FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

GLOBAL SUPPORTING SEED SYSTEMS FOR DEVELOPMENT ACTIVITY

FY19 ANNUAL WORK PLAN

August 23, 2018 to September 30, 2019

This Annual Work Plan was prepared by the Feed the Future Global Supporting Seed Systems for Development activity for review by Feed the Future and the United States Agency for International Development.

USAID
FROM THE AMERICAN PEOPLE

CRS
CATHOLIC RELIEF SERVICES

Submission date:	December 5, 2018
Revision submission date:	January 28, 2019
Revision submission date:	May 15, 2019
Revision submission date:	June 29, 2019
Revision submission date:	September 9, 2019

Agreement Number:	7200AA18LE00004
Submitted to:	Daniel Bailey, Agreement Officer Representative
Submitted by:	Nikaj van Wees, Chief of Party, S34D activity

Photo credit: Neil Palmer, CIAT

DISCLAIMER
This Annual Work Plan was made possible by the generous support from the American people through the U.S. Government's Feed the Future initiative and the United States Agency for International Development through Cooperative Agreement 7200AA18LE00004. The contents are the responsibility of Catholic Relief Services and do not necessarily reflect the views of USAID or the United States Government.

Feed the Future Consortium Partners in the Feed the Future Global Supporting Seed Systems for Development activity:

Activity Title:	Feed the Future Global Supporting Seed Systems for Development activity
Activity start date and end date:	Aug 24, 2018 – Aug 23, 2023
Cooperative agreement number:	7200AA18LE00004
Document title:	FY19 AWP (August 24, 2018 – September 30, 2019)
Publication date:	September 9, 2019
Author's name:	Catholic Relief Services
Grantee's name:	Catholic Relief Services
Sponsoring USAID office:	LOC Unit, Federal Center Plaza (SA-44)/M/CFO/CMP
Technical office:	USAID/BFS/MPI
AOR name:	Daniel Bailey
Activity Goal:	Improved functioning of the national seed sectors in S34D focus countries
Language of document:	English
Submitted by:	Nikaj van Wees, Chief of Party S34D activity Catholic Relief Services 228 West Lexington Street, Baltimore, MD 21201 Nikaj.vanwees@crs.org

Table of Contents

Acronyms and Abbreviations

AC	Advisory Committee
AFSTA	African Seed Trade Association
AGRA	Alliance for a Green Revolution in Africa
AGRIFIN	Agriculture Finance Support Facility
AU	African Union
VISA	Accelerated Varietal Improvement and Seed delivery of legumes and cereals in Africa
BMGF	Bill and Melinda Gates Foundation
CDI	Center for Development Innovation (Wageningen)
CGIAR	Consultative Group on International Agricultural Research
CIAT	International Center for Tropical Agriculture
CIMMYT	International Maize and Wheat Improvement Center
COMESA	Common Market for Eastern and Southern Africa
DFID	Department for International Development (UK)
DiNER	Diversity for Nutrition and Enhanced Resilience
ECR	Emergency, Chronic stress and Resilience
EGS	Early Generation Seed
FSP's	Financial Service Providers
GMO	Genetically Modified Organism
ICRISAT	International Crops Research Institute for the Semi-Arid Tropics
IDP	Internally Displaced Person
IFDC	International Fertilizer Development Center
ISSD	Integrated Seed Sector Development
KALRO	Kenya Agricultural & Livestock Research Organization
KEPHIS	Kenya Plant Health Inspectorate Services
KIM	Kenya Investment Mechanism
LEGS	Livestock Emergency Guidelines and Standards
MCA	Millennium Challenge Account
MOALF	Kenyan Ministry of Agriculture, Livestock and Fisheries
MUSECO	Multi Seeds Company Limited
NARC	National Agricultural Research Center
NARS	National Agricultural Research System
OI	Opportunity International
PABRA	Pan-Africa Bean Research Alliance
PCMA	Pre-Crisis Market Analysis
PIATA	Partnership for Inclusive Agricultural Transformation in Africa
PICS	Purdue Improved Crops Storage bags
PASP	Private Agricultural Services Providers
QA	Quality Assurance
QBS	Quality Basic Seed
QDS	Quality Declared Seed
RTB	Roots, Tubers and Bananas
S34D	Feed the Future Global Supporting Seed Systems for Development activity
SADC	Southern African Development Community
SEEP	Small Enterprise Education and Promotion Network
SHF	Smallholder Farmer
SME	Small and medium-sized enterprises
SMS	Short Message Service (text message)
SSSA	Seed System Security Assessment
STAK	Seed Trade Association of Kenya

STAM	Seed Trade Association of Malawi
TASAI	The African Seed Access Index
TASTA	Tanzania Seed Trade Association
VBAs	Village-based Agents

I. Activity Overview

The Feed the Future Global Supporting Seed Systems for Development activity (S34D) is a five-year Leader with Associates Award, funded by Feed the Future through the Bureau of Food Security (BFS) and USAID through the U.S. Office of Foreign Disaster Assistance (OFDA). Catholic Relief Services is leading the consortium of partners that include: CIAT, CIMMYT, Dimagi, IFDC, Opportunity International, PABRA and Purdue University. S34D's Life of Activity (LOA) runs from August 2018 through August 2023. S34D's overarching goal is to improve the functioning of national seed sectors in an *inclusive* manner in our focus countries; this 'inclusive' approach aims to support all types of farmers, including women farmers and youth. The activity will meet the activity goals by increasing the capacity of each of the seed systems (formal, informal, and emergency) to sustainably offer quality, affordable seeds for a broad range of crops (***Objective 1***), and increasing collaboration and coordination among all seed systems actors and actions (***Objective 2***).

This activity is unique in that the overall strategy aims to generate a broader view and integration of the seed systems, as outlined in the Results Framework (see Section 3, MEL), with **Objective 1** working across formal, informal and emergency seed sectors; and, **Objective 2** placing emphasis on the interactions and synergies among the three systems. This integrated approach is further strengthened by cross-cutting IRs that seek to improve policies and practices that support pluralistic seed systems, rather than focusing on an individual part of the system. An important aspect of the activity is to gain a better understanding about how seed systems interact and where there may be positive or negative market interactions. In the case of detrimental actions, S34D intends to develop interventions to address market distortions. Some additions to the program description can be found in Annex 1.

The Annual Work Plan reflects activities and interventions proposed by S34D during the activity's first year of implementation. S34D envision**s** to support strategic services to understand and respond to demand in order to advance the objectives of capacity, coordination and collaboration among formal, informal, and emergency seed sectors**.** These activities are designed to: 1) facilitate government, researchers, breeders and the private sector to supply quality early generation seed (EGS) to more farmers; 2) forge stronger links between formal and informal seed actors to expand the availability of crop choices and accelerate varietal turnover; and, 3) extend the seed market frontier for climate smart crop combinations[1] and varieties - to increase income and improve adaptation - including through emergency response programming that addresses food security and resilience of returnees and internally displaced persons (IDPs). All S34D intervention areas are listed in Annex 2, including linkages to the NFO 15 intervention areas. The planning of the activities can be found in the detailed implementation plan in Annex 3, and the results and outputs in Annex 4. Below are some of the intervention areas for S34D in each seed system.

Formal system:

1. Address barriers to operating efficiency with selected seed companies;
2. Explore new financing options to enable seed firms to expand their access and use of financial service providers (FSPs);

[1] Climate Smart crop combinations, being mixes of crops of cereals, legumes, trees, cover crops that in combination help to raise overall productivity and at the same time can improve soil structure and fertility, through nutrient addition, nutrient recycling, increasing organic matter, reducing evaporation and increasing water infiltration rates and water holding capacity of the soil. Climate smart also includes methods of farming such as use of relay crops, or cover crops to maintain soil moisture and or use residual soil water more effectively. The types of varieties for the target crops are also important in terms of their adaptation and tolerance to specific types of climate shock, such as drought tolerance or flood tolerance. Scaling out the use of specific varieties, crop combinations and production systems, also needs to take into account market demand, costs of production and returns on investment for the target farmers which must also take into account issues related to gender, age and economic status.

3. Review and validate options for supporting increased availability of EGS through private sector companies;
4. Co-create last mile delivery strategies / business models to include linkages between agro-dealers and other last mile actors.

Informal system:

1. Characterize legume (beans) input and output (seed and grain) market;
2. Identify key seed producers/actors of integrated value chains and assess explicit linkages for their interactions;
3. Conduct scoping studies to identify financial bottlenecks for seed and post-harvest technology providers;
4. Assess quality parameters of differing seed grades from various categories of seed producers.

Emergency, Chronic stress and Resilience (ECR) system:

1. Develop an SSSA field test mobile data collection tool;
2. Conduct cash feasibility analysis linked to seed security interventions;
3. Review of DiNERS and cash systems;
4. Review learning agenda across countries for DiNERS.

Policy and ICT:

1. Create a seed policy road map template to populate and use for mapping seed policy.
2. Generate a synthesis of the global overview of seed policies and standards S34D is engaging by leveraging existing studies, reports, and publications;
3. Draft a 2-pager on free seed definition and scope of inquiry;
4. Coordinate with TASAI, EBA, and ASI to develop a synthesis of indicators across the three groups for one sample country;
5. Develop a comprehensive MLE (Monitoring, Learning and Evaluation) tool to monitor the use of small seed packages for use in PABRA's niche market business model;
6. Pilot SMS-based farmer feedback loop on seed quality ("Stop Bad Seed");
7. Implement standard seed protocol with KEPHIS in Kenya.

S34D activities will be implemented by consortium partners who work in close collaboration with other seed actors, while supporting the needs of the Missions. The consortium roles are as follows:

- **CRS -** activity leadership, award management, private sector engagement, seed policy and regulation, last mile business models, M&E, learning and gender analysis;
- **IFDC -** formal seed systems upgrading, new business models with agro-dealer networks;
- **Opportunity International -** financial / investment support, mobile money;
- **PABRA -** new business models for informal seed systems and ECR seed systems, last mile delivery systems, cash and vouchers for seed fairs;
- **Purdue University -** improvement of post-harvest technologies and storage.

