an innovation M&E specialist should work in close coordination and under the technical direction of CIP as envisioned in the CDCS.
- Establishing knowledge management processes and responsibilities to understand the number and status of USAID/India-supported innovations. At present, the status or level of success of all the 342+ innovations which USAID/India is supporting is not easily determined.
- Establishing a learning system for identifying, monitoring, and sharing innovations and "game changers" with potential for scaling-up and sustainability.[8]
- Executing a plan to coordinate, collaborate, and exchange experiential knowledge internally and with external stakeholders.[9]

Evaluation Question 4: Improving Programs & Activities

How can USAID/India change or improve its programs/activities to better incubate, transfer, and/or scale innovative solutions to increase development impact?

This section makes recommendations on how USAID/India technical offices can adjust their work programs as they relate to DO4 to addresses innovation issues at the project level. The recommendations broadly follow the project cycle: assessment and design; partnership selection; implementation; and measurement and learning.

Assessment & Design

Recommendation 4.1. Reinforce and diversify existing processes to identify and design new projects. The sampled innovations contained elements of strategic targeting through the call for proposal process (such as requesting alignment with partner country Feed the Future strategies) or were based on requests from partners (such as the request for information on targeting high-risk populations from the Ghanaian government via the South-to-South Project). However, there are opportunities to strengthen the demand-driven aspects of these processes and diversity strategies, such as:

- Explore co-design processes with partner governments or USAID operating units, e.g. as with the AIP/Cornell project. This early involvement and interest can increase the likelihood of buy-in if an initial project is successful.
- Integrate Indian innovations as a component of projects implemented by other donors, USAID/Missions, or partners, such as through a Market of Innovations approach.

Recommendation 4.2. Match innovations and partner country selection based on demand, enabling environment, and potential scalability. While current activities have taken steps

[8] CDCS, 48.

[9] Note USAID/India's FSO held a partner meeting in Delhi in October 2015 towards this end. However, there are more opportunities to expand cross-learning within and between other offices.

towards integrating analysis on the issues of enabling environment, programmatic alignment, and potential for complementary support or follow-on resources from other entities, these should be prioritized more in matching partner countries and innovations to increase the potential return on investment in innovation transfer work.

From the beginning, innovations for USAID/India support should have the *potential* for scalability based on the enabling environment, an identified demand or market gap, and the likelihood of follow-on support (from another development group, a partner government, or the private sector). Even if the goal of the project is to prove an innovation or project model's viability in a new location, if there is no potential for scaling it limits the potential impact of the project and USAID/India's investment. Positive indicators of potential scalability include:

- Clear alignment with the priorities of other actors (development groups, partner government, or other USAID/Mission) with the resources to support scaling. Ideally, the potential scaling partners should also participate in the design process to provide input and increase their awareness of and engagement in the project.
- Minimal identified enabling environment barriers, based on available information, and considering the illustrative examples of common challenges in Evaluation Question 2.
- Considerations from existing resources for assessing scalability.[10]

Recommendation 4.3. For larger projects, dedicate funds for research or a scoping trip. After an innovation has demonstrated success, a scoping trip would help identify potential innovation-specific constraints to transfer or scaling in a trilateral country. These findings can improve project design and increase the likelihood of successful adaptation and scaling. The value of a scoping trip would depend on the size of the project/funding.

Recommendation 4.4. Tailor project design and M&E to measuring change based on the type of innovation and intervention. The CDCS states an assumption that, "Development innovations proven in India are valued in and relevant to other countries."[11] Based on the innovations review, USAID/India has been successful in identifying and transferring innovations that meet a clear need in partner countries. However, there are considerations based on the nature of the innovation that can improve project design, implementation, and measurement.

Partnerships

Recommendation 4.5. Consider the comparative advantage of each implementing partner. The nature of innovation transfer – sharing an Indian innovation in a new context – makes a higher number of partners more likely. Activity design should drive prioritization of factors for selecting IP(s). At the outset, careful attention should be paid to identifying the skills and

[10] Larry Cooley and Johannes F. Linn, "Taking Innovations to Scale: Methods, Applications and Lessons" (Results for Development Institute, September 2014). USAID/India's "Agriculture Innovations Transfer Landscape Analysis" Report (2015) also includes an Agriculture Innovations Transfer Assessment Score Card Tool (Annex 3) that might be adapted to other sectors.

[11] CDCS, 42

knowledge required for a project, and partnerships should be built accordingly. However, after a certain point the returns per additional partner diminish. A section can be added to the implementing agreement specifying the roles and added value of each partner, taking into account the enabling factors and barriers identified above (under Evaluation Question 2). USAID/India can help facilitate more effective consortiums if it:

- Actively links actors through its networks to connect Indian IPs to appropriate partners.
- Prioritizes clear and complementary roles in agreements.
- Accepts some roles itself, such as mentoring newer organizations in reporting, or providing guidance on USAID funding.

Recommendation 4.6. Focus on identifying sources of support for innovations after USAID/India engagement ends. The CDCS includes an assumption that the Mission will identify "demand-driven development innovations that will, in turn, draw interest, resources, and investments from the private sector and host governments (depending on the nature of the innovation) to diffuse and scale these innovations worldwide."[12] A sustainability strategy or plan is one way of institutionalizing this. This might mean an innovation becomes commercially viable and the IP or a new private sector actor scales. Alternatively, partner governments or other donors might integrate into policy or ongoing programming. Though further support likely depends on adaptation and proving the innovation in the new context, USAID/India should clarify the long-term goal for each innovation before seeking to transfer it.

Implementation

Recommendation 4.7. Financing and partnership mechanisms should facilitate flexible management and minimize costs for scaling. Innovation transfer is sporadic, and bureaucratic processes have the potential to either restrain a successful project from continuing to expand or to continue funding a clear "fast fail" through institutional inertia. To use resources efficiently and capitalize on opportunities as they emerge, USAID/India can:

- Set high contract ceilings, without obligating full funding. This would enable a partner Mission only had to obligate funds through the existing mechanism to support the innovation rather than going through a separate procurement/start-up process.
- Utilize option periods. If an innovation is successful, there can be options to extend existing contracts for set, optional periods of time ("option periods") rather than allocating the time and resources into setting up new agreements or processes.
- Support AORs/CORs in making evidence-based decisions about project revision or expansion for adaptive management. This can promote better use of resources and more realistic goal-setting, such as adapting a product or project to the context rather than holding to what is in a proposal.

[12] CDCS, 42

Measurement & Learning

USAID/India should design projects with innovation transfer ME&L in mind. As DO4 interventions are varied and themselves innovative, M&E provides data and information on what approaches are working, where changes can be made to improve implementation and results, and can help identify any unintended consequences. It is important to have a clear theory of change and to understand the nature of the innovation and intended effects. This can be done through the following measures.

Recommendation 4.8. Establish a clear theory of change for each project. A theory of change considers inputs, outputs, outcomes, and impacts and should drive M&E. There is a range of indicators that can be measured to track implementation (milestones) as well as progress towards results (tracking the changes anticipates steps within the project logic). Multiple methods should be used, if possible, to triangulate findings and check the validity of one source with another. It will also be helpful for evaluations if baseline data is collected prior to the start of an innovation.

Recommendation 4.9. Go beyond tracking inputs toward measuring uptake, consequences, and impacts. Assessing impacts can be expensive and time consuming, as noted earlier, and not all impacts are easily quantified. Some impacts are indirect (changes in women's aspirations after marketing training for wPower), and some impacts are difficult to measure. Results are sensitive to assumptions. However, this information is necessary to understand if, how, and why an innovation is adopted or diffusing.

Recommendation 4.10. Employ more analytical approaches. Employing a broader range of analytical approaches provides opportunities to better capture data, including impact. Beyond looking at inputs and outputs, other analytical approaches include: user analysis; assessing intended and unintended consequences/outcomes; socio-economic/demographic analysis; impact assessment or evaluation; and cost-benefit analysis. In deciding whether to evaluate an innovation, trade-offs must be made between the credibility of evidence and costs of collecting and analyzing data. At a minimum, however, USAID/India should develop evaluation modules which assess uptake and continued use among the targeted population.

Recommendation 4.11. Consider contribution as well as attribution to capture the effectiveness of activities. Determining attribution of outcomes or impact is often difficult. This is especially so when USAID/India takes a partnership, leveraging, or other 'catalytic' role, or if USAID might have contributed to changes (particularly when an innovation does something "faster, cheaper, more effectively," as per the CDCS). These 'inputs' by USAID/India are very difficult, if not impossible, to quantify. Less rigorous but more encompassing techniques for capturing the effects of innovation promotion might include Most Significant Change or outcome mapping methods.

Recommendation 4.12. Develop a database of knowledge for each transfer country. For countries where USAID/India and its partners work regularly, partners would benefit from resources with basic information and earlier experiences.

INTRODUCTION

Background. USAID/India's five-year (2012-2017) Country Development Cooperation Strategy (CDCS) reflects the transformation of the USAID-India relationship from that of donor-recipient to a partnership through which India and the U.S. collaborate to solve global development challenges. Development Objective (DO) 4 of the CDCS states: "Innovations proven in India increasingly adopted in other countries."[13]

Purpose. The purpose of this evaluation is to examine the progress and outcomes of DO4 activities supported by USAID/India.[14] The evaluation captures lessons learned - what worked and/or did not work in terms of partnership choices, policies, strategies and implementing mechanisms - and assesses the extent to which these factors (and their interactions) fostered or limited the global adoption of Indian innovations.

Audience. The audience for this evaluation is USAID/India, USAID agencies and bureaus (including but not limited to: Asia Bureau; Science, Technology, Innovation and Partnerships; Bureau for Policy, Planning, and Learning; Global Development Lab; and others), the Government of India, and other development actors working in the innovation promotion area.

Evaluation Questions. The evaluation addresses the following four questions:[15]

> 1) To what extent have innovative solutions incubated or tested (proven) in India been scaled or transferred (adopted) in other countries? To what extent has there been a measurable development impact in health, food security, WASH, education, and clean energy outcomes in India or partnering countries?
>
> 2) What are the specific enablers and barriers (both within India and partnering countries) that influenced development outcomes? Barriers and enablers examined by the evaluation must include but not be limited to the following areas:

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[13] USAID/India CDCS has two sub-goals and four DOs:

Sub-Goal 1: Indian systems strengthened in priority sectors

- **DO 1:** Increase the capacity of India's health system to improve the health of vulnerable populations in India.
- **DO 2:** Accelerate India's transition to a low emissions economy.

Sub-Goal 2: Indian innovations accelerate development outcomes in India and globally

- **DO 3:** Development innovations impact people's lives at the base of the pyramid (BOP) in a range of sectors in India.
- **DO 4:** Innovations proven in India increasingly adopted in other countries.

[14] The evaluation examined 30 innovations, though not all fell clearly under DO4. Some focused on innovations within India (School Excellence Program, Water Health Centers, Eko Financial, and others), and one fell under DO2 (PACE-D project). Innovations that are not clearly DO4 were selected on the assumption that, if proven successful in India, they may transfer internationally.

[15] Evaluation questions were revised from the statement of work in consultation with USAID/India. The revised questions were approved through the Evaluation Project Plan.

a) Innovation approaches that encompass institutional capacity building, technology incubation, testing, and transfer, and private sector partnerships that enable local or global transfer;

b) Processes and mechanisms for testing and scaling the innovative solutions.

3) What additional capabilities and system changes would be required for USAID/India to elevate its leadership and strategic role in global transfer?

4) How can USAID/India change or improve its programs/activities to better incubate, transfer, and/or scale innovative solutions to increase development impact?

METHODOLOGY

Approach. To determine the scope of impact and transfer (EQ1) and the factors that enabled or inhibited transfer (EQ2) the team conducted a comparative analysis of the 30 innovations. Each innovation in the sample was assessed along several variables: including USAID's role in the process; institutional processes; phase of testing/scaling/transfer; nature of the innovation; implementing partner characteristics or approach; adopter characteristics. The team examined how these variables affected innovation transfer effectiveness and, to the degree possible, impact and sustainability. To inform EQ3, the team conducted an institutional analysis of USAID structures (both within USAID/India and more broadly among operating units), addressing processes, communication mechanisms, and the incentives at the individual, office, and operating unit level. The team developed five case studies on select innovations (see Annex F).

Qualitative Research and Analysis Methods. Methods include: (1) desk review of documents; (2) 82 key informant interviews (KIIs) with USAID staff, implementing partners (IPs), and innovation end-users; (3) 22 focus group discussions with end-users (FGDs, for selected innovations), and; (4) 11 site visits for select innovations.

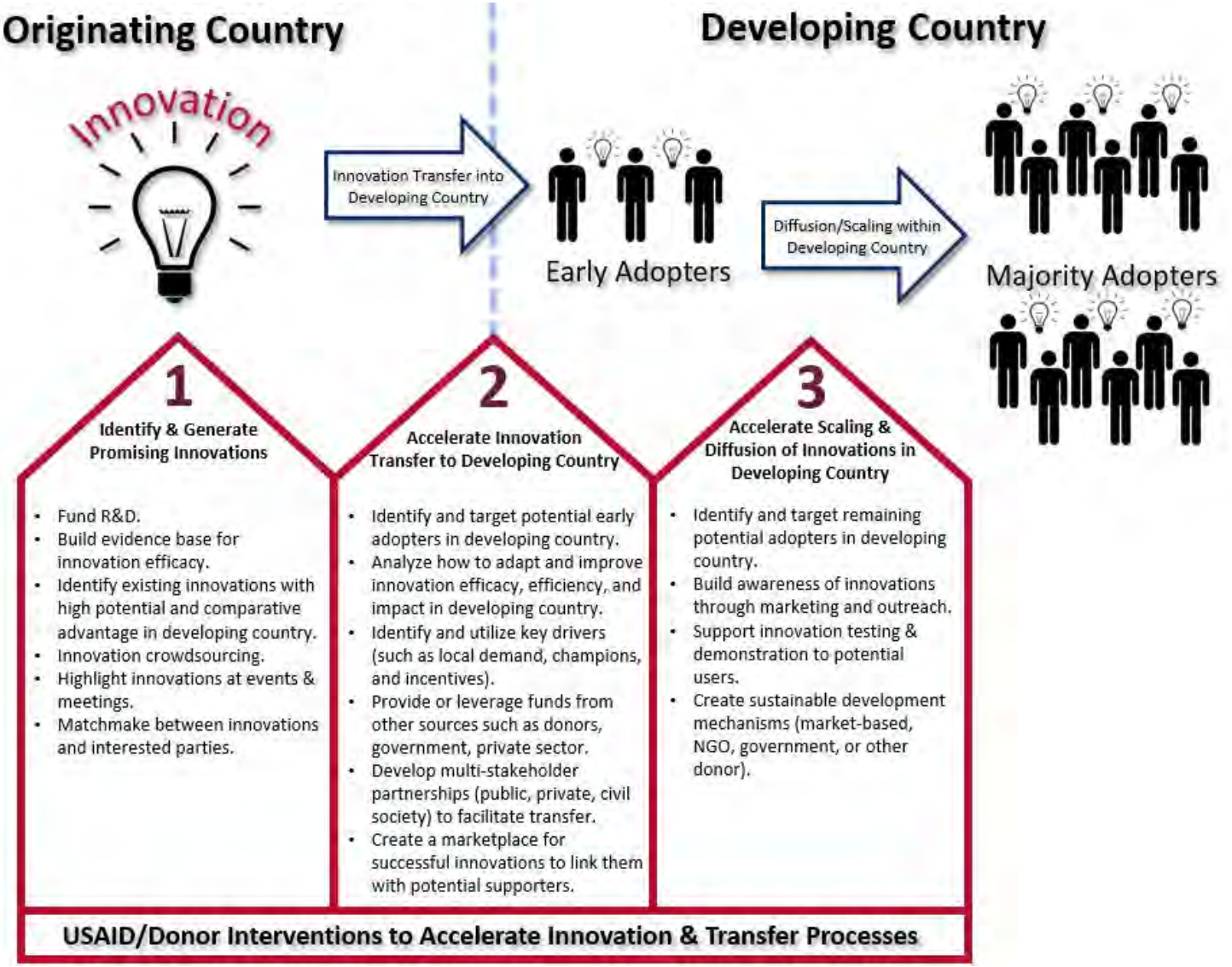
Figure 4. Distribution of KIIs, FGDs, and Site Visits

Country/Mission		KII	FGD	Site Visits
India	Mission	21	0	0
	Other stakeholders	31	2	3
Kenya	Mission	2	0	0
	Other stakeholders	12	15	6
Malawi	Mission	2	0	0
	Other stakeholders	5	5	2
Other		9	0	0
TOTAL		**82**	**22**	**11**

The evaluation team conducted KIIs and FGDs over three weeks in India (Delhi, Mumbai, Pune, Chennai, Bangalore, Hyderabad, Solapur, and Rajkot) and one week each in two trilateral countries proposed by USAID/India: Kenya and Malawi. The team compared the selected innovations and developed five case studies on selected innovations (see Annex F).

The team examined the different activities donors can undertake to accelerate innovation transfer into developing countries. Figure 5 (next page) presents phases of transfer as well as how donors such as USAID/India can support these processes.

Figure 5. Accelerating Innovation, Transfer, and Diffusion in Developing Countries



Sampling. The evaluation covered 30 innovations from five USAID/India offices: Health, Food Security (FSO), Energy, the Center for Innovation and Partnership (CIP), and the Office of Social Sector Initiatives (OSSI). The USAID/India Mission selected the innovations from at least 342 that the Mission has supported in incubating, testing, scaling, and/or transferring. The sampling included all DO4 innovations (through FSO), selected innovations from DO3, and one under DO2.

Limitations. The list of 30 innovations for evaluation was finalized at the end of the first week of fieldwork. Additionally, the complexity of the innovation transfer process, variation in approaches, lack of explicit theories of change, limited documentation for certain innovations, and the high number of innovations necessitated a focus on cross-cutting themes rather than in-depth analysis or generation of new evidence regarding impact. Nonetheless, the great variety among the innovations enabled the evaluation team to discern many themes, strengths, and weaknesses across DO4 activities.

The purposeful sampling approach and selection by the client (USAID/India) rather than the evaluation team means the sample of DO3 innovations should not be considered representative. (In contrast, the DO4 innovations evaluated covered almost all DO4 innovations in the portfolio, and thus are representative of this category.) This also limits the generalizability of the findings and conclusions to the broader portfolio of activities. For more information on the evaluation methodology, see Annex G.

FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

This section is organized by evaluation question. Evaluation Questions 1 and 2 present findings and conclusions on transfer, impact, enablers, and barriers. Evaluation questions 3 and 4 present recommendations for improving USAID's systems and capabilities, and for improving its programs and activities. Under each evaluation question, first there is a concise response to the question followed by a detailed discussion of the findings supported by evidence. Case studies for five innovations are presented in Annex F.

Evaluation Question 1: Transfer & Impacts

To what extent have innovative solutions incubated or tested (proven) in India been scaled or transferred (adopted) in other countries? To what extent has there been a measurable development impact in health, food security, WASH, education, and clean energy outcomes in India or partnering countries?

This section presents finding and conclusions on innovation transfer and impacts. Recommendations on what USAID/India can do to better enable the transfer and impact of innovations can be found under Evaluation Question 3 and Evaluation Question 4. Descriptions of the transfer activities of each USAID/India Office are in Annex C, and a full list of the 30 innovations reviewed is in Annex D.

Transfer

- Of the 30 innovations reviewed, 21 are being tested in a trilateral country. This does not mean they have necessarily been "adopted." There may have been knowledge sharing between countries, but this is not necessarily transfer (transfer would require use of the knowledge, but knowledge sharing nonetheless carries value itself).
- Most of the innovations transferred to Kenya and Malawi from FSO (six of eight in Kenya and three of three in Malawi) are in the testing phase and have neither scaled nor reached a point of sustainability. For the purposes of this evaluation, the team defines sustainable innovations as those that diffuse without continued support by USAID/India.
- Offices within USAID/India approach DO4 differently based on their office strategies or mandates, funding requirements, and the existing structures or cultures of their sectors/offices within USAID. The report describes the various approaches below

Impacts

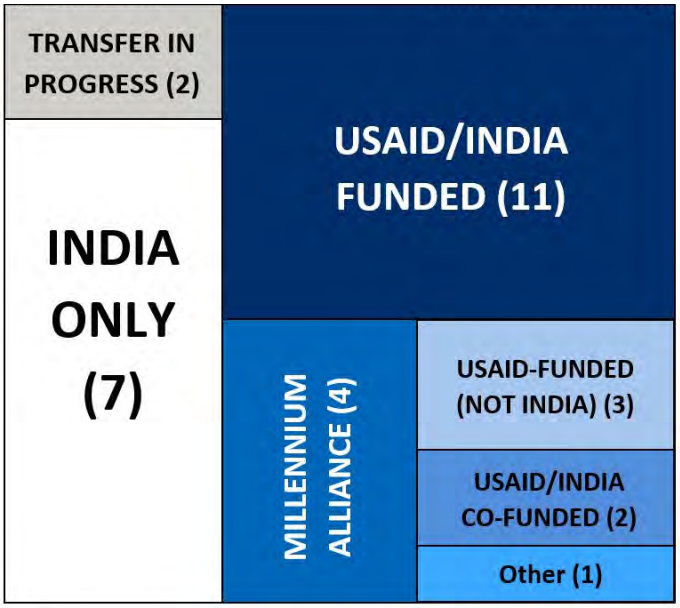
- This evaluation is unable to draw firm conclusions on the impact of the 30 innovations overall (or on the likelihood that any of the innovations reviewed lead to development impact). Many activities are still at an early stage when it would be unreasonable to expect to see significant development impacts. Moreover, most innovation indicators cited by USAID staff focus on outputs and do not capture information on outcomes or impact. Nonetheless, in some cases, individual innovation programs in India have been evaluated, suggesting positive, although sometimes modest, impacts.

- Field observations and discussions with end-users suggest high potential value of many innovations in that they are targeting relevant, real-world needs in a new way.
- Multiple types of impacts (economic, social, political) can arise are all important to consider, even if difficult to assess.
- Although the evaluation cannot draw firm conclusions regarding the impact of either transferred or domestic innovations, it proposes factors which appear to contribute to higher adoption rates and successful transfer. See Evaluation Question 2 for a discussion of enablers and barriers.

Innovation Transfer

1.1 Transfer activities are occurring but remain at a nascent stage. Although 21 of the 30 innovations reviewed are being tested in another country (see Figure 6 for details), the evaluation was unable to conclude that any have been adopted in a way that can be considered sustainable or likely to become sustainable, i.e. without continued external support from USAID/India. Many of the innovations that have been transferred, generally FSO, are still in a testing stage. (By contrast, innovations supported in India (DO3) tended to be much further along on the path to adoption and diffusion, although this is not considered to be related to the issue of transfer).

Figure 6: Summary of Transfers under DO4



1.2 Findings indicate that innovation transfer is qualitatively different from innovation in India, in that specific additional costs and barriers arise, partly associated with less direct involvement since USAID/India is further removed from the actual innovation, and partly with issues related to geographic distance and working across international borders (see Evaluation Question 2 and the Conceptual Framework for more on this issue)

1.3 USAID/India offices have different mandates, strategies, and incentives for promoting innovation transfer. Within the innovations examined, certain offices (OSSI, Energy) focused more on innovation testing and scaling within India (DO3) than on international transfer (DO4). The focus on DO4, scope of transfer, and geographic targeting can differ widely. Whether or not offices are engaging in promoting transfer depend on each office's mandate, goals, and financing. This also reflects the lack of incentives for offices to allocate part of their budgets to innovation transfers given the higher costs and potentially low returns involved (for further discussion, see Evaluation Question 3).

- **FSO** describes itself as a pioneer in attempting global innovation transfers, and is indeed the most active office in testing innovations in trilateral countries. The office has a strategic mandate and allocated funds for DO4 activities through three mechanisms: a government-to-government (G2G) agreement, a DO3 program evolving into DO4 (AIP), and the India-Africa Agriculture Innovation Bridge Program (AgBridge). As a Feed the Future (FTF) strategic partner country, FSO-funded various short-term projects in FTF countries (Kenya, Liberia, Malawi) to test different innovations that could, for promising initiatives, scale over time. FSO noted that the transfer of activities was never intended to be completed in under three years. FSO noted that the knowledge transfer activities (Triangular Training Program) strengthened the relationships between the United States, India, and trilateral countries.
- **The Health Office,** although not strongly focused on innovation transfer (it does not receive funding for transfer activities outside India), has introduced what it calls a major shift in implementing DO4: it has contracted IP PriceWaterhouseCooper (PWC) to help identify and transfer innovations in family health programs. The new approach is being tested and remains at an early stage. PWC is identifying and contacting trilateral countries in which to work. The office focuses largely on sharing lessons between countries, which it facilitates in part through organizing and participating in international conferences. An argument can be made that knowledge exchange is an important first step in introducing innovation, but that it is not an innovation itself unless the new knowledge is used. This includes the SHARE-VHS partnership, which predated the current CDCS but was added as an activity under DO4. The office also leads DO1, to "[i]ncrease the capacity of India's health system to improve the health of vulnerable populations in India."
- **The Energy Office** focuses on scaling within India and is less focused on DO4. wPower began simultaneously in both India and Kenya. Though the wPower grant did not have a formalized transfer plan initially, it evolved to facilitate sharing of good practices between India and Kenya. The Energy Office also leads DO2 program activities, with the objective to "[a]ccelerate India's transition to a low emissions economy."
- **OSSI** supports work under other development objectives, though not explicitly DO4. The School Excellence Program and WaterHealth are both scaling in India, but efforts to transfer have been driven by other actors, do not appear to be among OSSI or IP priorities, and are not far advanced.
- **CIP** does not directly fund innovation testing, scaling, or transfer. Innovation transfer outside India has been through indirect means (e.g. DFID funding through Millennium Alliance) or other USAID initiatives (such as the Development Innovation Ventures competition). This reflects CIP's strategy of leveraging support and creating partnerships. CIP does not receive direct funding for projects but rather operates in partnership with other operating units and USAID/India offices.

1.4 Interpretation of results depends, to an extent, on how terms are defined. Terms such as 'innovation,' 'incubate,' 'test,' 'proven,' 'scaled,' and 'transferred' are not used consistently or clearly defined among stakeholders, including USAID operating units.

1.5 Broad definitions can create ambiguity, as inconsistent definitions present challenges for systematic measurement, comparison, and consolidation of findings. The broad interpretation of the term "innovation," and the lack of a clear identification of what is the actual innovation for each project, can create ambiguity about what precisely is being transferred and how it should be measured. According to one stakeholder, the exchange of international best practices between India and Kenya can be considered the innovation; another stakeholder considered the whole project design to be the innovation. Other innovations, specifically physical technology/product (such as the solar conduction dryer or the Prakti cookstoves), are more easily defined than those involving introduction of good practice or a new business model. As a starting point for developing consistent definitions, Figure 7 offers a working set of definitions from a donor perspective concerning innovations and their evaluation. Annex E provides examples of how different institutions define key terms.

Figure 7: Potential Definitions of Key Terms

Term	Proposed Definition
Innovation	A novel business or organizational models; operational or production processes; or products or services that lead to substantial improvements in executing against development challenges. Innovations help produce development outcomes more *effectively*, more *cheaply*, that reach *more beneficiaries*, in a *shorter period of time*, and *more sustainably*.
Transfer	An innovation which has crossed from one setting/geographic location to another.
Testing	The phase during which an innovation is being tried out by users, observations are being made regarding its costs, benefits, usability and other features, and adaptations are being made to improve its features.
Adoption	The point at which a user decides to use or uses an innovation. This is distinct from testing in that the adopter decides to continue to use the innovation unless something else changes (such as a new product is introduced, or other costs/benefits manifest).
Diffusion	The spread of an innovation among users throughout a given community or setting/geographic location. This can also be referred to as scaling (among international donors) or transfer (in academic literature).
Scaling	Reaching a certain level of uptake among a population. This contrasts with adoption, which occurs at the individual level.
Innovation sustainability	Conditions are in place which will ensure the continuance of an innovation after a given donor's support ends. This could be spontaneous population uptake, marketing, policy integration, or even support by another donor.

1.6 USAID offices and implementing partners do not always treat incubation, testing, scaling, and transferring as distinct phases. FSO is an exception, providing specific definitions for incubation (500 households impacted), testing (1,000-2,000 households impacted), and proven (10,000 households impacted). It stipulates that proven innovations can be

transferred to Africa through DO4 activities.[16] Innovations are not always discrete, clearly demarcated processes or unvarying products. They can be iterative and ongoing; innovations themselves undergo innovation and adaptation. Water Health Centers, EKO's mobile money system, and SRISTI technologies continue to undergo further innovation, adding new features and adapting, in what can be characterized as a continuous state of learning and innovation. In the case of transfer, some innovations were reengineered (SRISTI's Bullet Santi tractor), or a new ownership model was used. This evolving nature of these innovations has implications for how they are evaluated. Figure 5 provides a graphic that describes the phases of work that can take place to accelerate innovation transfer and diffusion.

1.7 USAID/India offices use the term "innovation" to cover many things. There is a risk that the term "innovation" can be applied to virtually any development project, diluting the meaning of the term. Implementing partner IL&FS transferred a smallholder dairy production and marketing business model from India to Kenya as an innovation. While this business model is new in the county in Kenya, USAID/Kenya is promoting similar activities in other counties, encouraging farmer participation in the dairy value chain. Such expansive use of the term can lead to "innovation creep." A case could be made that much of development work, which often involves new practices or upgrading infrastructure, is "innovative" through such a definition. (For a discussion about how and why innovation creep might occur, see Evaluation Question 3.)

Impacts

1.8 This evaluation is unable to draw firm conclusions on the impact of the 30 innovations overall (or on the likelihood that any of the innovations reviewed lead to development impact). All innovations are at a testing stage where impacts would not yet have manifested. Most projects reviewed were not designed to incorporate experimental or impact evaluation, and the monitoring systems in place and the theories of change used tend to focus on inputs and outputs (e.g. disbursements, persons trained, adopters) rather than effectiveness or impact. In part, this reflects the challenges of tracking and ensuring data quality in a third country and through IPs. However, it also makes it difficult to analyze the effectiveness or efficiency of international transfer activities.

1.9 Based on qualitative evidence and observations, innovations reviewed may indeed lead to development impacts. FGDs with end-users and field observations confirmed the potential value of many of innovations: they are targeting real-world needs in a new way in the settings where they are being implemented. However, general conclusions on impacts of the 30 innovations under evaluation cannot be drawn (much less concerning the entire portfolio of 342+ USAID/India innovations).

[16] The solar conduction dryer is an exception to this as there was no preexisting evidence of more than 10,000 households impacted. For context on the solar dryer innovation, see Annex D or case study in Annex F.

1.10 Multiple types of impacts (economic, social, political) can arise. All are important to consider, even if some are difficult to assess. For example, USAID/India referenced that the political outcome of the Triangular Training Program provided an entry point to greater engagement with the Government of India, as well as building relationships with trilateral countries. Nonetheless, there are more opportunities to clearly understand how innovation transfer is unfolding or creating an impact. A clearer understanding would inform decision making as well as learning for future projects.

1.11 In many cases, it is early to assess impacts. Although the most pressing question for decision makers relates to the results of a program, at the mid-term of the CDCS and with transfers still at a nascent stage, it is too early to assess the impact of transferred innovations. Qualitative evidence and observations suggest most of the sampled innovations have positive impacts (or at least outcomes) for adopters, but in most cases rigorous quantitative evidence is lacking. Evidence on innovations of most interest to policy makers would likely relate to: how many people the innovations are reaching; if use translates into sustained adoption; the level and nature of impact; the sustainability of impacts; and the potential for scaling up in trilateral countries. Such evidence may also be difficult or expensive to collect. Rigorous impact evaluations can be very costly. Operation ASHA's randomized control trial (RCT) cost approximately $800,000.

IPs themselves rarely allocated resources for an impact evaluation or a context baseline. Some IPs have commissioned their own research or evaluations (wPower, Water Health International) or received funding to conduct evaluations (Operation ASHA). Millennium Alliance is beginning to set aside funds for impact evaluations. These show positive outcomes, although publicly available material seems to be largely for marketing. (Which is not to minimize the importance of marketing, often considered a key element in spreading innovation and is essential for most businesses.)

1.12 Even for offices and projects with stronger M&E, there is not a strong focus on examining the innovation transfer aspect of projects. For example, FSO uses an established set of indicators through Feed the Future, but these indicators generally focus on outputs and higher-level effectiveness rather than indicators that could inform project decision-making and adaptation during implementation. This also does not necessarily provide the appropriate baseline to examine innovation transfer and its impact. Within FSO, TechnoServe in Malawi and IL&FS are the only partners that conducted a baseline covering development impact indicators.

Although the evaluation cannot draw firm conclusions regarding the impact of either transferred or domestic innovations, it proposes factors which appear to contribute to higher adoption rates and successful transfer. See Evaluation Question 2 for a discussion of enablers and barriers.

Evaluation Question 2: Enablers & Barriers

What are the specific enablers and barriers (both within India and partnering countries) that influenced development outcomes? Barriers and enablers examined by the evaluation must include but not be limited to the following areas:

a) Innovation approaches that encompass institutional capacity building, technology incubation, testing, and transfer, and private sector partnerships that enable local or global transfer;

b) Processes and mechanisms for testing and scaling the innovative solutions. (ex: MA, AgBridge, Health Office approach of conferences/sharing good practices/building partnerships, accessing network, brand of USAID, leveraging)

Evaluation Question 2 captures findings related to enablers and barriers. These findings then inform recommendations presented under Evaluation Questions 3 and 4.

To examine enablers and barriers to transfer, the evaluation focused on key dimensions in the transfer process: institutions; intermediaries; enabling environment, and business models. EQ2 examines enablers and barriers for each of these dimensions at an institutional level. The goal is to inform recommendations on the strategic and programmatic/activity choices of USAID/India and others. The variables were chosen based on technology transfer and scaling literature and with input from USAID/India to inform key decisions in USAID's project conception and design process (for more about this, see Annex A). Below, a breakdown of factors which act as enablers or barriers to innovation. Figure 8 summarizes these enablers and barriers.

Institutional context

- USAID plays numerous roles that positively affect implementing partners developing and scaling innovations, and these are greatly appreciated by the partners.
- Institutionally, USAID is not set up for Mission-to-Mission interaction. Though some Missions welcome collaboration, this tends to succeed due to informal ties or because the cooperation opens up opportunities rather than because of supporting, formal systems.
- Trilateral projects and partner mission strategies are not always in alignment, which limits engagement and opportunities for scale-up.

Partners

- USAID/India's engagement varies with the partner(s) and the cooperation mechanism.
- Selecting effective, relevant, and efficient implementing partner consortiums is challenging.
- Certain criteria seem to facilitate more successful outcomes, such as community trust, organizational mission, and/or technical or management expertise.

Enabling Environment

- There is limited analysis of the varied institutional and social context between countries at the design stage, at times. Different conditions may then require reengineering of the innovation or changes in approaches.
- Partner country selection is based on few factors and limited analysis.

Program Activities & Approach

- USAID/India offices implement DO4 mostly through a project approach. This contrasts with other potential models such as partnerships, markets for innovation solutions, or challenge competitions.
- The sampled innovations appear to be well-matched with a need in India and/or trilateral countries. They provide a new approach to an existing gap or challenge.

- When transferred, the cost of an innovation (such as parts and materials) can be significantly higher, both in absolute terms and relative to income levels of local adopters. Sometimes donors subsidize the cost to address these issues. While free or low-cost innovations may get more uptake, potential for sustainability/scalability is unclear. If subsidies are required, it is likely scaling will require an expansion in those subsidies.
- Projects did not account fully for the potential effects of a shift from individual to collective ownership in transfer from India to Africa. Although IPs made the decision to promote collective ownership of innovations, new challenges arose from this approach.
- Targeting innovations at the 'bottom of the pyramid', i.e. the poorest members in a system, is challenging. Early adopters do not generally belong to the poorest population groups, especially for fee-based innovations or those that involve risk. Early adopters tend to be more willing to take risks, and have more income to try new things out.
- Following the above, scaling up, a key indicator of successful innovation, may not happen spontaneously after USAID/India support ends (unless a critical mass is reached).
- Innovations seem to do well that that are: embedded in processes; part of a facilitating ecosystem; implemented by partner that knows the region and adopters.

Figure 8: Chart summarizing enablers and barriers to transfer

Enablers	Barriers
Institutions	
Alignment with partner Mission programs	Activities to not align with partner Mission strategies or funding
	USAID is not set up for Mission-to-Mission communication
Partners & Intermediaries	
Implementing partner knowledge of local context	Consortium partners do not all bring clear value to partnership
Implementing partners committed to the innovation through their organizational mission	
Community trust in implementing partner	
Implementing partner brings technical and/or management experts	
Enabling Environment	
Buy-in of partner countries to align with country priorities and gain cooperation of governments	Lower availability of materials and higher cost of inputs, leading to affordability issues
	Lower access to credit in target countries
	Collective ownership raises issues of access to the innovation and equity
	Institutional environments, such as which are different in the target country
	Logistics issues associated with cross-border activities, e.g. taxation, visa requirements
	Lower population density can make it more difficult to easily attract enough customers
Program Activities & Approach	
Embedding Innovations in processes, or a facilitating ecosystem	Early adopters tend not to be the poorest community members, i.e. at 'bottom of the pyramid'

While the above chart summarizes factors which act as enablers and barriers to innovation transfer, they are also relevant to innovations that have not transferred but might be considered for transfer in the future. The potential of a DO3 innovation becoming a successful DO4 innovation is likely to depend on the presence and influence of the identified enablers and barriers as relevant in a given context and to a particular innovation.

Institutions

The institutional context of USAID shapes incentives for how individuals and offices engage in USAID/India's work under DO4. This section explores the following issues: i) USAID/India institutional approach to ME&L; ii) the roles USAID/India plays that support innovation transfer; and iii) how USAID coordination between operating units facilitates or impedes DO4 implementation.

Institutional Approach to ME&L

2.1 The ME&L system appears to be underutilized and is not serving its purpose. Awareness on DO3 and DO4 progress across the entire innovation portfolio is limited mainly to number of innovations funded, partners engaged, and financing leveraged. Even output information on the status of a given innovation (whether it is at the trial, testing, adoption phase, etc.) or the number of adopters/users for a given innovation is not compiled across technical offices. The Mission shared an inventory of 93 innovations, noting many others are not listed because they are considered micro-innovations (innovative aspects on existing innovations).

As noted under Evaluation Question 1, many projects focus on outputs rather than outcome or impacts, making it difficult to know the effects of USAID/India support.[17] Among those offices that do have more rigorous M&E, including FSO, there appears to be limited M&E to inform adaptive project management (rather than higher-level outcome indicators that might be useful to policymakers). However, there are also higher costs and more challenges to getting reliable data when supporting activities in a trilateral country. USAID/India must rely more on IPs for the information or conduct M&E themselves at higher costs.

USAID Roles

2.2 USAID/India has many roles in supporting innovations. Conversations with USAID staff and IPs identified roles USAID/India currently plays in innovation transfer as well as how it might expand its role to advance DO4. USAID/India plays many roles in addition to that of funder; though they add value, their effect is not always measurable.

[17] Some of the focus on outputs, such as number of partners and dollars leveraged, came from the USAID Forward initiative. Several people in the USAID/India Mission acknowledged the limitations of these as indicators and the potential for them to create incentives such as building a high number of partnerships rather than focusing on the effects of those partnerships.

- **Funder.** Implementing partners highlighted the importance of USAID/India's role in financing the implementation of innovations, particularly for early- or mid-phase innovations that require support before attracting further funding. Financial support enabled them to invest in capital (WaterHealth), in testing (all FSO innovations, OpAsha, DigitalGreen, AgSri) and cover operational costs (wPower, solar conduction dryer, triangular training program, South to South), and very often all three. It also funded several IPs that wer working for the first-time outside India (AgSri, SRISTI, and Gravis, for example).
- **Technical expertise.** In several cases, USAID office staff provide advice to IPs on design and implementation. This includes the Energy Office providing technical assistance to Nexant through the PACE-D project. FSO was involved similarly in both operational and technical aspects in India and Africa, including field visits to Malawi and Kenya and follow-up meetings. They helped implementing partners solve implementation issues in Africa. For example, FSO assisted IL&Fs in its project reformulation to adapt to the local context: they decided to build a milk process unit instead of a collection unit, which was already funded by another donor. USAID also discussed some adaptations with TechnoServe to transfer relevant water management structures to Kenya and Malawi, given that the initial structures were not adapted for use to local beneficiaries. In contrast, USAID/India was less involved in this respect for Alliance-funded innovations.
- **Institutional Mentor.** For at least five implementing partners (MANAGE, S4S, FICCI, SSP, and Kaivalya Education Foundation), USAID/India helped expand their capabilities in international development funding, such as through offering administrative/logistical and program management support, developing M&E/learning systems, and providing incentives to develop management processes. FSO assisted the IP in project management, mainly in monitoring activities. They trained and followed the IP in project planning and results monitoring. These improvements expanded IP capacity to absorb potential future donor funding and improve organizational practices conducive to growth.
- **Connector/Networker.** USAID/India has access to key networks: other USAID/USG operating units, partner governments, private sector actors, other implementing partners, and other donor organizations. Many IPs noted the potential for expanding access to these networks for project scoping, setup, and implementation (PwC, AgSri) or other funding opportunities (Eko Financial, AgSri). For example, TechnoServe had access to USAID/Malawi and USAID/Malawi is now interested to follow with the seepage well project. PwC is expecting to reach local governments through USAID Missions. USAID was critical in connecting SHARE-VHS with other donors, including FHI360, governments and other Missions for the South-to-South Project which provided access to funds and personnel to implement innovations in trilateral countries.
- **Spotlight & Legitimizer.** Through attaching its brand to an organization or innovation, USAID/India (or Millennium Alliance) implicitly endorses its partner and highlights the potential or demonstrated success of an innovation. This is a positive signal to other possible funders of the organization's capabilities and the potential of the innovation. MA actively highlights and promotes its grantees. USAID/India was one of the first funders to support S4S. It also funded several IPs which were working for the first time outside India (AgSri, SRISTI, Gravis for example). Also, Naireeta Service's Bhungroo water management system received a UN Framework Convention on Climate Change Lighthouse Activity Award,

which highlighted the potential of the innovation to other potential donors and beneficiary countries. However, AgSri noted that while MA expanded their access to networks and recognition, this did not necessarily translate into receiving additional funding.

- **Leveraging Power.** IPs noted USAID funding provides credibility and legitimacy that enables them to leverage funds from others. wPower leveraged $4 million from other donors after receiving $1.2 million from USAID/India. S4S obtained Gates Foundation funding, and AIP may receive World Bank funding to build on the initial activities funded by USAID.

Implementing Partner Perspectives on USAID/India

Funder: "USAID/India gave the opportunity to transfer this technology to Africa. It was a big initiative to adapt the technology, and USAID/India showed a great perseverance to help it happen."

Technical expertise: "USAID is a leader in the development sector with core knowledge."

Institutional Mentor: "USAID supported us with challenges as they emerged, particularly in operations. This 'learning roadmap' helped our organization develop the capability to now run logistics ourselves."

"USAID/India was the first to have faith in our organization. They also trained us in M&E and help us to focus on project management."

Connector/Networker: "USAID/India was very supportive providing connections and helping with reports. It was key to have a top-level engagement by USAID, though it could have been more effective with the Mission Director, too."

Spotlight & Legitimizer: "If Millennium Alliance did not exist, [our organization] would not have developed so fast or reach to so many people so quickly, and now the World Bank and the UN know about the innovation."

Leveraging power: Millennium Alliance "increased our exposure to impact investors, though this is not sufficient for our company's needs."

"USAID wasn't in the picture until today. We work with FICCI but it is just an agreement and we send reports. We don't expect any technical assistance from them."

Convening Power: USAID has been "proactive in promoting [the innovation to other Missions], which is an enormous non-financial benefit."

- **Convening Power.** USAID's name, reputation, and resources brings together other organizations including international donors, government agencies, and private sector players. Dimagi noted that USAID plays an active role in convening actors in the mobile health space. The establishment of the Millennium Alliance, with USAID/India as a founding member, similarly brought other partners to the table.
- **Knowledge Repository.** This role relates to understanding and learning about innovation transfer as a process and within certain sectors/countries. Stakeholders largely noted this as an area for improvement, including drawing on knowledge of innovation support throughout USAID, creating opportunities for feedback and horizontal learning among IPs (such as within MA), and capturing lessons learned to share with IPs and other institutions.

USAID Coordination

One of the assumptions stated in the CDCS is that "USAID's 80 missions will contribute to the sharing of Indian innovations globally."[18] Interviews with IPs, USAID Missions, and other USAID operating units (Global Development Lab, Global Health Bureau, Bureau for Food Security) indicate there is interest both in Indian innovations and in greater sharing of innovation transfer experience and lessons. However, this does not automatically translate into cooperation with or support from other operating units.

2.3 Institutionally, USAID is not well set up for mission-to-mission collaboration. Multiple missions noted that the institutional set-up of USAID is not conductive to mission-to-mission contact, although staff interviewed expressed a desire for closer coordination. The lack of communication mechanisms, guidelines on cooperation for innovation transfer, and general awareness can limit cooperation. Differing levels of communication and engagement on USAID/India DO4 activities were evident between USAID/Kenya and USAID/Malawi. Factors that might influence this engagement include:

- Personal connections. With respect to partner countries, personal connections (such as former USAID/India staff working in other countries) rather than formal institutional mechanisms or criteria appear to affect the likelihood of forming partnerships.
- Leadership experience or vision. Individuals within partner Mission, particularly those in leadership roles, can provide the direction and incentives for others to support USAID/India's DO4 activities if they see value in engagement. For example, the FSO Director/USAID/Malawi traveled to India and observed innovations, and then supported engagement on DO4.
- Established communication mechanisms. A lack of clear point of contact (POC) or of leadership/institutional engagement
- Strategic alignment. The importance of working in the same geographic areas and priority sectors, such as working in FTF counties in Kenya. Partner Missions do not share the same DO or PAD incentives to invest time or funding in supporting trilateral efforts.
- Institutional set-up. USAID Missions do not communicate regularly among themselves, and information can flow through different central sectors/bureaus. For example, the Global Health Bureau has pre-existing fora to share good practices among USAID sector experts, such as the coordinating international conferences.

2.4 Trilateral projects and partner mission strategies are not always in alignment, which limits engagement and opportunities for scale-up. For example, TechnoServe worked in a FTF focus county (Dedza) in Malawi, but FSO-supported innovations in Kenya were not all in focus counties. This limited the USAID/Kenya FSO's engagement as the intervention did not align with their strategic or funding priorities. Partner missions also suggested including trilateral counterparts in proposal reviews to create opportunities for feedback and to align priorities.

[18] CDCS, 2012-2017.

Beyond programmatic alignment, partner Missions do not have the same incentives (such as supporting DO4 goals and PAD) to prioritize engagement with USAID/India DO4 activities.

2.5 USAID mission engagement and buy-in can improve innovation design and sustainability. USAID IPs noted that working with trilateral USAID Missions presents useful opportunities in project design/start-up, identification of reliable local partners, and in navigating a new legal and institutional environment. Staff in both USAID/Malawi and USAID/Kenya said being involved from "as early in the process as possible" would facilitate strategic alignment and promote engagement and other (present and potential future) support.

Partners & Intermediaries

The choice of partners and mechanisms for cooperation affects the resources upon which USAID can draw, the incentives of partners to deliver results, and (in combination with other factors) can drive or dampen the technology testing, scaling, and/or transfer process. Key questions concern i) evidence for if or how partnership mechanisms affect DO4 goals; ii) how partners are identified and their influence on activities; and iii) the impact of partner characteristics on DO4 outcomes.

Partnership Mechanisms

2.6 The relationship between funder and partner influences the role USAID plays and how that benefits partners. For example, in Millennium Alliance, USAID is less directly engaged than when it provides direct funding. Coordination and oversight, among other roles, are outsourced to FICCI. In contrast, FSO were active and involved managers for their innovations.

2.7 A partnership approach presents different opportunities and challenges. The Millennium Alliance platform, an eight-donor consortium coordinated by the Federation of Indian Chambers of Commerce & Industry (FICCI), represents a model which pools resources and supports social innovations in testing, scaling, and transfer within and outside of India. Millennium Alliance seeks to identify promising innovations and provide funding for innovators to refine and expand them, and increase their visibility to other potential investors or donors. For a case study of the Millennium Alliance platform, see Annex F.

From a donor perspective, this allows each partner to focus on their comparative advantage within the consortium. However, the model also creates an additional layer of management. While FICCI is experienced with visibility and outreach activities and has a network within the private sector, this approach also further removes awardees from donor institutions and the various support donors might provide. It can be difficult to attribute impact to any one partner under such a model. Partners suggested potential areas for improvement could include: creating more space for knowledge management (such as a knowledge bank on various countries); promoting reflection and learning among awardees and between rounds of awards; and expanding outreach for local government and NGOs to increase the likelihood of sustainability.

Processes for Identifying Partners

2.8 Selecting effective, relevant, and efficient implementing partners is challenging. Several projects feature a high number of IPs, with the value of each partner's contribution not always clear. Other projects have replaced or dropped IPs. For innovation transfer, the multiplication of partners is related, sometimes, to the need to use existing networks to identify and build new relationships. However, a long chain of partners creates risks as more opportunities for inefficient communication, management, or budget utilization arise. It also makes interventions more susceptible to changes within any one of the partners, such as if high staff turnover at one organization impedes implementation.

- In Kenya, World Health Partners began working with a local Kenyan NGO but realized the NGO was treating them as a donor rather than a partner, which led to higher costs. As a result, World Health Partners took over implementation in Kenya and found it was easier to establish relationships directly rather than through the local NGO.
- In contrast, USAID/India selected SSP as the IP for wPower in India because they had been working with networks of women in rural areas since 2006 and were a trusted organization in these communities. However, SSP may provide such a critical and difficult to replicate value – established community trust – that it may limit further scaling. If project success hinges on IP community trust, opportunities for scaling would be limited to IPs who have established community relationships, in addition to other capabilities, and the regions where those IPs have such influence.
- FSO considered supply and demand during the identification of innovations. Concerning the supply, it selected innovations after visiting potential implementing partners and observing Indian innovations on the field. This process ensured the selection of proven innovations. Concerning the demand, FSO relied on FTF strategies in African partner countries. Project objectives and intervention areas had to be aligned with FTF priorities.

Partner Characteristics

2.9 In selecting IPs, certain criteria appear to lead to more successful outcomes. The partner's dedication to the mission of developing and spreading the innovation appears to matter.

- Organizational mission. ZMQ (an MA grantee) chooses grassroots NGOs run by women to transfer their MIRA mobile health technology in Uganda and Afghanistan to reduce maternal mortality rates and infant mortality rates. They have found these types of organizations are more likely to take ownership of the innovation.
- Country experience, local experience, and/or community trust. Partners with local experience and ties to the community helps foster trust in something new or risk, such as an innovation. This was found to be an important factor for implementation by BAIF in India (solar conduction dryer), Heifer International in Kenya (dairy cooperatives), and Cadecom in Malawi (local implementing partner for TechnoServe water structures).
- Technical expertise. Cornell and Sathguru had expertise in e-learning and seed value chains, which provided credibility to local partners.

2.10 USAID/India helps newer organizations build institutional capacities. In working with newer or smaller start-ups, USAID/India has been supportive and flexible as partners expanded their institutional scope and capabilities. USAID requirements and guidance, such as by

demanding clear and accountable financial management, M&E, and providing experience in reporting, and supporting trouble-shooting when necessary helps partners increase their capacity to manage projects more independently or for other donors/clients. For example, under the Triangular Training Program, MANAGE expanded from the implementing partner (providing training) to also managing participant recruitment, travel procedures, and other implementing partners.

Figure 5. In Kenya, solar dryers are more expensive and cooperatively owned, leading to adaptation of the funding structure and implementation model in the new environment

Enabling Environment

The range of innovations in India – from water harvesting systems to ICT solutions – and the country's diversity and recent history of development establishes India as a key potential resource for South-to-South learning and innovation sharing. USAID staff, implementing partners, and other actors in international development identified this potential. However, there are also significant differences between the Indian and other contexts that should be considered when designing programs and planning for innovation transfer. This identifies what enabling environment factors appeared to influence project processes or outcomes.

2.11 Insufficient attention is being given to the varied institutional and social context between countries. Many projects and implementing partners did not fully examine or incorporate an understanding of how a new context should alter project design, and a significant number of implementing partners did not have the opportunity to visit the trilateral country before designing the interventions. For example, the AIP and TTP had to address the different roles for universities between India and Kenya. Indian universities tend to be practice-oriented, with practical research goals that can contribute to the private sector and a thorough understanding of and experience with extension work. However, most African universities do not have the same role or capacities yet established. Although IL&FS had previous experience in Africa (Ethiopia, Benin, Chad, Burkina Faso, Mali) it was in the cotton sector and not in Kenya. S4S, SRISTI and AgSri had no previous experience outside India. For Digital Green, it was their first experience in Afghanistan (and they faced some cultural issues in the beginning). TechnoServe had a team in Kenya, but the team was not used to design the project.

2.12 Likewise, the private sector and markets for products were found to be less developed in the trilateral countries visited (Kenya and Malawi). In the case of IL&FS/Heifer International, there is less market for milk and fewer connections between the innovation

stakeholders and industry. Related to this finding, no initial funds were made available to partners for a trip to Africa to understand the context.[19] World Health Partners addressed this challenge by meeting with government representatives, health facility staff, and local and international NGOs in Kenya for a year to understand the context and design the roll-out of its technology. Other enabling environment issues that emerged multiple times include:

- Access to credit – Some innovations cost more in transfer countries, or access to finance is not as high, which can make it difficult for users to buy or invest in a new technology. Interest rates are particularly high in Kenya and Malawi and few banks give credits for agriculture. Credit or saving groups may facilitate adoption of new innovations.
- Availability of materials and cost of inputs – Supply issues with materials in trilateral countries oftentimes required importing materials from India, ranging from the full technology (solar conduction dryer) to critical inputs (planting trays for AgSri). Thus, the solar conduction dryer cost $440 in India but $1,250 in Kenya, with the difference due to shipping and import costs. This can create a negative cycle, driving up the cost to adopt the innovation and depressing demand. In some cases, the benefits of the innovation might not be worth the additional cost.
- Population density – In the case of wPower, India's higher population density enables women to sell products to their communities through established shops, whereas in Kenya, households are more spread out and women liaise with their customers at street markets or the household level. Another example is IL&FS adapting milk collection routes to low density in Kenya, with smaller volumes by route than in India.
- Geographic features – Agriculture, water management, and clean energy solutions all depend on geographic features that are not necessarily consistent between locations in India and trilateral countries. In Kenya, SRISTI adapted the India three-wheel tractor to a four-wheel tractor because soils and topographical terrains are different.
- Logistics – Although not found to causally affect project work, issues such as taxation, visa requirements, and other logistical demands did affect project timelines and budgets.

For a good example of how these issues can affect implementation, see the Solar Conduction Dryer case study in Annex F.

2.13 Partner country selection is based on few factors and limited analysis. Among the 21 innovations that have been transferred to another country with external support, there is a preference for regional partners, English-speaking countries, and countries with an existing network of Indian nationals.[20] Prakti identified Bangladesh and Nepal as potential transfer destinations due to their cultural and environmental similarity to India. In Sub-Saharan Africa, Kenya was most popular due to its large Indian expatriate community as well as its level of

[19] No IP visited the African country before the design stage. Although IL&FS had previous experience in Africa (Ethiopia, Benin, Chad, Burkina Faso, Mali) but it was in the cotton sector and not in Kenya. S4S, SRISTI and AgSri had no previous experience outside India. For Digital Green, it was their first experience in Afghanistan (and in fact they faced some cultural issues in the beginning). Technoserve had a team in Kenya but not used to design the project.

[20] FSO innovations had to be targeted at a FTF focus country: Kenya, Malawi, or Liberia.

infrastructure and development. One IP chose East Africa because it "is a dynamic environment that is similar to where India was five years ago." In preparation for transferring its eye-screening device to Ethiopia, Forus Health leveraged contacts through international organizations and networks of Indian doctors in the country to identify partners, understand the context of medical care and access in Ethiopia, and reach out to Ethiopian officials. While regional similarities, common language, and access to existing networks facilitated appear to lessen the costs of transfer, they are not necessary or sufficient. While health sector IPs visited trilateral countries,[21] though in some cases the visits occurred after the project design phase and were focused more on training, supervision, knowledge transfer, and/or implementation of innovations. ZMQ visited Uganda and Afghanistan and World Health Partners visited Kenya, and these visits occurred during the planning/design stages.

2.14 Partner government buy-in is important. Several IPs in sectors where governments generally provide services (health and WASH) noted partner government support is necessary to comply with country, county, or local policy and brings other benefits. World Health Partners worked closely with county health officials in Homa Bay County, Kenya prior to transferring and establishing their health technologies. Having county government buy-in allowed World Health Partners to use government resources such as access to medicines that are provided to clients free of charge. Incorporating local government is particularly important in Kenya, where devolution provided significant power to the states in setting priorities and allocating funding.

Working with appropriate government actors can improve coordination with other actors' priorities and increase the chance of sustainability through attracting support. IL&FS works with the county government (which is contributing a generator for the milk processing unit) and with Ministry of Agriculture extension workers. In Kenya, TechnoServe also works with the Kajiado County and the Ministry of Agriculture that monitor water harvesting reservoir construction

Program Activities & Approach

The 30 innovations evaluated varied widely based on office, sector, approach, funding mechanism, programmatic approach, and progress in implementation. The evaluation identified issues relating to: i) how the programmatic or business model affected innovation transfers; ii) the nature of the innovation shape project strategies, decisions, outcomes, or measurement; iii) users of Indian innovations in trilateral countries, and enablers, barriers, or other considerations related to this uptake; iv) how did projects consider gender and marginalized populations in their design, and how different groups benefit differently from DO4 activities.

2.15 Most of the innovations examined, Millennium Alliance being a key exception, involved a project approach to innovation transfer. The 'project approach' refers to direct financing and management of an implementing partner, and is an approach of financing and managing projects is most similar to a "traditional" bilateral development support. Other innovations were transferred through other donor support, such as through DFID's funding of

[21] SHARE-VHS visited Ghana, PwC visited Bangladesh, Operation ASHA visited Cambodia, SSP visited Kenya.

Operation Asha in Afghanistan. There are other opportunities and approaches to support Indian innovations abroad (see Recommendation 3.2)

Business Model

2.16 Offices and IPs use different model to transfer innovations, such as a grant vs. fee approach for end-users. Different offices and IPs had various views on how best to promote innovation adoption and sustainability. Seven IPs operated on a fee model, including EKO, World Health Partners, IL&FS/Heifer International, and AgSri, where end-users pay a modest fee for usage. Other projects provide grants that do not require a monetary contribution, such as the solar conduction dryer, SRISTI technologies (tractor, seed dibbler, food processing machine), and Operation Asha in Kenya.

2.17 Grants promote use of an innovation in the short term due to lower costs and risks for end users, which can facilitate access to bottom-of-the-pyramid populations that otherwise may not have the capital or willingness to take a risk on a new process or product. However, grant-based approaches raise sustainability questions since maintenance and other costs must be subsidized. This makes use easier in the short-term but sustainable scaling harder in the long-term. For example, TechnoServe provided seepage wells to Malawian farmers for irrigation and household needs. Local users received the wells and key equipment (treadle pumps and hoses) fee-free, though farmers contribute in-kind through labor. However, the farmers have not identified mechanisms to maintain the equipment, such as replacing an irrigation hose that cost USD 340, and they are unsure if they could construct and equip new wells without support.

2.18 Many innovations have not developed a sustainability plan or strategy. While a sustainability strategy is not mandatory, or necessarily critical to have at an early stage, donors should be concerned with what happens to their interventions after they exit. The concern over sustainability arises in innovations which are in the form of free services or products may lead to higher short-term uptake (an enabling component) but then not be sustainable without external support (USAID/India or other). While an argument can be made for providing certain innovative products or services at no cost or low cost for their social benefits (e.g. health, food security), a plan for promoting their scaling or sustainability should be developed at some point. This does not have to focus on fees or a private sector approach. It may involve the public sector or donors stepping in as funder, or institutionalizing the innovation in policy.

Nature of Innovation

2.19 The sampled innovations appear to be well-matched with a need in India and/or trilateral countries. They provide a new approach to an existing gap or challenge. For example, farmers in Kenya said of the dairy cooperative project, “We received a lot of knowledge and now we know how to plant fodder and to store it.” In Malawi, a community noted that through building a *gabion* to control flow of rainwater, “Now the water is slower ant doesn't wash away our land.” However, demand for an innovation is necessary but not sufficient to enable international transfer. Despite the need and existing evidence for the innovations, many are not transferrable or sustainable without further external support or significant resource investment.

2.20 The nature of an innovation influences the testing/adaptation process, the diffusion or marketing method, and the observability of its effectiveness and impact over time. The innovations evaluated can be divided into three categories: i) Knowledge and Good Practice Sharing; ii) Physical Technology/ Product; and iii) Business model (see Figure 9). Many innovations do not fall squarely into a single category in the chart. For example, Science for Society provides training on how to assemble, use, and maintain its solar conduction dryer. However, these categories demonstrate some of the findings by the nature of the innovation.

Figure 9: Findings on Type of Innovation

Type of Innovation	Examples	Findings
Knowledge and Good Practice Sharing *("capacity building")*	South-to-South Project, Triangular Training Program	· Effectiveness depends on the system in which the institution/individual receiving capacity building operates · Impacts may take time to manifest and be unexpected · Individuals can adapt learning to their context
Physical Technology/ Product	Operation Asha, Solar Conduction Dryer, Water Health Centers	· Easier to define the "innovation" · Observable by potential users and funders · Often requires other inputs, such as training or maintenance
Business model	PACE-D, wPower, Dairy Innovation Bridge	· Integrated models can be more effective than isolated innovations · Higher start-up costs · Multiple components require adaptations · USAID/India does not have to transfer the whole model

Knowledge and Good Practice Sharing ("capacity building"). Individual participants of the various capacity building projects (Triangular Training Program, TTP, South-to-South Project, S2S) all stated they gained new knowledge through their involvement. Each participant of FSO's TTP on agricultural extension and marketing applied his or her new knowledge to existing work. However, institutional factors, such as a lack of supervisor support or timing in the budget cycle, prevented them from implementing everything they would like. Both TTP and S2S participants also referenced they learned and implemented ideas that were not a focus of the projects. One Kenyan TTP participant saw milking stools for women in India and worked to bring the 'innovation' into her work.

Physical Technology/Product. These innovations often require other inputs, such as training or maintenance. The solar conduction dryer is a product tested and adapted to Kenyan and Indian contexts but has adapted to integrate a value chain approach. However, its adoption by farmers depends largely on ensuring a reliable market for dried vegetables. S4S has recognized this and is working to create value chains to support uptake of the innovations. In India, S4S is establishing a relationship with Sofood for selling dried products. In discussions with users in India, women also noted a supply of materials to dry (especially nearby and in sufficient quantity) is a concern. Even a product designed to be simple to use, such as Operation ASHA's technology, requires training for proper and consistent use by health professionals.

Figure 10: Morning milk collection and testing at the IL&FS Suka Farmers' Milk Co-op, Kenya

Business Model. It may be more effective, at least for some innovations, to transfer a process or whole innovation business model rather than just a product. Almost all innovations rely on an enabling environment or ecosystem that supports the demand for and adoption of a new product or approach. Therefore, a 'packaged model' that includes both a product and elements that promote an enabling environment, rather than a free-standing innovation, may facilitate adoption. The processes around an innovation, such as training, capacity building, development of networks may help to incubate a new product or process.

- Il&FS transferred a dairy business model integrating the whole milk value chain. Farmer cooperatives developed milk collection and marketing systems, receiving more reliable, and sometimes higher, prices for their members.
- wPower involves an interlinked set of innovations with a product (e.g. solar lamps), training, market feedback, women's empowerment philosophy that supported participant engagement. For more on wPower's 'connecting the dots' approach, see the case study in Annex F.

User(s)

2.21 Targeting innovations to the 'bottom of the pyramid' is challenging, as early adopters do not generally belong to the poorest population groups. By their nature, innovations are a new approach and embody varying levels of evidence for their effectiveness in different contexts. This novelty carries risk for users, whether in terms of monetary investment in an innovative product or in the time and opportunity cost of training or testing something new. Thus, when an innovation has costs involved, early adopters are more likely to have the resources and a safety net that allows them to take risks.

- The focus on product innovations within FSO (tractor, water management solutions, solar conduction dryer, processing machine) requires significant investments not available to many farmers in the African context. Currently, a solar dryer costs US$1,250 in Kenya, equivalent to 430 workdays for an unskilled laborer. A seepage wells for 3,000 m^2 (20 farmers) costs US$2,000 (equivalent to 690 workdays of an unskilled laborer).
- However, end-user perceptions also influence innovation targeting and use. In the focus group discussion on wPower in India, a woman entrepreneur noted that her first

customers for the solar lamps were better-off farmers, although another business woman in the same region noted that it was the poorer members of her community who did not have access to or could afford electricity. In the Kenyan context, wPower tended to be most successful among community members who were neither high-income nor low-income. Participants in the discussion in Kenya noted that low-income community members did not have the resources to be successful clean energy entrepreneurs, whereas the high-income community members viewed the project as one meant for poorer members of their community.

2.22 User types also depend on the model (grant-based vs. fees) and the potential costs to end-users involved (time, money, opportunity cost). Naireeta Service's Bhungroo water management system, once installed for low-income farmers, has minimal opportunity cost in terms of physical space or maintenance. In coordination with training, this enables continued use of the Bhungroo system. The aims of a project – such as the balance between economic and social objectives – shape how this would be contextualized at the project level.

2.23 Projects did not fully account for the potential effects of a shift from individual to collective ownership in transfer from India to Africa. To account for the lower level of income and less access to financing in Africa than in India, several projects (solar conduction dryer, TechnoServe water management solutions) shifted from an individual to a collective ownership model. However, this shift considering how collective ownership can affect individuals' access to an innovation, affect the division of responsibility for maintenance, and create additional requirements for M&E to examine effectiveness and impact. Without these safeguards, there is the potential for significant but unacknowledged inclusiveness, governance, and sustainability issues.

- In India, each user has his own solar dryer, but in Kenya solar dryers were granted to farmer groups (one per ward) to reach more beneficiaries. However, IPs did not guide farmers to define rules of use. Currently, not all potential beneficiaries can use the dryer, as others use it more often than others.
- In India, seepage wells are private; farmers dig their well in their own land. In Kenya, a seepage well benefits up to 20 people. However, the users do not own their plot. Farmers rent their plot near the wells from the private owner of the land on which the well is constructed. This makes the innovation more expensive to farms, and there is no guarantee of continued access to the well, particularly after the project concludes. Farmers also did not have a plan for collective maintenance after the project, such as if a hose broke. For more, see the TechnoServe Water Interventions case study in Annex F.

2.24 Scaling up, a key indicator of successful innovation, may not happen spontaneously after USAID/India support ends (unless a critical mass is reached). Some innovations may be successful for the users but not be taken up at a broader level. Success of an innovation does not automatically mean it will scale up. For example, by all accounts wPower is a remarkably successful project, but when asked why it was not diffusing elsewhere participants noted that the marketing, incubating, and supporting elements were critical but required additional resources which they did not have.

Social Issues: Gender & Marginalized Populations

2.25 Some innovative solutions have positive gender outcomes, though this is not a focus in many projects. A number of innovations reviewed are specifically aimed at benefiting women and their condition within the household and society.