2. Implementation Plan

2.1 - IR 1.1 Formal Seed Sector

The primary focus of the formal integrated seed systems component is to: a) identify and mitigate constraints associated within the seed value chain system that result in distended delays from R&D that includes varietal development (stages of EGS), varietal releases and deployment, and dissemination of new cultivars; and, b) offer a broader range of crops and varieties of high-quality, genetically pure seeds through improved business models and management, including those varieties most likely to be successful in stressful and marginal environments. Reaching out beyond the formal seed sector, S34D's formal sector partners (IFDC, OI) will also provide necessary support to the informal sector through better integration and reach smallholder farmers by innovating last mile systems, market information sharing, and technical skills development (through activities under IR 1.1) that will result in stronger market and technical linkages between the two. S34D will further facilitate the production of quality seeds of climate resilient crops,[2] made available through building efficient and innovative supply systems to the last mile, thus improving access to affordable, high-quality seeds of new, and appropriately positioned crops and varieties with better traceability. S34D will work in collaboration with collegial seed system programs and national partners to address and engage in activities that will contribute towards the NFO intervention areas. Moreover, S34D's activities will be relevant to both core and Mission priorities, as shown in the following set of activities and related sub-activities.

Sub IR 1.1.1 Increased operational efficiency of seed companies.

Operational efficiency is a key driver in long-term profitability and sustainability of seed companies. Thus, the major activities of the formal integrated seed systems sector will engage in building the capacities of selected small and medium sized enterprises (SMEs) in the target corridor countries to improve both their professional and production capacities towards production of high-quality seeds. As the feasibility of conducting an organizational audit is very limited, especially among SMEs in Sub-Saharan Africa as many firms may not like to disclose sales and other financial details, S34D will conduct detailed assessments together with the seed firms on their performance to identify operational inefficiencies or bottlenecks, including existing return on investments and factors contributing to profit nature of such firms. The information derived from the assessments will be used to design capacity building approaches for seed firms - coaching and mentoring in a participatory manner. The training will be applicable to owners, employees, and all other key stakeholders involved in different aspects of seed production and management, which will help improve the overall efficiency of the seed firms.

Furthermore, this approach will also include 'feedback received on the firm products from customer-farmers.' Thus, the proposed capacity building approach of improving organizational agility and efficiency should thus be a participatory, management and decision-making process, facilitating learning by practice rather than a mere exercise external to the system. The firm level capacity building activities will focus on improving 'organization agility', including technical, managerial, and marketing aspects that offer resilience and ensure sustainability by building financial management and planning capabilities and providing linkages that result in facilitated access to capital. All the capacity building approaches to improve operational efficiency of the firm will include performance management aspects that build self-appraisal and evaluation capacity, and incorporate correcting and changing relevant operations of each firm in a timely manner.

[2] Climate resilient crops, being those crops and varieties, which are tolerant or adapted to more extreme weather conditions, such as, high or low temperature, drought, and floods. There are also crop varieties that are adapted to high saline conditions, that is associated with extreme temperatures and proximity to saline water, or where irrigation systems have increased local salinity levels.

S34D will work with firms that show a promising growth trajectory and demonstrate a willingness to expand their crop and variety portfolios beyond maize. S34D will build on AGRA's existing seed company profiles and assessments, along with other sources, to identify these most promising firms. Though AGRA would be able to provide a snap-shot of overall financial institutions in the selected countries that support high-quality seed production scaling and market expansion, the outputs from S34D activities, such as building an inventory on local FSPs and their requirements, will further help in aligning firm's interest to local financier requirements and provide access to the best available options of financing. The training courses and materials developed for seed firms will be based on both FSP requirements and each firm's needs (selected for coaching). The goal is to strategically coach and build the capacity of the firms through the lens of the local FSP requirements through established Training of Trainers (ToT) methodologies.

In addition, S34D proposes to directly involve local FSP representatives (identified in the inventory scan) to engage within the long-term coaching process and help seed companies develop the necessary capacities to be eligible for either first round financing or better financing terms as applicable. Besides improving the functioning of selected SMEs in the focus countries, S34D will also improve upon capacity building approaches that expand operational efficiency of the seed firms through 'fee-based models'.

The outcomes of activities under Sub IR.1.1.1 are expected to improve SME seed firms' ability to become reliable suppliers of new crop and seed varieties. The SMEs can then meet continually changing product profiles for characteristics, such as climate resilience, pest resistance, consumer-desired properties, farmer demanded properties, etc. This would have a significant impact on firms crop-varietal portfolios, and will encourage firms to phase out older varieties, resulting in increased access to wider choices by downstream markets and farming communities. The first set of activities that would lead to these outcomes would be preparatory work before training, such as determining firm-level needs assessments and developing an inventory of financial services.

Sub IR 1.1.2 Increased seed availability of climate – smart crops through enhancing EGS capacities of the firms and producers.

By improving the operational efficiencies of targeted seed producers and companies, S34D expects to increase the output of quality seeds, especially early generation seeds of climate-smart crops and varieties. Any efforts to increase the seed availability will coordinate with ongoing interventions implemented through Seeds2B, African Agriculture Technology Foundation and other complementary efforts in the corridor. This coordination would further enable all partners to access necessary information (on seed availability, calculating projections for seed demand, etc.) that is proposed in S34D's informal seed sector work.

Further, key to improving the accessibility to quality EGS materials from such firms or making them available to other firms for further multiplication rests in the policy and regulatory environment of the country. S34D will work in collaboration with AGRA's PIATA and other international and national partners to promote effective advocacy for reduction and elimination of policy and regulatory constraints to quality seed production, as well as scaling and access to last mile users. The formal seed sector's EGS is critical to all seed systems and hence an updated and more detailed assessment of the EGS environment during S34D's year 1 will be conducted through a formalized "seed mapping" exercise that will incorporate extant research and on-going seed systems assessments that can identify potential leverage points, and provide seed value chain mapping at the national level. This comprehensive seed system overview capability, including full engagement and ongoing dialogue with national and donor-funded seed sector partners, will be used to plan activities at the national level and target investments for the subsequent years under the S34D activity.

Sub IR 1.1.3. Capacities of local seed actors strengthened.

Activities proposed under IRs Sub 1.1.1 and Sub 1.1.2 focus on improving the skills and capacities of seed firms towards improved operational efficiencies, thereby increasing the availability of high-quality seeds for further distribution (through last mile actors, agro-dealers, informal seed sellers, and agripreneurs) in the system.

The activities under this component, Sub IR 1.1.3, will focus on developing the capacities of last mile actors and agripreneurs based on characterizing their needs and various options and models available for further adaptation. Though many efforts to develop capacities of last mile actors in Sub-Saharan Africa have been funded through donors at different points in time, there has been little investment in 're-tooling' their capacities. For year 1, S34D will produce a synthesis report on all the available last mile delivery models and approaches in legume corridor countries with a focus on last mile actor needs, options for delivery and farmer demand. This would cover all types of last mile actors besides agro-dealers and input suppliers and retailers, including other input service providers and innovative ICT and financing models or apps (tablet/smartphone applications) to ensure better delivery of seed market and demand information and input packages. During year 1, S34D and its partners will document the list of existing input suppliers (formal) in the selected countries; and, gather and select coaching materials for adaptation and retooling input suppliers to extend their reach to last mile clients. Eventually, this activity is expected to work with both traditional and non-traditional actors (agri-preneurs, dealers, and last mile marketing actors) especially in delivering quality seeds and enhancing their operational and marketing capacities, augmenting inventories beyond maize and ensuring more sustainable outcomes. The work will further coordinate with existing interventions by donor and private sector interventions (e.g. AGRA's VBAs, AVISA, CRS-PASPs, IFDC-dealers and agri-business clusters, Kuza agents, etc.,) in S34D's selected countries towards enhancing agripreneurs' business capacities and exposure to digital tools to manage and expand their inventory and customer management. A selected set of last mile actors and interventions from this pool will be evaluated further for their financial feasibility aspects for further engagement with FSPs for business expansion related activities in upcoming years.

Sub IR 1.1.4. Sustainable models with private sector players to supply quality EGS and QDS to a range of suppliers and scale using innovative financing piloted.

In year 1, S34D will develop a landscaping report that provides details on feasible options on co-creating new business models for last mile delivery options. During year 1, S34D will explore feasible approaches of proven models of quality seeds delivery through a range of seed producers and suppliers in the last mile in the selected countries for further demonstration in the selected countries.

CCIR1.2 Practices to expand and liberalize seed quality possibilities developed and implemented; market outlets/venue expanded; counterfeit seed issues addressed; free seed distribution restricted.

S34D has a unique opportunity to demonstrate the effect of developing a less costly class of certified seeds in Kenya. This would be a key policy tool, fostering linkages between the formal and informal sectors through operationalizing 'standard seed' classification production. Previous occasions of exposure visits by KEPHIS officials on quality assurance (QA) and certification systems to counterparts in Zambia and South Africa have strengthened the views of KEPHIS officials on introducing a simple and effective system of adopting a standard seed class—an effective QA tool, especially easing procedures involved with non-hybrid seed crops, such as legumes. Standard seed is defined by the Kenyan regulator (KEPHIS), as "seed that has met minimum laboratory and post control standards." Standard seed will

not apply to maize, but may possibly be allowed for crops such as legumes, cassava, and non-hybridized grains. Utilization of a standard seed approach for certification could significantly catalyze increased in-country seed volumes of important food security crops, and open the door to the establishment of new seed production entities specializing in production of standard seed for local sale and planting. If the standard seed approach is well-crafted and implemented in Kenya, it will have high potential to serve as an inspiration and blueprint for systemic change in other COMESA countries. Hence, this intervention is in a unique position to leverage the opportunity by working with the Kenyan seed regulatory system to write the standard seeds protocols, through continued advocacy and facilitation by S34D towards final implementation.

CCIR 2.3 Last mile markets for new and quality-assured seed varieties enabled by developed, piloted, adapted, and scaled feed-forward and feedback mechanisms that looped farmers' preferences as well as information on new varieties and quality assured seed.[3]

In most of Sub-Saharan Africa, farmers that purchase low-quality formal sector seed have little recourse or access to higher-quality or certified seed, and the national regulator is often unaware of the situation. The proposed pilot activity to be implemented in Tanzania will create a localized contextual form of Kenya's 'Stop Bad Seed' campaign and will use the SMS/text systems of Kenya's own farmer-based feedback loop to provide necessary insights about seed quality issues. This will provide valuable information to stakeholders involved in improving their activities based on farmer demands.