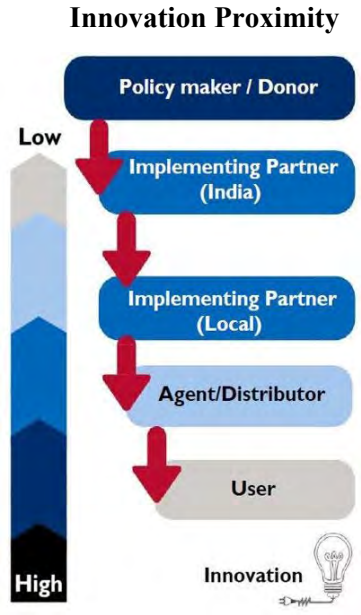
- ZMQ has designed their MIRA mobile technology specifically for use by women to expand access to knowledge about health and tracking health outcomes.
- SSP uses networks of women in rural communities to serve as clean energy entrepreneurs in the wPower program. Women receive training and enjoy a level of prestige within their communities. During focus groups in India, women reported the program has increased their household income by 30 percent.
- In the case of the Water Health Centers, the implementing partner reported (and it was observed) that more men started collecting water than before the project due to reduced waiting times for water collection.
- S4S designed a small solar dryer to facilitate its manipulation by women and it promoted the adoption of this innovation by women: in India, they subsidized and follow women users. In Kenya, they mainly granted solar dryers to women's groups.

However, there are also opportunities to expand and improve the quality of gender analysis and M&E in most projects. For example, one project that involves women's health does not appear to do regular monitoring for potential unintended consequences. For an example of how a project addressed gender and inclusivity, see the wPower case study in Annex F.

Figure 11. Introducing Innovation Proximity

There are key differences between the existing literature and the realities faced by policy makers or donors working to support innovation transfer or adoption/scaling or. Defined broadly, most development projects support innovation as they introduce processes, products, or knowledge that improve the functioning of systems, such as training on customs clearance or promoting solar lantern use. What makes innovation transfer work different from a typical project, from donors' institutional perspectives?

Considering Innovation Proximity. The authors have developed the concept of 'innovation proximity' as a framework for studying innovations from a multiple stakeholder perspective. With respect to most innovations, there are multiple stakeholders, all with their own perspectives and interests. Stakeholders and their interests can be viewed in terms of how close they are to the innovation itself – their innovation proximity. An institution's place relative to others (in the innovation transfer value chain) and its innovation proximity affect the nature and degree of control the institution has within the transfer process.



Policy makers or donors seeking to support innovation transfer/scaling have low innovation proximity and so have limited capacity to influence the innovation transfer process beyond the next step in the transfer value chain: the implementing partner (IP). IPs likely do not have direct contact with the user (customer/ beneficiary), the stakeholder at the other end who chooses whether to adopt the innovation. IPs operate through agents or distributors, on whom they rely for services such as marketing and selling. Each actor in the innovation value chain has their own interests, which are interrelated but may or may not align.

Magnified challenges of exporting innovations. International transfer further decreases innovation proximity and increases potential and risks within the innovation value chain for misalignment or inefficiencies. This is more acute in international transfer; IPs may need local partners to navigate the new environment, adapt the innovation, assist with management, or build relationships with communities.

International transfer introduces another layer of risks and intermediaries. The donor becomes even farther removed from the innovation end-users, and this introduces new risks: finding and working with new partners; further adapting the innovation; a new enabling environment, including legal and regulatory issues. The multiplicity of implementing partners creates potential inefficiencies in management, transfer of information, and use of resources. Based on the findings of this evaluation, the lower innovation proximity of international transfer affects three key aspects:

1. **Policymaker / donor roles**. Innovation proximity and place in the innovation value chain determines the roles and influence of different institutions. Each of the role can influence what happens down the chain, but the policy maker or donor has limited direct control and generally decreasing involvement
2. **Level of adaptation post-transfer and associated costs**. By nature of being innovative and coming from a different context, it is normal for such projects to require some level of adaptation before adoption and scaling takes place, relative to projects designed within the initial context.
3. **Need for data and feedback loops at all levels.** ME&L for innovation transfer activities must contend with the specific challenges of innovation transfer projects. The high level of adaptation and distributed decision making structure creates challenges for collecting and sharing the data (of sufficient quality and in a timely matter) based on different stakeholders' needs, and doing so in a cost-effective way relative to the project investment.

For a full explanation of this conceptual framework, see Annex B.

Evaluation Question 3: Additional Capabilities & System Changes

What additional capabilities and system changes are required for USAID/India to elevate its leadership and strategic role in global transfer?

Building on the findings elaborated in response to Evaluation Questions 1 and 2, the team developed the concept of innovation proximity to consider how to best utilize USAID/India's resources (see Figure 11, or full description in Annex B). Based on these findings and framework, this section outlines conclusions and recommendations targeting the institutional level. It suggests how USAID/India can adjust its current approach to further enhance its support of DO3 and DO4 activities. The next section (Evaluation Question 4) then addresses how individual offices can promote and strengthen innovation outcomes.

The Mission faces several constraints to promoting the overarching CDCS goal of a ***USAID-India partnership transformed to increasingly contribute to global efforts to solve worldwide development challenges***. This evaluation suggests different approaches the USAID/India Mission can use to reach its goals.

Conclusions

Findings summarized under Evaluation Questions 1 and 2 highlighted the risks and challenges to promoting innovations both in India and Indian innovations abroad. The primary constraints to promoting innovation transfers through a project approach are:

Institutional level

- **Administrative/budgetary restrictions** on spending USAID/India funds outside of India, which makes it difficult for all offices to promote innovations under DO4 directly.[22]
- **Competing technical priorities**, such as responsibilities for other DOs. This can mean an office has less time and fewer resources available for innovation support.[23]
- **Difficulties in measuring outcomes and impacts of innovations**, especially those at a very early stage under DO4.
- **Ambiguity in attributing impact of innovation transfers** funded by other operating units or donors, such as DIV and DFID, to USAID/India.
- **Need for cooperation from other operating units**, which is not always forthcoming.

[22] This applies particularly to the Health Office, which is prohibited from spending funds outside of India.
[23] The exception to both these first two points is the Food Security Office, which has the greatest strategic focus and budget for international innovation transfer activities.

Project level

- **Added administrative burden and costs** of providing technical support and oversight to innovations outside of India, in particular outside of the South Asia region where there is greater socio-cultural similarity.
- **Increased probability that innovation transfers will need to be adapted or re-engineered** because of different enabling environments.
- **Higher costs for international innovation transfer**, such as due to cross-border administration, sourcing, tariffs, and other logistical and legal/regulatory issues.
- **Difficulty and cost of measuring innovation impacts**, especially when insufficient time has passed and they have not yet scaled (which was found to be the case for all transferred innovations reviewed).

> ***'Project approach'*** *refers to treatment of an innovation as if it were a development intervention, with financing and technical support provided during the design and implementation phases. This is characterized by a higher degree of resource investment in and management of individual innovation transfer activities.*
>
> ***'Partnership (or consortium) approach'*** *refers to more indirect support to an innovation program through financing or other resources, without being directly involved in provision of technical assistance, funding, or partner management.*
>
> *These are in addition to other approaches presented in Recommendation 3.2.*

At present, offices use either a project approach or a less direct partnership approach to support the innovation agenda. Under the project approach, the office is involved in many aspects of innovation promotion, as with FSO and DO4 innovations. In contrast, under what can be called the partnership/consortium approach, USAID indirectly supports many innovations, e.g. through MA (CIP) or, even less directly, as when DFID funds scale up of Operation Asha in Afghanistan. The project approach can be time-consuming given the operational and partnership management involved, especially relative to more indirect approaches that might better utilize USAID/India's comparative advantage as well as reduce costs and potential risk.

The above constraints may reduce incentives for offices to allocate part of their budgets to innovation transfers given the higher costs and potentially lower returns involved. As the stakeholder farthest removed from the innovations and their adopters, donor agencies like USAID are at a disadvantage in terms of innovation proximity; their ability to influence the outcomes of innovation promotion activities further deteriorates when it comes to international transfer. As discussed under the Conceptual Framework (Annex B), as the donor, USAID is the least proximate of all the stakeholders from the innovation itself and potential end-users in the trilateral country. Consequently, it faces more layers of management and barriers to exerting influence on innovation adoption than, for example, the IP, distributor, or end-user.

Additionally, there is no directive for technical offices, aside from FSO, to spend a portion of their (limited) budgets on international innovation transfer. The team does not believe that such a mandate would be beneficial given other priorities for offices and the additional challenges involved in the current approach.

To deal with the competing pressures of a strategic priority to transfer innovations (DO4) while facing challenges and disincentives to do so, USAID/India offices have developed various ways of broadening the activities considered as DO4, which leads to confusion. For example:

- The DO4 wording itself uses the term 'increasingly adopted,' though this is difficult to measure and lacks an indicator for success.
- Offices use of an expansive definition of "innovation," such as training for partner country officials, which dilutes the term.
- The slogan "Success in India means success in the world," may have a mathematical basis given India's large population, but it can also be a passive way of India addressing global development challenges and fulfilling DO4 objectives.
- This mid-term evaluation was expanded from covering only DO4 activities to also include those under DO3 and one under DO2.

Recommendations

Building on the discussion above, a comparison of DO3 and DO4 innovations, an assessment of different USAID operating units' approaches, and an understanding of USAID's multiple roles in supporting innovation, the team recommends USAID/India support DO4 through a different paradigm. The CDCS goal can still be honored but with USAID/India adopting a different approach for the remainder of its CDCS period to tailor an office-by-office approach and use resources more strategically.

In practical terms, this means less focus on direct support of projects, accepting that USAID/India has limited control over innovation transfer. At the same time, USAID/India could expand its use of indirect means, highlighting and building on USAID/India's comparative advantage to deploy its resources more strategically in supporting innovation transfer.

Direct support of innovations can continue, such as those managed by FSO, but a greater focus can be given to quality over quantity. USAID/India should try to move away from measuring itself in terms of number of innovations supported with insufficient clarity on if or how they are succeeding. While offices may do their best to ensure quality is maintained, there are opportunities Mission-wide to refocus on fewer projects, initiatives, or partnerships and to invest more resources per innovation. This is particularly relevant once an innovation is proven (in India and the trilateral country). Offices can also work with partners more, or have additional quality criteria, to ensure implementers incorporate lessons learned from the proposal stage. Decisions on whether to continue financing, and what to either drop or pass to other funders, should be made at preset periods and with predetermined criteria.

While continuing to fund and advise on innovations in India and generate lessons learned, USAID/India should focus on its building up its multiple roles (see Evaluation Question 2). In practice this means fostering knowledge exchange through conferences, utilizing online platforms, and increasing cooperation with the Global Development Lab. As noted, USAID/India as an institution is the farthest removed from the innovation itself and its adopters. Closing that gap is generally an inefficient use of resources.

It should be noted that these recommendations, drawing on evaluation findings and conclusions and arrived at independently, are nonetheless largely in line the guidance outlined in the CDCS. On the one hand, it means that a complete reorientation of USAID/India's approach is not

needed. Instead, by following the CDCS more closely, USAID/India can position itself to support India's goal of identifying and sharing Indian global development solutions.

3.1 Define DO4 terminology and use it consistently throughout the Mission. Many terms pertaining to innovations and innovation transfers are not understood clearly or used consistently. In coordination with the strategic stock-taking currently underway and implementation of any changes to the Mission's current DO4 work, the Mission should establish and disseminate definitions of key terms to facilitate communication as well as innovation identification, implementation, measurement, and comparison. Figure 7 present potential definitions, and Annex E presents a selection of definitions for these key terms for comparison.

3.2 Expand indirect support for innovation transfer through other approaches.
There are approaches other than financing and supporting innovation projects for catalyzing the transfer and adoption of innovations. The MA platform, a partnerships approach, represents one alternative, and Annex F presents an MA case study. The evaluation and a review of innovation literature includes the following approaches and potential advantages and disadvantages:[24]

Figure 12: Advantages and Disadvantages of Approaches to Innovation Transfer

Approach	Examples/ Activities	Advantages and Disadvantages
Projects	Dominant paradigm in use	• Provides a higher level of influence over activities • Clearer understanding of USAID/India's work and influence on outcomes • Requires significant time and resources to manage
Partnerships	Millennium Alliance	• Maximizes collective values based on partner specialties • Leverages multiple networks, perspectives, and funding • Carries coordination costs • Diminishing returns after one partnership platform per issue
Market for Innovations	Innovation fairs; Global Innovations Exchange	• Enhances demand-driven focus • Dependent on outreach from potential partners • Lower management costs, expands opportunities to engage in DO4 • Example: Global Innovation Exchange
Grand Challenge/ Crowdsourcing	Development Innovation Ventures	• Benefits from broad participation and expands opportunities for new actors and ideas to engage in development • Targets a single development issue, providing focus • Results can be tracked based on support • USAID/India may be able to target regional issues, but global challenges (such as DIV) maximize outreach

[24] The CDCS also outlines various approaches/activities for DO4 activities, including: (1) Brokering the necessary resources and connections to enable cross-border sharing and application of Indian innovations; (2) Capturing and sharing information on promising innovations through presentations at regional or global forums; (3) Supporting mission-to-mission and other exchanges aimed at promoting adoption in other countries; and (4) Analyzing opportunities and markets for innovations in collaboration with other USAID units. (CDCS, 41.)

3.3 Coordinate more strategically with other Missions. To increase the likelihood of partner Mission engagement, options include:

- Establishing innovation partnership goals within partner Mission strategies or project appraisal documents.
- Assigning a point of contact.
- Marketing to Missions based on their existing sector priorities.

Once communication is established, various measures can smooth coordination between Missions on supporting the transfer of a given innovation, such as:

- Strengthening institutional engagement in the trilateral country. This might include a point of contact for IPs and for mission to mission engagement, especially to establish strategic priorities for cooperation.
- Agreement on how contacts with IPs, national, and local institutions are handled.
- Agreement on the amount and type of resources to be contributed by each Mission.

Regular discussions/calls to monitor progress.

3.4 Improve coordination with the USAID Global Development Lab and Bureau of Policy, Planning and Learning. USAID's Global Development Lab is an institutional resource that can help develop connections with other missions and collaborate for mutual learning on innovation work. The Lab has expressed interest in closer cooperation with USAID/India. USAID's Bureau of Policy, Planning, and Learning (PPL) also has resources available to support ME&L. Stronger collaboration could involve:

- Information sharing on ongoing innovations (by USAID/India) and information on innovations and stakeholders (by the Lab).
- Regular meetings/teleconferences.
- Lab disseminating USAID/India's lessons learned to other countries.

The CIP office would be the most appropriate contact point within USAID/India for coordination with the Lab, and Program Support is best placed to coordinate with PPL.

3.5 Enhance and develop learning from innovation support. Ongoing learning should be built into the DO3/DO4 program. This goes beyond M&E, reviewing the PMP table, and commissioning occasional evaluations. USAID/India should consider the following:

- Creating a robust system for monitoring risks, identifying issues which may impede diffusion, and measurement of outcomes or impacts. While PS is mandated to manage M&E, an innovation M&E specialist should work in close coordination and under the technical direction of CIP as envisioned in the CDCS.
- Establishing knowledge management processes and responsibilities to understand the number and status of USAID/India-supported innovations. At present, the status or level of success of all the 342+ innovations which USAID/India is supporting is not easily determined. How many will continue once funding ends? How many are likely to scale? The present evaluation assessed only a narrow subset of DO3 and DO4 innovations, limiting the ability to generalize.

- Establishing a learning system for identifying, monitoring, and sharing innovations and "game changers" with potential for scaling-up and sustainability.[25]
- Executing a plan to coordinate, collaborate, and exchange experiential knowledge internally and with external stakeholders.[26]

Evaluation Question 4: Improving Programs & Activities

How can USAID/India can change or improve its programs/activities to better incubate, transfer, and/or scale innovative solutions to increase development impact?

This section makes recommendations on how USAID/India technical offices can adjust their work programs as they relate to DO4. Although the team recommends broadening the focus of DO4 beyond project financing and support to a greater focus on indirect approaches (such as partnerships, consortiums, or knowledge exchange), this section addresses innovation issues at the project level. This is because it is expected that projects will continue to part of the DO4 portfolio, and recommendations may be of use even if USAID/India is not directly involved.

The recommendations related to Evaluation Question 4 broadly follow the project cycle: assessment and design; partnership selection; implementation; and measurement and learning. These recommendations also draw on the evaluation team's conceptual approach to innovation transfer projects and programming, as outlined in the following section and Annex B.

Assessment & Design

4.1 Reinforce and diversify existing processes to identify and design new projects. The sampled innovations contained elements of strategic targeting through the call for proposal process (such as requesting alignment with partner country FTF strategies) or were based on requests from partners (such as the request for information on targeting high-risk populations from the Ghanaian government via the South-to-South Project). However, there are opportunities to strengthen the demand-driven aspects of these processes and diversity strategies, such as:

- **Explore co-design processes with partner governments or USAID operating units.** This early involvement and interest increases the likelihood of buy-in if an initial project is successful. The co-design process for the AIP/Cornell project is a successful example.
- **Integrate Indian innovations as a *component* of projects** implemented by other donors, USAID/Missions, or partners, such as through a Market of Innovations approach.

4.2 Match innovations and partner country selection based on demand, enabling environment, and potential scalability. The CDCS states an assumption that, "The appropriate

[25] CDCS, 48.

[26] Ibid. Note USAID/India's FSO held a partner meeting in Delhi in October 2015 towards this end. However, there are more opportunities for cross-learning within and between other offices.

resources, programmatic synergies, enabling environment, etc. exist in other countries for the innovations shared by India to be effectively adopted in other countries, and other entities in the public, private, and non-profit sectors, as well as other operating units within USAID, will contribute to and share in the support for these complementary inputs."[27] While current activities have taken steps towards integrating analysis on the issues of enabling environment, programmatic alignment, and potential for complementary support or follow-on resources from other entities, these should be prioritized more in matching partner countries and innovations.

From the beginning, innovations for USAID/India support should have the *potential* for scalability based on the enabling environment, an identified demand or market gap, cost effectiveness or comparative advantage relative to similar products/processes, and the likelihood of follow-on support (from another development group, a partner government, or the private sector). Even if the goal of the project is to prove the innovation or a project model in a new location, if there is no potential for scaling it limits the potential impact of the project and USAID/India's investment. Positive indicators of this include:

- **Clear alignment with the priorities of other actors** (development groups, partner government, or other USAID/Mission) with the resources to support scaling. Ideally, the potential scaling partners should also participate in the design process to provide input and increase their awareness of and engagement in the project.
- **Few enabling environment barriers,** based on available information and considering the illustrative examples of common challenges in Evaluation Question 2.
- Considerations from existing resources for assessing scalability.[28]

4.3 For larger projects, dedicate funds for research or a scoping trip. After an innovation has demonstrated success, a scoping trip would help identify potential innovation-specific constraints to transfer or scaling in a trilateral country. These findings can improve project design and increase the likelihood of successful adaptation and scaling. A scoping trip would depend to some degree on the size of the project/funding.

4.4 Tailor project design and M&E to measuring change based on the type of innovation and intervention. The CDCS states that, "Development innovations proven in India are valued in and relevant to other countries."[29] Based on the innovations review, USAID/India has been successful in identifying and transferring innovations that meet a clear need in partner countries. However, there are considerations based on the nature of the innovation that can improve project design, implementation, and measurement.

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[27] CDCS, 42.
[28] Larry Cooley and Johannes F. Linn, "Taking Innovations to Scale: Methods, Applications and Lessons" (Results for Development Institute, September 2014). USAID/India's "Agriculture Innovations Transfer Landscape Analysis" Report (2015) also includes an Agriculture Innovations Transfer Assessment Score Card Tool (Annex 3) that might be adapted to other sectors.
[29] CDCS, 42

The nature of the innovation affects the processes, outcomes, and types of measurement for a project. Below are examples of some ways in which both project design and measurement can be improved, based on the type of innovation:

- *Knowledge and Best Practice ("capacity building"):*
  - Design: Findings indicate the importance of ensuring adequate institutional resources and support for shared knowledge and best practices to be implemented in a new context. A more expansive approach, to individuals and the institutions in which they work would facilitate effective knowledge and best practice transfer.[30] For example, this could include funding for a trip at the start of a contract, after which the activity design is updated to reflect findings from the trip. Alternatively, where closer collaboration with partner Missions is possible, additional information and analysis could be obtained this way.
  - Measurement: Results are more likely to manifest over a longer period and have the potential to create broader impacts as individuals and institutions adapt new knowledge and skills under various conditions. The M&E system should examine the expected results based on the project design and timeline, at a minimum, while acknowledging other changes are likely to occur later.
- *Product:*
  - Design: As noted, products oftentimes cannot be inserted into a new market without other support (such as training on use or maintenance). Projects should consider using a value chain analysis or approach to help introduce products.
  - Measurement: Products are easier to measure due to their "countability," although M&E must go beyond the physical presence in another country to look at use, impact, and potential sustainability.
- *Business Model:*
  - Design: When transferring a model, designers will need to assess multiple dimensions for transferability and scalability. Design should include sufficient time and costs for initial start-up and adaptation.
  - Measurement: Measuring all elements of a business model against alternatives is challenging because of the unique combination of factors come together. Qualitative methods, such as case studies, should be used.

Partnerships

4.5 Consider the comparative advantage of each implementing partner. Clear expectations should be developed concerning what each partner brings to a collaboration and how the partnership will advance project objectives. At the outset, careful attention should be paid by USAID/India to identifying the skills and knowledge required for a project, and partnerships should be built accordingly. A section can be added to the implementing agreement specifying the roles and added value of each partner, taking into account the enabling factors and barriers identified above (under Evaluation Question 2). This can reduce problems such as those

[30] USAID, "Human and Institutional Capacity Development Handbook," October 2010.

identified with certain partners in trilateral countries, whose added value – to the innovation's transfer, testing, or adoption – was unclear. On the positive side, an Indian innovation on sexual and reproductive health that requires adaptation and introduction to a new cultural context would benefit from a partner with established trust in the community. Or, if commercial viability is the key to a sustainable innovation, then a private sector partner might be the appropriate choice.

The nature of innovation transfer – sharing an Indian innovation in a new context – makes a higher number of partners more likely. This might include USAID, an Indian IP, a partner country coordination organization, and a local implementing partner. However, there are diminishing returns per additional partner after a certain point, increasing inefficiency and risk. As described above, the design should drive prioritization of factors for selecting IP(s). However, USAID/India can help facilitate more effective consortiums if it:

- Actively links actors through networks to connect Indian IPs to appropriate partners.
- Prioritizes clear and complementary roles in agreements.
- Accepts some roles itself, such as mentoring newer organizations in reporting, or providing guidance on USAID funding.

4.6 Identify sources of support for innovations after USAID/India engagement ends. The CDCS includes an assumption that the Mission will identify "demand-driven development innovations that will, in turn, draw interest, resources, and investments from the private sector and host governments (depending on the nature of the innovation) to diffuse and scale these innovations worldwide."[31] A sustainability strategy or plan is one way of institutionalizing this. It should be noted that sustainability need not mean an end of all external support: local governments, other donors, or the private sector can all play a role in promoting sustainability. The existence of sustainability plans varied across the offices and innovations, but most did not appear to have an explicit, written strategy. Developing a sustainability strategy from the beginning could make for more effective investment of limited resources.

This might mean an innovation becomes commercially viable and the implementing partner or a new private sector actor scales. Alternatively, partner governments or other donors might integrate the innovation into policy or ongoing programming. Though further support likely depends on adaptation and proving the innovation in the new context, USAID/India should have a long-term goal for each innovation before transferring an innovation. Steps to determine this might include USAID/India advising or supporting the following:

- **Involve partner governments or Missions early in the design stage** to determine potential interest and understand their processes and capabilities to provide follow on support.
- **Market innovations to potential supporters** when involvement from the design stage is not possible. This should include good visibility for the project and its results, emphasizing the comparative advantage of the Indian innovation relative to available alternatives.

[31] CDCS, 42

- **Develop a business plan** if the innovation is geared towards commercially viability and the partner has a business interest.
- **Consider promoting uptake of socially-desirable innovations through state policy.** If an innovation is not commercially viable but is deemed to have a social value, then the sustainability plan might address how to integrate the innovation into policy and/or identify other donors to continue funding it. The case for policy advocacy will be stronger if an impact evaluation has established the benefits of the innovation.

Implementation

4.7 Financing and partnership mechanisms should facilitate flexible management and minimize costs for scaling.[32] Innovation transfer is sporadic, and bureaucratic processes have the potential to either restrain a successful project from continuing to expand or to continue funding a clear "fast fail" through institutional inertia. To use resources efficiently and capitalize on opportunities as they emerge, USAID/India can:

- **Set high contract ceilings, without obligating full funding.** A USAID partner country staffer suggested that a high contract ceiling lowered costs for counterpart Mission support. The partner Mission only had to obligate funds through the existing mechanism to support the innovation rather than going through a separate procurement/start-up process.
- **Utilize option periods.** If an innovation is successful, there can be options to extend existing contracts for set, optional periods of time (option periods) rather than allocating the time and resources into setting up new agreements or processes. This could take the form of including extension clauses in funding for an IP, for an additional one or two years beyond the initial 3-year contract. The extension would be at the discretion of USAID, and be linked to specific indicators, and based on a decision made by a committee. These can be either costed or no-cost.
- **Support AORs/CORs in making evidence-based decisions about project revision or expansion.** This promotes better use of resources and more realistic goal-setting, such as adapting a product or project to the context rather than holding to what is in a proposal.

Measurement & Learning

USAID/India should design projects with innovation transfer ME&L in mind. As DO4 interventions are varied and themselves innovative, M&E provides the data on what approaches are working, where changes can be made to improve implementation and results, and can help identify any unintended consequences. It is important to have a clear theory of change and to understand the nature of the innovation and intended effects. This can be done through the following measures.

[32] 2016 Revisions to USAID's ADS 201 emphasizes adaptive management. The USAID Learning Lab included a presentation to implementers on understanding ADS 201 revisions, including a description of how USAID is evolving funding mechanisms to promote flexibility in program management. See more at the Learning Lab's website (https://usaidlearninglab.org/library/ads-201-revisions-program-cycle-quick-guide).

4.8 Establish a clear theory of change for each project. Theory of change considers inputs, outputs, outcomes, and impacts. Inputs are the easiest to track. A theory of change can be based around an "if… then… because…" phrasing.

There is a range of indicators that can be measured to track implementation (milestones) as well as progress towards results (tracking the changes anticipates steps within the project logic). Generally, the easier indicators are to measure, the less information they provide about a project's impact. Multiple methods should be used, if possible, to triangulate findings and check the validity of one source with another. It will also be helpful for evaluations if baseline data are collected prior to the start of an activity. This requires assessing what the most likely output, outcome, and impact indicators are likely to be, and which population groups are most likely to use and benefit from the innovation. As introducing innovations into new contexts is likely to have a range of effects in the recipient society, the project should also monitor for unintended consequences (both positive and negative).

4.9 Go beyond tracking inputs toward measuring uptake, consequences, and impacts. A fundamental question concerning innovations is whether they have, or will have, a positive impact. Successful innovation transfer and adoption is contingent upon a change: a more effective process for assuring TB compliance; a system for planting sugarcane that uses water more efficiently and increases yields; solar lamps as a low-cost, clean energy solution to intermittent power supply. Beyond the factors which promote or impede diffusion lie questions concerning impacts. What is the nature and extent of the impact on a person, household, or entity of a given innovation? Is it direct or indirect? Are there unintended consequences? However, assessing impacts can be expensive and time consuming, as noted earlier, and not all impacts are easily quantified. Some impacts are indirect (changes in women's aspirations after marketing training for wPower), and some impacts are difficult to measure. Results are sensitive to assumptions.

4.10 Employ more analytical approaches. The analytical approaches and types of data to collect, roughly from least difficult/expensive to most difficult/expensive, are outlined below.

- **Outputs.** At present primary USAID/India collects data on inputs for DO3 and DO4 innovations with a focus on outputs such as:
  - dollars spent
  - number of innovations supported
  - non-USAID financing leveraged
- **User analysis.** To be meaningful, additional data can be collected on users. This data can be collected by the agents/distributors, including:
  - number of users (indicates adoption)
  - number of users over time (indicates adoption rate)
- **Consequences.** Consequences can be direct or indirect, planned or unintended. Any game-changing or disruptive innovation is going to have unintended effects. For this analysis, focus group discussions, case studies and observations are important. The evaluator may not know what to look for, and so should use open-ended and exploratory questions.
  - indirect outcomes (such as changes in health, education, mortality rates, etc.)
  - unintended consequences, negative and positive

- **Socio-economic/demographic analysis.** These data look at social and economic environment and context and requires surveys and focus groups.
    - share of targeted population using innovation (indicates penetration rate)
    - type of users by socio-economic group (indicates equity, bottom of pyramid targeting)
    - discontinuance (whether users genuinely enjoy benefits of innovation after testing them, or have stopped using it)
- **Impact assessment.** This information is based on all the above types of data, and is the most expensive and challenging to collect, involving careful research design.
    - income/revenue
    - productivity
    - convenience
    - time savings
- **Impact evaluation.** Impact and effect size (attributed to an innovation) are estimated while accounting for other factors. It is not enough to measure the impact of an innovation, but the impact should be compared to a 'what if' or scenario. Other changes may have occurred, and users have other options. A counterfactual scenario is created based on a comparison:
    - difference between treatment vs. control groups
    - survey includes a treatment group (innovation users) and a control group (non-users) to assess what would have happened if there were no innovation
    - effect size (to determine how big the difference is independent of the sample size)
- **Cost-benefit analysis.** This accounts for all the above analysis and assesses net positive impacts against the costs incurred by all parties – such as the donor, business and users – to assess to what degree the benefits outweighed the costs and whether the benefits are worth the money spent. This approach relies heavily on measurable data and assumptions because benefits can be indirect and difficult to quantify.
    - net benefit of innovation per person

In deciding whether to evaluate an innovation, trade-offs must be made between the credibility of evidence and costs of collecting and analyzing data. How the balance is struck will depend, in part, on USAID's tolerance for uncertainty. In any case, it is recommended that USAID goes beyond tracking outputs (number of innovations supported, amount of funds disbursed, funds leveraged). At a minimum, it should develop evaluation modules which assess *uptake* and *continued use* among the target users. Collecting this information would incur additional costs, but would not require large surveys or establishment of counterfactuals, 'what if' scenarios using control groups.

4.11 Consider contribution as well as attribution to capture the effectiveness of activities. Determining attribution of outcomes or impact is often difficult. This is especially so when USAID/India takes a partnership, leveraging, or other 'catalytic' role, or if USAID might have contributed to changes (particularly when an innovation does something "faster, cheaper, more effectively," as per the CDCS). These 'inputs' by USAID/India are very difficult, if not impossible, to quantify. As seen in the wide number of roles USAID plays in supporting innovations, funder is just one (albeit important) aspect of supporting innovations. Less rigorous but more encompassing techniques for capturing the effects of innovation promotion might include Most Significant Change or outcome mapping methods.

4.12 Develop a database of knowledge for each transfer country. For countries where USAID/India and its partners work regularly, partners would benefit from resources with basic information and earlier experiences. A database might include explanations of important legal or regulatory issues (export/import processes or taxes, business regulations, both in India and partner countries), guidance on logistics or operations (visas), and provide a forum for partner cross-learning and networking (particularly if reinforced with events or request for contributions to the network). This could draw on similar existing resources (such as country-specific investment or taxation guides) and, if open source, could also benefit and be supported by other actors in innovation promotion.

ISSUES & CONSTRAINTS

The Scope of Work (Annex A) continued to evolve after the evaluation began, and was only finalized one week after the fieldwork in India launched. Through multiple calls prior to field work and during the first week in Delhi, USAID/India requested: the inclusion of more technical offices; revising evaluation questions; and increasing the number of innovations for analysis, including expanding the innovations from exclusively DO4 to also include DO3 and DO2. Changes were captured and approved in the evaluation project plan/evaluation work at the end of the evaluation team's first week in India.

ANNEX A. EVALUATION STATEMENT OF WORK

STATEMENT OF WORK
USAID/INDIA
COUNTRY DEVELOPMENT AND COOPERATION STRATEGY
DEVELOPMENT OBJECTIVE 4
MID-TERM PERFORMANCE EVALUATION

I. INTRODUCTION

The U.S. Agency for International Development's (USAID) five-year (2012-2017) Country Development Cooperation Strategy (CDCS) reflects the transformation of the USAID-India relationship from a traditional donor-recipient one to a peer-to-peer partnership whereby India and the U.S. collaborate to solve global development challenges together. Through this approach, USAID/India catalyzes new partnerships to test and scale tested innovative solutions regionally and globally and in keeping with its joint Statement of Statement of Guiding Principles On Triangular Cooperation for Global Development with the Government of India (GOI). (See attached). (The USAID/India CDCS results Framework is attached in the Annex).

In keeping with this strategy, USAID/India aims to achieve its overarching CDCS goal: "USAID-India partnership transformed to increasingly contribute to global efforts to solve worldwide development challenges". To this end, programs are designed to advance

Sub-Goal 1: Indian systems strengthened in priority sectors

- **DO 1:** Increase the capacity of India's health system to improve the health of vulnerable populations in India.
- **DO 2:** Accelerate India's transition to a low emissions economy.

Sub-Goal 2: Indian innovations accelerate development outcomes in India and globally

- **DO 3:** Development innovations impact people's lives at the base of the pyramid (BOP) in a range of sectors in India.
  DO 4: Innovations proven in India increasingly adopted in other countries.

The fourth DO of the CDCS is the subject of this evaluation. This Development Objective 4 (DO4) seeks to accelerate development outcomes regionally and globally by catalyzing and supporting alliances that harness resources, networks, systems, and knowledge to transfer, pilot and scale up innovative solutions tested in India. USAID/India also conducts outreach to the global development innovation community to inform organizations and individuals about the different types of development solutions that are being catalyzed and tested in India.

II. PURPOSE OF THE EVALUATION

USAID/India has been involved in the testing, scaling and transfer of development solutions to other countries since 2012. These initiatives include activities designed to identify, test and scale solutions to specific development problems in the areas of food security, health services and

clean energy. The various activities are at different stages of implementation; with ample opportunity for course correction should there be a need to do so. Recently, the mission launched an updated version of its India Partnership Program (IPP)-2.0 Annual Program Statement (APS) on April 1, 2016 to continue to build partnerships that support DO4. At this mid-point of the CDCS timeframe, USAID/India wishes to conduct a mid-term review of the progress toward DO4 and capture lessons learned – what worked and/or did not work in terms of partnership choices, policies, strategies and implementing mechanisms– - and assess the extent to which these factors or their interactions fostered or hampered the global adoption of local solutions.