[3] All the feedback mechanisms established will be gender-sensitive, in terms of content analysis, as well access and reach to ICT, for a last mile buyer, considering the challenges faced by female clientele.

2.2 - IR 1.2 Informal Seed Sector

S34D's consortium partner PABRA will leverage existing studies to characterize legume input and output market actors (sellers and buyers) to generate baseline information on key actors involved in seed production and links to output markets. This research will be conducted with an eye towards stimulating market pull for seed, especially for the grain market – thus enhancing trader engagement in the trade of seed in the target corridors.

S34D will establish linkages among different categories of seed producers (QDS, seed companies, agro-dealers and traders) and enhance the business skills and information and use of storage methods. Working with formal seed systems and other implementing partners, S34D will initiate testing of a business model (IR 2.1) which will link formal and informal seed systems and expand their services to female and male farmers in remote, hard-to-reach areas, targeting last-mile seed access. We will also test bundling various products with quality seed from different sources by leveraging work being done by consortium partner IFDC and its partners.

Within the activity, PABRA will link with Purdue University, OI, and CRS, while outside the activity there will be linkages to the AVISA activity (supported by BMGF) in Tanzania and Uganda; to IFDC's Formal sector agro-dealer network-strengthening activities; to PABRA's existing projects in all the four eastern and southern Africa countries. Linkages with AGRA's country-led interventions, women and youth development organizations and Feed the Future activities are targeted, but not yet determined; and other, to-be-determined government and private-sector efforts linkages.
S34D will leverage existing bean corridors that have been established—or at an advanced stage in the establishment process—which will be utilized to accommodate other target crops under the activity. This approach will be used to achieve large scale or intensive production of maize, bean and groundnuts for commercial purposes, with contributions from the formal and informal seed suppliers. The approach can improve the business environment, linkages between bean farmers and consumers, and engagements with policy makers to support investment in commodity value chains and cross-border trade – directly engaging the capital access, seed road mapping, market assessment, agro-dealer strengthening, and policy and regulatory advocacy work of S34D's Formal and Policy sectors and their respective partnering groups. Using an example of beans, there is evidence that most of these corridors span across S34D countries of operation.

Sub IR 1.2.1 Assess informal trader capacity and local seed networks.

S34D will conduct a detailed study on yellow bean varieties in East Africa corridors. The purpose of this study is to understand varietal dissemination and movement of yellow bean grain across boundaries and the policy implications. This study will reveal insights on implementation aspects of other business models in outyears. This study will be linked with many aspects of S34D strategy, including policy (CCIR1.2) - on aspects of expansion of market frontiers (both by venues and actors). Purdue will conduct field visits and surveys to capture constraints and opportunities on post-harvest management and technology adoption, while OI will conduct scoping studies to understand associated financial bottlenecks.

Sub IR1.2.2. Capacity of local seed entrepreneurs and non-traditional seed actors strengthened.

There are no sufficient core-funds in FY19 to execute activities under Sub IR 1.2.2.

Sub IR 1.2.3. Business models to leverage integrated operations validated.

Associated with the yellow bean study in sub IR 1.2.1, PABRA will use DNA Fingerprinting to identify and reference yellow bean varieties. PABRA will validate the niche market model in year 1 through multi-stakeholder consultations, workshops, and field visits. the
Niche market model is a business model which PABRA will use to explore distribution and sale niches and climate smart varieties.[4] In year 1, PABRA will work with two seed companies to test various packs of biofortified beans in both traditional and non-traditional market venues in Kenya. Working with its partners, PABRA will deploy and test this model in year 1.

Sub IR 1.2.4 Strengthen last-mile delivery solutions through non-traditional partners and ICT.

PABRA's business models are built on gender sensitive farmer feedback mechanisms (on seed quality, storage, and retailer performance) using ICT-based solutions and approaches. With CRS, PABRA will explore one ICT application in year 1: point-of-sale application and customer feedback loop from farmers, retailers, and seed companies on preferences, seed quality, and pack size for the niche market model in Kenya (model 4 under IR2.1.3 below).

There are no sufficient core-funds in FY19 to execute activities under Sub IR 2.1.1 and 2.1.2

Sub IR 2.1.3 Formal sector suppliers and NARs/breeders leveraged and linked.

In partnership with NARS-breeding-programs and the formal seed system (e.g. seed companies), the activity will test last mile approaches by private seed companies selling certified seed in both established seed, and traditional non-seed outlets. These consist of agro-dealers in remote areas and non-seed outlets (open markets, kiosks, schools, etc.) particularly using affordable small-packs of newly-released varieties in Kenya.

Model 4: Niche market – Under this business model, PABRA will explore non-seed distribution and sale niches, climate smart varieties. In year 1, PABRA will work with two seed companies to test various packs of biofortified beans in both traditional and non-traditional market venues in Kenya. PABRA with its partners will be able to deploy and test aspects of this model in year 1. In subsequent years, PABRA will also utilize and link to CIAT's food systems work of which PABRA is an implementer to ensure that better contribution to nutrition needs of target populations is achieved. Through the food systems work, the complementarity of the crops under consideration will be enhanced.

[4] Crop varieties that are better suited to existing and/or changing climatic conditions or with enhanced ability to adapt to changing patterns of weather. They reduce the impact of extreme weather.

2.3 - IR 1.3 Emergency, Chronic stress and Resilience (ECR) Seed Sector

The ECR component will work with emergency and vulnerability specialists, as well as development-oriented professionals. Also, much of the expertise for the 'emergency-linked work' goes well beyond the immediate S34D partners and draws from networks developed elsewhere (e.g. SeedSystem.org, Small Enterprise Education and Promotion Network (SEEP), or the Emergency and Markets group). ECR interventions tend to target the most vulnerable populations. Gender, age, ethnicity, and health of beneficiaries (malnourishment) are some important components to address when designing interventions, and these variables are used in assessment, response, and Monitoring and Evaluation. The variables are then used as part of the MEL feedback loop to inform the activities in the next cycle of implementation. (One example: the SSSA is gender- and field-size disaggregated in all data collection and analysis.)

This component of S34D spans a time-sequence starting with emergency, extending through several seasons of early recovery, and then stretching onward to areas and peoples in ongoing stress in a multi-year commitment. As such, the focus is on more vulnerable, remote, underserved populations in acute, repeatedly acute, and chronic-stress regions. These are the people who urgently need access to a wider range of crops and varieties (for climate-stress and nutrition) and to quality seed.

While ECR is separated in this text for purposes of programming clarity, the success of ECR will depend on close collaboration with other central S34D components. The SSSA, for example, has special, automated data analyses tools, which examine key findings according to gender of the household head (linked to ICT work). Similarly, work with informal traders will be done with a gender lens (and crop, poverty and age-specific lenses). The activities are outlined below according to the central clusters of action for ECR.

Sub IR 1.3.1 Assess select emergency and humanitarian past actions: focus on farmer evaluation, new varieties, and markets (local and formal).

S34D will actively link a range of seed voucher-and-seed fair (CRS' model for delivering emergency seed) responses to private sector immediate supply and ongoing private sector interests. S34D will review the varied NGO organizational responses and their resiliency programming, and introduction of new varieties that may cause market distortions. S34D will analyze the feasibility of cash responses linked to seed security interventions. Cash systems and DiNERS will be reviewed, potentially in Guatemala. Furthermore, the learning agenda for DiNERS across Malawi, Kenya, Madagascar, and Zimbabwe will be reviewed.

Sub IR 2.2.1 Adapt and scale-up Seed System Security Assessments in Feed the Future Crisis Hotspot areas (focus on formal, semi-formal and informal seed systems).

The assessments and diagnostics for year 1 are a mix of conducting actual assessments, refining the tools (and digitizing them), continuing SeedSystem.org and coordinating with other organizations to ensure seed-security-linked assessments are done to a consistently high-standard. S34D will develop joint humanitarian standards with FAO and Sphere, and CIAT for what constitutes evidence-based SSSAs.

Sub IR 2.2.2 Develop and promote emergency and humanitarian responses that link relief to development, especially links to private sector, informal and formal suppliers.

There is a strong focus on understanding the actual and potential roles of both formal and informal markets in emergency, understanding the resiliency of such markets in periods of extended crisis and identifying capacity gaps of markets that prevent them from supporting clients' seed security needs

during such times. S34D will scope the current formal and private sector roles and range of activities linked to emergency interventions. This scoping includes an analysis of financial mechanisms. Tools will be developed to assess resilience of market supplies, formal and informal, especially during crisis periods.

Sub IR 2.2.3 Leverage emergency and development seed programs to capture market opportunities from supply side to support vulnerable farmers in less prime market areas.

There is a commitment to actively linking a range of voucher-and-fair responses to private sector immediate supply and ongoing private sector interests. Under this IR, S34D will utilize CRS livelihood and nutrition fairs (DiNERS) to systematically link with the private sector before, during and after implementation. S34D will write a position paper on free seed definition and scope of inquiry.

2.4 - CCIR 1. Policies and Practices for Pluralistic Seed Systems

For improving the enabling environment, S34D will focus on practical approaches that change practices in very specific policy areas to open seed markets for a broader range of crops and to wider geographic areas, especially for those smallholders in last mile regions.

We intend to work country-wide in our corridors, but also across borders, to generate evidence that could potentially influence a wider audience, such as UN FAO and donor partners. ***Gender is an embedded thematic area – therefore, every aspect of our principles will be gender-sensitive.***
Our focus is on ***specific*** policies[5] that will:

1. Liberalize and guarantee seed quality;
2. Expand market outlets – seed and non-seed venues;
3. Address counterfeiting (through identification and feedback);
4. Limit free-seed to critical needs.

On policies that liberalize seed quality possibilities, S34D will implement Standard Seed with KEPHIS (this is cross-cutting with the work done by the formal sector). S34D will zoom in on yellow bean to understand and document policy contexts for expanding market outlets and venues across large distances (cross-cutting with informal sector). S34D will build an evidence base around aforementioned policy issues above through a global policy review (with New Markets Lab, an NGO service provider for S34D) when we assess changes due to corridor linkages. S34D will also build an evidence base and explore policies on expansion of market outlets and venues for high iron beans, an example of using alternative venues – like women health centers (cross-linked with informal sector). Finally, as discussed under the ECR component, S34D will work on policies that limit free-seed to critical needs (see activities CCIR1.2).

Principles of our approach:

S34D designed activities by including the following elements:

- **Collaboration**: S34D will engage a wide range of stakeholders from national and international seed policy experts to in-country think-tanks, multi-lateral agencies, private sector entities, NGOs and others. Therefore, an activity for S34D will be to conduct a quick landscape-check to understand institutions and partners who are working along the policy areas.
- Developing a **prioritized agenda** specific to the above-policy areas through in-country ownership. S34D has placed the loci of our work with in-country institutions. For example, S34D will conduct a quick landscaping to decide on which national and regional nodes to partner with for the policies listed above.

[5] Due to time limitation in year 1, S34D could not undertake a learning study on privatization of seed certification, and efficient counterfeiting measures in Zambia. S34D will undertake this learning activity in its year 2.

- S34D will develop a gender-sensitive **evidence-base** through our implementation partners such as PABRA and IFDC. For example, PABRA works in QDS in Tanzania, and IFDC sells seeds in remote areas through mobile carts and vans.
- S34D will need to understand each **country's institutional architecture** in seed policies that are relevant to drive S34D strategic outcomes. Therefore, one of the early activities is to develop country specific seed policy road maps (annex 5) – not only to understand the content but also how countries make seed policy decisions. Inclusive dialogues are key to this process, and thus we will hold in-country workshops to socialize and collect feedback on seed policy road-maps that S34D will develop.
- Inclusive growth must be fostered with **mutual accountability**. Therefore, as an example, S34D will conduct convenings with relevant stakeholders to raise awareness of issues around free distribution of seeds. Thus, S34D will build policy dialogues to raise accountability, with partners both within and outside of the S34D consortium.
- **Implementation** is a part of policy-making. For example, one activity will be to facilitate implementation of Standard Seed in Kenya with KEPHIS.

2.5 - CCIR 2. ICT and Information Systems

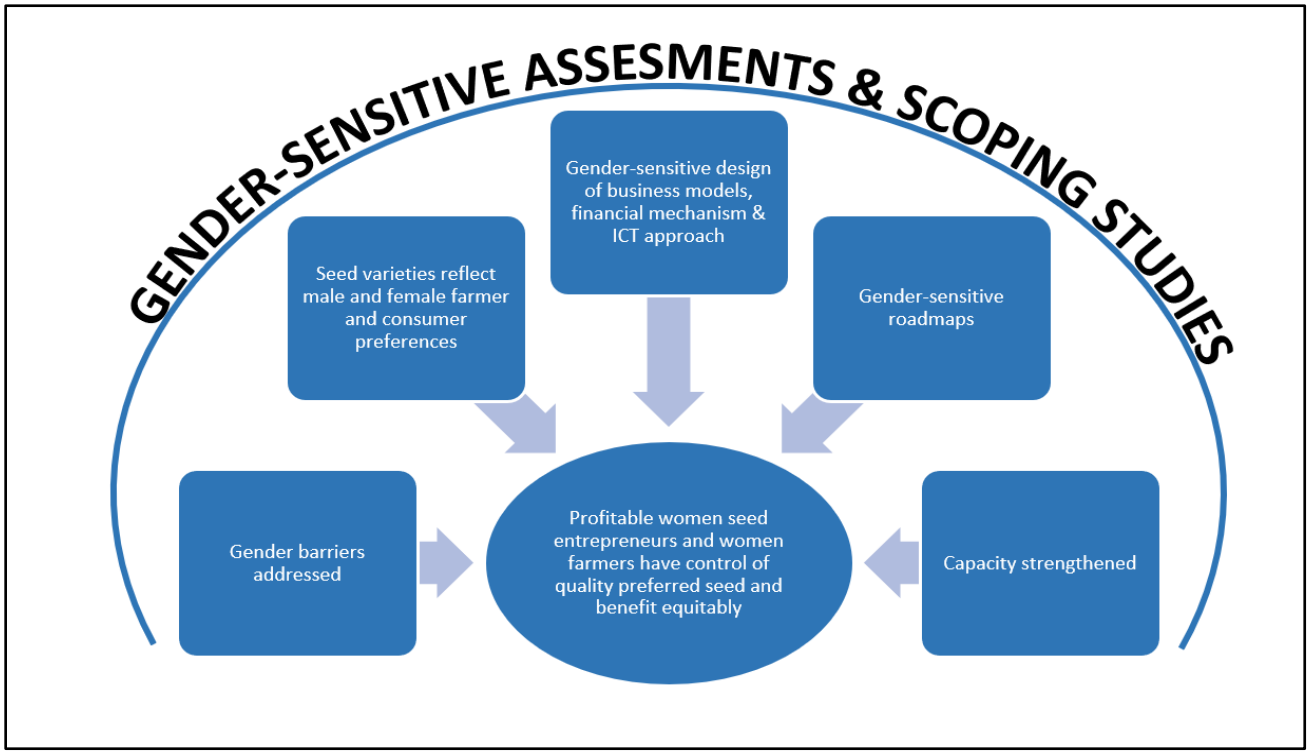
S34D will explore a range of ICT-tools to obtain quality, reliable information on seed systems, such as CommCare, Survey CTO, and Kobo Toolbox and Kuza. More ICT details can be found in Annex 2. S34D will test ICT application to collect PoS data and customer feedback for the Niche market model with informal market outlets with PABRA and CRS. On the formal side, S34D will initiate the "stop bad seed" campaign in Tanzania in collaboration with TOSCI, SMS companies, etc. Both applications are grounded in collecting grassroots information - especially at the last mile – while ensuring smallholders' interest are at the forefront.

2.6 Gender Approach

Throughout implementation of activities, S34D will assess how target business models support or challenge women seed entrepreneurs and women farmers' access to preferred, quality seed. S34D will also assess how scaling opportunities contribute to the success (i.e. profitability) and participation of women seed entrepreneurs and women farmers in terms of having control of sufficient quantity and quality of seed they prefer.

Growing evidence demonstrates that households are not unitary units, but are comprised of members that have different levels of agency, power, access and control of assets and information. S34D will integrate gender into assessments and scoping studies to gain a better understanding of gender dynamics, constraints and opportunities that impact women engagement in seed systems as seed suppliers and users across and within households. The results will guide the design of pilots and the adaptions of business models before going to scale, as well as financial mechanisms and seed roadmaps; and, these results will determine if complementary gender interventions or adaptations are needed to address females' barriers to becoming successful seed entrepreneurs and women farmers benefiting from improved seed systems. This will also identify capacity needs of women to successfully engage in the seed system, such as business and negotiation skills and seed selection knowledge.

Figure 1: Gender-Sensitive Seed Sector Business Model



With the use of digital services to support seed systems development and to receive feedback from clients, S34D design will consider constraints women face in using ICTD. A recent research article on rural women in Kenya, a country where internet users increased from 200,000 in 2000 to over 19.6 million by the end of 2013, illustrates a number of barriers women face in using mobile phones and mobile internet beyond access to a phone, such as use of poor-quality second-hand phones, particularly limited battery life. In addition to the actual technology, other constraints to women using mobile technology is a belief that social media is for the "youth," a general misunderstanding of the internet use beyond social media, lack of knowledge on using the phone beyond text messaging and phone calls, time constraints on learning how to use the phone, and a misunderstanding on the cost related to accessing internet services. Lastly, seasonal availability of funds influences when phone repairs are made, and the phone is usable again (Wyche and Olson, 2018).[6] In addition to S34D's learning agenda using a gender-sensitive lens when analyzing data, reporting

Box 1: Gender and Seed Fairs

Knowledge that gender dynamics could affect women's ability to fully participate in and benefit from seed purchased at seed fairs, CRS adapted its approach to integrate gender more explicitly. The CRS Agriculture Fairs and Vouchers manual recommends that the seed fair assessment process incorporates findings from a gender analysis to guide the fair's approach. Based on the local gender context, the fair's design considers the gender make-up of staffing, crop variety reflecting male and female preferences, sex of identified vendors, safety and security concerns, and seed voucher distribution models. For example, in Pakistan the seed fair design gave vouchers of equal amounts to head male and head female of each household that is to receive a voucher. In addition to adapting the design, implementation and monitoring of seed fairs for gender, in some projects this effort is complemented by gender-specific approaches that strengthen spousal relationships or address gender barriers.

[6] Wyche, Susan and Jennifer Olson. 2018. Kenyan Women's Rural Realities, Mobile Internet Access and "Africa Rising." Information Technologies & International Development (Special Section), 14: 33-47.

results, and drawing recommendations, S34D will have specific gender learning questions. Particular areas of interest for further discussion, refinement and inquiry include:

a) What business models are most effective in engaging women as profitable entrepreneurs in quality seed?
b) What types of delivery and sale mechanisms are particularly effective for reaching women at the last mile (both clients who are geographically-remote and those with undernourished families)?
c) In emergency situations, which response options more effectively deliver the crops and varieties that women farmers and consumers want and need?
d) For gains to seed quality, are there advantages to focusing on women farmers in two channel types: a) home saved seed; and, b) local market seed?

The S34D gender advisor will work closely with the SMT, and with partner organizations to determine an approach that leverages their organization's gender expertise and complements this support to S34D processes, research and products. S34D's gender advisor will provide feedback on assessments and scoping study tools. The advisor will support teams in business model designs that consider gender implications, as well as work with the teams piloting or scaling various business models. The advisor will review and provide feedback on all mandated S34D reports and research products.