The mid-term evaluation will assess the impact of the DO4 activities supported by USAID/India. The primary purpose of the mid-term performance evaluation is to understand what has worked well, what has not worked, and apply lessons that can be drawn to enhance the performance of ongoing activities, future project designs and investments for the mission.

Evaluation Questions:

1) To what extent have innovative solutions incubated or tested (proven) in India been scaled or transferred (adopted) in other countries? To what extent has there been a measurable development impact in health, food security, WASH, education, and clean energy outcomes in India or partnering countries?

2) What are the specific enablers and barriers (both within India and partnering countries) that influenced development outcomes?

Barriers and enablers examined by the evaluation must include but not be limited to the following areas:

a) Innovation approaches that encompass institutional capacity building, technology incubation, testing, and transfer, and private sector partnerships that enable local or global transfer;

b) Processes and mechanisms for testing and scaling the innovative solutions.

3) What additional capabilities and system changes would be required for USAID/India Mission to elevate its leadership and strategic role in global transfer?

4) How can USAID/India change or improve its programs/activities to better incubate, transfer, and/or scale innovative solutions to increase development impact?

III. BACKGROUND INFORMATION

DO4 promotes triangular cooperation to address development challenges in third countries, takes advantage of strong U.S. and Indian cooperation, leverages the strengths of each nation, showcases Indian leadership and know-how, and benefits other developing nations.

Also, the USAID/India made certain assumptions when developing its illustrative indicators under DO 4. Some of the more central assumptions were:

- That the Mission's approach will lead to the identification of demand-driven development innovations that will, in turn, draw interest, resources, and investments from the private sector and as well as other governments (depending on the nature of the innovation) to diffuse and scale these innovations regionally and worldwide;
- That the appropriate resources, programmatic synergies, and enabling environment exist or could emerge in other countries for the Indian innovations to be effectively adopted ; and
- That actor in the public, private, and non-profit sectors, as well as other operating units within USAID, will contribute to the process of scaling or transferring Indian innovations.

B- Development Hypothesis underlying DO4

Within the Mission's new Country Development Cooperation Strategy (CDCS) multiple offices share responsibility for Development Objective 4, "Innovations proven in India increasingly adopted in other countries.

The development hypothesis underpinning all activities related to DO4 can be summarized as follows:

By identifying evidence-based innovative approaches, products, and/or systems, and combining these with Indian financial and intellectual capital while partnering directly with and under the leadership of Indian organizations, USAID/India can deliver development results faster, cheaper, more effectively, with broader impact, and more sustainably in the areas of health, education, climate change, and food security. This strategic approach supports Indian organizations and alliances to identify, test, and scale-up opportunities for solving development issues in India as well as in other countries. As a result, the USAID/India partnership will transform to increasingly share in efforts to solve Indian and global development challenges.

Intermediate Results for D04 are as follows:

- IR4.1: Indian innovations for development impact shared with other countries

C- Activities under DO4

Currently, three technical offices are involved in implementing activities designed to identify, test and scale solutions to specific development problems in the areas of food security, health care and clean energy. Among the three, the Food Security Office (FSO) has the largest number of activities (followed by the health and clean energy offices).

i. Food Security Office Activities

Implementation Mechanism

In the Food Security Office (FSO), under the India-Africa Agriculture Innovation Bridge Annual Program Statement (Ag-Bridge APS) launched in December 2012; a total of five awards were made during 2013-14. The focus of the Ag-Bridge APS was to facilitate transfer of Indian

agricultural innovations to three FTF target countries in Africa jointly determined with the Government of India (GOI)-namely Kenya, Malawi and Liberia. The purpose of these programs were to facilitate the transfer of tested Indian innovative solutions that will selectively target Feed the Future (FTF) value chains in these countries and will contribute towards increasing in agricultural productivity and food security outcomes. Besides the Ag-Bridge APS, the Food security office also initiated the "Government to- Government-to-Government: US-India-Africa Triangular Capacity Building program in partnership with the Government of India (GOI) in 2013 to provide short term training to Kenyans, Liberians, and Malawians mid-career agricultural professionals from the Government, not-for-profit and private sector on agricultural extension management at the National Institute of Agricultural Extension Management (MANAGE) in Hyderabad and on agricultural marketing management at the National Institute of Agricultural Marketing (NIAM) in Jaipur.

From 2014, USAID/India FSO also used the India Partnership Program (IPP) Annual Program Statement (APS) approach to facilitate, catalyze and transfer tested innovative solutions regionally and globally. The India Partnership program is a public-private sector collaboration focused on overcoming critical development challenges through innovative solutions and creative ideas that can be transferred to countries in the region and globally.

With a $55 million agriculture, food security, and GCC-Adaptation portfolio, USAID/India's FSO advances the goals and objectives of triangular cooperation and the US-India Strategic partnership on global food security through private-sector-led global Innovation Transfer, research collaboration, and government-to-government human and institutional capacity development. Since 2012, the FSO worked in these areas in Malawi, Liberia, Kenya and later included Nepal and Ethiopia in 2015, though these changes were not agreed yet with the GOI.

- **Agricultural innovation transfer/private sector engagement**: USAID/India used a range of mechanisms, including India-Africa Agriculture Innovation Bridge, India Partnership Annual Program Statement, and Millennium Alliance to facilitate the transfer and piloting of frugal Indian agricultural Innovations in select countries in Africa and Asia. Under this arrangement, the partners work with smallholder farmers including rural women, and private agribusiness to foster the clients' access to Indian agricultural innovations. The innovations that the partnerships have transferred and piloted thus far include but not limited to solar conduction dryer (SCD) units, cost-effective Indian farm and food processing machines, small farmers' dairy production and marketing business model, and indigenous water management strategies and structures developed and used over the years by communities in Rajasthan's desert region.
- **Human and institutional capacity building**: In partnership with the Indian Ministries of External Affairs (MEA) and Agriculture (MOA), USAID supported US-India-Africa triangular training programs at two Indian Agricultural research and training institutes. Over the last two years, the programs trained a total of 219 agricultural professionals from Kenya, Malawi, and Liberia in agricultural extension and marketing. The participants included agriculture financing/rural Banking experts policy makers, and technical experts. Most of the trained individuals are productively engaged in the planning and implementation of their national agricultural development and food security initiatives.

- **Research and development**: Under the research and development theme, the FSO supports research to improve select pulse crops (pigeon pea and chickpea -) to develop and deploy stress resistant and high yielding varieties) and promote integrated solutions (e.g. stress tolerant rice, wheat, and maize varieties + soil and crop residue resources management best practices + application of effective, efficient, and affordable farm machineries and accessories) to help smallholder farmers cope with and adapt to the consequences (shortening cropping season, persistent drought, floods) of GCC induced extreme weather condition.

The mid-term evaluation will apply each evaluation question to the three areas of interventions mentioned above.

ii. ***Health Office Activities***

Implementation Mechanism*:*

USAID/ India's journey into the global transfer of innovative solutions to development challenges started before the new CDCS came into being. Several activities were underway to transfer and implement innovative development solutions in countries in Asia and Africa before the new CDCS was formulated. In FY 2012, the Mission Health Office initiated this effort with its South- to-South activity focusing on transfer, adaptation and institutionalization of high-impact HIV/AIDS policies and supporting programmatic and management practices in African countries to strengthen national HIV/AIDS programs and contribute to reducing HIV prevalence among most high risk populations.

The USAID/India Health Office supported three mechanisms to implement the DO4 interventions described above. The first mechanism (Human and institutional capacity building) was implemented by a local Indian NGO (Voluntary Health Services) and focused on promoting public and private sector best practices in Africa. The second mechanism (thematic and technical and management meetings) is managed by UNAIDS, a multilateral organization, covering selected Asian and African countries (Indonesia and South Africa), and focuses on community partnerships and cross-cutting themes like finance and technology.

The third mechanism is a recent contract with PriceWaterhouseCoopers (PwC) for facilitating the transfer of innovations and best practices in family planning, child, and maternal healthcare services between India and low and middle income countries

Specifically, DO4 activities are implemented using three types of approaches: 1) human and institutional capacity building, 2) thematic technical and management meetings, and 3) fostering private sector partnerships.

- **Human and Institutional Capacity Building:** Over the last three years, DO4 activities implemented by the Health Office have led to documenting over 60 Indian best practices/innovations and trained over 125 program planners/ implementing organizations from 10 African countries (Angola, Benin, Burkina Faso, Cameroon, Ghana, Kenya, Nigeria, Tanzania, Uganda, and Zambia). Technical Assistance was also provided to identify and strengthen capacities of three institutions (2 in Ghana and 1 in Zambia) to serve as country learning sites for HIV/AIDS key population programs, strengthen 4

organizations (2 in India, and 1 each in Cambodia and Thailand) to serve as community learning sites. A technical learning visit also led to signing of an Aide memoire between India and Indonesia and created an opportunity to transfer telemedicine services to Indonesia.

- **Thematic Health Sector Technical and Management Meetings:** Thematic meetings on emerging needs such as alternate financing, use of technology, encouraging community monitoring was undertaken for sharing best practices and innovations between countries. Similarly pairing of cities was also piloted to facilitate cross-learning, transfer, and adoption of best practices between cities. This was relevant as a third of all new HIV infections occur in cities. USAID partnered with UNAIDS to launch a Global Cities HIV/AIDS Initiative, to help 14 cities (Abidjan, Curitaba, Dar es Salaam, Delhi, Durban, eThekwini, Lusaka, Mexico city, Mumbai, Nairobi, Quezon City, and Tshwane) to share strategies and experiences of leveraging resources and managing HIV/AIDS programs.
- **Creating an enabling environment to foster private sector partnerships to solve defined challenges to health outcomes:** Fostering private sector partnerships is a key element of the Health Office DO4 activities, and is promoted through: a) review and dissemination of country private sector policies, b) market assessments for select HIV/AIDS products and services, and c) brokering of partnerships between Indian and African companies and business associations. The countries are Ghana, Tanzania, and South Africa. The project helped develop a partnership between India and Indonesia to transfer monitoring systems for district-level planning and monitoring of HIV programs. An Indian center of excellence and an Indonesia medical entity will also partner to establish "telemedicine" systems for tracking treatment adherence and building capacity of health care professionals.
- **Reproductive, Maternal, Neo-Natal and Child Health+ Adolescent (RMNCH+A) Global Linkages:** In January 2016, USAID/India launched the Global Linkages project to facilitate the transfer and adoption of 20 Indian innovations and best practices in family planning, child, and maternal health care to select African and Asian countries. Based in India, the four-year Global Linkages project will test and scale both public and private sector best practices and innovations. The project has mapped 50 most promising Indian health care innovations, and is designing tools to assess the technical and commercial feasibility for transfer and adoption in other countries. A detailed country profiling has also been completed. Kenya and Bangladesh have visited India in the past (not funded by USAID) and are keen to adopt the emergency medical transport management system and health insurance claim management processes. Afghanistan, Angola, Ethiopia, Ghana, Mali, Mozambique, Nigeria, Tanzania, and Uganda have emerged as potential partnership countries based on health indicators and cross learning opportunities. The project will do a detailed analysis and shortlist 5-6 countries in the next three months.

The mid-term evaluation will apply each evaluation question to the three health interventions. Though the Price Waterhouse Coopers (PwC) contracted RMNCH+A Global Linkages is new, the evaluation need to look at the activities from the perspectives of the findings from the earlier interventions and recommend any modifications in approach.

iii. Energy Office Activities

Implementation Mechanism

The Partnership on Women's Entrepreneurship in Clean Energy (wPOWER) is a USD 1.2 million co-operative agreement activity funded under an Inter-Agency Agreement with the U.S. State Department which started in October 2012.

The objective of the program is to empower rural women as entrepreneurs with practical training, business support and exposure to markets for enhanced access to technologies (such as solar lanterns, home lighting systems, biogas units, pelletizer units, cook stoves), finance and new markets. Through its wPower program, the Energy Office has invested $1.2 million to build entrepreneurship and business management skills of women in clean energy technologies in India and transfer the learnings and best practices to East Africa, and Nigeria and Indonesia. The program built and strengthened markets for small scale clean technologies by linking women to economic opportunities, empowering women as clean energy entrepreneurs, and raising public awareness on the critical role of women in increasing energy access and driving green growth at the local level.

- **Human and Institutional Capacity Building:**

Under DO3 and DO4 activities, the Energy Office in India trained more than 1,000 women entrepreneurs in India and shared their clean energy innovative solutions and business practices with about 7000 women entrepreneurs across East Africa, and Nigeria and Indonesia. As mentioned above, the USAID/India Energy Office supported one mechanism to implement DO4 interventions. Through this program, DO4 activities are aimed at building capacity of women entrepreneurs in clean energy through study tours and training. The activity is implemented by Swayam Shikshan Prayog, (SSP), an organization based out of Mumbai, Pune, India.
The mid-term evaluation will apply each evaluation question to this program and mechanism.

RECOMMENDATIONS

Based on the above evaluation questions, the Evaluation Report should provide targeted recommendations on how to improve the effectiveness, impact and sustainability of USAID/India's DO4 activities.

IV. EVALUATION DESIGN AND METHODOLOGY

The evaluation will apply to DO4 activities under the current food security, health, and energy sectors. Evaluation methods, including information on evaluation design and data collection, are presented below. The selected evaluation team will need to present a well-thought out methodology for answering the evaluation questions while keeping in mind USAID's evaluation criteria.

A- EVALUATION DESIGN

The contractor shall propose the most appropriate evaluation design and methodology based upon the goals and questions of the evaluation SOW. The contractor is expected to complete the evaluation using a combination of quantitative and qualitative analytical methods. This

evaluation will also examine USAID/India's Theory of Change. "A theory of change (TOC) explains why we think certain actions will produce desired change in a given context. TOC will serve as the basis to evaluate the impact of the DO4 landscape. In doing so, the team will need to examine the critical assumptions underlying the TOC, as well as other actors and factors that have contributed to advancing overall goal.

This performance evaluation will, to the extent possible, adhere to the new USAID Evaluation Policy (http://www.usaid.gov/evaluation) guidelines for more rigorous evaluation, using mixed methods that incorporate both quantitative and qualitative methods. Interested firms will be required to propose a detailed design that includes the data collection methods.

B- DATA COLLECTION AND ANALYSIS MATRIX

The evaluation team will use both quantitative and qualitative data collection methods to evaluate the impact of DO4 and define 'enablers as well as barriers'. Approaches to collect quantitative and qualitative data include, but are not limited to:

Document Reviews; strategy, program reports
Surveys/Questionnaires
Key Informant Interviews with implementing partners and key stakeholders
Focus groups discussions
Performance Reports and Data

Should the evaluation team deem it necessary to collect quantitative data using a sample survey, the evaluation team will need to include a section in the evaluation plan that clearly depicts how the survey will be conducted, the sample frame to be used, sample size, quality assurance etc.

Data Analysis

The evaluation team will be accountable for ensuring data analysis methods are in line with best practices. For both quantitative and qualitative data, the evaluation team will need to articulate methodologies for analyzing collected information, including any statistical software programs to be used. For qualitative data specifically, the evaluation team will need to ensure key informant interviews and/or focus groups are recorded and transcribed.

Reporting

Quantitative and qualitative information collected by the evaluation team should clearly feed into the final recommendations made to USAID/India on DO4 activities. This data should be triangulated and used to justify recommendations made in the draft and final evaluation reports.

V. RESOURCES

The evaluation team will be provided the following documents:

a) USAID/India Country Development and Cooperation Strategy
b) USAID/Indian Development Objective 4 Project Appraisal Document (PAD)
c) Performance Management Plan (PMP)
d) FTF Strategy for India
e) USAID/India Feed the Future FY 2016 Portfolio Review Power point
f) USAID/India Health and Clean Energy strategies
g) PAD Monitoring and Evaluation Plan

h) PAD level baseline data
i) Project Descriptions and Modifications
j) Project Work Plans
k) Quarterly Reports
l) Annual Reports
m) Budget and financial reports
n) Baseline surveys and formative research
o) Project performance data
p) USAID and MEA joint documents and agreements

USAID requests that the evaluator complete the following table as part of its detailed design and evaluation plan.

Evaluation question	Data source	Data collection method (including sampling methodology, where applicable)	Data analysis method
1-To what extent have innovations tested or proven in India been adopted in other countries? Has there been a measureable development impact on health, food security and energy access in partnering countries?			
2. What are the specific enablers and barriers (both within India and partnering countries) that influenced the achievement of the global transfer outcomes?			
3. What additional capacities and system changes would be required for USAID/India Mission to effectively play a leadership and strategic role in global transfer?			
4. What are the areas of change/improvement at (India, Partnering Country, and Washington/Regional level) to make the global transfer programs scalable, sustainable, and to achieve development impact?			

VI. REPORTING REQUIREMENTS AND DELIVERABLES

The following are deliverables required of the Contractor under this Task Order:

- Initial meeting of USAID/Program office and COR of the Evaluation contract, and USAID/technical offices COR/ AORs and discuss about the evaluation questions. In addition, logistical details such as number and location of interviews, interview and meeting scheduling, etc. will be discussed.

- Team Planning Meeting (TPM): A one-day team planning meeting will be held by the evaluation team at a convenient place in New Delhi before the evaluation begins. This will be facilitated by the evaluation team leader, and will provide USAID/India with an opportunity to present the purpose, expectations and agenda of the assignment. The evaluation team will provide to USAID/India's technical and Program Offices a Project Plan which will include a detailed work plan, a projected timeline, a detailed description of the evaluation methodology and data collection and analysis methods which will be used (including draft interview questions and data collection tools). This Project Plan will be reviewed and approved by the COR within 5 business days.
- Site Visits and Interviews: The evaluation team will conduct a thorough review of the Program through site visits and interviews. Interview questionnaire will be prepared in advance and finalized during the TPM. Site visits will be planned taking into consideration factors like geographical diversity, representation of various implementation agencies, and the scale of the interventions.
- Mid-term Briefings. The Evaluation Team Leader will meet with the COR and representatives from the technical offices and Program Offices to provide an update on status, key issues affecting project implementation, and any initial findings/tentative conclusions. In addition, the team will provide to the COR weekly email updates on status and key issues in the alternating weeks between the semi-monthly briefings.
- Debrief Presentation: The evaluation team will make a PowerPoint presentation of preliminary findings and conclusions to USAID/India and key stakeholders on the main findings of the evaluation.
- Draft Report The contractor will submit a draft written report in English within seven days of the Presentation. The report should clearly describe findings, conclusions, and recommendations, and should incorporate comments and questions raised during the Presentation. An electronic version of the report will be provided to the COR for dissemination among relevant Mission staff for review and comment. USAID will provide comments on the draft report within two weeks of submission.
- Submission of all raw and processed data, which becomes the property of USAID/India.
- Final Report (due within seven working days after receiving written comments from USAID). The team will submit a Final Report in English that incorporates all Mission comments and feedback. The format will include an executive summary, table of contents, methodology, findings, and recommendations. See below for an outline of the final report.
- Both an electronic version and five copies of a written version will be provided to the COR for dissemination among relevant Mission staff and stakeholders. The evaluation COR will submit one electronic copy of the Final Report to the Development Experience Clearinghouse at http://dec.usaid.gov after final approval.

The Final Report will have the following contents:

- Table of Contents (1 page);
- **Executive Summary** – concisely state the most salient findings and recommendations (2 pages);
- **Introduction** – Purpose, audience, and synopsis of task (1 page);
- **Background** – Brief overview of development context and problem, USAID strategy and activities implemented in response to the problem, purpose of the evaluation (2-3 pages);

- **Methodology** – Describe evaluation methods, including constraints and gaps (1 page);
- **Findings/Conclusions/Recommendations** – For each IR level (8-10 pages);
- **Issues** – Provide a list of key technical and/or administrative issues, if any (1-2 pages);
- **Success Stories** – Individual success stories which illustrate how USAID project activities have improved lives of people at the bottom of the pyramid.
- **Annexes** – Document the evaluation methods; schedules; bibliography of documents reviewed; list of meetings, interviews and focus group discussions, and SOW- all materials should be succinct, relevant and readable.

VII. CRITERIA TO ENSURE THE QUALITY OF THE EVALUATION REPORT

- The evaluation report should represent a thoughtful, well-researched and well-organized effort to objectively evaluate what worked in the project, what did not, and why.
- Evaluation reports shall address all evaluation questions included in the scope of work.
- The evaluation report should include the scope of work as an annex. All modifications to the scope of work, whether in technical requirements, evaluation questions, evaluation team composition, methodology, or timeline need to be agreed upon in writing by the COR.
- Evaluation methodology shall be explained in detail, and all tools used in conducting the evaluation such as questionnaires, checklists and discussion guides will be included in an Annex in the final report.
- Evaluation findings will assess outcomes and impact on males and females.
- Limitations to the evaluation shall be disclosed in the report, with particular attention to the limitations associated with the evaluation methodology (selection bias, recall bias, unobservable differences between comparator groups, etc.).
- Evaluation findings should be presented as analyzed facts, evidence, and data and not based on anecdotes, hearsay or the compilation of people's opinions. Findings should be specific, concise and supported by strong quantitative or qualitative evidence.
- Sources of information need to be properly identified and listed in an annex.
- Recommendations need to be supported by a specific set of findings.
- Recommendations should be action-oriented, practical, and specific, with defined responsibility for the action

VIII. TEAM COMPOSITION

The evaluation team shall consist of four independent international experts. All team members must have professional level English speaking and writing skills.

Senior Evaluation Specialist (Team Leader): The evaluation will be led by a Senior Evaluation Specialist, supported by other subject matter experts. The Senior Evaluation Specialist will be responsible for the overall implementation of the evaluation, ensuring that all expected tasks and deliverables are achieved on time and of high quality. S/he will oversee the overall design of the evaluation framework, including methodology determinations; organize of calendar/travel/meetings; oversee interviews, and other data collection events; and analyze the data with input from team members to draft the evaluation report and presentation.

S/he must have a Master's degree with at least 6 years professional experience coordinating similarly complex evaluations, and leading evaluation teams. The candidate must have exceptional organizational, analytical, writing and presentation skills. S/he must have deep knowledge of evaluation methodologies and their practical applications. Previous experience in innovation transfer, scaling up and sustainability of these efforts in various geographies are highly desirable. The team leader will be responsible for aggregating the findings from the diverse activities under DO4 and produce a quality report. Prior work experience in India is highly preferred.

Senior Agriculture Specialist: The DO4 evaluation will be supported by a Senior Agriculture Specialist with at least 6 years of international agricultural experience and a Master's degree in a related field. S/he must have significant experience in agriculture, agri-business/agriculture commercialization, and food security related programs, and should have prior experience working in India. Experience working in Africa is also preferred, especially in Malawi, Liberia, and/or Kenya. Comparative experience in private sector engagement, agriculture, or capacity building is also valuable.

The Senior Agriculture Specialist will focus and review the activities undertaken by the FSO and analyze the agriculture and food security related interventions under the overall framework of the evaluation.

Senior Public Health Specialist/ HIV/AIDS Analyst: The Public Health Specialist/HIV/AIDS Analyst should be an expert in health/HIV/AIDS prevention programs. S/he should have experience with the country specific HIV/AIDS prevention and control strategy and its approaches, preferably in African Countries. Specifically, s/he should have an excellent understanding of health systems strengthening approaches and prior work experience in designing, monitoring and evaluating HIV/AIDS/health programs for specific at-risk populations. A minimum of 6 years of experience in the design and management of HIV/AIDS prevention and control programs is required.

The Senior Public Health Specialist/ HIV/AIDS Analyst will focus and review the activities undertaken by the health office and analyze the related interventions under the overall framework of the evaluation.

Sound experience in conducting evaluations or research is expected of all members, and experience in developing strategies is essential. Ability to conduct interviews and discussions is essential. A statement of potential bias or conflict of interest letter will be required of each team member prior to engaging the evaluation.

IX. EVALUATION SCHEDULE

The estimated time period for undertaking this evaluation is eight weeks starting from fourth week of July, 2016. However, the exact evaluation dates will be finalized by USAID. The Contractor is expected to submit a detailed LOE estimate.

The evaluation team will undertake field visits to selected African countries and consult with the stakeholders and meet the implementing partners in India.

The evaluation team will submit a draft report 72 hours in advance of the exit briefing for review and comments by USAID. Comments from USAID will be incorporated before the submission of the final draft. The final report should be submitted by September 30, 2016, assuming the field work starts as planned. Travel over weekends may be required.

X. DETERMINATION ON THE TECHNICAL PROPOSAL

USAID/India will select the final proposal based on the contractor's overall technical understanding and approach to the evaluation, proposed team members, and cost realism.

XI. USAID MANAGEMENT

USAID is responsible for approving the evaluation SOW; reviewing and approving evaluation team member candidates; approving the work plan, including LOE; providing feedback and comments to refine the final report, while always maintaining the objectivity of the evaluation findings and ensuring feasibility of the recommendations. In order to maintain objectivity, all final decisions about the evaluation will be made by the Program Office.

ANNEX B. CONCEPTUAL APPROACH TO INTERNATIONAL INNOVATION TRANSFER

Introduction to innovation transfer

A large body of literature has developed around the subject of how innovations spread, covering technology or knowledge transfer, adoption, or innovation diffusion.[33] Because the value of an innovation is linked closely to how widely it is used, diffusion of innovation has been a focus of research for almost a century, beginning in the US with the subject of rural sociology in the 1920s. Studies of diffusion focus on why, how, and how quickly a given innovation diffuses among persons or entities within a system or between systems. Diffusion of an innovation can occur spontaneously (such as with fashion trends, cultural fads, social media memes, or marketing of consumer products, among other things) or diffusion can be pushed, as with the passage of regulations mandating seat belt use for drivers and passengers. Much of the current literature on innovation evaluation relates to the subject of businesses gaining a better understanding of customer behavior to improve their product and increase sales.

Dimensions of innovation diffusion, adoption, and scaling. Innovation diffusion is analyzed from a range of perspectives. They include the attributes of the innovation technology or process; enabling environment; stages of the innovation process, the rate and patterns of adoption; transfer and scaling; the role of intermediaries in facilitating transfer; the characteristics of adopters, networks, communication methods, feedback mechanisms, relationship types (e.g. bonding between homophilous vs. heterophilous individuals); interactions between parties; diffusion channels; and mechanisms. Factors observed to promote or impede the spread of innovations (uptake, scaling, transfer) include cultural norms, the presence of change agents, the perceived costs and benefits of the innovation to users.[34]

What makes supporting international transfer of innovations different?

However, there are key differences between existing literature and the realities faced by policy makers or donors working to support innovation scaling or transfer. Defined broadly enough, most development projects support innovation as they work to introduce new processes, products, or knowledge that improves the functioning of systems, whether training on customs

[33] For a foundational text, see Everett M. Rogers, *Diffusion of Innovations, 5th Edition*. 2003. Free Press.

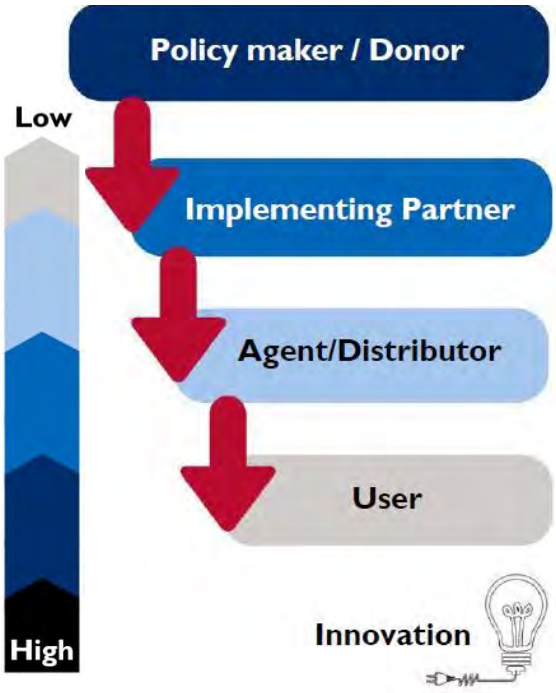
[34] Four recent literature reviews include: Barry Bozeman, Heather Rimes, and Jan Youtie, "The Evolving State-of-the-Art in Technology Transfer Research: Revisiting the Contingent Effectiveness Model," *Research Policy* 44, no. 1 (2015): 34–49; Cinzia Battistella, Alberto F. De Toni, and Roberto Pillon. "Inter-organisational technology/knowledge transfer: a framework from critical literature review." *Journal of Technology Transfer* June 2015; Marco Johnson. "Literature Review: Scaling Agricultural Technologies and Innovation Diffusion." Management Systems International and Development & Training Services for USAID, 2015. Jennifer P. Wisdom, et al. "Innovation Adoption: A Review of Theories and Constructs." *Administration and Policy in Mental Health* 41, no. 4 (2014).

clearance or promoting use of solar lanterns. What makes innovation transfer work different from a standard project, from USAID/India's or other donors' institutional perspectives?

To arrive at its findings and recommendations aimed at the institutional level, this evaluation investigated multiple stakeholder perspectives, including meeting with policy makers, financing institutions, businesses, non-profit organizations, intermediaries, agents, and adopters among the 30 innovations under review. The key question emerged as, how can the stakeholder farthest removed from the innovation (in this case USAID/India) influence its diffusion and impact?

Considering Innovation Proximity. The evaluators developed the concept of innovation proximity as a framework for studying innovations from a multi-stakeholder perspective. With respect to most innovations, there are multiple stakeholders, all with their own perspectives and interests. Stakeholders and their interests can be viewed from how close they are to the innovation itself – their innovation proximity. An institution's place relative to other stakeholders (place in the "transfer value chain") and its innovation proximity affect the nature and degree of control the institution has within innovation transfer process.

Figure 13: Innovation Proximity



Policy makers or donors seeking to support innovation scaling and transfer have low innovation proximity. This means they have limited capacity to influence the innovation transfer process beyond the next step in the transfer value chain: the implementing partner. Implementing partners likely do not have direct contact with the user (customer/beneficiary), the stakeholder at the other end of the spectrum and closest to the innovation. They operate through agents or distributors, on whom they rely for services such as marketing and selling the innovation.

For example, Eko Financial (the implementing partner, funded through Millennium Alliance) is scaling within India, currently with more than 15 million users. Eko uses agents to take cash and digitize it for populations with limited access to a bank account. A cash-earning individual brings his or her cash to an agent, transfers the cash, and receives a confirmation of the deposit. Both the agent and Eko receive a small fee. The MA grant enabled them to digitize the agent application process and strengthen data collection to inform expansion (through creation of a live "data dashboard"). While USAID/India funds the Alliance and Eko's grant, they have limited control over agent selection or people's use of the Eko innovation for digitizing cash.

Each actor in the innovation value chain has their own interests, which are intricately entwined but may or may not align. For example, the adopter's willingness to use an innovation is of direct interest to the policy maker who wants to see it diffused. However, the implementing partner, who separates them in the innovation value chain, might have a perverse interest to demonstrate

sufficient innovation success to continue receiving funding from the policy maker without reaching their market potential, which might require new outreach or activities (such as seeking out a new donor or venture capital).

- Policy makers and aid organizations are particularly interested in how the innovation can be targeted at the right people, what are the socio-economic impacts, and who is the right intermediary to promote and scale it. This group includes ministries interested in promoting a policy or agenda, and donors such as USAID/India, who work with governments to achieve their goals.
- Implementing partners may be non-profits, businesses and represent a high-level intermediary which is working to promote the innovation. They are responsible for strategy, product design. They vary in their place and role in the customer outreach process, and their goals may vary, such as to increase revenue, provide services to people, and how to access financing.
- Agents/distributors are a lower-level intermediary. The encompass those between the implementers and adopters/user. Within this category there are a range of actors – non-profits, healthcare networks, businesses, and distributors. They include the women entrepreneurs selling dried agriproducts or solar-powered lamps; they are the agents handling mobile money payments.
- Users/adopters are most interested in how the innovation can improve their lives, what are the costs and benefits and risks involved, and who else is using it. These are the consumers of the final products or services, such as improved tuberculosis tests

Magnified challenges of transferring innovations internationally. International transfer of the innovation further decreases innovation proximity for the donor and creates greater risks within the innovation value chain for misalignment or inefficiencies. This is more acute in international transfer; Indian implementers may need local partners to help navigate the new environment, adapt the innovation, assist with management, and/or build relationships with communities.

International transfer introduces a new layer of intermediaries. As a result, the donor is even farther removed, which necessitates further risks: finding and working with new partners; further adapting the innovation; navigating a new enabling environment, including legal and regulatory issues. The multiplicity of implementing partners creates potential inefficiencies in management, transfer of information, and use of resources. Relative to Figure 13 above, Figure 14 (next page) shows the added layer of international transfer.

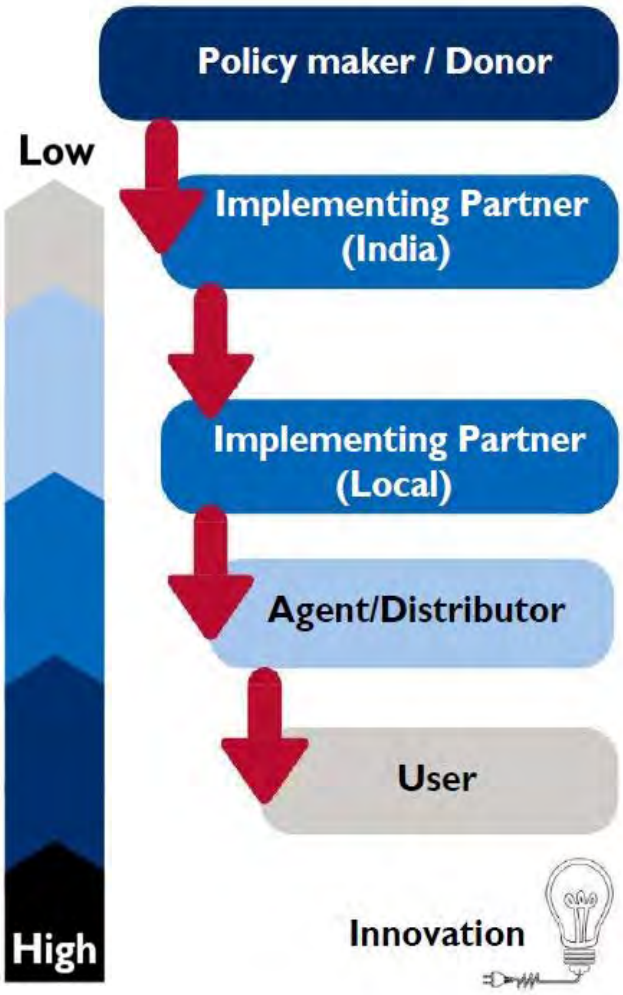
Based on the findings of this evaluation, the lower innovation proximity of international transfer affects three key aspects:

1. Policymaker / donor roles
2. Level of adaptation post transfer and associated costs

5. Need for data and feedback loops at all level**. Policymaker / donor roles**. As referenced, innovation proximity and place in the innovation value chain affects the role and influence of different institutions. The present evaluation found that USAID/India plays many different roles in the innovation sphere, going well beyond financing. Each of the roles can

influence what happens down the innovation value chain, but the policy maker or donor has limited direct control and generally less involvement.