3. Monitoring Evaluating and Learning (MEL) Plan

3.1 Theory of Change

If a greater volume of EGS can be produced by the private sector and be made more competitive for target crops, and critical bottlenecks in the formal seed supply chains can be diagnosed and mitigated, and the combination of policies can be made more conducive; and

If technical and innovative financial interventions can be scaled to mitigate key constraints that will support greater investment in emerging seed companies and local seed businesses that supply quality seed for a broader range of food and feed crops; and

If the roles of informal and non-traditional local seed suppliers can be better understood, professionalized, and leveraged to offer and support a broader range of crops, new varieties, and quality seeds to both commercial and commercializing smallholder farmers; and

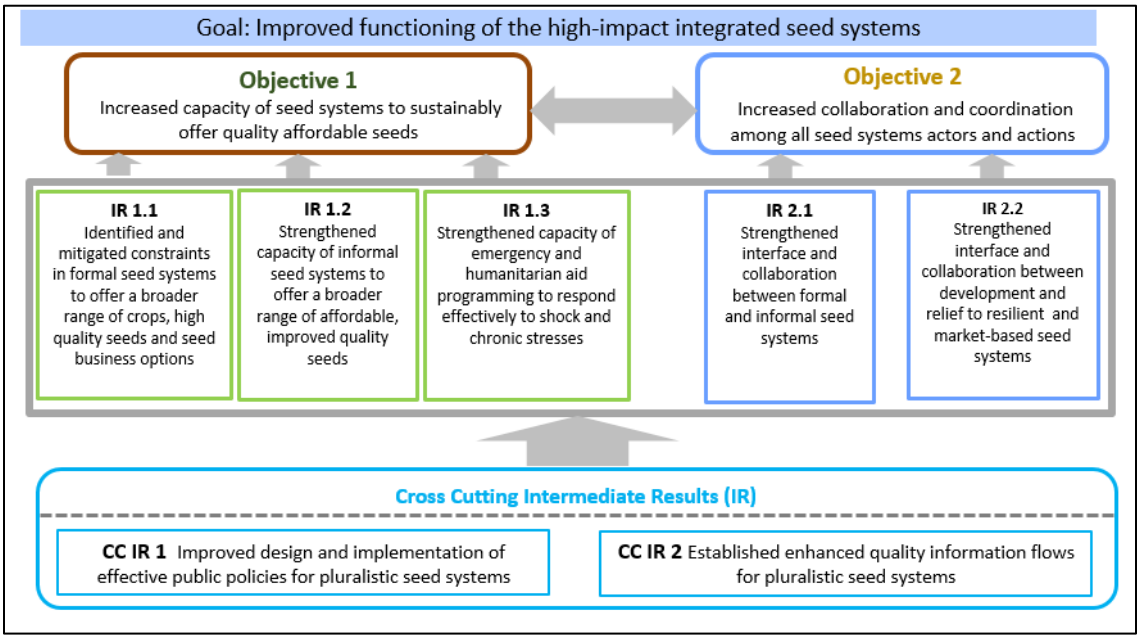
If informal and semi-formal seed systems can be strategically interfaced, aligned, and scaled-up with aspects of formal seed systems; and

If emergency and development seed programs can be aligned in innovative ways that strengthen pluralistic seed systems, with minimal market distortion, and minimal client additional risk; and

If these connections can provide new, and more resilient seed channels that support both food security and commercial opportunities that can reach a range of farmers from vulnerable to commercial, women and men, in ways that provide a source of learning about new seed business models, both profit-driven and resilience-focused, that can be tested and deployed in ways that accelerate access to quality seed of new varieties and do not disrupt seed and grain markets,

Then significantly more local seed businesses, last mile seed retail agents, seed groups, agripreneurs and associated business development services will enter the seed sector, leading to an expansion in formal, informal, and non-traditional seed suppliers who will offer quality and affordable seeds, with a range of more nutritious and climate-smart varieties to women and men smallholder farmers, such that they will have better availability and access to, and will use, superior quality seed with yield-enhancing shock-tolerant traits, leading to gains in productivity and income.

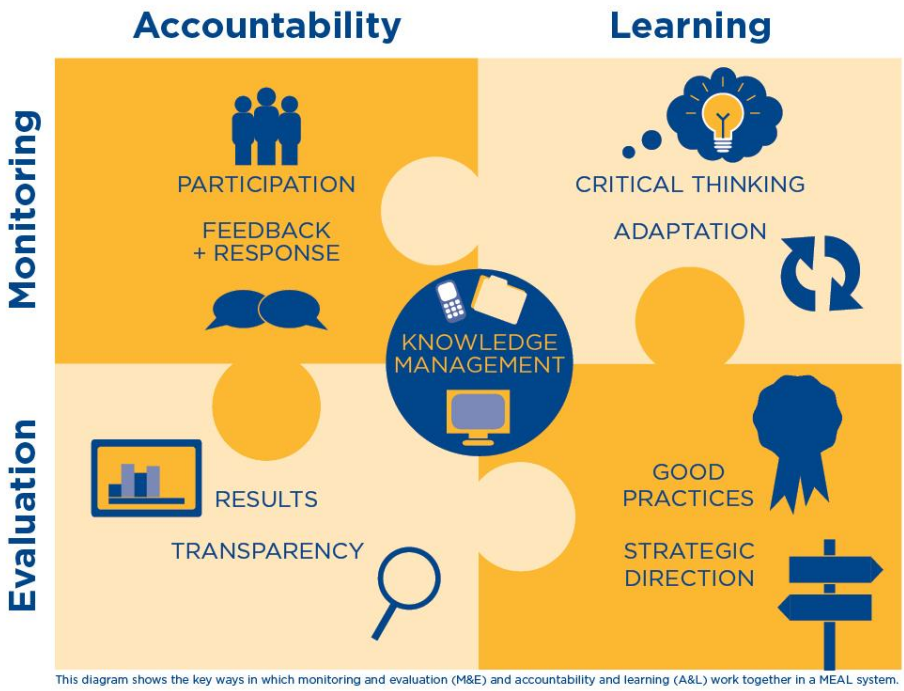
Figure 2: S34D Results Framework.



3.2 Approach and Principles

- Capture more frequent and quality information at the grassroots level that will inform our strategy;
- Establish and use feedback mechanisms to validate / ground truth observations generated from; data compilation and syntheses;
- Incorporate inclusiveness wherever possible, thus collect disaggregated information on gender and youth;
- Focus on inclusiveness and resilience in our learning agenda as core components;
- Collect spatially disaggregated information on S34D activities, given seed systems have strong localized roots. This will also serve as coordination, collaboration, and co-location tool;
- Use cost-effective measures to collect data by leveraging what other partners have already invested in (example – SSSA programs);
- Leverage both qualitative and quantitative data elements;
- Empower and enable S34D partners to establish and implement monitoring of their own activities on the ground through active collaboration efforts;
- Foster learning and sharing through multiple avenue – anecdotes, videos, blogs, data, etc.;
- Foster and use open data policies and governance; and,
- Provide accountability to USAID, CRS, and S34D partners on the ground.

Figure 3: Monitoring, evaluation, accountability and learning are key to S34D's MEL plan.



This diagram shows the key ways in which monitoring and evaluation (M&E) and accountability and learning (A&L) work together in a MEAL system.

3.3 Assumptions

1) Private sector actors will have interest, willingness, and sufficient incentives to invest in EGS and target crops such that they would have expanded crop portfolios.

2) Suppliers of genetic material meet standards for quality, quantity, and timeliness.

3) Financial institutions and services will see opportunity in investing and supporting seed companies and local businesses.

4) Emerging seed companies and local businesses will build and maintain reputation as reliable borrowers and a sound investment.

5) The trade corridors offer markets that demand sufficient quantity of quality seeds, so that seed businesses for informal seed producers are sustainable.

6) Economic and social conditions are assumed to remain stable over the activity period, though S34D has put in place mechanisms to mitigate normal variations over the activity period.

7) Supportive policies will be key to the implementation of the activity, thus the polices are not expected to negatively deviate from expectations.

8) Governments and other development partners in respective countries are expected to provide support for the planned activities. S34D expects support to continue through the life of the activity and beyond (in terms of the models used).

9) Government (regional and national) policies do not undermine activity objectives or implementation.

10) Environmental factors to remain the same without further deterioration; weather will remain favorable to seed and grain production to test the various activity innovations.

11) Global and national crises events halt work: real-time events, such as Ebola in DRC and increased insecurity in northern Nigeria, could impede or halt some of this work.

12) Last mile seed actors will be sufficiently enthused to drive demand, use, and leverage of ICT tools.

3.4 Monitoring Plan

Gender is an embedded theme in the S34D Activity MEL Plan – it is illustrated through the gender disaggregated outcome and output monitoring indicators, Learning agenda (specifically in learning question 8), and through gender-sensitive analyses under the data management plan.

The draft version of the **Performance Indicator Reference Sheets (PIRS),** associated with indicators, is provided in Annex 6. As the S34D activity unfolds, S34D will develop data collection instruments to update the PIRS, and prioritize data elements and collection efforts based on its use in learning agenda and reporting for ongoing activities and results. S34D envisions the MEL and PIRS to be living documents continuously evolve.

Table 1: Summary of monitoring data groups, by stakeholders.

Stakeholder categories from whom monitoring data will be collected	Groups of monitoring data that will be collected	Collection approaches
Partners at systemic level – parastatals, government, national institutions; NARs; seed associations	Advocacy efforts; institutional analyses; landscaping reports; seed policy road maps; variety release trends; information on seed policy legal and regulatory frameworks; seeds produced	Partner records, surveys, data from implementation efforts through activity records

Stakeholder categories from whom monitoring data will be collected	Groups of monitoring data that will be collected	Collection approaches
Private sector partners (such as seed companies; grain traders)	Crop portfolios (including range of crops including climate smart crops); operational efficiencies; seed produced (including EGS); constraints mitigated; landscaping reports, capacity and organizational assessments	Partner records and surveys; activity records
Cooperatives, seed producers, agro-dealer networks	Amount of seed produced and seed sold by quality types, by variety types; by crop types; by actor types. Capacity assessments.	Partners' data from implementation efforts; surveys; use of ICT (demand aggregator)
Last-mile agents / retailers	Types of crop seeds/varieties are sold where, how much, and by whom; profile of buyers; sustainability of novel approaches to expand retail networks to sell quality seeds and new varieties	Field-based agents along with partners' implementation agents; surveys; ICT; point-of-sale; feedback mechanisms; demand aggregator
Men and women farmers	Level of adoption; level of retention; feedback on quality of seeds; reasons for dis-adoption; desired characteristics	Field surveys; leveraging DNA fingerprinting efforts done by collaborators such as BMGF; PoS mechanisms to collect feedback

Table 2: S34D Results Area and Indicators.