Figure 14: Innovation Proximity in International Transfer



Case: *Solar Conduction Dryer*
Funder: *USAID/India FSO*
Primary Partner: *Science for Society (S4S)*

India. S4S partnered with BAIF Development Research Foundation in Pune, an organization that had worked in development and with the communities for more than 25 years.

Kenya. S4S found a potential partner in Kisii University. Kisii University connected S4S to the county governments of Kisii and Nyamira counties, whose extension workers carry out most implementation within communities. While Kissi University played a role in connecting S4S to the county governments, their value to implementation was less apparent to the evaluation team.

Need for adaptation. The new environment also necessitated charges. The relative isolation of the university system in Kenya relative to that of India required another partner to for outreach. Due to shipping and import regulations, the dryer costs USD 1,253 in Kenya relative to USD 436 in India. Though there has been commercial interest in the dryer in Kenya, there are significant additional costs independent of the value of the innovation.

For more, see the case study (Annex F).

2. Level of adaptation post-transfer and associated costs. By the nature of being innovative and coming from a different context (India), it is normal for projects to require some adaptation before adoption and scaling takes place relative to projects designed within the initial context. However, as the case of the solar dryer above demonstrates, international transfer carries costs and requires adaptation of the business model. Though not the case with the solar dryer, many innovations themselves also require further adaptation (such as the SRISTI Bullet Santi tractor, which required a fourth wheel to increase stability in Kenyan soil, or Forus Health, which is adapting its mobile eye screening tools to cope with lower internet connectivity). The inevitability of adaptation, and the goal of adapting quickly and effectively, heightens the need for quality, timely data.

3. Greater need for data and feedback loops at all levels. ME&L for innovation transfer activities must contend with the specific challenges of innovation transfer projects. The high level of adaptation and distributed decision making structure creates challenges for collecting and sharing the data (of sufficient quality and in a timely matter) based on different stakeholders' needs, and doing so in a cost-effective way relative to the project investment.

Information for Implementers. Implementers need information on how to adapt the innovation to the new context based on adopter needs or demand. They may need to receive this information through agents/distributors or may have methods of collecting their own data.

Information for Policymakers/Donors. Are institutions with low innovation proximity learning about what works and does not work at the different levels from those who are closer to the innovation itself? Beyond one-off evaluations or impact evaluations, information needs to flow from the bottom up to donors on the innovation's progress in testing, adopting, and scaling internationally. Relevant data and information, provided on a regular basis, would help inform USAID/India's decisions on how it can bring its capabilities to bear to increase impact and chances of success. USAID/India must either rely on those closer in the innovation value chain to collect appropriate, reliable, and timely day, or it must find ways of creating clearer feedback loops, which could also validate or inform interpretation of implementing partner reporting.

Calibrating data collection and analysis costs to the investment. Ideally, decision makers would have perfect information about an innovation. Policymakers could know: how many people the innovations are reaching; if use translates into sustained adoption; the level and nature of impact; the sustainability of impacts; and the potential for scaling up in trilateral countries. However, such evidence may also be difficult or expensive to collect. Particularly at early stages USAID/India may provide limited support to innovations at the "seeding" stage. The grant to S4S to transfer the solar conduction dryer to Kenya was $150,000 over three years.

ANNEX C. INNOVATION TRANSFER OVERVIEW BY USAID/INDIA OFFICE

Health

Seven innovations from the Health Office are included in this evaluation and are in varying stages of testing, scaling, and transfer. In general, the Health Office is focused on knowledge sharing about new practices and innovative technologies, both within and between countries, which it promotes through conferences and other forums. It engaged this way for many years.

An example of this knowledge sharing approach, four innovations fall under the South-to-South HIV/AIDS project implemented by SHARE-VHS, which concluded in 2015. These four innovations were developed, tested, and scaled in India, and knowledge transfer was initiated in Ghana, Nigeria, and Zambia. Due to the project timeline and a lack of funds, additional technical and financial support for transfer were unavailable and, therefore, transfer stalled after the signing of a Technical Cooperation Plan between India and the three African countries.

Operation ASHA, a tuberculosis (Tb) treatment technology, was developed, tested, and scaled in India. It was then transferred successfully to Cambodia and is now undergoing testing in the Dominican Republic, Peru, Afghanistan, Kenya, and Uganda. Within India, Operation ASHA serves 3.4 million people and has achieved a Tb treatment default rate of less than 3 percent, compared with the 32 percent in an Indian triangulation study. Additionally, Operation ASHA has increased the Tb detection rate in the areas they serve by 50-400 percent within 6-18 months from start-up.

The Global Linkages project, implemented by PwC, is a system developed to map Indian health innovations and then transfer appropriate innovations to four priority countries (Bangladesh, Ethiopia, Uganda, and Tanzania). Initial meetings have been held in Bangladesh, while meetings are still being arranged with the three African countries. The Global Linkages project is still in the early stages, therefore there have been no measurable impacts of the project yet.

Lastly, Dimagi's mLabor digital technology was tested in India using funding from Development Innovation Ventures and then scaled in India using funding from the Millennium Alliance. Data from initial testing of mLabor indicated that the cost of deployment of the technology was $86 per community health worker per year, compared with the yearly cost of $1,000 to support each community health worker through the Government of India.

Food Security Office

This evaluation covered eight food security innovations. Six of them were funded by FSO through the India-Africa Agriculture Innovation Bridge Program (AgBridge). Since 2012, this program has financed the share of proven Indian agriculture innovations in Kenya, Liberia, and Malawi, which are the USAID FTF focus countries in Africa. FSO selected innovations after revising concept papers submissions, visiting potential implementing partners in India and observing Indian innovations on the field. In Africa, FSO strategically funded various short-term

projects with the objective of, in a second phase, expanding support to the most successful innovations. After four years of implementation, all the funded innovations have been transferred to Africa but they are at different levels of testing or adoption.

The first innovation transferred from India to Kenya was a low-cost solar conduction dryer that dehydrates agriproducts. In India, 50 solar dryers were subsidized to individual women; in Kenya, 65 solar dryers were granted to 1,950 women and men organized in farmer groups. The innovation is at the end of the testing stage and has a number of users. However, market linkages for dried vegetables are still under construction and farmers can't afford to buy a full cost dryer considering actual outlets. Implementing partners are considering conducting an impact study to document innovation impacts in Kenya.

Three other product innovations were transferred from India to Kenya by the Society for Research and Initiatives for Sustainable Technologies and Institutions (SRISTI): a three-wheel tractor, a seed dibbler and a food processor. In India, more than one million households use these technologies. In Kenya, implementing partners decided to significantly adjust the technologies to meet Kenyan needs and conditions: the three-wheel tractor was transformed into a four-wheel tractor due to soil conditions, and the seed dibbler was changed to release just one seed at a time, instead of many, because seed companies promise germination at the seed level. The implementing partners are still adapting both innovations. The transfer to Kenyan farmers has not yet occurred yet. SRISTI food processors were granted to ten farmer groups in Kenya. They faced certain challenges with juice commercialization and would require more intense support.

FSO also funded the transfer to Kenya of the India's smallholder dairy production and marketing business model, which heralded the so-called 'White Revolution' in India. The innovation is still at a testing stage. Several activities must still be achieved to ensure the viability of the model, but effects on milk production and farmer incomes in Kenya are already measurable. The program introduced 1,215 farmers to livestock management best practices, and guided three cooperatives to develop milk collection and market. More than 800 farmers are supplying milk to the cooperatives, more reliable and sometimes higher prices. Cooperatives have reached a healthy financial position, even if governance challenges persist. Similar activities are promoted by FTF in Kenya (the KAVES project) and could work in synergy. However, the Indian model struggles to connect with USAID/Kenya attention since it does not take place in a FTF county.

Finally, the AgBridge awarded the FTF India-Africa Agriculture and Natural Resource Management Innovation Sharing Platform. This project includes two kinds of innovations: (i) an innovative process to match African solution demand with Indian innovation supply, (ii) identified Indian technologies to solve water scarcity in Malawi and in Kenya. The first process took longer than expected and results achieved remain modest: two interventions were identified in Kenya for seed production and for fodder adoption and are in their early stages. For its part, Indian water innovations were introduced in Malawi and Kenya with different levels of adoption. In Kenya, the first water structures promoted water infiltration but did fit local demand. IPs modified their strategy in 2016 to propose water harvesting reservoirs. In Malawi, 200 farmers benefit from seepage wells water for irrigation and a village benefit from erosion control structures to protect its access road. These innovations received positive feedback from users and from USAID/Malawi, which visited the intervention area as it is a FTF focus county. However,

the model is still at the test stage because local farmers cannot build more of these structures without additional external funds.

The Agriculture Innovation Partnership (AIP) was funded as a DO3 activity but evolved into DO4 with its transfer to Malawi in 2014 and to Nepal in 2016. USAID/India and USAID/Malawi jointly funded activities in Malawi. AIP focuses on curriculum updating and seed sector development in close collaboration with the Lilongwe University of Agriculture and Natural Resources (LUANAR). Curriculum updating activities introduced a new e-learning platform available to 5,500 students and modified courses to fit with private sector demand. Seed component transferred seed village model to Malawi benefiting to 680 farmers. The lack of irrigation somewhat limits the adoption of seed production by more farmers, and reliable market linkages with seed company are still under development.

The US-India-Africa Triangular Training Program is determined by a government-to-government agreement between India and USA. 153 participants from Liberia, Kenya and Malawi were trained in India, through innovation exposure and practical cases. Beyond academic results, this project has improved relationship between both Governments.

Energy

Two very different clean energy innovations were evaluated, wPower and PACE-D (Partnership to Advance Clean Energy – Deployment). wPower is a market-based partnership which promotes business process solutions, targeting rural women entrepreneurs selling clean energy products, such as solar lamps. It focuses on 'last mile' clean energy access. The U.S.-India Partnership to Advance Clean Energy (PACE) is a high-profile program (a press release is available on the White House website). PACE-D focuses on institutional strengthening, capacity building, technology pilots, innovative financing mechanisms and increasing the awareness of clean energy technologies. For example, it aims to accelerate clean energy deployment using rooftop solar panels and the smart grid. PACE-D has been developing regulations and guidelines for state governments in India and is being rolled out across eight states.

wPower innovations fall largely under DO3, but have a DO4 element; the knowledge on innovations were exchanged internationally. wPower project was awarded in both India and Kenya, although in the latter country it was launched later and there were opportunities for learning from the Indian experience.

wPower can point to significant achievements in promoting clean energy, as well as positive indirect benefits such as women's empowerment. Through wPower, 1,010 women business entrepreneurs were trained as distribution agents, and sold 1 million products, while increasing their incomes by 33 percent. Enabling factors included the presence of a facilitator (SSP, the implementing partner) which had already long-established relationships with the communities in which the innovation was promoted. This positioned it to expand and networks to promote clean energy access. The existing relationships, credibility and commitment to the communities clearly smoothed the introduction of a new concept ('energy *Sakhis*').

While the question sustainability with wPower appears to be less of an issue because of the IPs continued presence, diffusion of the wPower model beyond the districts it operates in

Maharashtra and Bihar) is uncertain without additional logistical support. It appears to depend heavily on the IP, which is both a positive and negative.

PACE-D succeeded in convincing Indian Railways (the biggest consumer of electricity in India) them to purchase solar energy, installing panels in all its buildings, once Prime Minister Modi engaged in the process. USAID was seen as a key enabler in providing connections, accelerating funding in this area of activities, and engaging at a technical level. Nexant, the IP, suggested that higher level engagement with GoI would help in spreading the approach more widely.

Center for Innovation and Partnership

The 11 innovations under CIP reflect the office's strategic focus on building relationships and leveraging financing as well as its funding, which flows through other USAID/India offices or USAID/Washington. Projects include agricultural extension training (with Digital Green) and an impact investing summit and network (with the Sankalp Forum), which receive funding through USAID/Washington. The nine remaining innovations include the Millennium Alliance (MA, a multi-stakeholder funding platform) and eight projects funded through MA, ranging from a cookstove to a water storage/management solution and a mobile application linking women to health care information.

Of the 11 innovations, all were developed and tested in India, and five have transferred to another country. As MA funds innovation for testing and scaling both in India and internationally, some of the innovations examined were not focused on international transfer. For example, Eko Financial has developed a rapidly-expanding model that allows cash-earning individuals to digitize their cash through agents rather than banks. With more than 15 million users, Eko is focused on expanding within the Indian market rather than looking abroad. In contrast, Naireeta Services refined its Bhungroo water technology through 17 years of testing in India and is now expanding into Bangladesh with MA support. Among those that have transferred it is too early in the project to begin looking for development impact in partner countries. Impact evaluations have not been conducted, though from Round 3 MA began to include funds for impact studies.

Office of Social Sector Initiatives

The two OSSI (previously the Office of Partnerships for Innovation) innovations within this evaluation fall in the innovation testing/scaling within India approach, aligning more clearly with DO3. However, both have early indicators of potential relevance to DO4. For the School Excellence Program (SEP), the IP Kaivalya Education Foundation, beyond USAID/India support, sent one SEP Fellow to Uganda to understand the context and potential for transfer of the program model in cooperation with a Ugandan organization, Building Tomorrow. However, next steps to actively drive transfer are unclear. The WaterHealth program in Bangalore is currently under consideration for a Millennium Alliance Round 4 grant.

Both projects reflect OSSI's greater focus on DO3, under which there is evidence of effectiveness for both projects. For example, although M&E data was not available for the USAID/India-funded project in Surat, annual assessments of SEP schools showed an 11 percent improvement in learning levels for Class 3 students and an 8 percent improvement for Class 5 students. An evaluation comparing Water Health Center (WHC) users with non-WHC users

found some positive outcomes: the first group had lower morbidity rates (9.2 percent vs. 10.5 percent) and women from this group spent less time fetching water (30 vs. 45 minutes). However, there has yet to be any international transfer for the projects examined.

ANNEX D. INNOVATIONS DESCRIPTIONS

Project (Implementing Partner)	Innovation	Funding Source/ Mechanism (Amount)	Duration & Summary of Status	# Users (India)	# Users (international)
Health					
South to South (S2S) project (SHARE-VHS)	Individual tracking of key populations	USAID/India (USD 5 million)	July 2012 – July 2015: adopted in India with USAID funds; transfer project ended in 2015, but transfer & testing initiated with Ghana, Zambia & Nigeria	Unknown	19 Ghana delegates; 15 Zambia delegates; Technical Cooperation Plan with Nigeria
South to South (S2S) project (SHARE-VHS)	Micro planning for key population interventions	USAID/India (USD 5 million)	July 2012 – July 2015: adopted in India with USAID funds; transfer project ended in 2015, but transfer & testing initiated with Ghana, Zambia & Nigeria	Unknown	19 Ghana delegates; 15 Zambia delegates; Technical Cooperation Plan with Nigeria
South to South (S2S) project (SHARE-VHS)	Technical support unit for strengthening capacity of civil society organizations for effective implementation and monitoring of key population programs	USAID/India (USD 5 million)	July 2012 – July 2015: adopted in India with USAID funds; transfer project ended in 2015, but transfer & testing initiated with Ghana, Zambia & Nigeria	Unknown	19 Ghana delegates; 15 Zambia delegates; Technical Cooperation Plan with Nigeria
South to South (S2S) project (SHARE-VHS)	Mapping of injecting drug users	USAID/India (USD 5 million)	July 2012 – July 2015: adopted in India with USAID funds; transfer project ended in 2015, but transfer & testing initiated with Ghana, Zambia & Nigeria	Unknown	19 Ghana delegates; 15 Zambia delegates; Technical Cooperation Plan with Nigeria

Project (Implementing Partner)	Innovation	Funding Source/ Mechanism (Amount)	Duration & Summary of Status	# Users (India)	# Users (international)
Mobile partograph m-labor	m-labor is a mobile application that provides real time graphic and decision support to health care providers to assess the course of labor and carry out appropriate intervention.	Development Innovation Ventures & Grand Challenges-Canada funded testing in India, MA funding scale-up in India (USD 1 million)	testing & scaling in India funded by DIV	Unknown	N/A
RMNCH+A Global Linkages (Pricewaterhouse Coopers)	Process mapping of 150 innovations, 35 innovations prioritized, 10 innovations will be finalized for transfer in consultation with other countries (Bangladesh, Tanzania, Nigeria, Ethiopia, and Uganda)	USAID/India (USD 6 million)	2012 – 2016: testing in Bangladesh	0	1 Country (Bangladesh)
Operation-ASHA	Mobile biometric technology capable of identifying patients by their fingerprints and compiling patient data to ensure that TB patients complete treatment regimens.	DIV funded for testing in India, USAID/India funding for scale-up, DFID funding for Afghanistan (USD 900,000)	October 2012 – December 2014: Scaling in India, testing in Afghanistan, Uganda, Cambodia, Kenya, Dominican Republic, Peru	15.6 million	2.6 million in Afghanistan
Food Security Office					
Solar Conduction Dryer-A solution for hunger, poverty, and gender inequality (Science for Society)	Solar Conduction Dryer	Millennium Alliance and India-Africa Agriculture Innovation Bridge Program (USD 150,000)	September 2013 – March 2015: testing in India and in Kenya with USAID funds	90 users in India (1 user/SCD)	1950 estimated users in Kenya (65 solar dryers used collectively)

Project (Implementing Partner)	Innovation	Funding Source/ Mechanism (Amount)	Duration & Summary of Status	# Users (India)	# Users (international)
Transfer of Indian Farm and Food Processing Machinery to Promote Food Security in Africa (SRISTI)	Bullet Santi tractor	India-Africa Agriculture Innovation Bridge Program (USD 1 million)	September 2013 – September 2016: adopted in India without USAID funds, transferred and testing in Kenya with USAID funds	N/A	15-20 estimated users in Kenya (7 tractors for research and 7 in the field)
Transfer of Indian Farm and Food Processing Machinery to Promote Food Security in Africa (SRISTI)	Seed dibbler	India-Africa Agriculture Innovation Bridge Program (USD 1 million)	September 2013 – September 2016: testing in India and in Kenya with USAID funds	N/A	0
Transfer of Indian Farm and Food Processing Machinery to Promote Food Security in Africa (SRISTI)	Food Processing Machine	USAID/India India-Africa Agriculture Innovation Bridge Program (USD 1 million)	September 2013 – September 2016: adopted in India without USAID funds, transferred to Kenya, testing in Kenya with USAID funds	N/A	10 farmer associations (250 estimated users)
India-Kenya Dairy Innovation Bridge Program (IL&FS)	Dairy sector innovations (institutional arrangement and technologies)	USAID/India India-Africa Agriculture Innovation Bridge Program (USD 2.1 million)	July 2014 – July 2017: adopted in India without USAID funds (white revolution), transferred and scaling in Kenya with USAID funds	N/A	3 dairy cooperatives, 829 milk suppliers, 1215 trained farmers
Feed the Future India-Africa Agriculture and Natural resource Management Innovation Sharing Platform (AAPL/TNS)	Water management systems, agrinnovation broker process	USAID/India India-Africa Agriculture Innovation Bridge Program (USD 4 million)	May 2014 – September 2016: adopted in India without USAID funds, transferred to Kenya and Malawi, testing in Malawi and Kenya with USAID funds	N/A	Kenya: no users, but 3 Nadis planned for 900 households and 3 adapted kadins for 3 households (rainwater harvesting structures) Malawi: 171 users

Project (Implementing Partner)	Innovation	Funding Source/ Mechanism (Amount)	Duration & Summary of Status	# Users (India)	# Users (international)
					(8 seepage wells),
US-India-Africa Triangular Training Program (MANAGE)	Agricultural Extension and Marketing Best Practices	USAID/India (USD 2.5 million)	October 2012 – December 2015: implemented in Malawi, Kenya, Liberia	N/A	130 trained people in Liberia, Malawi, Kenya
Agricultural Innovation Partnership (Cornell)	E-learning development, seed sector development	USAID/India (USD 1.5 million)	February 2014 – September 2016: implemented in India, transferred to Malawi and Nepal, testing in Malawi	N/A	680 farmers producing seeds, a e-learning platform for students
Energy					
Women's Entrepreneurship in Clean Energy (wPower) (SSP)	Transferring business processes solutions for rural women entrepreneurs for last mile access to clean energy products	US State Department & USAID/India (USD 1.2 million)	2012 – 2016: testing in India and testing in Kenya	1010 women entrepreneurs (India)	338 entrepreneurs in Kenya
Partnership to Advance Clean Energy – Deployment (PACE-D)	Accelerating clean energy deployment through the use of rooftop solar panels and smart grid	USAID/India	implemented in India	a smart grid pilot project: 1000 consumers, a roof top project : 6MW installed	N/A
Center for Innovation and Partnership					
Millennium Alliance (MA) (Federation of Indian Chambers of Commerce	Platform to bring together diverse stakeholders to discover, support, and scale	Founded by: USAID/ India, Technology and Development Board (Government	2012 – 2017: scaling in India	62 awardees	N/A

Project (Implementing Partner)	Innovation	Funding Source/ Mechanism (Amount)	Duration & Summary of Status	# Users (India)	# Users (international)
and Industry, FICCI)	innovative solutions to development challenges that affect base of the pyramid populations in India & worldwide	of India), FICCI; Current partners: DFID, World Bank, ICICI, ICCO, WISH, Facebook			
Low cost technology to distribute financial services across the country (Eko Financial)	System to digitize cash through agents and expand access to banking and financial inclusion	Millennium Alliance (USD 158,000)	January 2015 – January 2017: scaling in India	15 million+ users 10,000 agents	N/A
Wom'n's Mobile Lifeline Channel (ZMQ)	MIRA mobile applications to link women to improved information about health and wellness	Millennium Alliance (Round 1: USD 765,000; Round 2: USD 498,000)	Round 1 in India: October 2013 – October 2015; Round 2 in Uganda and Afghanistan: January 2015 – January 2017: scaling in India; testing in Uganda and Afghanistan	100 MIRA workers trained; 144,000 girls and women	30 MIRA workers trained (Uganda); 10 MIRA workers trained (Afghanistan)
Technology platform to improve access to preventative and primary health care (World Health Partners)	Electronically links city doctor to provide health services for primary and preventative care	Millennium Alliance (USD 380,000)	June 2016 – June 2018: scaling in India; beginning transfer process to Kenya	12,000 centers	0
Multi-fuel cleaner energy cook stoves (Prakti)	Multi-fuel cleaner energy cook stoves	Millennium Alliance (USD 44,580 for capacity building)	June 2016 – June 2019: selling in India; testing in Bangladesh, Nepal	60 stoves	0
Access to potable water (WaterLife)	Community water plants provide safe, clean drinking water	Millennium Alliance (Round 3: USD 355,000)	Round 1 in India: October 2013 – October 2015; Round 3 in Rwanda: June 2016 – June 2018: adopted in India (partly with MA funds), transferred and testing in Rwanda with MA funds	12 million users (4000 plants)	0 (first plan under construction)

Project (Implementing Partner)	Innovation	Funding Source/ Mechanism (Amount)	Duration & Summary of Status	# Users (India)	# Users (international)
Building Evidence based Scalable & Sustainable eye care model (Forus)	Pre-eye screening device	Millennium Alliance (USD 142,000)	Round 2: January 2015 – January 2017: transfer to Ethiopia in progress	Approx. 1,200 units	0 in Ethiopia Approx. 200 in other countries
Sustainable Sugarcane Initiative (AgSri)	Seedling development and sprouting technique to improve yields/ efficiency	Millennium Alliance (USD 508,000)	Round 2: February 2015 – March 2017: scaling in India; testing in Kenya	700 farmers	0
Water Collection & Storage (Naireeta)	Bhungroo underground water management solution	Millennium Alliance (USD 260,000)	Round 2: January 2015 – January 2017: scaling in India and internationally (Ghana, Zimbabwe, Mozambique, Senegal, Togo, Madagascar)	241 units (2000+ farmers)	3,500 units (5-12 farmers/unit)
Digital Integration to Amplify Agricultural Extension (Digital Green)	Video training for Agricultural Extension in Afghanistan	Development Innovation Ventures (USD 260,000)	November 2015 – February 2016: transferred to Afghanistan	N/A	200 trained video disseminators; 5,073 farmers
Social Enterprise Impact Investing Forum (Sankalp Forum)	A forum and annual Summit bringing together regional stakeholders related to the innovation ecosystem	DFID and USAID/Washington	scaling Summit and engagement model in India, Africa, SE Asia	1200 Summit attendees	1,000 Summit attendees (Africa); 700 Summit attendees (SE Asia)
Office of Social Sector Initiatives					
School Excellence Program (Kaivalya Education Foundation)	Talent development to fill the leadership gap	USAID/India	scaling in India	USAID funded 258 schools, 614 educators trained (Surat)	N/A
Community Managed Water Centers (Water Health India and Municipal Corporation of Bangalore)	Improving community health in Bangalore urban slums through decentralized water purification systems	USAID/India funds 25 centers in Bangalore (USD 451,200)	scaling in India	50,000 users of USAID/India funded centers	Unknown, Liberia has a parallel program (no transfer, started simultaneously)

ANNEX E. SAMPLE DEFINITIONS: INNOVATION PROCESSES

Sample Definitions from Development Actors

Defining Innovation	
USAID/Global Development Lab	• **Innovation** – "products, processes, tools, approaches, service delivery models, and/or other interventions (broadly defined) that have the potential to achieve significant (not incremental) improvements in development outcomes versus existing alternatives, and are intended to improve the lives of ultimate beneficiaries. Here, innovations are defined not by their novelty, but by their potential to achieve significant improvements in development outcomes versus existing alternatives."[35]
USAID/India	• **Innovation** – "Innovation refers to novel business or organizational models; operational or production processes; or products or services that lead to substantial improvements in executing against development challenges. Innovations help produce development outcomes more effectively, more cheaply, that reach more beneficiaries, in a shorter period of time, and more sustainably."[36] • **Innovation platform** – "A network of partners working on a common theme and using knowledge in ways it has not been used before to generate goods and services for the benefit of the poor."[37] • **Affordable/frugal innovation** – "…innovations that result in no-frills, good quality, functional products that are affordable to the customer with modest means."[38] • **Reverse innovation** – "new ideas, technologies, best practices, and process innovations are being cultivated in developing countries and then transferred to mature markets or to other developing nations."[39] • **Polycentric innovation** – "…involves innovating through the creation of global networks of talent, capital, and ideas."[40] • **Demand-driven innovation** – "these innovations should attract resources form other host governments, international organizations, and private sector partners (depending on the nature of the innovation) to be diffused worldwide."[41]

[35] Global Development Lab, USAID.
[36] CDCS, 9.
[37] Ibid.
[38] Ibid., 11.
[39] Ibid., 30.
[40] Ibid.
[41] Ibid., 32.

DFID	• **Innovation** – "Anything novel which adds value to the end user – Erik Von Hippel"[42] • **Production innovation** – "changes in the things (products/services) which a rganizationon offers"[43] • **Process innovation** – "changes in the ways in which products and services are created or delivered"[44] • **Position innovation** – "changes in the context in which the products/services are framed and communicated"[45] • **Paradigm innovation** – "changes in the underlying mental models which shape what th rganizationon does"[46]
Defining Scaling Up	
MSI	• **Scaling up –** "…the dissemination of a new technique, prototype product, or process innovation; 'growing' an organization to a new level; and translating a small-scale initiative into a government policy."[47]
Brookings	• **Scaling up** – "…expanding, adapting, and sustaining successful policies, programs or projects in different places and over time to reach a greater number of people."[48]

[42] Jeena Chhabra, email message to Stephanie Schmidt, November 1, 2016.
[43] Ibid.
[44] Ibid.
[45] Ibid.
[46] Ibid.
[47] Larry Cooley and Richard Kohl, *Scaling Up-From Vision to Large-scale Change: A Management Framework for Practitioners*, 2006, 6.
[48] Arntraud Hartmann and Johannes F. Linn, *Scaling Up: A Framework and Lessons for Development Effectiveness from Literature and Practice,* Wolfensohn Center for Development, Brookings, Working Paper 5, October, 2008, 8.

ANNEX F. INNOVATION CASE STUDIES

Case Study: Solar Conduction Dryer

Program name: Solar Conduction Drye– - A solution for hunger, poverty and gender inequality
USAID Support: USD 150,000 (September 2013- March 2015)
Main Implementing Partner: Science for Society (S4S)
Intervention Areas: Maharashtra (India), Kisii and Nyamira counties (Kenya)

Description of the Innovation

The innovative solution is an affordable Indian Solar Conduction Dryer (SCD) that dehydrates agriproducts with the objective to improve economic conditions of smallholder farmers by minimizing agricultural post-harvest losses, increasing the shelf life of agriproducts, and adding value to otherwise perishable crops.

Figure 15: A solar dryer in Pune- India

Figure 16: A solar dryer in Nyamira-Kenya

One SCD of four m^2 can dehydrate 12-14 kg of fruits and vegetables per tray load through air conduction. According to S4S, an SCD can process 3,000 kg of material annually; has zero operating cost with the payback period of just 100 days; retains 45 percent more nutrition with better color, flavor, and hygiene than open sun drying; and is a modular system that can be used efficiently by women farmers. This dryer has a relative advantage compared to sun drying.

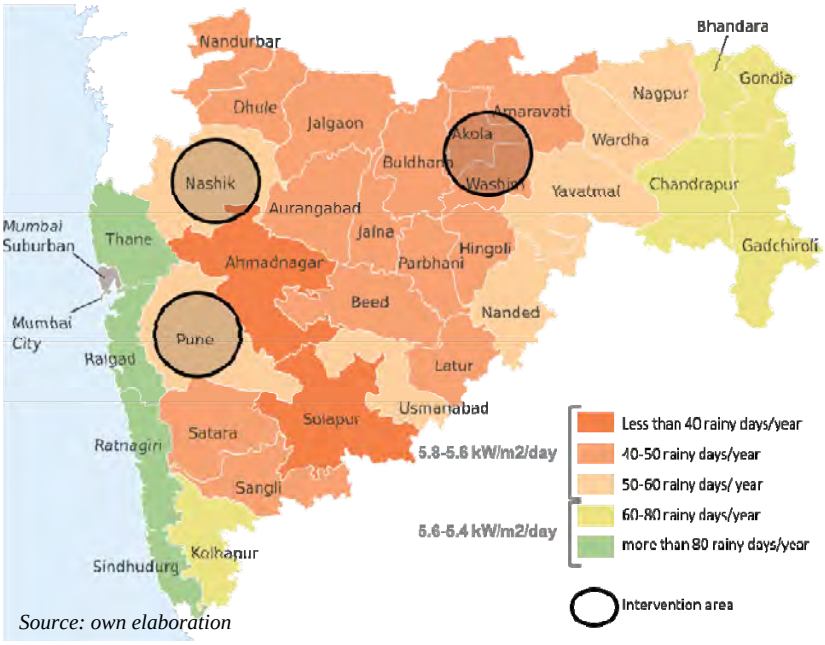
Transfer to Kenya

USAID/India funded an 18-month project for S4S to transfer the SCD technology in India and in Kenya. During the first year of the program, the objective was to distribute 50 solar dryers each in India and Kenya to demonstrate the application and benefit of the technology, facilitate market linkages for small and marginal farmers, and establish new markets for dehydrated products. During the second year, the focus was to create a scale-up strategy and ensure pathways to establish local manufacture of similar units in Africa.

Before receiving USAID funding, S4S developed the technology and installed 20 dryers in India. With help of a USAID grant in 2013, it strengthened the India component and started the Kenya component simultaneously.

In India, S4S created a company (SoFood Pvt. Ltd.) to market dried products and works with farmers in Pune, Nashik, Akola and Washim (Maharashtra). They rely on local implementing partners to reach farmers. In Nashik, Akola, Washim, they work with PVS (Panivapar Sanstha, a farmer cooperative created 25 years ago) and SARG (Supa Agriculture Research Group, a voluntary organization founded by Supa Biotech in 2002). They distributed 25 SCDs in this region with USAID funds.

Figure 17: Intervention areas in India

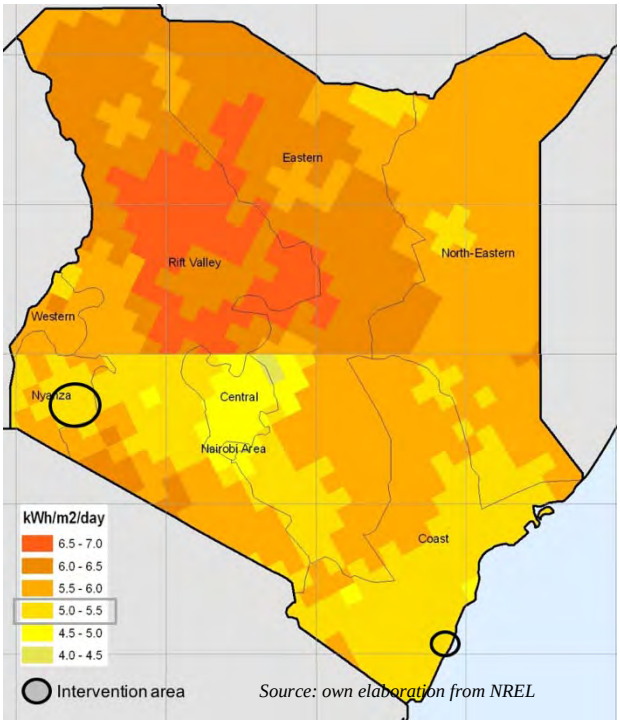


Source: own elaboration

In Pune, they work with BAIF, an Indian NGO established in 1967. S4S was not present on the ground and could not mobilize farmers. Working with BAIF provided access to local communities. In 2014-15, BAIF and S4S organized demonstration activities with SCDs in different villages to show the new technology and identify possible adopters. SCDs were distributed to individuals that were part of a women's association and paid 33 percent of the SCD cost. They first selected 25 women in 2016. Each one received an SCD made up of separate parts and learned how to assemble it. The women used the SCDs from April to June 2016, stopped from June to September (because of monsoon season) and started again in October 2016. SoFood placed two orders for specific products (ginger in June and okra in November) proposing a fixed price for the product. Women bought raw material, dried it, and sold it to S4S. SoFood and the women agreed on a price, which ensures financial viability for SoFood and encourages women to participate. At the same time, the women dried crops that they produced themselves (such as onions, pickle, potatoes, moringa). They consumed one part and sold the other part to a few local retailers. The women have tracked the dried production destined for S4S, but they have not yet followed with production for consumption or local retailers.