Results Area	Indicator
Goal: Improved functioning of the high-impact integrated seed systems	G1. Number of individuals in the agricultural system who have applied improved practices, technologies, information, innovative models with S34D assistance (FtF EG.3.2-24)
	G2. Number of hectares under improved management practices or technologies with S34D assistance (FtF EG.3.2-25)
Objective I: Increased capacity of seed systems to sustainably offer quality affordable seeds	RES-1: Number of organizations, partners and other entities with increased performance improvement with S34D activity assistance (FtF EG.3.2-29)
IR 1.1 Identified and mitigated constraints in formal seed systems to offer a broad range of crops, high quality seed, and seed business options	RES-2. Number (#) of collaborating seed businesses/actors who have broadened crop portfolios; RES-3: Volume of seed; grain (MT); RES-1: # of organizations, partners, and other entities with increased performance improvement with S34D Activity assistance (FtF EG.3.2-29)
Sub IR 1.1.1 Increase operational efficiency of seed companies	OUT-1. # of seed actors trained; OUT-2: # of individuals participating in the S34D Activity (FtF EG.3.2)
Sub IR 1.1.2 Increase seed availability for climate smart crops through enhancing EGS capacities	OUT-3: # of options reviewed and validated; OUT-2: # of individuals participating in the S34D Program (FtF EG.3.2)
Sub IR 1.1.3 Strengthen capacity of local seed actors to extend customer base and support last mile	OUT-1. # of seed actors trained; OUT-2: # of individuals participating in the S34D Activity (FtF EG.3.2)

Results Area	Indicator
Sub IR 1.1.4 Prototype sustainable models with private sector players to supply quality EGS and QDS to a range of suppliers and scale using innovative financing	OUT-4: Number of models ; OUT-2: # of individuals participating in the S34D Activity (FtF EG.3.2)
IR 1.2 Strengthened capacity of informal seed systems to offer improved quality seeds	RES-3: Volume of seed; grain (MT)
	RES-1: Number of organizations, partners, and other entities with increased performance improvement with S34D Activity assistance (FtF EG. 3.2-29) RES-2. Number of collaborating seed businesses/actors who have broadened crop portfolios;
Sub IR 1.2.1 - Assess informal trader capacity and local seed networks	OUT-5: Number of studies that have fulfilled all criteria
Sub IR 1.2.2 - Strengthen capacity of local seed entrepreneurs and non-traditional seed actors	OUT-2: # of individuals participating in the S34D Activity (FtF EG.3.2) OUT-1. Number of seed actors trained;
Sub IR 1.2.3 - Validate business models to leverage integrated operations with formal enterprises	OUT-2: # of individuals participating in the S34D Activity (FtF EG.3.2) OUT-4: Number of models;
Sub IR 1.2.4 - Strengthen last mile delivery solutions through non-traditional partners and ICT	OUT-2: # of individuals participating in the S34D Activity (FtF EG.3.2) OUT-4: Number of models;
IR 1.3 Strengthened capacity of emergency and humanitarian aid programs to respond effectively to acute and chronic stresses	RES-4: Portfolio of broadened tool-kit and response options for promoting resilience in politically fragile and climate-stressed areas
Sub IR 1.3.1 Assess select emergency and humanitarian past actions: focus on farmer evaluation, new varieties, and markets (local and formal)	OUT-5: Number of studies that have fulfilled all criteria
Sub IR 1.3.2 Catalyze emergency and humanitarian responses (that promote climate resilience, including food, income cover/fodder crops)	OUT-4: Number of models
Sub IR 1.3.3 Develop tools and Information Systems to frame Shock Responsive Models	OUT-6: # of tool-kits tailored for diverse types of shocks
Sub IR 1.3.4 Develop last mile delivery solutions especially for chronic stress areas (small packs, boutiques, WhatsApp seller linkages)	OUT-2: # of individuals participating in the S34D Activity (FtF EG.3.2)
Objective II. Increased collaboration and coordination among all seed system actors and actions	RES-3: Volume of seed; grain (MT); RES-5 Number of linkages and platforms strengthened and/or catalyzed
IR 2.1 Strengthened interface and collaboration between formal and informal seed systems	RES-5 Number of linkages and platforms strengthened and/or catalyzed
	RES-3: Volume of seed; grain (MT)

Results Area	Indicator
Sub IR 2.1.1 Assess local capacity and local seed network to develop strategies to interface, collaborate, and leverage	OUT-5: Number of studies that have fulfilled all criteria
Sub IR 2.1.2 Catalyze / support crop and seed platforms that link formal/informal	OUT-7: # of partnerships formed and/or strengthened
Sub IR 2.1.3 Leverage and link Formal Sector suppliers, NARs and SME breeders, and seed multipliers with local farming communities and professionalized informal seed sellers	OUT-7: # of partnerships formed and/or strengthened
Sub IR 2.1.4 Determine the effect of market-based interventions on seed market operations and last mile delivery systems	OUT-5: Number of studies that have fulfilled all criteria
IR 2.2 Strengthened interface and collaboration between development and relief to resilient and market-based seed systems	RES-6 Number of partnerships interfacing under relief to development sector
Sub IR 2.2.1 Adapt and scale-up Seed System Security Assessments in Feed the Future Crisis Hotspot areas (focus on formal, semi-formal and informal seed systems)	OUT-5: Number of studies that have fulfilled all criteria OUT-1. Number of seed actors trained
Sub IR 2.2.2 Develop and promote emergency and humanitarian responses that link relief to development, especially links to private sector and formal and biodiverse suppliers	OUT-8: Number of actors linked relief to development
Sub IR 2.2.3 Leverage emergency and development seed programs to capture market opportunities from supply side to support vulnerable farmers in less prime market areas.	OUT-9: #crisis sites (where new market approaches for production and distribution of new varieties and quality seeds have been catalyzed)
Sub IR 2.2.4 Develop and test shock-responsive and resilience-based models--by crisis type, crop profile, and broad agro-ecological system	OUT-10: #shock responsive frameworks
CCIR-1 Improved effective policy implementation and regulatory formulation for pluralistic seed systems	RES-7 Number of inclusive seed policy specific dialogues conducted
CCIR 1.1 Develop country specific seed policy road maps	OUT-11: Number of seed policy road maps

Results Area	Indicator
CCIR 1.2 Develop and implement practices to expand / liberalize seed quality possibilities; expand market outlets/venue; address counterfeit seed issues; restrict free seed distribution	OUT-12: Number of policy specific advances in the designated realms facilitated
CCIR 1.3 - Strengthen linkages and coordination of seed development efforts through consolidation of data and evidence	OUT-13: Number of evidence-based seed policy briefings
CCIR-2 Established enhanced quality information flows for seed systems	RES-8. Number of information flows generated with S34D assistance that are systematically used by seed system actors
CCIR 2.1 Institutional and public policy enabled through open, digitized better public information.	OUT-14: Number of information sets digitized and shared in public domain
CCIR 2.2 Develop tools, technologies to capture quality information about seed supply in a geo-referenced manner	OUT-15: Number of ICT-based applications developed/adapted to capture information
CCIR 2.3 Enabling last mile markets for new and quality-assured seed varieties by developing, piloting, adapting, and scaling feed-forward and feedback mechanisms that loop farmers' preferences, as well as provide information on new varieties and quality assured seed	OUT-16: Number of information loops established and / or reinforced; OUT-2: # of individuals participating in the S34D Activity (FtF EG.3.2)

3.5 Evaluation Plan

In year 1, S34D will undertake baseline evaluation for indicators under the monitoring plan that need baselines established. Across all seed systems in IR1.1, IR1.2, and IR1.3 S34D will conduct several scoping and diagnostic studies and produce reports that will additionally benefit the baseline approach in specific regions and interventions. Under the ECR component, CIAT/PABRA with CRS will undertake evaluations of DiNERS. For the learning agenda, S34D will undertake one complete study that cuts across many strategic areas. The study will be on yellow bean dissemination and flow in Tanzania and neighboring countries.

3.6 Learning Agenda

S34D's learning agenda will be guided by USAID's Collaborating, Learning, and Adapting (CLA) model, as well as the March 2019 USAID Feed the Future Learning Agenda.[7] Furthermore, S34D's learning agenda is not designed in isolation, but integrated throughout the programmatic implementation as illustrated in the following groups of strategic questions.

1) *What incentive mechanisms and other operational enhancements do the formal sector players (such as seed companies) need to serve farmers at the last mile?*
   For example, in S34D's program implementation this question will be explored under IRs1.1.1 and 1.1.3. Under IR2.2.3, S34D will encourage livelihood and nutrition fairs (DiNERS) to

[7] https://www.agrilinks.org/sites/default/files/feed-the-future-learningagenda-31819_508.pdf

systematically link with the private sector before, during, and after implementation. Similarly, under IR1.2.4, S34D will partner with NARs and seed companies to test last mile approaches for private seed companies to sell certified seeds at informal seed outlets.

2) *How can S34D encourage formal sector and private sector entities to open market portfolios in terms of the range of crops—towards legumes, minor cereals?*
   This will be explored under IR1.1.2 – increasing seed availability for climate smart crops. Similarly, PABRA, through its business models will focus on multiple crops, particularly legumes (groundnuts, chickpea, and beans) - IR1.2.3.

3) *How can S34D improve the quality of seed (both variety quality and seed quality) at local markets (that is, improve the bulk of seed where farmers purchase)?*
   To address this question, S34D has a multi-pronged approach. S34D will conduct activities to assess and improve storage conditions to improve seed quality; PABRA will use novel business models to create higher-quality seed markets (IR1.2.3); S34D will directly work with seed grain traders to enhance their understanding of seed selection and maintenance; and, S34D will directly conduct analyses of various grades of seeds to look at their cost benefits.

4) *What is the profile of seed security actions that leads to resilience including in emergency conditions?*
   S34D will undertake a global review of NGO seed security actions, and link humanitarian actions to resilience. S34D will also test last-mile approaches in acute and chronic-stress areas which gives farmers greater access to crop varieties and information and examine whether those practices strengthen systems. Additionally, S34D will develop proactively a series of shock-responsive models based on feedback and learnings from on-the-ground practices implemented. This work is centered in IR1.3., 2.2. S34D will test varied responses in high-stress and medium-stress situations, and aim to combine resilience options with market-based solutions (IR2.2).