In Kenya, S4S partnered with Kisii University and drafted an MoU designating the University as the local implementing partner for S4S. Kisii University relied on the County Governments of Nyamira and Kisii and on the Agricultural Sector Development Support Program (ASDSP)[49] to reach farmers. Kisii University, the County governments, and ASDSP organized together demonstration activities to identify interested farmers. They chose to give 65 SCDs away at no cost, with one SCD shared by five associations (around 100 farmers). Five SCDs are also used in Mombasa by the Agriculture Office. SCDs were shipped in separate parts from India and Kenyan farmers were trained to assemble and to use the SCDs. Selected associations are part of ASDSP, and they received additional support on good agronomic practices, modern technologies (composting and safe use of pesticides) and marketing (including packaging). The associations dry beetroot, carrot, cabbage, spinach, pumpkin leaves, banana but also indigenous vegetables, that are a priority for ASDSP. The Kenyan farmers produce the raw material that they dry. The most active associations consume half of the production and sell the other half. However, marketing dried agriproducts is still a challenge; demand is higher in Nairobi but locally people are not familiar with this product and the selling price is still low.

Figure 18: Intervention areas in Kenya



Phases in the Transfer of the SCD Innovation

If we only consider the SCD technology itself, the product was developed in India by S4S before the beginning of USAID program. During the program period, the product was modified slightly in India and in Kenya. The SCD itself has been tested successfully and could be scaled up. However, for a farmer to adopt the SCD, it is essential to have a reliable market to sell the dried produce. Implementing partners in India and Kenya identified this as a key challenge and are working to find buyers. Actual SCD users are building reliable marketing channels to sell dried

[49] ASDSP is a sector program implemented by the Government of Kenya and jointly financed by the Government of Kenya and the Government of Sweden.

agriproducts: the commercialization model is still being fundamentally developed. For this reason, **the SCD model is still in the test phase**.

First Effects of the Innovation Transfer

S4S distributed solar dryers simultaneously in Kenya and in India. It used distinct methodologies to distribute the innovation and ensure a favorable climate. This comparative information is presented below in the following table:

Figure 19: Innovation Transfer

	India	Kenya
# actual users	25 users in Pune 25 users in Nashik, Akola, Washim	65 SCD shared by 6500 farmers in Nyamira and Kisii 5 SCD in Mombasa
SCD cost	30,000 rupees (USD 436)	130,000 shillings (USD 1,253) imported from India
Innovation distribution model	Distributed by BAIF, PVC, SARG and S4– - Fee model (33% paid by user) Individual ownership	Distributed by Kisii University, ADSDP and County Gov– - Grant model Collective ownership
Production of dried vegetables	Since April-May 2016 in Pune Main production: ginger (30kg/user), okra (10kg/user) Complementary production: onions, pickle, potatoes, moringa	Since Dec. 2014 in Nyamira Main production: indigenous vegetable (max. 50kg/SCD/week) Complementary production: beetroot, carrot, cabbage, spinach, potatoes, banana
Market channel	Main production for SoFood Pvt. Ltd. (S4S company) and complementary production for consumption and local retailers	Trained to build their own channel

In India, the solar dryer is a new product and farmers are still skeptical, but subsidized dryers (US$145) are affordable for middle-income farmers. Some individuals have already bought SCD at cost, but they are the exceptions.

Additionally, SoFood offered to buy directly dried production, promoting a reliable market but S4S does not promote an exclusive relationship with farmers. For example, SCD users in Nashik who used to sell to SoFood created their own brand to market their dried production.

In Kenya, the price of the solar dryer is 2.8 times higher because solar dryers are imported from India and shipping costs increase drastically the final price of the technology. The distribution of collective SCD can be considered as part of demonstration process. For the moment, potential users can try the solar dryer at no cost. They are also building market channels with ASDSP support.

Figure 20: Dried products in Pune, India

Figure 21: Dried products in Nyamira, Kenya

Another key aspect to promote the diffusion of the innovation is its cost effectiveness. S4S did not implement any cost-benefit analysis but through this evaluation it was possible to collect some relevant data to better understand the economic viability of SCD in Kenya and in India.

Basic costs and benefits producing one kg of dried okra in Pune- India:

- Women need to buy 10-11 kg of fresh okra. Their husbands buy it in the local market for 130 rupees.
- Women pay 10,000 rupees for the SCD (33 percent of the actual cost). According to our estimate, SCD lifetime is 10 years' equivalent to 2,000 days of use. The cost of the dryer is 10,000/2,000=5 rupees per day. If it was not subsidized, it would be 15 rupees per day (USD 0.22/day)
- Women clean and chop okra, load and unload the SCD. In total, they work 4 hours to produce 1 kg of dried okra. The SCD can be loaded once or twice a day depending on the solar radiation (12 kg/load).
- Women sell their production to SoFood in their farm (no transport cost). S4S pays 260 rupees per kg.

→ Women earn (260-130-5)=125 rupees per kg, working 4 hours: 31.25 rupees per hour. It is equivalent to 281.25 rupees per day.
→ If the SCD were not subsidized, women would earn (260-130-15) =115 rupees per kg working 4 hours: 28.75 rupees per hour, equivalent to 258.75 rupees per day slightly higher than the salary of an unskilled laborer (200 rupees/day).

Basic costs and benefits producing 2.5 kg of dried indigenous vegetables in Nyamira-Kenya:

- Women produce their own vegetables, estimated at 330 shillings, to produce 2.5 kg of dried vegetables.
- Women do not pay for the SCD: there is no cost for the SCD. If they had to pay for the SCD, the cost would be 65 KES/day estimating 2,000 days of use for a SCD (USD 0.63/day).
- They load and unload the SCD with vegetables without prior preparation. They bag the product. In total, they work 2 hours to produce 2.5 kg of dried vegetables. The SCD can be loaded once or twice a day depending on the solar radiation (12 kg/load).
- They also have extra cost to send the product to buyers. It wasn't possible to estimate accurately this cost during this evaluation.

→ Women earn (500-330) =170 KES for 2.5 kg working two hours: 85 KES/ hour. It is equivalent to 765 KES/day.
→ If the SCD was not subsidized, women would earn (500-330-65) =105 KES for 2.5 kg working two hours: 52.5 KES/hour, equivalent to 472.5KES/day higher than the salary of an unskilled laborer (250-300 KES/day).

Quotes from FGD in Kenya (Nyamira County- women users)
The fresh vegetable gives less money than the dry one.
The SCD gives me enough money to buy grains so I can feed my children.
Every month, I send 25 kg of dried vegetables to my children in Nairobi.
I built this house, bought a cow, made a lot of cash and fed my children with these vegetables. In one week, I can produce 50 kg of dried vegetables.

Main Findings and Lessons Learned

Understanding the value chain and market is essential to ensuring product transfer. The transferred innovation is a product (the solar dryer), but its adoption depends on its compatibility, consistency with the existing values, past experiences, and the needs of potentials adopters.

In Pune and Kisii, there are significant post-harvest losses because most of farmers produce highly perishable products (vegetables). The solar dryer presents a potential solution to this problem. Local farmers are interested in drying their production if they can consume one part and sell the other part. But there is not a reliable market for dried agriproducts. Building market linkages is critical to the successful transfer of SCD. Without a market for dried agriproducts, farmers will not adopt this technology because it will not be a cost-effective solution. In India, S4S is the agent buying directly from the farmers; this strategy facilitates the market linkage but farmers depending on a single agent can be a risk. In Kenya, SCD responds to a local need and ASDSP includes SCD in its activities, working on marketing dried vegetables. SCD users are monitored by extension workers to market their products and to ensure the economic viability of this new technology. This strategy is different from the Indian one. Market linkages are slower but adopters diversified the risk by having multiple buyers.

The Indian implementing partner doesn't need to create the whole enabling environment by itself. It can be more relevant to integrate innovations into local interventions. It is the case in Kenya where S4S transferred the product and ASDSP included the SCD in its value chain approach. The innovation framed in an existing program.

Figure 22: Quote from a woman using the solar dryer in Nyamira-Kenya: "*I am getting financially more stable with the sale of dried vegetables, and it is important because I have a young child.*"

It is also important to facilitate access to credit. In Kenya, SCD users received the SCD for free. In India, SCD are highly subsidized. These distribution models promote demonstration and early adoption but access to credit will be critical for the scaling phase. Women groups in India and in Kenya are often saving and credits groups that could be integrated to the scale up strategy.

Identifying and working with local implementing partners is an effective and efficient way to access and build trust with users. It was difficult for S4S to explore unfamiliar regions and identify prospective users without local references. For this reason, it was critical to identify existing local agents that had knowledge of the region and relationships with the communities, and could target potential users.

In Pune, S4S connected with BAIF, a local NGO working for more than 25 years in the region. This partnership was essential to building a relationship between S4S and the SCD users and promoting faster adoption. When women joined the project, they had doubts but they trusted BAIF so were willing to participate. Demonstration activities with the SCD were also essential to ensure the observability and the trialability of the innovation: potential adopters had the opportunity to see the dryer and to try it. Without a local partner and demonstration activities, it likely would have been more difficult for S4S to interest early adopters. S4S is expanding the number of adopters with this strategy: in November 2016, they reached 1,200 installations and they have orders of 1,000 additional units to be fulfilled in 2016-17.

In Kenya, S4S first connected with the agriculture department of Kisii University without considering other possible partners. However, during project implementation, extension activities were implemented by the two County governments and ASDSP because Kisii University has few resources and little experience in agriculture extension. There were multiple implementing partners with overlapping activities and no clear definition of the added value of each one. SCDs have been transferred and building market linkages is in progress but there have not been any impact studies conducted, an important potential activity for the University.

Costs related to transferring an innovation to a new environment need to be identified and taken into consideration in the incubation phase. S4S failed to anticipate a set of obstacles to building SCDs in Kenya. Polycarbonate layers are not easily available, steel is imported with a 25 percent tariff, and importation procedures are complex and sometimes corrupt. S4S ultimately determined that is was less expensive to import SCDs in separate parts and assemble them in Kenya, but this drastically increased the price of the technology compared with India.

Early adopters may not be the intended beneficiaries of an innovation and steps should be taken to ensure that innovations reach the target population. This innovation was designed to improve food security (farmers consume some of the product) and increase income (farmers sell some of the product). However, the majority of women in India and Kenya that are benefitting from the SCDs belong to progressive farming families; this innovation is not currently being targeted at the poorest who most need greater food security.[50] The current users are the early adopters of this innovation and are the ones from whom potential adopters seek advice and information about the innovation. They are more receptive to the SCDs compared to the small farmers because they are relatively better equipped for risk taking. This is a very common innovation diffusion pattern. Typically, early adopters belong to middle-income families. As the innovation moves from the testing to the scaling phase, steps should be taken to ensure that it reaches the intended beneficiaries (small, low-income farmers).

That said, the early adopters are important to making ingress into the community and are working with smallholder farm households. Early adopters decrease the uncertainty about a new idea by adopting it and then conveying a subjective evaluation of the innovation to nearby peers by means of interpersonal networks.

Understanding and taking into consideration social codes and behaviors in the diffusion strategy was critical. S4S decided to target women, which is why gender aspects have been included in the methodology to diffuse the innovation. In India, women asked their husbands to buy SCDs for them because this purchase represents an investment for the household. Even the subsidized price for an SCD is relatively high: 10,000 rupees (equivalent to 50 work days as unskilled laborer in a farm). It is a risk for the women and they prefer to make this decision with their husband. This made it essential to include husbands in demonstration activities.

[50] Further studies would be necessary to precisely measure project effects on post-harvest losses and household food security.

Strategies for collective ownership must take into account the local context. In Kenya, some SCD parts were stolen, making it necessary to place SCDs in private backyards under the responsibility of a designated person. To reach more users, they decided to share SCD collectively: one dryer for 100 people. But all 100 people cannot use it because SCDs are too small for this volume of beneficiaries. Some implicit rules exist that advantage persons closer to SCD watchmen. It is important to understand them and avoid exclusion of marginalized people: collective ownership must be treated carefully.

Type and Level of USAID Involvement

S4S was established in 2008 and received a first grant through the Millennium Alliance (MA) mechanism in 2013 (first round). The project aimed to develop HaldiTech, a technology to process turmeric faster and with very low costs. This project enabled them to have access to multiple partners, to be part of a network, and to make the organization known.

USAID/FSO in India connected with S4S through the MA mechanism and proposed to fund an SCD project through the Millennium Alliance and India-Africa Agriculture Innovation Bridge Program starting in 2013.

FSO supported S4S defining project activities related with FTF priorities: the agenda in Kenya was very clear with a focus on specific value chains and regions. S4S received a training in M&E and FSO monitored their activities very closely bringing technical and administrative assistance. The office was particularly flexible and available during the implementation which is essential to transfer successfully an innovation. To sum up, FSO/India brought to S4S: credibility, network, guidance (agricultural background and value chain) and experience.

In Kenya, S4S intervened in a FTF county where USAID/Kenya funded several interventions (the KAVES program including the dairy sector). However, USAID/Kenya did not visit the project and was not aware of the activities implemented by S4S in Kenya. This is a small project for USAID, and it may not necessarily receive a lot of attention by the local Mission.

Data Collected for the Case Study

This case study is constructed from information gathered through:

- Interview with S4S (the prime implementing partner)
- Interview with BAIF Development Research Foundation (local implementing partner in India)
- Interview with Kisii University (local implementing partner in Kenya)
- Interview with Government counties of Nyamira and Kisii (partners in Kenya)
- Interview with the Agricultural Sector Development Support Programme (ASDSP), by the Government of Kenya (partner in Kenya)
- One focus group discussion with users in Pune (India)
- Three focus group discussions with users in Nyamira (Kenya)
- Direct observation of the innovation in India and in Kenya
- Literature review

Case Study: TechnoServe Water Interventions

Program name: Feed the Future India-Africa Agriculture and Natural Resource Management Innovation Sharing Platform
USAID S: USD 4,000,000 (May 2014-September 2016, extended)
Main Implementing partner: AAPL/Technoserve (TNS)
Intervention Areas: Kajiado County (Kenya), Dedza region (Malawi)

Description of the Innovation

This project includes two kinds of innovations: (i) an innovative process to match African demand for solutions with Indian innovation supply, (ii) identified Indian technologies to solve water scarcity in Malawi and in Kenya. The case study focuses on the water interventions that were implemented by Technoserve India and GRAVIS, an Indian NGO founded in 1983 and specialized in water structures in Rajasthan with pastoralist communities. Implementing partners transferred four water management innovations: *khadin* and *naadi* in Kenya and seepage wells and *gabion* in Malawi.

Figure 23: Khadin – individual earthen dyke

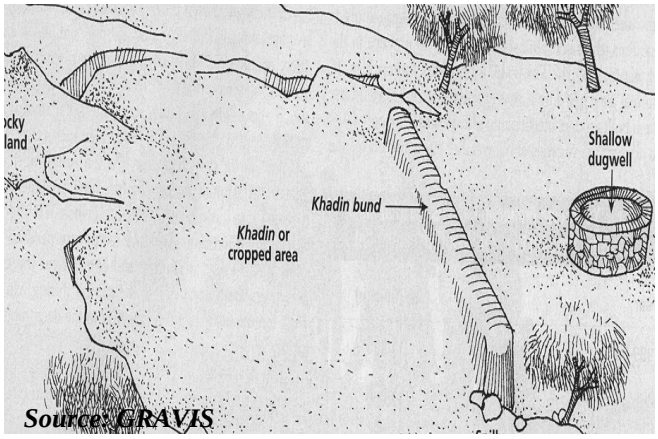


Figure 24: Naadi- community based structure

Transfer to Kenya and Malawi

In Kenya, TNS India decided to intervene in Kajiado County, a dry area where its local implementing partner (TNS Kenya) used to work with pastoralists organized under a dairy cooperative. The water supply situation is critical in Kajiado county during the dry season. Farmers migrate with cattle because of drought, and milk collection decreases drastically for the cooperative. Remaining livestock and people need to walk 5-10 km to purchase water at private boreholes. They pay around 100KES per cow and 350KES per donkey monthly, knowing that a donkey can carry 20L per trip.

Project activities were delayed because TNS had difficulties with administrative and taxation processes to transfer funds and staff outside India. The construction started in mid-2015. In November 2015, implementing partners built three household *khadin*– - individuals earthen dikes – for cooperative members. Khadins facilitate water filtration and increase fodder and food production. In India, more than 4,800 khadins have been constructed for farmers with GRAVIS support. However, in Kenya local farmers in this area raise cattle rather than farm crops. Their priority is to obtain surface water for animals and not ground water for crops, so the Indian innovation design was not optimal. In July 2016, implementing partners modified the design of the structures to better correspond to local needs in Kenya. They dug three *khadins* to store surface water. During the evaluation visit, they were waiting for rains to observe effects of new khadins. The implementing partners also decided to switch from khadins to *naadis*. Naadis are half-moon shaped community based structures that harvest rain*water using natural catchment. In India, 250 naadis* have been installed with GRAVIS support. In Kenya implementing partners built three naadis in 2016 and planned to install seven in total. During the evaluation visit in November 2015, they were waiting for rains to fill the reservoir with water. One naadi is designed to provide water to 300 households and 9,000 animals.

Figure 25: Naadi constructed in Kajiado county Visit in October 2016

Figure 26: Pump equipment for seepage wells Visit in November 2016

Figure 27: Gabion constructed in the Dedza region

In Malawi, TNS India and its local implementing partner (CRS) decided to introduce a seepage well in the Dedza region. They worked with a local partner (Cadecom) to mobilize the village of Mkweira. Traditional wells were dug for farming but their range was limited because they dried up too soon during the dry season. In 2015 and 2016, eight seepage wells were constructed by implementing partners and local farmers. Water is pumped with manual pump and not solar pump to keep maintenance costs low. Currently, 171 people farm second season crops due to the wells. They will harvest their first production in December 2016. TNS plans to reach 13 wells in total. Users

rent plots of 150 m^2 from local landowners. But landowners did not commit to rent their land over the long-term. Land tenure could become an issue for project sustainability. The community received the pump equipment at no cost and have not yet defined a strategy to maintain and replace this equipment.

In addition to farming, the community uses water for other purposes: taking a shower, washing clothes, making bricks, and drinking. Implementing partners planned to exclusively use water for irrigation and did not consider local demand for drinking water. As a result, the innovation indirectly benefits the whole village (1,000 households) since it provides drinking water. Users estimate that the time spend fetching drinkable water has decreased from 5-6 hours to 30 minutes.

Finally, the fourth innovation transferred to Africa are *gabion* erosion control structures proposed to the village of Kapesi in Malawi. This village is located on a slope and has erosion problems. It was particularly critical to protect its access road. In 2015 and 2016 local people participated as volunteers in the construction of gabions, upstream of the road. With gabions, water flows slower, erosion is stopped and soil is deposited in the ravine and in land downstream. Farmers will plant fruit trees and farm vegetables in the new soil. The village already understood the concept of physical barriers against soil erosion. In 2012 they installed elephant grass hedges for erosion control and, since then, they have replicated vegetative barriers twice in their village. However, stone barriers are new for them. Results are faster with stone, but they cannot replicate it without external support to transport stones. Users consider that after three years the effects are similar with grass and with stone. The gabion does not seem to bring an added value and to represent a clear innovation.

Figure 28: Phases in the Transfer of the TNS models

The four water innovations were tested and scaled in India before the start of the project. They were transferred to Malawi and Kenya by TNS India and GRAVIS.

In Malawi, gabions and seepage wells were tested by users and were viewed positively. Implementing partners are developing a scale-up strategy to interest funders because the diffusion of these innovations will depend on external support. Both innovations in Malawi are between the test stage and the scale stage.

In Kenya, the first innovation (khadin) was modified considerably to fit local needs and the second innovation (naadi) has not yet proved its worth to users. Both innovations in Kenya are in the test stage.

Main Findings and Lessons Learned

Implementing partners did not consider all issues related with ownership and management of the new water structures. In Kenya water structures are collective. At the time of the evaluation, the communities had not developed a strategy to ensure maintenance. They are considering having each household pay a fixed monthly fee and provide labor during repairs.

The seepage wells are individually-owned in India. Each household digs its well and manages its water. In Malawi, seepage wells were transferred for collective use. The eight seepage wells are managed. Days of irrigation are allocated to each user, a water committee monitors water rotations and plot delimitations and farmers will soon harvest their first production.

However, implementing partners switched from an individually-owned innovation to a collectively-owned innovation without taking into consideration land tenure. In India, seepage wells are private: farmers dig their well on their own land. In Kenya, a seepage well benefits 20 people. However, the wells were built on private land and irrigated plots that belong to seven people, and the water irrigation structures have been transferred to seven owners. The 171 farmers cultivating irrigated land pay 1,000KSH for 150 m2. There is no guarantee that the landowners will continue to rent their plots at an affordable price when the project ends. Additionally, the community received the pump equipment for free and do not think that they could afford to replace the equipment if it breaks. A manual pump costs around USD 100 and tubes of 100 meters cost USD 340. This represents a significant amount for a small village in Malawi. However, if the users allocate money used for the rental to a maintenance fund (USD 234/season), they could replace all of the equipment every two years. The community could pay for equipment maintenance if it did not have to pay to rent the land.

The added value of each implementing partner is unclear. In Malawi, TNS India works with four implementing partners in a project targeting two villages. TNS India is the main implementing partner with two full-time staff in Lilongwe. GRAVIS is the knowledge partner, periodically monitoring water structure locations and constructions. CADECOM works in the field: it mobilizes community members, facilitates connections at the local level and brings its knowledge of the enabling environment. Its contribution is essential to ensure trust is built with communities and to accelerate innovation adoption. However, it lacks methods in report preparation. Finally, CRS does the local technical backstopping, provides expertise, and made connection. It used to work with USAID/Malawi, facilitated the connection between TNS and CADECOM and verifies that the implementation strategy fits the local enabling environment. This problem is that this multi-partner arrangement leads to multiplying overheads, overlapping competencies, and still led to neglecting local issues (like collective ownership).

The involvement of local authorities and donors is crucial for scale-up and sustainability. Innovations transferred by TNS in Africa represent a significant cost for local farmers. Naadi construction in Kenya costs USD 12,000 and a seepage well in Malawi costs USD 2,000. The first constructions were highly subsidized: TNS funded material and communities contributed labor. But the transfer of these innovations on a larger-scale cannot be achieved without external support. It is important to develop systems in the communities to fund and maintain these structures. In Kenya, TNS invited the county government to monitor the construction of the dam.

In Malawi, TNS organized a workshop in Lilongwe in December 2016 to present the project to several donors.

Implementing partners struggled to identify innovations that solve local problems but did adapt. Initially TNS introduced khadins that increase food and fodder production. In Malawi, TNS soon realized that this innovation did not meet local needs, so they switched to the construction of seepage wells.

In Kenya, three khadins were built costing USD 3,000 each (four times higher than in India because machinery is more expensive in Kenya). However, they did not address the main local issue, which is water availability during dry season. It seems that miscommunication and translation imprecision occurred between implementing partners and local farmers: khadins were translated into "household dams" in Massai, which actually refers to a dam used to store surface water. Once the error was identified, TNS modified its strategy and proposed an innovative structure to harvest and store rainwater.

Administrative processes to transfer funds and staff outside India delayed implementation. TNS is an international entity with experience with international regulation and procedures. However, it met multiple administrative issues in working in Africa. The first year of the project was largely spent solving taxation problems related to international transfer. The first trip of TNS to Africa was in December 2014 and the contracted with local implementing partners was not signed until June 2015. Additionally, Indian staff are still traveling back and forth to Kenya every three months because they do not meet requirements for a work visa.

Type and Level of USAID Involvement

Several activities were modified to adjust to local needs and land characteristics. TNS appreciates that USAID/India actively assisted with the reformulation and showed great flexibility. In Kenya, TNS stopped the construction of khadins and preferred the construction of naadis. In Malawi, it replaced khadins by seepage wells. USAID/India visited the interventions in Malawi in 2015 and Kenya in 2016. These field visits provided first-hand monitoring and technical assistance.

Concerning the involvement of the USAID Missions in the trilateral countries, the situations differ between Malawi and Kenya. In Malawi, TNS met with USAID/Malawi frequently and USAID visited the project. TNS and CRS chose the Dedza region, a Feed the Future area close to the capital which facilitated the visits of donors and national institutions. Implementing partners were strategic in positioning their project in a priority region for USAID. This enabled them to demonstrate their innovation on the ground and to promote the acquisition of new funds.

In Kenya, TNS did not meet with USAID/Kenya. The intervention takes place in the Kajiado County which it not a Feed the Future region (though focus countries were not set at the time of project planning). Water structures are built in isolated areas that are difficult to access.

Data collected for the case study

This case study is constructed from information gathered through:

- Interview with AAPL/TNS (the main Implementing partner) in India, Kenya and Malawi.
- Interview with TNS Kenya (local implementing partner in Kenya)
- Interview with CRS and Cadecom (local implementing partner in Malawi)
- Interviews with USAID/Kenya and USAID/Malawi
- Two focus group discussions with users in Kajiado County (Kenya)
- Two focus group discussions with users in Dedza (Malawi)
- Direct observation of the innovation in Kenya and Malawi
- Literature review

Case Study: wPower

Program name: wPower
USAID Support: USD 1,212,611 (October 2014 – September 2015)
Main Implementing Partner: Swayam Shikshan Prayog (SSP)
Intervention Areas: India and Kenya

Description of the Innovation

wPower is a program that helps female entrepreneurs to educate people in their communities on the benefits of clean energy products, such as solar lamps and clean cook stoves, and sell these products in their villages. According to Preema Gopalan, the director of Indian implementing partner Swayam Shikshan Prayog (SSP), SSP's mission is ***"to empower grassroots women economically and socially to assume new entrepreneurship roles and build their business capacities to create impaI..[by] providing a vast opportunity for building last mile networks".*** Products sold by female energy entrepreneurs, called *Urja Sakhis* in India, include cook stoves, solar lanterns, biogas and solar water heaters, pellets, and solar home lighting systems.

Figure 29: A wPower *Sakhi* displays a solar lamp in her shop in Maharashtra, India. ***Photo Credit: Sarah Pedersen, 2016***

In 2012, USAID/India called for local implementing partners to submit proposals to implement a project called the Partnership on Women's Entrepreneurship in Clean Energy (wPower) in India. SSP was chosen to receive the $1.2 million, three-year grant based on their established model of connecting the private sector with grassroots women's networks in rural India. SSP simultaneously created a rural distribution company, Sakhi Unique Rural Enterprise (SURE), to connect clean energy product and technology manufacturers with "last mile" rural women. SSP was also able to leverage USAID/India's initial grant to raise an additional $4.4 million in cash and in-kind support. In India, wPower provided 1,010 rural women from two Indian states with training in entrepreneurship, marketing, and sales and servicing of clean energy products. One of the Sakhis in a focus group discussion said she had sold 2,050 solar lamps that retail for 650 rupees each. Another Sakhi in the focus group discussion mentioned the total number of all products she sells in her shop, besides clean energy products, has also increased due to more customers for the clean energy products.

Under the program, over 1,000 women have been trained to become agents of clean energy products (i.e. Indian Energy Sakhis). They have reportedly reached 1,010,000 people through clean energy awareness initiatives and sold over 80,000 products while increasing their incomes by 33 percent. However, according to one Sakhi in India, ***"The money is not important. The bigger benefit is the education and creating a new identity."*** During a focus group discussion with Sakhis in Savargaon outside of Solapur, the participants emphasized the non-monetary

benefits of being part of the program, including increased educational aspirations, higher status within the village, and joining a network of other women.

The key to wPower's success in India, and the innovation of wPower itself, appears to lie in SSP's strategic approach of "connecting the dots." This approach requires four core building blocks: (1) creating the women clean energy entrepreneurship network by attracting and identifying Sakhis, building their capacities, and providing business initiation and coaching; (2) clean energy awareness generation through clean energy weekly market stalls, community group meetings, and wall paintings; (3) creating rural last mile clean energy access using SURE as the last mile distributor to the Sakhi network and shops; and (4) creating an enabling partnership ecosystem by establishing a clean energy hub and providing access to finance, marketing, and distribution support. In other words, it goes far beyond introducing new products through existing distributors.

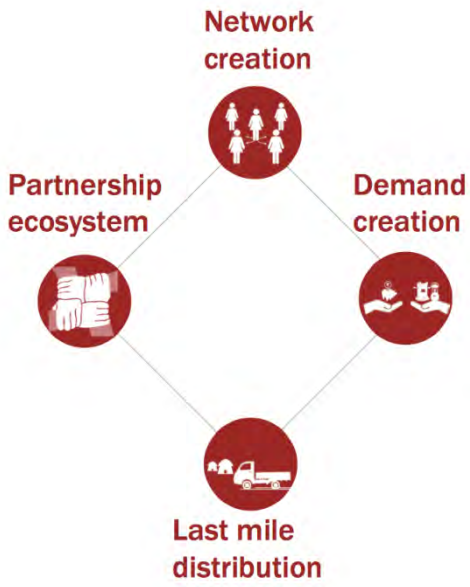


Figure 30: wPower's Connecting the Dots approach

Expansion of wPower to Kenya

In Kenya, the US Department of State launched wPower in January 2013 with partners Wangari Maathai Institute for Peace and Environmental Studies and the Green Belt Movement. Phase One of the Kenya wPower project involved the development of a training curriculum for women clean energy entrepreneurs that included topics related to personal leadership, self-agency, environmental stewardship, and clean energy products. To date, wPower Kenya has trained 338 people on clean energy products, environmental stewardship, and leadership. Participants in a focus group discussion in Kenya had varying experiences over the past month in terms of sales of clean energy products and awareness raising. One woman said she had spoken with five people in her community about clean energy products, and all five were interested in purchasing an ethanol cook stove. Though due to the high price of the cook stove (4,500 shillings) and the limited availability of ethanol, she did not make any sales. On the other hand, another woman in the focus group discussion said that, in the past month, she had talked with a group of 85 people who were part of a women's banking group and she was able to sell 50 solar lamps and 35 people expressed interest in purchasing clean cook stoves in the future.

Currently, Phase Two of the Kenya wPower project is going through a Scope of Work revision with the State Department based on lessons learned from Phase One. For example, Phase Two will focus more on continuous coaching and mentoring and sharing of best practices among communities who received training in Phase One.

Similar clean energy products are sold in Kenya and India, however in Kenya, clean cook stoves are the most popular product, while in India solar lamps are the most popular product. Exchange

of knowledge and best practices occurred between India and Kenya through the wPower Global Partnership Forum and exchange visits.

Main Findings & Lessons Learned

More support from USAID is needed to scale-up the innovation. Overall, wPower in both India and Kenya were relatively small pilot projects (1,010 women trained in India and 338 people trained in Kenya) that began at roughly the same time in both countries. After the initial grant for wPower-India ended, additional funding and technical support were not provided by USAID/India for scaling or transfer. There is no plan for expanding beyond the two original states in India. However, sustainability in these states is likely because no additional costs are required to continue as a self-sustaining system is already in place. According to SSP, the biggest takeaway lesson regarding scaling is that ***"women should not be treated just as a salesperson, but as a change agent. They [women] create conversations about clean energy, the environment, and climate change events, which increased the influence of women in their communities".***

Figure 31: A clean energy entrepreneur involved in wPower in front of her cookstove production plant in Muranga, Kenya

Exchange of knowledge and best practices between India and Kenya involved two exchange visits and a Global Partnership Forum; however, implementing partners and women from both countries expressed a desire for more support for knowledge exchange. A structured transfer/knowledge exchange plan, embedded in the larger project from the beginning, could have addressed this demand from both countries for additional support for the exchange of ideas and best practices. Ideally, there would be three to five years of support from USAID to fully engage both countries, through the development of relationships and networks.

In both India and Kenya, women entrepreneurs offer clean energy products that fill a need in their communities. In India, most rural communities lack consistent access to affordable electricity, therefore solar lamps can fill this gap. According to women and their customers in a focus group discussion, solar lamps allow children to study in the evenings and also help households save money by decreasing their energy bills. They are also popular with farmers, who use them when looking after their cattle at night. In Kenya, women often cook in blackened, unventilated kitchens, therefore cleaner cook stoves provide a better alternative to traditional cook stoves. Moreover, cleaner cook stoves are also more energy efficient, which decreases the challenge of finding cooking fuel and allows people to spend more time at home with less stress. One woman in a focus group discussion in Kenya said, "***there is less smoke in the house and I***

am no longer coughing. I learned the importance of the products and how they decrease diseases due to smoke inhalation. I am excited to teach others."

Evidence suggests that wPower has given women new knowledge, skills, connections, and opportunities. The core of wPower in both India and Kenya is the formation of women's networks. Rural women in India are chosen to become Energy Sakhis by SSP if they have established shops in their villages, have been educated through Standard 7, and are literate. Women then receive entrepreneurship training to increase motivation about clean energy and the environment, both through increased profits and by making a difference in their communities. One woman in the focus group discussion in India said, "***becoming a Sakhi has made me an entrepreneur and has increased my strength and power."*** Women reported their prestige within their communities increased along with household income and greater respect from men.

The finding that women entrepreneurs commanded more respect from men was not unique to India. In Kenya, women also noted that their husbands were supportive of their new roles as clean energy entrepreneurs. Men in their communities were convinced to support their wives after being told that the women's training would provide wisdom and increase knowledge about health, nutrition, sanitation, farming, the environment, and soil erosion. A Kenyan woman demonstrated this newfound relationship between husband and wife, saying, ***"I no longer need to bother my husband for money, so there is more love in our home".***

Type and Level of USAID Involvement

wPower-India received initial funding from USAID/India and leveraged this funding to raise additional resources for the project, which ended in 2016. USAID supported SSP in the implementation of wPower on a daily basis over the duration of the project (2012-2016), however after completion of the project there was little to no follow-up or support. wPower-Kenya received funding from the State Department, however USAID/Kenya is not involved with the wPower project.

Data Collected for the Case Study

- Interview with SSP founder and executive director, Prema Gopalan and program director, Upmanyu Patil in Pune
- Focus Group Discussion with 8 Energy Sakhis in the village of Savargaon, Osmanabad, Maharashtra
- Interview with Green Belt Movement and wPower Hub Director, Wanjira Mathai in Nairobi
- Focus Group Discussion with five clean energy entrepreneurs in Kahuro, Muranga
- Site visit with Simon Kiragu, wPower Hub Project Officer, to Riumbaini Cookstoves in Maragua, Muranga

Case Study: Millennium Alliance Platform

Program name: Millennium Alliance Platform
USAID Support: $7.7 million (May 2012 – May 2017)
Main Implementing partner: Federation of Indian Chambers of Commerce and Industry (FICCI)
Intervention Areas: India

Description of the Innovation

Launched in July 2012, the Millennium Alliance (MA) platform brings together diverse stakeholders to develop India's role as a 'global innovation laboratory.' It was started as a US-India partnership. During USAID Administrator Rajiv Shah's visit to India in December 2011, he announced a new partnership with the Technology Development Board (TDB, of the Indian Department of Science and Technology) and the Federation of Indian Chambers of Commerce and Industry (FICCI) to support the testing and scaling of innovations within India. MA has three objectives:[51]

> **1. Identify game changing innovations.** The Alliance intends to identify breakthrough innovations that address long felt developmental issues in a more effective and/or economical manner.
> **2. Rigorously test promising solutions.** The Alliance encourages innovators to rigorously test and evaluate their innovative solutions and select those that have the maximum developmental impact in a cost efficient and effective manner.
> **3. Scale innovations that work.** The Alliance aims to support innovations with wider societal appeal and help scale it [sic] to a level that it reaches and affects the needy population.

In line with USAID and Government of India priorities, MA emphasizes the development solutions that target 'bottom of the pyramid' populations (i.e. the poorest of the poor). Focus sectors under MA are basic education, affordable healthcare, water & sanitation, agriculture, clean energy, and other, (such as financial inclusion and low cost housing).

MA expanded quickly beyond the founding members to include other development agencies as well as foundations and private companies. This approach enables the partners as a whole to capitalize on their respective comparative advantage. One partner noted the Alliance benefits from USAID's expertise in M&E, FICCI's large network with both government and the private sector, and experience with outreach, or ICICI's private sector perspective (as a corporate social responsibility initiative for ICICI Group, one of India's largest banks).

[51] FICCI, "Objectives," accessed December 2, 2016, http://www.millenniumalliance.in/objectives.aspx.

Figure 32: Millennium Alliance Partners and Expansion

Year	Partner	Fund size (cumulative)
2012	USAID ($7.7 million)	$12.7 million
	TDB ($5 million)	
	FICCI (required to leverage 1:1 monetary matching for USAID disbursements)	
2013	ICCO Cooperation ($525,000)	$17.1 million
	ICICI Foundation ($895,000)	
	DFID ($3 million, for South to South innovation sharing)	
2014	Wadhwani Initiative for Sustainable Healthcare ($150,000)	$17.25 million
2015	World Bank Group (Knowledge Partner)	
2016	Facebook (Knowledge & Outreach Partner)	

Other knowledge partners include Intellicap, Ankur Capitals, and the University of Chicago's International Innovation Corps (for capacity building).

Millennium Alliance Award Processes

MA has provided three rounds of funding to a total of 62 awardees (see Figure 34 at right). The second round began to include funds for South-to-South innovation sharing (funded through DFID). The fourth round of funding is due to be awarded at the end of 2016 and is expected to bring the total number of grants to approximately 100.

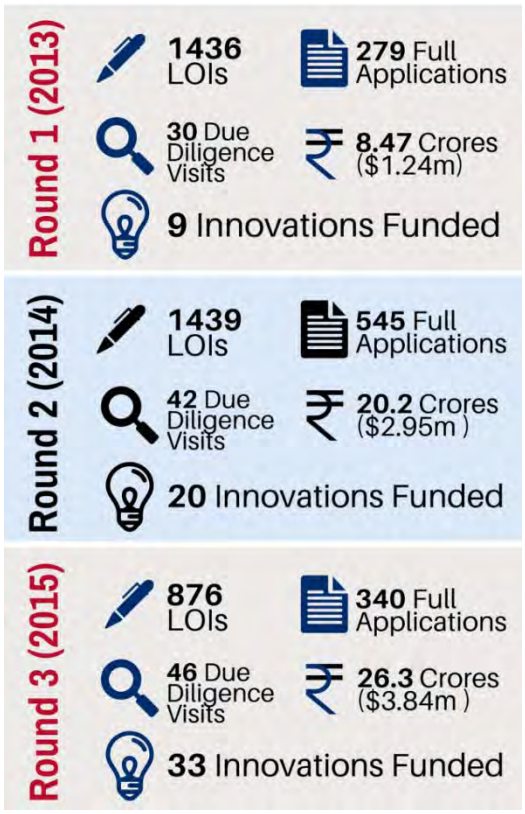
Outreach and Solicitation. FICCI conducts outreach to solicit interest from potential grantees, including roadshows throughout India and attending innovator forums. There have been more than 150 in roadshows in 65 Indian cities since MA's founding.

Selection Process. Applications must target one of the following award categories:

Stage 1 – Piloting or testing an innovation
Stage 2 – Scaling or replicating an innovation which has been successfully piloted
South to South – Testing innovation in another developing country (must have scaled in India)

MA's three-category structure for funding provides a step system for testing, scaling, and (potentially) transferring them internationally. While success at one stage does not guarantee future funding, several grantees have received more than one round of funding. Similarly, there is cross-over between innovations funded by the Alliance and USAID directly (such as WaterHealth under OSSI, which is a finalist for Round 4 funding, and Science for Society under the Food Security Office, which received Round

Figure 33: Millennium Alliance Rounds & Outcomes



3 funding to transfer to Nepal).

To begin the process, applicants must submit a letter of interest (LOI) that is evaluated for its completeness, innovativeness, impact, and sustainability/scalability. An average of 32 percent of those submitting LOIs are invited to submit a full proposal.

Four to five experts then evaluate full proposals against seven criteria of varying weights: innovation (22 percent), social impact (20 percent); sustainability (20 percent); team (15 percent); project plan (10 percent); additionality (8 percent), and; project cost (5 percent). According to these scores, approximately ten innovations receive a thorough due diligence investigation, including a field visit to verify the effectiveness of the innovation. Lastly, applicant pitch their innovations to a committee composed of partners for final review before selection.

Management. Each grantee is assigned a FICCI manager for oversight and support throughout implementation. The manager acts as the point of contact for any questions or challenges and reviews quarterly reports.

Resources for Grantees. Millennium Alliance provides grantees with a range of support services including:

- Investor-innovator meets
- Capacity building support (such as process documentation, M&E)
- Access to incubation facilities
- Showcasing opportunities
- Business development support

Learning in MA Processes. FICCI and other Alliance partners acknowledge that the program has been modified and refined since its inception. Although FICCI had established relations with the government and the private sector, it had less experience in program management or in economic development activities. However, FICCI has updated it processes based on both grantee and partner feedback. Changes include providing more guidance on the application process to innovators and increasing the standardization and rigor of grantee M&E. One Alliance-funded organization referred to FICCI's impressive outreach through roadshows and on-the-phone support to complete the application, which is what enabled them to submit a proposal.

Main Findings and Lessons Learned

Grantee Experiences

The eight innovations span sectors including WASH, financial inclusion, health, and agriculture. Recipients include both non-profits and social enterprises. Though most of the innovations sampled (six of eight) focused on international transfer, the broader MA portfolio has greater emphasis on innovation testing and scaling exclusively in India. This diversity reflects MA's cross-sector focus and allows comparison of recipient experiences under the Alliance with those of recipients funded directly by USAID.

While there are also other strategic considerations, there is a fundamental question whether or how Millennium Alliance-funded innovations are more likely to lead to development outcomes in line with DO4 goals.[52] Overall, the experiences and challenges for MA- and USAID-funded innovations are quite similar from the implementing partner perspective, though with some minor differences.

MA grantees and USAID-funded partners perceive USAID's influence differently. For all 30 innovations examined, the evaluation team asked grantees/implementing partners, on a scale of one to five, what the influence of USAID/India was on their operations.[53] The average rating for MA grantees was 3.25, compared to 4.26 for non-MA grantees. This is to be expected given the different contractual relationship. However, it reveals that grantees perceive, and likely receive, less USAID technical support through MA than they would through direct funding.

USAID- and MA-funded innovations are similar in terms of the roles of the contracting organization and challenges, though there are some variations. Grantees cited early-stage funding, the ability to test/adapt the innovation, connections, visibility, and legitimacy as benefits of funding. Operations and logistics are a consistent challenge, particularly for those innovations transferring internationally. Access to networks is also inconsistent and is cited as a potential area for improvement. These findings from grantees mirror those directly funded by USAID. However, there were some variances within the sample of innovations reviewed. Seven of the eight grantees cited Millennium Alliance's value in providing visibility, such as the opportunity to attend the October 2015 India-Africa Forum Summit. FICCI's experience in holding events and promotion contribute to this. Additionally, no MA winners cited FICCI's technical experience as an asset, though some did work with Alliance partners.

There is a potential difference in funding criteria and partner needs. Among the 30 innovations reviewed, seven included a fee-based model, with the aim of promoting sustainability (as opposed to promoting innovations provided at no cost to end-users). The Alliance funded six of the seven fee-based innovations as well as five social enterprises,[54] which means MA grantees reported different needs related to their model.

Three MA-funded social enterprises reported a binding constraint to their expansion is access to commercial capital, an issue not raised with innovations funded directly by USAID. For example, one enterprise said they are at a level beyond smaller-level impact investors and need access to private equity and venture capital. However, they noted that such investors tend to focus on historical precedents for an idea, looking for the "next Uber" for different services rather than being interested in funding truly innovative models. While the Alliance provides

[52] As the evaluation team did not review the full list of MA-funded innovations or conduct a random sample from among them, this limits the generalizability of these findings.

[53] The wording of this question: *"What was the influence of USAID on this activity, with 1 being no change, 3 being moderate change, and 5 being very significant? Why?"*

[54] It is unclear if this is due to MA selection criteria (implicit or explicit) or if the samples (30 within USAID/India or 8 within MA) accurately reflect this difference among the broader portfolios.

funding to produce evidence of effectiveness, connecting successful models to next level financing opportunities by FICCI or MA partners may facilitate sustainable expansion.

Strategic Perspective

The similarity in experiences for grantees/implementing partners means any comparative advantage of the Millennium Alliance model must appear at the strategic level. Though there is no evidence that the Alliance promotes innovation sharing more effectively, it does offer other benefits.

The Alliance advances current USAID/India priorities and approaches. Collaboration of 'traditional' and newer development actors, such as corporate foundations, is the signature of the MA partnership approach. This aligns with the CDCS, which directs the Mission to "to convene [and] support a vast ecosystem of resources and ideas for a common purpose, and to accelerate the achievement of development outcomes in a way that a single entity acting alone is unable to accomplish. Further, [the Mission] will serve as a satellite outpost for the Agency as a whole, acting as a testing ground for innovations that will first be proven in India and then shared." (CDCS, p10) The Alliance also contributes to both DO3 and DO4 as it funds innovation testing and scaling within India as well as transfer internationally.

The platform provides a way to recognize and coordinate partner goals. Millennium Alliance both recognizes and mobilizes further support for USAID/India's strategic priorities. The original partnership reflects the common goal of the GoI and USAID/India to use innovation to improve development outcomes in India and worldwide.[55]

However, the Alliance made this partnership *visible* and *accessible* for others to join, as demonstrated by the expansion from three to nine partners within four years. This creates a platform for donor and stakeholder coordination and, if it demonstrates impressive results, can solicit further interest and support. Building on the GOI's increasing interest on promoting Indian innovations abroad, the Alliance recently launched African Development through Indian Technologies (ADITI) to provide more focus on transfer between India and Africa.

Partnership creates the opportunity to draw on various networks and competencies, and clear roles and reporting lessens costs of coordination. As noted, the MA model allows partners to leverage their respective comparative advantages to increase overall collective value. However, there are opportunities to expand utilization of partner resources or networks, such as providing more connections to other USAID Missions or linking grantees to potential follow-on funding (grant or capital).

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[55] The GOI declared 2011-2020 the 'decade of innovation' and committed to advancing science, technology, and innovation in 2013. (Ministry of Science and Technology, "Science, Technology, and Innovation Policy 2013" (New Delhi: Government of India, November 29, 2016), http://www.dst.gov.in/sites/default/files/STI%20Policy%202013-English.pdf.) MA's goal of sharing Indian innovations also predates but aligns with USAID/India's DO3 and DO4 under the current CDCS.

An MA partner attributed part of the effectiveness of the platform to clear roles and responsibilities among partners. Also, FICCI reporting is the same for all partners. If the Alliance continues to expand, it should seek to maintain clear roles for partners based on their comparative advantage and yield a higher collective value.

MA reduces risk and increases stability in funding. An MA partner noted that, particularly in the era of uncertain budgets for international development, collaborative platforms improve flexibility and continuity for funding strategic priorities. If one partner reduces funding, it will not necessarily end the initiative since other partners are available for continued support.

Outsourced management, sustainability, and accountability through FICCI has start-up costs but increases potential for sustainability. The Alliance also explores the opportunity of a locally-owned and operated platform for identifying and supporting Indian innovations. FICCI's relatively limited program management experience presented higher start-up costs in terms of partner (including USAID/India) mentorship and support. Operating through FICCI creates an additional layer of management and administration with the potential to decrease efficiency and impede the flow of information. As noted, FICCI has undergone significant learning and adaptation of MA management processes over since 2012. A grantee that received both Round 1 (2013) and Round 3 (2015) grants noted changes such as the introduction of M&E training, quarterly report requirements, and clearer expectations setting up front from FICCI. In the long term, this could reduce the management burden on USAID.This "outsourced" management also establishes the opportunity of a locally-owned and operated platform for identifying and supporting Indian innovations. This is in line with the current CDCS' focus on promoting sustainability and on moving from direct agreements and USAID control towards collaboration agreements.[56]

There are more opportunities for learning. Both Alliance partners and grantees noted there could be more opportunities for reflection and learning. One stakeholder said the turnaround in funding rounds limited space for reflection on how MA is progressing towards its goals and how it could improve its work. Many grantees also referenced the same challenges encountered in implementation, such as negotiating export/import regulations. A stakeholder suggested a "knowledge bank" on various countries, including information on regulations, the demand environment, and other information to facilitate entry into a new country. Such a resource could be valuable within MA but also shared with and supported by other actors working in international innovation exchange.

Development impact is not clear at this stage. Reporting from FICCI to other MA partners focuses on activities and outputs and does not yet focus on effectiveness or impact. Evaluations have been conducted on some innovations at grantee discretion or with other funding; for example, the World Bank conducted an evaluation of WaterLife centers. MA is increasing its focus on tracking effectiveness and impact, such as including funds for impact evaluations. However, it is not possible to say if the MA approach

[56] CDCS, 17.

Comparative Advantage of Millennium Alliance

Based on the findings above from a review of Millennium Alliance, there are three key comparative advantages of the partnerships model:

1. Partner complementarity is a primary benefit, which makes partner selection critical to success. The opportunity to draw on partner comparative advantages (skills, networks, and perspectives) is a major benefit of the leveraging and partnership model, particularly when clear roles reduce redundancies and costs of coordination within the consortium. For example, FICCI draws on its own experience in events and visibility and partner networks to highlight successful innovations.

However, this also elevates the importance of partner selection and coordination so that partners and beneficiaries can maximize benefits. Partner selection criteria might include: technical or management expertise; sub-sector interest; public, private, or international perspective or experience; local partnerships; resources to commit (financial or in-kind); networks, and; values or dedication. How to prioritize these criteria in selection would depend on the goals of the platform and the composition of existing partners.

2. Multiple sources of funding and support can improve reliability, flexibility, and potentially sustainability. As noted, partnership distributes risk for the consortium as a whole, since the partnership is less likely to be dependent on a single organization. FICCI also demonstrates the potential for sustainability if the implementing partner is a local organization.

3. Consortiums create space for cross-learning. Innovation sharing as an approach to development is an innovative itself within USAID. MA partners participate in the Alliance as its operations complement other work in the innovation promotion or development sphere, such as other DFID work on innovation and the Government of India's focus on establishing India as a global innovation hub. Partnerships can provide a hub for knowledge resources on the consortium's focus, in the case of MA on innovation testing, scaling, and transfer.

However, from the perspective of creating development impact, there is no evidence for if or how this model is more effective at advancing innovation transfer.

Figure 34: Summary of actual and potential value of the MA approach

Potential Value	Summary
Improve DO4 outcomes (transfer and/or impact)	**Unclear**
Unite and shape partner priorities	**Good**
Leverage partner networks	**Neutral**
Utilize partners' expertise for higher collective value	**Good**
Risk mitigation and continuity of support	**Good**
Local ownership and sustainability	**Neutral**
Opportunities for learning among all stakeholders	**Poor**

Data Collected for the Case Study

- Interview with FICCI staff in Delhi
- Interview with Eittee Gupta (Joint Director, Centre for Innovation, Science & Technology Commercialization, FICCI)
- Interview with Innovations Manager, DFID
- Interview with Forus Health (MA grantee, eye screening device)
- Interview with ZMQ (MA grantee, MIRA Channel)
- Interview with Prakti (MA grantee, multi-fuel cookstove)
- Interview with Eko Financial (MA grantee, financial inclusion)
- Interview with AgSri (MA grantee, technology and system for sugarcane planting)
- Interview with WaterLife (MA grantee, water purification and distribution)
- Interview with Naireeta (MA grantee, water management system)
- Interview with World Health Partners (MA grantee, mobile health solution)
- Site visit; interviews with patients and mobile health providers of World Health Partners in Homa Bay, Kenya
- Interview with World Health Partners in Kisumu, Kenya

Case Study: Operation ASHA

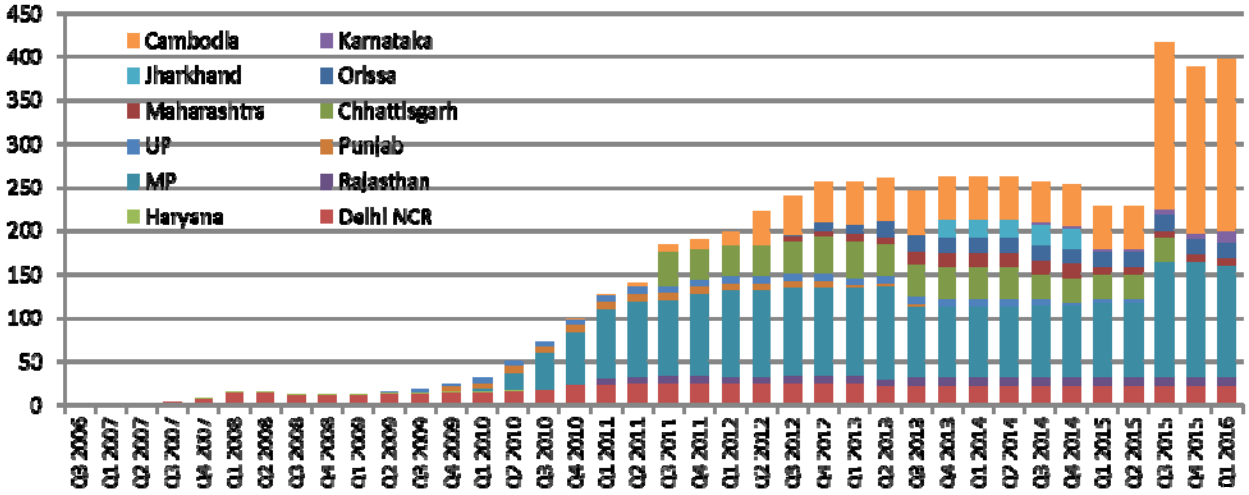
Program name: Operation ASHA
USAID Support: USD 897,324 (DIV)
Main Implementing partner: N/A
Intervention Areas: India, Cambodia, Peru, Afghanistan, Dominican Republic, Uganda, Kenya

Description of Innovation

In 2006 Dr. Shelly Batra and Sandeep Ahuja founded Operation ASHA with the vision of improving the lives of the disadvantaged through the eradication of TB. Their mission is to expand access to health services and products of a high quality at affordable prices to disadvantaged communities worldwide with a focus on delivery of health services. They do this by providing the last mile connectivity, meaning service delivery at the doorsteps of the under-served. Founder Sandeep Ahuja highlights this commitment to hard-to-reach patients, saying, "***If the patient is on the moon, we go to the moon".***

Operation ASHA began in India with one TB treatment center in 2006 and enrolled 26 new patients within three months. Currently, Operation ASHA provides TB treatment and education in more than 4,000 slums in nine Indian states, serving 3.4 million people.

Figure 35: Number of Operation ASHA Treatment Centers



Operation ASHA was developed to reduce patient lapses in tuberculosis treatment. In order to combat Multi-Drug Resistant Tuberculosis (MDR-TB), Operation ASHA developed eCompliance in collaboration with Microsoft Research. This technology registers patients and staff at treatment centers using fingerprints taken on a tablet. Patients who miss a dose of TB treatment are contacted by Operation ASHA staff who either remind them to come for treatment or the staff member visits the patient's home to administer the TB treatment. The cost to treat one TB patient through Operation ASHA is $80, compared to $3,575 in South Africa and $17,000 in the US, making Operation ASHA a cost-effective way of providing TB treatment in India and other developing countries. Overall, Operation ASHA's key strength is the combination of community empowerment, biometric technology, and fingerprint identification to

track adherence to medication and ultimately decrease the burden of TB in communities and the prevalence of MDR-TB.

Expansion of Operation ASHA

Operation ASHA has also expanded beyond India to include two provinces in Cambodia, and third party replication of the technology in Uganda through Columbia University's Earth Institute and the Millennium Villages, in the Dominican Republic through Columbia University and Clinica de Familia, and in Peru, Afghanistan, and Kenya. Operation ASHA's technology now reaches 14.6 million people worldwide. One challenge to replication in other countries has been the perceived increase in workload for health workers. In an RCT, 55 percent of health workers said that using eCompliance increased their workload because they spent more time at the clinic and visiting patients in their homes. However, health workers also reported that patients are easier to identify using eCompliance, in terms of scheduling treatment and following up on missed doses.

Figure 36: An Operation ASHA staff member and a Tb patient use the eCompliance fingerprint technology in an urban slum in Delhi

Photo Credit: Sarah Pedersen, 2016

"The Operation ASHA clinic worker saved my life and I am grateful for the treatment. It is difficult to go to the clinic every day, but the clinic worker has explained to me why it is important. I have no problems giving my fingerprint at the Operation ASHA clinic." TB patient in Delhi, after two months of treatment

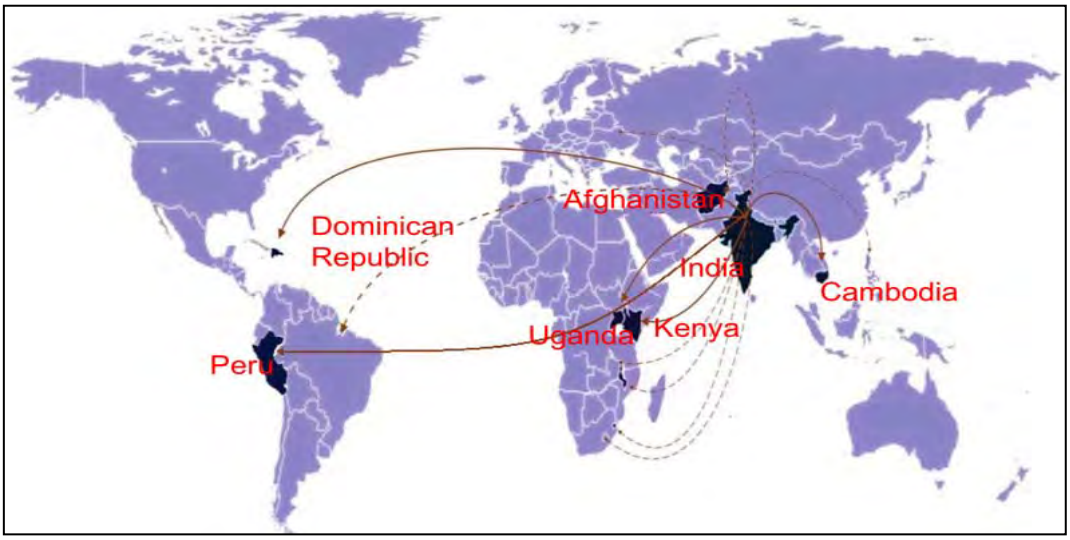


Figure 37: Countries in which Operation ASHA has been replicated

Main Findings and Lessons Learned

Operation ASHA's requirement for donors and partners to be committed long-term is important for its success. Operation ASHA requires donors and partners to be committed long-term. Without this long-term commitment, Operation ASHA does not enter a new country. For example, prior to entering Afghanistan, Operation ASHA did due diligence on their local NGO partner, Afghan Community Research and Empowerment Organization for Development and spent a year developing the partnership before rolling out their technology for testing in one TB treatment center in Kabul. Testing in Kabul lasted for one year, and data on results were analyzed prior to the decision to expand to 22 additional treatment centers in Afghanistan. Additionally, Operation ASHA does not enter countries without governmental commitment and requires that the government provide TB treatment medications to prevent duplication and improve the success of scaling.

Operation ASHA staff consistently monitor and analyze data collected through the eCompliance technology. For example, one way in which they have analyzed their data was to determine if the length of a counseling session was related to the number of missed doses by TB patients. Another trial by Operation ASHA evaluated TB patients' mental status at initiation of treatment and correlated this with rates of treatment default to determine if the evaluation of mental status would be a useful addition to the initial TB counseling session. Results from the India RCT indicated that the reasons given for patient default were: (1) they felt the treatment had no effect; (2) side effects of the TB drugs; and (3) patients believed they had been cured. Operation ASHA used these results to improve counseling for TB patients. Lastly, Operation ASHA recently introduced iris scanning as an alternative to fingerprinting for patients who do not have fingerprints or for locations in which fingerprinting is stigmatized.

Operation ASHA has designed their technology in such a way that it is simple to use and replicate from Day One. For example, implementing partners in Uganda received just eight hours of video training on the eCompliance technology and no travel was required in order to put the technology in place. Moreover, there is very little text incorporated into the technology so that it can be easily adapted for other countries and for illiterate users. Similarly, in the RCT in India, counselors were initially trained for just two hours on how to use the Operation ASHA technology.

Operation ASHA operates under a 13-point model that underlies their success in scaling in India and transfer to other countries, such as Cambodia. Their model also offers useful lessons for other stakeholders, especially in the health sector, when considering scaling or transferring innovations. Operation ASHA's 13-point model is:

1. Use of a well-established treatment regimen endorsed by the World Health Organization and concerned governments
2. Close coordination with the National TB Program
3. Home delivery of medication, diagnostics, and education
4. Active case finding and contact tracing with support from a software application
5. Rapid response testing and de-stigmatization and education in the patient's immediate circle
6. A well-trained corps of community health workers
7. Amelioration of side-effects and discretion in diagnosis and treatment at health clinics
8. Performance-based remuneration for staff

9. A robust feedback loop between clinic and office staff using electronic medical records
10. Stringent quality control, using electronic medical records and site visits
11. A very low cost operating model
12. Use of biometric devices to track compliance
13. A franchise-like operation for easy replication

Additionally, Operation ASHA recognizes that repeated pilots are not worthwhile in a development context if the goal is to make a sustainable impact on health, so they place a greater emphasis on scaling. In Kenya, Operation ASHA technology was tested in partnership with the Millennium Villages in Kisumu. Despite the fact that health facility staff agreed that the technology addressed an existing need in TB treatment, the pilot failed to recruit adequate numbers of TB patients because staff expected to receive compensation for using the new technology. Operation ASHA technology did not expand beyond the pilot phase in Kenya; instead, Operation ASHA has focused on scaling the technology in countries where initial pilot studies have demonstrated impact, such as in Afghanistan and Cambodia.

Type and Level of USAID Involvement

Operation ASHA received funding from USAID/DIV to conduct a RCT of their technology in India and Cambodia. The RCT in India showed that in centers using Operation ASHA technology, TB treatment default was 20 percent lower than in sites not using the technology. This reduction in Operation ASHA centers leads to improved patient outcomes and substantial reduction in MDR-TB. By averting cases of MDR-TB, this prevents economic losses to patients and decreases the cost of treatment, resulting in a financial return that is 246 times greater than the investment to set up the eCompliance system. USAID/India funded the expansion of Operation ASHA in India and has also initiated transfer to Afghanistan, which is funded by DFID. USAID has also been proactive in promoting Operation ASHA in multiple forums, such as video conferences with other Missions and hosting delegations from trilateral countries in India, which is perceived as an enormous non-financial benefit.

However, USAID could be more involved in the transfer of Operation ASHA to other countries by providing direct funding for transfer activities and broadening their project timelines and budgets for transfer to trilateral countries. For example, USAID's grant for $100,000 had a timeline of only six months, which is too short to form lasting, quality partnerships that result in measurable development impacts. Furthermore, Operation ASHA would like to hold Training of Trainers (ToT) activities in India for implementing partners from trilateral countries, but funding for these activities was not available.

Data Collected for the Case Study

- Interview with Operation ASHA founder, Sandeep Ahuja, and staff in Delhi
- Direct observation of Operation ASHA clinic in Delhi
- Interviews with three TB patients and 1 clinic staff member using the Operation ASHA technology in Delhi
- Direct observation of a TB home visit using Operation ASHA technology in Delhi
- Interview with the Columbia Global Center, Millennium Villages Implementing Partner in Nairobi

ANNEX G. EVALUATION METHODS AND LIMITATIONS

Conceptual Approach

The purpose of this evaluation is to assess the progress of the DO4 activities supported by USAID/India. The evaluation is also intended to capture lessons learned - what worked and/or did not work in terms of partnership choices, policies, strategies and implementing mechanisms - and to assess the extent to which these factors (and their interactions) fostered or hampered the global adoption of Indian development solutions. The evaluation covered 30 innovative solutions from five offices: Health, Food Security, Energy, Center for Innovation and Partnership, Office of Social Sector Initiatives. The USAID/India Mission selected these innovative solutions from among at least 342 that the Mission has supported in incubating, testing, scaling, and/or transferring.

To determine the scope of impact and transfer (EQ1) and the factors that enabled or inhibited transfer (EQ2) the team conducted a **comparative analysis** of the 30 innovations. Each innovation in the sample was assessed along a number of variables: including USAID's role in the process; institutional processes; phase of testing/scaling/transfer; nature of the innovation; implementing partner characteristics or approach; adopter characteristics. These success factors go beyond the innovation's inherent qualities to look at the ecosystem – including the enabling environment and the various roles USAID/India might play. This comparative analysis was informed by a desk review of documents; key informant interviews with USAID staff, implementing partners, and end-users; focus group discussions with end-users for select innovations; and site visits for select innovations.

The team also developed five **case studies** on selected innovations (see Annex F).

To inform Evaluation Question 3, the team conducted **an institutional analysis** of USAID structures (both within USAID/India and more broadly among operating units), addressing processes, communication mechanisms, and the incentives at the individual, office, and operating unit level. This was informed by KIIs with USAID/India staff from all relevant offices, USAID/Kenya and USAID/Malawi staff, and staff from other operating units (Asia Bureau; Science, Technology, Innovation and Partnerships; Bureau for Policy, Planning, and Learning; Global Development Lab; Bureau for Food Security; Global Health Bureau).

The Evaluation Design matrix (below) lists the four evaluation questions along with the information source, data collection and analysis methods.

Evaluation Design Matrix

Evaluation Question	Data Source(s)	Data Collection Method	Data Analysis Method(s)
1. To what extent have innovative solutions incubated or tested (proven) in India been scaled or transferred (adopted) in other countries? To what extent has there been a measurable development impact in health, food security, WASH, education, and clean energy outcomes in India or partnering countries?	USAID/India health and energy offices, FSO, CIP and OSSI Implementing partners USAID/Malawi, Kenya Host country governments in trilateral countries Beneficiaries in India and trilateral countries	Literature review KIIs in India and trilateral countries FGDs in trilateral countries	Comparative analysis Quantitative analysis (as feasible)
2. What are the specific enablers and barriers (both within India and partnering countries) that influenced development outcomes? Barriers and enablers examined by the evaluation must include but not be limited to the following areas: a) Innovation approaches that encompass institutional capacity building, technology incubation, testing, and transfer, and private sector partnerships that enable local or global transfer; b) Processes and mechanisms for testing and scaling the innovative solutions.	USAID/India health and energy offices, FSO, CIP and OSSI USAID/Washington US Global Development Lab, Learning Lab, Bureau for Food Security Implementing partners Host country governments in trilateral countries Beneficiaries in India and trilateral countries	Literature review KIIs in India and trilateral countries FGDs in trilateral countries	Comparative analysis
3. What additional capabilities and system changes would be required for USAID/India Mission to more effectively play a leadership and strategic role in global transfer?	USAID/India health and energy offices, FSO, CIP and OSSI USAID/Washington US Global Development Lab, Learning Lab, Bureau for Food Security	Literature review KIIs in Washington and India	Qualitative analysis

Evaluation Question	Data Source(s)	Data Collection Method	Data Analysis Method(s)
	Implementing partners		
4. How can USAID/India change or improve its programs/activities to better incubate, transfer, and/or scale innovative solutions to increase development impact?	USAID/India health and energy offices, FSO, CIP and OSSI USAID/Washington US Global Development Lab, Learning Lab, Bureau for Food Security, Global Health Bureau Implementing partners Host country governments in trilateral countries Beneficiaries in India and trilateral countries	Literature review KIIs in Washington, India and trilateral countries FGDs in trilateral countries	Qualitative analysis

Qualitative Approach

The qualitative approach is conducive to answering *how* and *why* questions and, in this case, provide greater depth to the processes and range of factors that influence innovation testing, scaling, and transfer. To introduce comparison across innovations, the team introduced the use of Likert-type rating/ranking questions during KIIs and FGDs.