5) *How can we leverage ICT to help farmers make better and improved choices everywhere, including, at the last mile (and the disadvantaged, marginalized)?*
   S34D will layer ICT tools within our intervention approaches, including pilots for novel business models. Examples include developing applications to aggregate demand for agricultural technologies and practices in a geo-disaggregated manner (CCIR-2.2); developing and using applications at the last mile to monitor sale of small seed packs (CCIR2.3); developing and piloting point-of-sale applications for last mile users to collect feedback on seed quality (CCIR2.3).

6) *Which business models were cost-effective in improving farmers' access to and use of new varieties and quality seeds?*
   Across the formal, informal, and integrated sectors, S34D will look at a range of business models that span countries and growth corridors. S34D suspects business models will be context driven and partially crop specific. IR1.1, IR1.2., IR2.2.3.

7) *To drive inclusive policies and practices, what type evidence and processes are needed to accelerate improvements in seed security?*
   S34D will draw from global insights on seed policies to drive country-specific changes. For example, S34D will have tailored country seed policy road maps and as such, each country seed road map will be different (CCIR1.1). S34D will assess and benchmark costs for QDS and

Standard Seed and document unobserved costs – such as, what are the costs of "no action?" S34D acknowledges that evidence and awareness generation are two distinct approaches and the activity will need to develop clear strategies for each.

8) *Which mechanisms or interfaces enabled greater number of women smallholder farmers to sell, access, and purchase quality seeds, and more frequently?*
Throughout planning, S34D activities have been designed with a gender sensitive lens. For example, S34D will collect gender disaggregated data and conduct gender sensitive analyses where appropriate and relevant; these data and analyses will be used to course correct any strategic actions, if needed. In the learning agenda, through planned business models, S34D will explore how women can have greater opportunities to compete and attract business. Additionally, S34D will work on a range of crops, yet for some crops, such as legumes, women farmers often lead the seed selection and seed quality management. Therefore, if S34D works with women seed actors as the entry point, can the activity achieve greater gains to seed quality increases? S34D will also monitor and learn whether there are any unintended consequences of the models and pilots for women smallholders and women seed actors.

As next steps, we will socialize the learning questions across S34D consortium members, and subsequently develop approaches and plans for exploring each of the questions through programmatic implementation.

In year 1, S34D will undertake a specific learning study that cuts across many of the learning questions. Led by CIAT/PABRA, S34D will study yellow bean dissemination and movement in Tanzania. For example, this activity seeks to better understand how yellow bean seed is moving, and how S34D efforts can systematically and positively speed up movement. S34D also seeks to learn how potential seed is moving – what are the differences (if any) between movements of grain and potential seeds, and who are the actors in each case. How does this movement vary by seed quality—certified, QDS, etc. Do the flows serve rural areas? As S34D is working in corridors, this study will focus on the corridor approach to assess where the flows go.

3.7 Data Management Plan

There are many levels of data under S34D – from field level to national systems, to very specific data at partner levels (seed company data, farmer cooperatives), and partners collect data in various ways. Thus, there is a need to harmonize, compile, analyze, visualize, and present data into information sets that can then serve an array of use cases for multiple stakeholders.

Under S34D, these use cases are:

- data for monitoring and reporting needs (including enabling a near real-time monitoring system);
- data to answer questions identified under the learning agenda;
- data to present additional context for S34D strategy to target interventions; and,
- data to develop an evidence-base for policy and practices.

The audience for such data and information ranges from donor partners to implementation partners, in-country stakeholders and governments, as well as broader seed-sector actors, including anyone who wants to design interventions and implement in seed systems.

To implement the above, S34D needs the following functions:

- data collection (conceptualize, design, and collection efforts);
- data storage and security, especially PII and data protected by non-disclosure agreements;
- data compilation and manipulation;
- data quality assurance and quality control measures;
- generating reports using data analyses, syntheses, and visualization; and,
- a platform for data dissemination.

Data collection: Qualitative and quantitative data will be collected through an array of resources and methods, such as desktop research and studies, consultations with experts, surveys of both partners and institutions, field surveys of farmers and seed producers, and last mile actors. S34D will collect this information in two broad ways: using ICT approaches (such as Dimagi's CommCare, Kobo Tool-kit, SurveyCTO etc.) and non-ICT methods (landscaping reports, assessments, consultations, partner records, etc.).

Given the breadth of S34D, S34D's data will fall into several categories: goal and outcome monitoring indicators; output monitoring indicators; critical contextual data that are not monitoring indicators; and detailed geo-spatial information.

CRS' S34D MEL Technical Advisor will empower S34D partners and collaborators on the ground to collect the necessary data. CRS will facilitate, design, and disseminate the necessary data collection forms using the CommCare platform. Empowering, trusting, and enabling partners on the ground is the most cost-effective and efficient approach to ensure quality data is collected in a timely fashion.

Data collection devices are equipped with Global Positioning System (GPS) to identify the location of where a beneficiary or facility is located, or where a service is delivered. Furthermore, data can be collected without an internet connection.

Data compilation and manipulation: Various forms and instruments will be used to collect data. For example, while some partners will use CommCare platform, others will deploy Kobo Toolkit, and still others will use SurveyCTO. Therefore, data from the varied sources will need to be compiled into usable databases that cater to several purposes and generate use value for stakeholders. The data will be centrally stored in CRS and shared with S34D partners on a routine basis.

Data quality assurance and quality control measures: Annual M&E Data Quality Assessments (DQA), as required by CRS MEAL policies and procedures, ensure data quality, enhance decision-making and accountability, and contribute to learning processes. These assessments include a checklist to monitor the completeness, reliability, and validity of data. Best practices that will be used to support DQA include:

- Plan and budget for DQA;
- Establish data quality check and control points within the data collection and reporting process design;
- Develop data quality competencies of CRS and partner staff;
- Apply a regular internal data quality checklist and report the findings at least once a year;
- Discuss data quality assessment reports, encouraging an objective and open sharing of gaps and weaknesses; and,
- Convert data quality assessment findings into action for improvement.

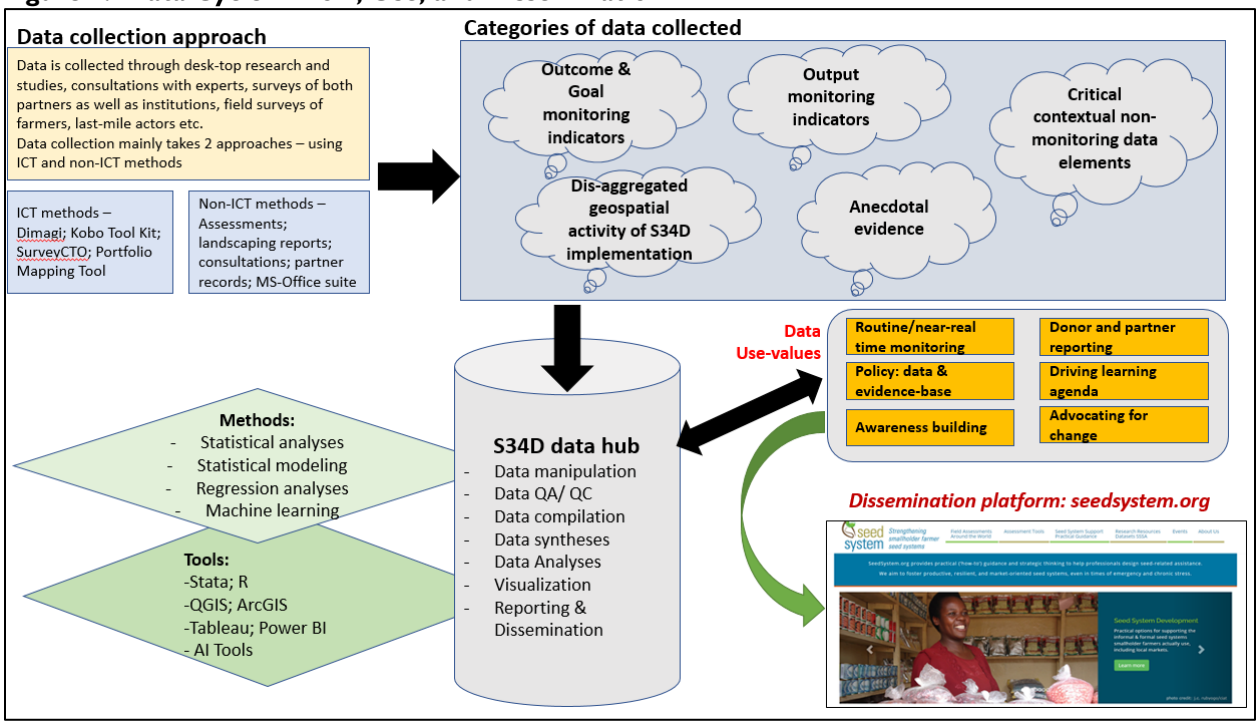
Data will be vetted for quality assurance and control using Stata, SAS or R software. Any corrections needed to data collected through partners will be corrected for, and communicated to partners and data collectors on the ground to prevent errors in future collection efforts.

Generating reports: Using Stata, SAS or R S34D will analyze, synthesize, and report findings through interactive dashboards and narratives. S34D will use visualization tools like PowerBI and Tableau to create near real-time interactive graphics. Reports will include both quantitative and qualitative findings, anecdotal evidence, and stories from the field. Interactive maps will display and share spatial data using QGIS or ArcGIS.

S34D will adapt and deploy an open-source geospatial mapping tool (***Portfolio mapping tool – PMT***)[8] to show who is doing what, where, with whom under S34D in a spatially disaggregated manner. The tool will also demonstrate the outcome and results under S34D. The main goal of PMT will be to enhance coordination, collaboration, and colocation among partners and stakeholders on the ground.

The data-cycle flow, use values, and dissemination is illustrated in figure 2.

Figure 4: Data Cycle -- Flow, Use, and Dissemination



Dissemination and sharing outputs and stories are important components of the entire process. S34D will leverage **seedsystem.org** as the dissemination platform. This approach is both cost effective and efficient as the website is already in operation and has high strike rates.