The team used the following data collection methods:

- **Desk review of documents.** The team reviewed documents provided by USAID/India, implementing partners, and publicly available information. The team also reviewed some key literature related to technology transfer, innovation diffusion, and scaling.
- **Key informant interviews.** The team sought interviews with, at a minimum, relevant USAID/India staff members and implementing partners for each innovation, though this was not always possible. The team also held KIIs with other USAID/India who work on cross-cutting issues (such as in the Program Support Office) and other USAID staff involved with USAID/India's work and/or innovation transfer. The team conducted 82 KIIs.
- **Focus group discussions**. In India, Kenya, and Malawi, the team held FGDs with end-users of certain innovations. This served to add depth, and critical perspective (that of the adopter), and to triangulate information from USAID and implementing partners. The team conducted 22 FGDs. Due to time and resource constraints as well as due to the high number of innovations reviewed, implementing partners selected participants for these discussions; this introduces the potential for positive bias in findings.
- **Site visits.** In India, Kenya, and Malawi, the team visited sites where the innovations are being utilized and projects implemented.

Trilateral Country Selection

In consultation with USAID/India, the evaluation team chose to visit Kenya and Malawi. These two countries had the highest density of innovations transferred within the sample (for site visits, KIIs, and FGDs) and were sufficiently secure for the team to travel into the field.

Sampling

The evaluation covered 30 innovative solutions from five offices: Health, Food Security, Energy, Center for Innovation and Partnership, and the Office of Social Sector Initiatives. The USAID/India Mission selected the innovations from at least 342 that the Mission has supported in incubating, testing, scaling, and/or transferring. The evaluation team did not select the 30 innovations and did not review the broader DO4 portfolio.

Due to the high number of innovations, the team chose certain innovations for deeper analysis (FGDs, site visits, and/or case study analysis) based on the access to and availability of information as well as the potential utility from a field visit. For example, for each case study, the team must have spoken with (1) relevant USAID staff; (2) implementing partner(s), and; (3) end-users of the innovation, at a minimum in India (though preferably in Kenya or Malawi as well).

Case studies

The case studies were written to provide additional analytical depth and a more narrative approach to understanding USAID/India's work. The focus of each case study varies, but they all offer greater detail on how the innovation transfer process occurs. Innovation-focused case studies such as Operation ASHA or the solar conduction dryer explore how different variables came together to affect the innovation transfer process and outcomes. The Millennium Alliance case study focuses on the potential value of the partnerships approach. Each case study offers main findings and potential lessons learned, but the nature of the case study approach means these findings are illustrative and cannot be generalized across projects or innovations.

For each case study, the team spoke with at least (1) the relevant USAID Office; (2) implementing partner(s), and; (3) end-users of the innovation. This provides multiple perspectives on the innovation promotion and transfer process.

Limitations

Scope. The evaluation team had only five weeks in the field to cover 30 different innovations (and the first week was spent meeting with USAID Offices in New Delhi) which constrained the amount of time that could be devoted to any single individual innovation. Furthermore, aside from FSO innovations, very little documentation on the other innovations was made available prior to the field work. Not all IPs shared documentation on their work with the evaluation team. The limited time means, first and foremost, that the question of innovation impacts could not be addressed.

Variation. The wide variation in approaches, lack of an explicit theory of change, the scale and the phase of the innovations all made comparisons challenging. Some innovations were at the early testing stage (SRISTI's Bullet Santi tractor or seed dibbler) while others were already at

scale in India (Eko Financial's system for digitizing cash). Some innovations, primarily FSO, have transferred to a partner country. Some innovations primarily involved knowledge transfer (Triangular Training Program), others concerned technology transfer, and others involved processes.

Potential selection bias. Selection bias may have influenced both the types of innovations evaluated and the FGD participants. The purposeful sampling approach and selection by the client (USAID/India) rather than the evaluation team means the sample of innovations should not be considered representative. USAID/India preselected the innovations to be evaluated, choosing 30 out of at least 342. Typically, in these cases, the evaluator selects cases randomly in order not to bias the results and to obtain a sample that approximates the whole. The purposeful selection of the innovative solutions limits the generalizability of the findings and conclusions to the broader DO4 portfolio of activities.

In addition, because of minimal time to independently organize FGDs, the evaluators relied on IPs to organize them. Participants may have been selected to show an IP in a favorable light.

Mitigation measures. Operating within the above limitations, the evaluation team worked to reduce the chances that information it obtained was credible. To deal with potential bias, measures included use of probing questions to detect discrepancies, and triangulating findings: comparing responses between the 82 KIIs, 22 FGDs, and documentary sources. Explanatory factors were identified in cases where results differed. However, the limitations mean that caution is in order in interpreting results, which may paint a more positive picture of USAID's innovation support than would be the case if more time were available to review individual innovations and more freedom had been given to the evaluators to select innovations.

ANNEX H. DATA COLLECTION INSTRUMENTS

KIIs: USAID/India Health, FSO, Energy Offices, CIP, and OSSI

GENERAL INTRODUCTION QUESTION

1. What is your role/your office's role in the development and diffusion of innovative solutions at USAID/India?

INNOVATION PROCESS

2. How were the innovative solutions selected by USAID/India to be supported/tested/transferred? What criteria were used for reviewing proposals submitted by implementing partners?
3. How does USAID/India (or various offices) define the following terms? innovation/innovative solution; testing; scaling; incubating, transferring.
4. How were the financing or contract mechanisms chosen for promoting an innovation (or set of innovations)?
5. What was the process for matching an innovation to a particular transfer location?
6. If or how did gender analysis or actions inform the design for testing/scaling/transferring each innovative solution?
7. What do you believe are enablers for innovations within your program/sector?
8. What do you believe are barriers for innovations within your program/sector?
9. What is the structure, norms, and opinion leadership of the social system to which USAID/India is trying to transfer the innovations? Did this affect the process or effectiveness of transfer/scaling for each innovative solution?
10. Given the barriers to transferring/scaling innovative solutions identified, what mechanisms could USAID/India use to preempt or mitigate those risks?
11. What are the current processes USAID/India use to influence and track innovative solutions to increase their likelihood of transferring, scaling, and achieving development impact? Which of these are viewed as effective, and which are not?

RESULTS AND IMPACT

12. What were the expected results for the innovative solution? What is the definition of success?
13. How does the nature of the innovative solution to be transferred (capacity building, technology, or best practices) affect the effectiveness of transfer activities?
14. Do you have evidence for impacts of a given innovation? If so, what has been the impact and/or outcome of transferring each innovative solution?
15. *Do you have evidence of synergies between innovations? (Are you promoting this kind of synergies?)*

USAID COORDINATION

16. How do the various departments, Missions, and institutional incentives facilitate or limit the USAID/India Mission in playing a leadership and strategic role in global transfer?
17. What are the roles USAID has and can play in facilitating the spread of innovative solutions? What is USAID's "value-add"?
18. What levers of influence does USAID/India have on [insert success factors here - innovator, innovative solution, transfer mechanism, etc.]?

SPECIFIC QUESTIONS FOR EACH INNOVATION

19. Who are the intended beneficiaries/customers for each innovative solution?
20. What are the approach(es) used to promote diffusion of each innovative solution?
21. How far along the innovation-scaling pathway is each innovative solution?

SPECIFIC QUESTION ABOUT DO4 EVALUATION

22. How were the innovative solutions in this sector selected to be evaluated?

KIIs: Implementing Partners

PROCESS

1. How were the innovative solutions selected to be tested/transferred?
2. How was the innovation matched with a particular transfer destination? (i.e. Did USAID prescribe certain countries, or how was this decision made?)
3. [If transferred] How did your organization go about identifying local partners (institutional or individuals)?
4. [If transferred] What kinds of information did actors gather before and in the process of transferring the innovations?
5. Who are the intended beneficiaries for each innovative solution?
    a. What were the criteria to define beneficiaries?
    b. What analysis of gender or marginalized populations influenced your plans?
6. How far along the innovation-scaling pathway is each innovative solution?
7.

EFFECTS/IMPACT

8. What were the expected results for the innovative solution? How do you define success?
9. How many people are using this innovation?
    a. Do you have a goal for how many people will use this innovation?
    b. How will you try to reach that goal?

SUCCESS FACTORS

10. Where had you carried out/utilized this innovation before? What evidence was there for the success of the innovation's success/effectiveness?
11. How does the nature of the innovative solution to be transferred (capacity building, technology, or best practices) affect the effectiveness of transfer activities?
12. How did actors overcome barriers they encountered? If/how do they think this could have been avoided?
13. What challenges did your organization face in managing the process of incubating, testing, and/or transfer (i.e. working in a new legal environment, complying with financial or M&E policies, other barriers)?
14. What are the roles USAID has and can play in facilitating the spread of innovative solutions?
15. What was the influence of USAID on this activity, with 1 being no change, 3 being moderate change, and 5 being very positive?
    a. Why?
    b. What would you see as USAID's "value-add?"

LESSONS LEARNED

16. What would you suggest doing differently? (i.e. adjustments USAID/India should take into consideration for design of future activities in this area?)

Guide for Discussions with End-Users (FGDs & KIIs)

This guide will be adapted to a specific end-user/beneficiary and the innovative solution, including for FGDs. Questions and wording will be tailored to each KII or FGD held. Visual aids will be used to facilitate, enrich, and encourage discussion among participants.

1. Was [the innovation] a new idea for you?
2. Can you describe your experience with [the innovation]?
3. When did you first learn about [the innovation]?
4. Who introduced you to [the innovation]?
    a. Do you feel this person or organization is more similar or dissimilar to you?
5. On a scale of 1 to 5, with 1 being no change, 3 being an incremental change, and 5 being a completely new approach, can you rate how [the innovation] affected your way of [generating income, accessing and utilizing health service, practicing agriculture, etc.]?
    a. Why
6. On a scale of -2 to 2, with -2 being very negative, 0 being no influence, and 2 being very positive, can you rate how [the innovation] has affected your well-being?
    a. Why?
7. What are the top 3 factors that enabled you to adopt [the innovation]?
8. What are the top 3 barriers that limited your ability to adopt [the innovation]?
9. Will you continue to use [the innovation] in the future?
    a. Why or why not? How
10. Do you think [the innovation] is an appropriate solution for improving your [income, health, crop yield, etc]?
    a. Why or why not?

ANNEX I. SOURCES OF INFORMATION

Documents Reviewed

Documents Received			
Technical Office	Innovation/Office	Innovation	Documents Received
Health	South to South (S2S) project (SHARE-VHS)	Individual tracking of key populations	S2S Project Appraisal Document; South-to-South HIV/AIDS Resource Exchange (SHARE) Project Powerpoint presentation on "Learning Journey & Adoption Initiatives in Ghana"
		Micro planning for key population interventions	
		Micro planning for key population interventions	
		Mapping of injecting drug users	
	Mobile partograph m-labor	m-labor is a simple mobile application that provides real time graphic and decision support to health care providers to assess the course of labor and carry out appropriate intervention.	Activity brief from Dimagi
	RMNCH+A Global Linkages (Pricewaterhouse Coopers)	Process mapping of 150 innovations, 35 innovations prioritized, 10 innovations will be finalized for transfer in consultation with other countries (Bangladesh, Tanzania, Nigeria, Ethiopia, and Uganda)	Contract Agreement AID-386-C-16-00001-00
	Operation-ASHA	Operation ASHA has developed and deployed eCompliance—a mobile biometric technology capable of identifying patients by their fingerprints and compiling patient data to ensure that TB patients complete treatment regimens.	Project brief (1 page); Operation ASHA Progress Report, Mid-Term Report, and Final Report
Food Security Office	Solar Conduction Dryer-A solution for hunger, poverty, and gender inequality (Science for Society)	Solar Conduction Dryer	FY 2015 portfolio review; Agreement; Program description; List of SCD users in Kenya; Resource Book for use of SCD; Implementation reports; Project completion reports
	Transfer of Indian Farm and Food Processing Machinery to Promote Food Security in Africa (SRISTI)	Bullet Santi tractor	Agreement; Program description; M&E Plan; Quartely and annual reports; 2016-17 Workplan
		Seed dibbler	
		Food Processing Machine	

Documents Received			
Technical Office	Innovation/Office	Innovation	Documents Received
	India-Kenya Dairy Innovation Bridge Program (IL&FS)	Dairy sector innovations (institutional arrangement and technologies)	FY 2015 portfolio review; Agreement; Program description; List of stakeholders; Baseline survey report; Diagnostic study; M&E Plan; Training Manual; Quaterly and annual reports; 2015-16 Workplan; IL&FS presentation
	Feed the Future India-Africa Agriculture and Natural resource Management Innovation Sharing Platform (AAPL/TNS)	Water management systems, agrinnovation broker process	FY 2015 portfolio review; Project description; AAPL presentation; GRAVIS presentation; Quaterly and annual reports; Baseline survey in Malawi; M&E Plan; Workplans
	US-India-Africa Triangular Training Program (MANAGE)	Agricultural Extension and Marketing Best Practices	FY15 portfolio review; Niam report; MANAGE reports; MANAGE presentation; Hema press information; 2016-17 Workplan
	Agricultural Innovation Partnership (Cornell)	E-learning development, seed sector development	FY12 portfolio review; FY15 portfolio review; final evaluation AIP India; Final Closure Report AIP India; M&E plan AIP Malawi and Nepal; Quaterly and annual reports AIP Malawi and Nepal; Budgets; Annual workplans; Training material
Energy	Women's Entrepreneurship in Clean Energy (wPower) (SSP)	Transferring business processes solutions for rural women entrepreneurs for last mile access to clean energy products	Agreement; M&E Plan
	Partnership to Advance Clean Energy – Deployment (PACE-D)	Accelerating clean energy deployment through the use of rooftop solar panels and smart grid	N/A
CIP	Millennium Alliance (MA) (Federation of Indian Chambers of Commerce and Industry, FICCI)	Millennium Alliance Platform-bringing together social impact funds, venture capitalists, corporate foundations, angel investors, donors, and others to	Collaboration Agreement; FY15 MA Portfolio Review; MA quarterly reports 1-16

Documents Received			
Technical Office	Innovation/Office	Innovation	Documents Received
		discover, support, and scale innovative solutions to development challenges that affect base of the pyramid populations in India and around the world.	
	Low cost technology to distribute financial services across the country (Eko Financial)	System to digitize cash through agents and expand access to banking and financial inclusion	FY15 MA Portfolio Review Activity MA quarterly reports 1-16 Innovation specific documents from: • AgSri • ZMQ (quarterly reports to MA) • World Health Partners • WaterLife (World Bank case study; site feasibility assessment tool)
	Women's Mobile Lifeline Channel (ZMQ)	MIRA mobile applications to link women to improved information about health and wellness	
	Technology Platform to improve access to preventative and primary health care (World Health Partners)	Electronically links city doctor to provide health services for primary and preventative care	
	Multi-fuel cleaner energy cookstoves (Prakti)	Multi-fuel cleaner energy cookstoves	
	Access to potable water (WaterLife)	Community water plants provide safe, clean drinking water	
	Building Evidence based Scalable & Sustainable eye care model (Forus)	Pre-eye screening device	
	Water Collection & Storage (Naireeta)	Bhungroo underground water management solution	
	Sustainable Sugarcane Initiative (AgSri)	Use of new seedling development and sprouting technique to improve yields and efficiency	FY15 MA Portfolio Review Activity; quartely reports; AgSri powerpoint presentation; Gold standard evaluation
	Digital Integration to Amplify Agricultural Extension in Afghanistan (Digital Green)	Video training for Agricultural Extension	Approach description; final report; M&E plan; PMP
	Social Enterprise Impact Investing Forum (Sankalp Forum)	A forum and annual Summit bringing together regional stakeholders related to the innovation ecosystem	N/A
OSSI	School Excellence Program (Kaivalya Education Foundation)	Talent development to fill the leadership gap	M&E Plan; 5 quarterly reports; KEF agreement; FY15 Portfolio Review
	Community Managed Water Centers (Water Health India and Municipal Corporation of	Improving community health in Bangalore urban slums through decentralized water purification systems	N/A

Documents Received			
Technical Office	Innovation/Office	Innovation	Documents Received
	Bangalore)		
Other			Approved CDCS Paper and Annex (February 25, 2013); DO4 PAD; India Mission PMP

Meetings Held

List of Meetings		
Technical Offices	Project	Date (Day/Month) and Meeting Subject/Individuals
Health	mLabor	21/10 – KII with IP Dimagi by phone (India)
	RMNCH+A Global Linkages	21/10 – KII with IP PwC in Delhi (India)
	South-to-South Project	25/10 – KII with IP SHARE-VHS in Chennai (India) 2/12 – KII with Mr. Cosmos Ohene Adjei by phone, Ghana HIV/AIDS Commission
	Tb eCompliance	26/10 – KII with IP Operation Asha in Delhi (India) 26/10 – Direct observation of Operation Asha clinic in Delhi (India) 26/10 – KIIs with 3 Tb patients and 1 provider using Operation Asha technology in Delhi (India) 3/11 – KII with Columbia Global Center, IP for Operation Asha in Nairobi (Kenya) 5/12 - KII with Millennium Promise technical specialist for IP in Kenya
Energy	wPower	18/10 – KII with IP SSP in Pune (India) 19/10 – FGD with 8 women clean energy entrepreneurs (Sakhis) outside Solapur (India) 4/11 – KII with IP Green Belt in Nairobi (Kenya) 4/11 – FGD with 5 clean energy entrepreneurs in Maragwa (Kenya)
	PACE-D	24/10 – KII with Nexant (India)
OSSI	Water Purification Centers	20/10 – Direct observation of 4 Water Health Centers in Bangalore (India) 20/10 – KIIs with 6 Water Health users and operators in Bangalore (India) 20/10 – KII with IP Water Health in Bangalore (India)
	School Excellence Program	24/10 – KII with IP Kaivalya in Delhi (India)
CIP	Millennium Alliance	17/10 – KII with FICCI in Delhi (India) 27/10 – KII with DFID 18/11 – KII with Eittee (MA Manager) by phone

List of Meetings		
Technical Offices	Project	Date (Day/Month) and Meeting Subject/Individuals
	Forus	26/11 - KII with CEO Mr. KC by phone
	Naireeta	24/10 – KII with IP Naireeta by phone (India)
	MIRA	27/10 – KII with IP ZMQ in Delhi (India)
	World Health Partners	28/10 – KII with IP World Health Partners in Delhi (India) 31/10 – Direct site visit to 1 World Health Partners clinic and 1 pharmacy in Homa Bay (Kenya) 31/10 – KII with 1 patient using WHP clinic and 1 nurse in Homa Bay (Kenya) 31/10 – KII with mobile health provider in Homa Bay (Kenya) 11/1 – KII with World Health Partners in Kisumu (Kenya)
	Prakti	28/10 – KII with Prakti by phone (India)
	Eko	21/10 – KII with Eko in Gurgaon (India)
	AgSri	25/10 – KII with AgSri in Hyderabad (India)
	WaterLife	26/10 – KII with WaterLife in Hyderabad (India)
	Digital Green	19/10 – KII with Digital Green in Mumbai
	Sankalp Forum	25/11 – KII with Sankalp by phone
FSO	Dairy model	14/10 – KII with IL&FS in Noida (India) 1/11 – KII with Heifer and IL&FS in Nakuru (Kenya) 2/11 – 3 FGD with dairy cooperative board members in Njoro, Rongai and Subukia (Kenya) 2/11 – 3 FGDs with dairy cooperative members in Njoro, Rongai and Subukia (Kenya) 2/11 – KII with Artificial Insemination Practitioner in Njoro 2/11 – Direct observation of dairy facilities
	Solar conduction dryer	18/10 – KII with BAIF and Science for Society in Pune (India) 19/10 – Complementary KII with Science for Society in Mumbai (India) 18/10 – FGD with 6 women users in Pune (India) 31/10 – KII with Nyamira County, Kisi University, Kisi County and ASDSP in Nyamira (Kenya) 1/11 – 3 FGD with SCD users (mainly women : around 25 people in total) 1/11 – Direct observation of SCD
	Water management systems, agriinnovation broker process	19/10 – KII with AAPL/Technoserve in Mumbai (India) 28/10 – KII with Technoserve Kenya in Nairobi (Kenya) 29/10 – KII with GRAVIS in Nairobi (Kenya) 29/10 – 2 FGD with dairy farmers in Kajiado County (Kenya) 29/10 – Direct observation of 2 nadis and 1 kadin in Kajiado County (Kenya) 8/11 – KII with Technoserve Malawi, CRS and Cadecom in Lilongwe (Malawi) 8/11 – 2 FGD with water structure users in Dedza district (Malawi) 8/11 – Direct observation in Dedza (seepage wells and gabions) 10/11 – Complementary KII with Technoserve Malawi and

List of Meetings		
Technical Offices	Project	Date (Day/Month) and Meeting Subject/Individuals
		with CRS in Lilongwe (Malawi)
	Bullet Santi tractor, Seed dibbler and food processing machine	20/10 – KII with SRISTI and tractor inventor in Rajkot (India) 20/10 – Bullet santi and seed dibbler demos in the field (India) 28/10 – KII with Numerical Machine Complex and with JKUAT in Nairobi (Kenya) 4/11 – 2 FGD with technology users in Machakos County (Kenya) 4/11 – Direct observation of facilities
	Agricultural Extension and Marketing Best Practices (Triangular Training Program)	25/10 – KII with MANAGE in Hyderabad (India) 2/11 – FGD with training participants in Nakuru (Kenya) 10/11 – FGD with training participants in Lilongwe (Malawi)
	Curriculum development, seed sector development (Agricultural Innovation Partnership):	26/10 – KII with Sathguru in Hyderabad (India) 9/11 – KII with Deputy Vice Chancelor Luanar (Malawi) 9/11 – FGD with seed village users (Malawi) 9/11 – FGD with LUANAR teachers (Malawi) 9/11 – KII with Sathguru in Luanar (Malawi) 9/11 – KIIs with CPM, seed company, with SSU and with STAM in Lilongwe (Malawi) 9/11 – Direct observation of seed facilities and seed village 11/11 – KII with Cornell University
USAID/ India	Director, Program Support Office	Katherine Nichols
	Project Management Specialist, Program Support Office	Chandan Samal
	Project Management Specialist, Program Support Office	Neeraj Mishra
	Director, Office of Food Security	Bahiru Duguma
	Project Management Specialist, Office of Food Security	Srivalli Krishnan
	Project Management Specialist, Office of Food Security	Simrat Labana
	Director, Health Office	Xerses Sidhwa
	Project Management Specialist, Health Office	Subrato Kumar Mondal
	Advisor-Tuberculosis, Health Office	Reuben Swamickan
	Consultant, Health Office	Roger Garner
	Project Management Specialist, Health Office	Arvind Kumar
	Deputy Director, Health Office	Marietou Satin

List of Meetings		
Technical Offices	Project	Date (Day/Month) and Meeting Subject/Individuals
	Program Management Specialist, CLEEO	Apurva Chaturvedi
	Director, CLEEO	Michael Satin
	Deputy Director, CLEEO	Mark Newton
	Director, Office of Social Sector Initiatives	Jason Singer
	Deputy Director, Office of Social Sector Initiatives	Paul Seong
	Senior WASH Advisor, Office of Social Sector Initiatives	Anand Rudra
	Project Management Specialist - Education, Office of Social Sector Initiatives	Amrita Goswani
	Development Program Specialist	Gulshan Bhatla
USAID/ Kenya	Program Officer, Strategic Planning and Analysis; Deputy FTF Coordinator; Senior Program Management Specialist, WASH	Kyra Turner-Zogbekor, Harrigan Mukhongo, and Martin Mulongo
	Senior Health Systems Advisor	Maria Francisco
USAID/ Malawi	Program Development Specialist (Agriculture), Sustainable Economic Growth	Martin Banda
	Deputy Office Director, Sustainable Economic Growth	Lynn Schneider
Other/DC Office	Asia Bureau	20/9 – Kyriacos Koupparis
	Bureau of Food Security	22/9 – Devi Ramkissoon
	Health Office	22/9 – Arvind Kumar
	Center for Development Innovation	3/10 – Alexis Bonnell
	Global Development Lab	3/10 – Brit Steiner 3/10 – Jessica Lucas
	Policy, Planning, and Learning	27/9 – David Ratliff
	USAID LEARN	27/9 – Piers Bocock
	Asia Bureau	29/9 – Vera Zlidar

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ANNEX K. EVALAUTION TEAM QUALIFICATIONS

Evaluation Team Leader: Nils Junge

Mr. Nils Junge is an evaluation specialist with over 16 years of evaluation experience in over 30 countries. Mr. Junge has conducted 45 evaluations and led or advised on over 20 Poverty and Social Impact Analyses. Mr. Junge brings extensive expertise in mixed-methods research and the use and integration of quantitative and qualitative methods. He has served as a team leader or advisor on evaluations in a range of sectors, including agriculture, energy, climate change, and health. For this activity, Mr. Junge served as the primary point of contact with USAID and local partners; provided overall leadership, management, and technical direction of the evaluation; and oversaw the drafting of the evaluation report and collaborated with the other Sector Specialists to incorporate their sections and ensure all evaluation questions were addressed.

Deputy Team Leader: Stephanie Schmidt

Ms. Stephanie Schmidt is a ME&L development professional in international affairs. As a Project Coordinator at International Development Group LLC, she has provided management support to 11 activities under LEAP-II, including several evaluations. For this activity, Ms. Schmidt **r**eviewed key documents provided by USAID, background materials on the implementation mechanisms, and other relevant reports; drafted the Project Plan; conducted KIIs and FGDs in India and one trilateral country; and synthesized and edited team inputs into a comprehensive final report.

Agriculture Specialist: Mathilde Laval

Ms. Mathilde Laval is an accomplished agronomist with over 11 years of experience in international development, including in Sub-Saharan Africa. Ms. Laval has a successful track record of leading and conducting evaluations using various data collection methods, building models, and quantifying the impact of development interventions in agriculture. For this activity, Ms. Laval reviewed key documents provided by USAID relating to food security and other relevant reports, assisted in drafting the Project Plan sections related to food security and agriculture, conducted KIIs and FGDs in India and two trilateral countries, contributed to mid-term briefing, and wrote applicable sections of the final evaluation report.

Public Health Specialist/HIV/AIDS Analyst: Sarah Pedersen

Dr. Sarah Pedersen is an international public health professional specializing in HIV infection and maternal and child health. Dr. Pedersen has extensive experience conducting evaluations in Sub-Saharan Africa, including for USAID. For this activity, Dr. Pedersen reviewed key documents provided by USAID relating to health activities and other relevant reports, assisted in drafting the Project Plan related to public health issues, conduct KIIs and FGDs in India and two trilateral countries, contributed to mid-term briefing, and wrote applicable sections of the final evaluation report.

ANNEX L. DISCLOSURE OF ANY CONFLICTS OF INTEREST

Disclosure of Conflict of Interest forms for core team members begins on the next page.

Disclosure of Conflict of Interest for USAID Evaluation Team Members

Name	Nils Junge
Title	Evaluation Team Leader
Organization	International Development Group (IDG)
Evaluation Position?	■ Team Leader ☐ Team member
Evaluation Award Number *(contract or other instrument)*	AID-OAA-I-12-00042/AID-OAA-TO-14-00046 Activity #28
USAID Project(s) Evaluated *(Include project name(s), implementer name(s) and award number(s), if applicable)*	USAID/India: CDCS DO4 Mid-term Performance Evaluation
I have real or potential conflicts of interest to disclose.	☐ Yes ■ No
If yes answered above, I disclose the following facts: *Real or potential conflicts of interest may include, but are not limited to:* 1. *Close family member who is an employee of the USAID operating unit managing the project(s) being evaluated or the implementing organization(s) whose project(s) are being evaluated.* 2. *Financial interest that is direct, or is significant though indirect, in the implementing organization(s) whose projects are being evaluated or in the outcome of the evaluation.* 3. *Current or previous direct or significant though indirect experience with the project(s) being evaluated, including involvement in the project design or previous iterations of the project.* 4. *Current or previous work experience or seeking employment with the USAID operating unit managing the evaluation or the implementing organization(s) whose project(s) are being evaluated.* 5. *Current or previous work experience with an organization that may be seen as an industry competitor with the implementing organization(s) whose project(s) are being evaluated.* 6. *Preconceived ideas toward individuals, groups, organizations, or objectives of the particular projects and organizations being evaluated that could bias the evaluation.*	

I certify (1) that I have completed this disclosure form fully and to the best of my ability and (2) that I will update this disclosure form promptly if relevant circumstances change. If I gain access to proprietary information of other companies, then I agree to protect their information from unauthorized use or disclosure for as long as it remains proprietary and refrain from using the information for any purpose other than that for which it was furnished.

Signature	
Date	December 3, 2016

Disclosure of Conflict of Interest for USAID Evaluation Team Members

Name	Stephanie Schmidt
Title	Deputy Team Leader
Organization	International Development Group LLC
Evaluation Position?	☐ Team Leader ■ Team member
Evaluation Award Number *(contract or other instrument)*	AID-OAA-I-12-00042/AID-OAA-TO-14-00046 Activity #28
USAID Project(s) Evaluated *(Include project name(s), implementer name(s) and award number(s), if applicable)*	USAID/India Development Objective 4
I have real or potential conflicts of interest to disclose.	☐ Yes ■ No
If yes answered above, I disclose the following facts: *Real or potential conflicts of interest may include, but are not limited to:* 1. *Close family member who is an employee of the USAID operating unit managing the project(s) being evaluated or the implementing organization(s) whose project(s) are being evaluated.* 2. *Financial interest that is direct, or is significant though indirect, in the implementing organization(s) whose projects are being evaluated or in the outcome of the evaluation.* 3. *Current or previous direct or significant though indirect experience with the project(s) being evaluated, including involvement in the project design or previous iterations of the project.* 4. *Current or previous work experience or seeking employment with the USAID operating unit managing the evaluation or the implementing organization(s) whose project(s) are being evaluated.* 5. *Current or previous work experience with an organization that may be seen as an industry competitor with the implementing organization(s) whose project(s) are being evaluated.* 6. *Preconceived ideas toward individuals, groups, organizations, or objectives of the particular projects and organizations being evaluated that could bias the evaluation.*	

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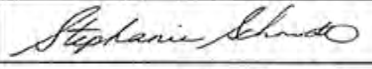
Signature	
Date	December 3, 2016

Disclosure of Conflict of Interest for USAID Evaluation Team Members

Name	Mathilde Laval
Title	Agriculture and Food security Expert
Organization	International Development Group LLC
Evaluation Position?	☐ Team Leader ■ Team member
Evaluation Award Number *(contract or other instrument)*	AID-OAA-I-12-00042/AID-OAA-TO-14-00046 Activity #28
USAID Project(s) Evaluated *(Include project name(s), implementer name(s) and award number(s), if applicable)*	USAID/India Development Objective 4
I have real or potential conflicts of interest to disclose.	☐ Yes ■ No
If yes answered above, I disclose the following facts: *Real or potential conflicts of interest may include, but are not limited to:* 1. *Close family member who is an employee of the USAID operating unit managing the project(s) being evaluated or the implementing organization(s) whose project(s) are being evaluated.* 2. *Financial interest that is direct, or is significant though indirect, in the implementing organization(s) whose projects are being evaluated or in the outcome of the evaluation.* 3. *Current or previous direct or significant though indirect experience with the project(s) being evaluated, including involvement in the project design or previous iterations of the project.* 4. *Current or previous work experience or seeking employment with the USAID operating unit managing the evaluation or the implementing organization(s) whose project(s) are being evaluated.* 5. *Current or previous work experience with an organization that may be seen as an industry competitor with the implementing organization(s) whose project(s) are being evaluated.* 6. *Preconceived ideas toward individuals, groups, organizations, or objectives of the particular projects and organizations being evaluated that could bias the evaluation.*	

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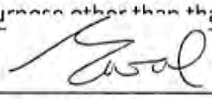
Signature	
Date	December 5, 2016

Disclosure of Conflict of Interest for USAID Evaluation Team Members

Name	Sarah H. Pedersen
Title	Public Health & HIV/AIDS Expert
Organization	International Development Group
Evaluation Position?	☐ Team Leader ■ Team member
Evaluation Award Number *(contract or other instrument)*	AID-OAA-I-12-00042/AID-OAA-TO-14-00046 Activity #28
USAID Project(s) Evaluated *(Include project name(s), implementer name(s) and award number(s), if applicable)*	USAID/India Development Objective 4
I have real or potential conflicts of interest to disclose.	☐ Yes ■ No
If yes answered above, I disclose the following facts: *Real or potential conflicts of interest may include, but are not limited to:* 1. *Close family member who is an employee of the USAID operating unit managing the project(s) being evaluated or the implementing organization(s) whose project(s) are being evaluated.* 2. *Financial interest that is direct, or is significant though indirect, in the implementing organization(s) whose projects are being evaluated or in the outcome of the evaluation.* 3. *Current or previous direct or significant though indirect experience with the project(s) being evaluated, including involvement in the project design or previous iterations of the project.* 4. *Current or previous work experience or seeking employment with the USAID operating unit managing the evaluation or the implementing organization(s) whose project(s) are being evaluated.* 5. *Current or previous work experience with an organization that may be seen as an industry competitor with the implementing organization(s) whose project(s) are being evaluated.* 6. *Preconceived ideas toward individuals, groups, organizations, or objectives of the particular projects and organizations being evaluated that could bias the evaluation.*	

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Signature	Sarah H. Pedersen
Date	6 December 2016