S34D will disseminate the following:

- compelling case studies of change;
- visual summaries of progress using dashboards;
- spatial mapping of S34D activities and outcomes;
- short blogs stimulating global discussions;

[8] The PMT has been significantly funded primarily by the Bill and Melinda Gates Foundation (BMGF) directly, and through grant partners as an open and flexible means to aggregate, normalize, visualize and summarize data related to the design and implementation of development projects. Current users are AGRA, BMGF, Ethiopian Agricultural Transformation Agency (ATA), GIZ, and others. Since the Tool is already developed and deployed, S34D will put a minimal level-of-effort to adapt, and refine it for its uses. The interactive tool will be accessible to stakeholders from the S34D webpage.

- videos from the field;
- published reports, articles, and any working papers and conference proceedings, including high-level refereed publications; and,
- encourage real-time blogging to discuss and debate salient issues.

3.8 Data privacy and Open data policies

S34D will adhere to the USAID data privacy protection requirements for collection, storage, and sharing of data. S34D will also submit datasets to the USAID's Development Data Library (DDL) per USAID's Open Data policy.[9] More details on the MEL and data management activities can be found in annex 2.

[9] https://www.usaid.gov/data/frequently-asked-questions
https://data.usaid.gov/

4. Other AWP submission requirements

The Branding Strategy and Marking Plan as well as the EMMP are attached to Annex 8 and Annex 9, respectively.

5. Budget Plan (Operations and Financial Management)

The Operations and Finance team is led by S34D's Director of Operations and includes a Finance and Compliance Manager (focused on financial management) at 25% FTE. The Operations and Finance team is responsible for all non-programmatic aspects of the activity, particularly in the areas of grant compliance, human resources, procurement, logistics, budgeting and financial reporting, subcontracting, risk and sub-award management. The operations team is tasked with developing an effective and efficient system of internal controls to allow for and ensure adherence to USG regulations and CRS policies and proper stewardship of activity resources.

The Operations team oversees all aspects of sub-award management, including the drafting of sub-recipient agreements including scopes of work (in conjunction with technical leads), development of budgets, financial monitoring, and assessment of sub-recipients. In addition, the team is responsible for reviewing and processing of agreement modifications, management of consultancy requisitions, including vetting and processing payments, and assisting activity staff with travel, procurement, inventory and asset control, office set up and other logistical support. The Operations team works closely with the CRS Office of Legal Counsel as needed to ensure compliance with award terms and USG regulations, as well as on aspects related to risk management.

The activity submits quarterly financial reports in accordance with award requirements and other additional reporting requirements, including FFATA and Development Exchange Clearinghouse compliance requirements. To comply with the requirements for tracking activity expenditures by country, CRS has designed an activity tracking system with multiple cost centers. As part of this system, staff record time on their timesheets to the applicable cost centers. S34D partners submit financial reports to CRS on a monthly or quarterly basis to ensure that both federal funds and cost share activity expenditures are on track and compliant. The team is also responsible for tracking progress towards achieving the required award cost share obligation.

As country SOWs are further refined, changes to budgets are anticipated. To manage such changes, CRS has a budget maintenance system that requires senior management (i.e. S34D Activity Director) to review and approve budgetary adjustments.

During YR 1 of the activity, guidance will be developed and disseminated to consortium members on technical and financial reporting, cost share management, program orders, program and budget revisions, modifications, consultancy management, and field visit procedures. Additional guidance will continue to roll out during the coming work plan year and disseminated among CRS and partner staff, as part of the development of an S34D activity specific Operations Manual.

Anticipated Risks

Some risks have been articulated within each of the core seed sector narratives above. They generally fall into two major categories; 1) climate vagaries, and 2) governance. While the activity will work to mitigate those risks that are inherent to all farmers, and more so in our "new reality" of global climate change, we must work with our AGRA and national seed association partners to advance policies and regulatory practices and enforcement to create an enabling environment in which investment and risk-taking in the seed sector may thrive. S34D's devotion to insuring highest quality seed at lowest possible cost to "last mile" SHF's will have little meaning and impact if the enabling environment upstream of those end-users does not allow for risk-taking and return on investment in the production of quality EGS. Frequently, efforts to liberalize trade and production in the seed sector have either been stifled or co-opted by vested interests in dominant national political parties, or major financial actors in host countries. Fortunately, S34D is comprised of seasoned staff in these kinds of scenarios, and in the strength of their long-standing organizational platforms in each of the countries in which we anticipate

working. Uneven application and enforcement of regional regulatory agreements, most specifically, seed trade harmonization agreements within COMESA and ECOWAS, will present a challenge to S34D, as they have with all current and previous seed-related projects and programs. Again, S34D will bring its expertise and leverage its efforts with other globally recognized partners to address these barriers to seed trade across national boundaries to lessen the distance between what has been written, and what is practiced on the ground, in terms of liberalized free trade within these economic and trading partners.

Aforementioned in the ECR section, conflict is an obvious risk to anyone living and working in regions of the world that have been subject to civil conflict, or sustained terrorist activities. As US OFDA is a funding partner to the activity's award, and S34D has in-built competencies in emergency response in the seed sector, S34D is pulled toward those areas historically subject to conflict (i.e., South Sudan, northern Nigeria, Kivu region of DRC, etc.). S34D will rely on our experience working in such environments, and in our national and local partners for guidance as to when our presence may present too high a risk at any time. S34D will always coordinate our activities, and be informed by the national Mission's security offices (RSO's) and their advisories.

There are also the risks associated with an activity like S34D that has global aspirations across three major seed system sectors – formal, informal, and ECR. Any one sector alone warrants full attention, or in the case of the APSP (Agriculture Policy Support Activity/Chemonics) activity in Ghana, single focus on just seed policy issues. As USAID is aware, in five years of dedicated effort, APSP found little traction within the Government of Ghana toward major revisions of its seed law, policy or regulations that would further support an "enabling environment" for investment and expansion in the sector. So, S34D has extremely high expectations, and not just within USAID and US OFDA, but also within its prime, CRS. Much was promised in the original proposal and awarding Cooperative Agreement.

Finally, there is the risk that S34D will not be able to discriminate itself from the other donor-driven "seed" related programs that are targeting many of the same countries and regions as is our activity. Most notably, AGRA's PIATA activity is also asking Missions to "buy in" to their seed activity, and as of this writing, the S34D leadership has already met with two Missions (Kenya and Ghana) and been asked "How does your work differ from that of PIATA?" While those with intimate knowledge of S34D can respond to that inquiry with confidence, it will require some educating of our target Missions for them to fully appreciate the discrimination, and exceptional value to their own Mission's portfolio and Global Food Security/Feed the Future programming that the S34D activity can bring.

Staffing Plan

The organogram of the S34D activity is in Annex 7. As noted, the activity has decentralized its programming management elements – Formal Integrated, Informal Integrated, ECR, MEL and Policy – with respective leads. These leads, along with the COP and the Operations Director, comprise the Senior Management Team (SMT). The SMT is in constant dialogue and have reviewed and commented on the draft(s) Work Plans of their S34D collegial programs – exploring linkages and opportunities for further integration. This process will continue through the Life of Activity (LOP). S34D will also create opportunities at least twice annually for regional actors, including collaborating partners (i.e., ICRISAT's AVISA, QualiBasic, AGRA/PIATA, etc.) to gather and explore on-going and potential collaborations.

The S34D consortium is led by CRS, who is represented by the COP. Final decision-making authority rests with the COP. The COP works most directly with the Senior Management Team leadership but is available for consultation at any time with cooperating partners. There are many moving parts to this activity and it is incumbent upon CRS to ensure financial and programming compliance to the donor. Key to this effort are the Operations Director and Senior Advisor/MELPAS. In S34D's enviable case, both are extremely well-qualified and experienced in compliance management of diverse and disparate partnerships such as this one. And, the Operations Manager is moving over from CRS's successful

4Children activity while the Senior Advisor/MEL is coming from a similar global position with a major donor to Africa's seed system development, the BMGF.

As of this submission, the COP, Senior Advisor/MEL, Operations Manager and other Senior Management Team positions have been identified, recruited and employed. Subordinate positions in Policy and MEL and other subordinate positions are anticipated within FY19.

Advisory Committee

Consistent with guidelines specified in the Cooperative Agreement, CRS's management plan includes the formation and engagement of an Advisory Committee (AC) that will serve four distinct functions: 1) provide high-level technical advice support and guidance; 2) receive periodic updates on progress and impact and comment on the steps to meeting workplans; 3) advise on course corrections, when necessary; and 4) signal emerging opportunities. In addition, the AC will serve as a link to the wider seed community and provide transparency into S34D's work. The AC will also help provide a function for ensuring checks and balances within the S34D activity.

The Committee will be comprised of 3-5 (gendered representation) members representing USAID and other actors such as international organizations, academia, and the public and private sectors. In terms of precise composition, the proposal is for the Advisory Committee to include: one member from the Washington-based USAID (US OFDA), one USAID mission representative, an expert in Seed/Plant Genetic Resource Policy (informal, integrated and formal), a member of the African Business Community (with knowledge especially of last mile options), and one other (possibly rotating yearly by thematic need). S34D anticipates that the Committee will meet face-to-face on an annual basis and will schedule this meeting to coincide with sectoral events or conferences to reduce costs. Additional meetings with the Committee will be done virtually. Members might also be consulted on an ad hoc basis for advice on specific technical issues (e.g. practical options for different quality seed types).

Annexes

Annex 1. Elaboration on Award Program Description

1.0 Collaboration and Coordination

Critical to S34D's successful implementation are its shared management and decentralized operational bases, while maintaining a single decision-making center within CRS and its Consortium Partners core team members, as represented by the Chief of Party. Coordination will be insured by the cross-programming between the Formal, Informal and Emergency, Chronic shock and Resilience (ECR) sectors, and through the extended conversations among the sector leaders. These leaders are the Formal Sector lead (the Development Seed Systems Advisor - IFDC), the Informal Sector lead (PABRA Director - CIAT), the Emergency, Chronic shock and Resilience Sector lead (the Emergency and Resilience Seed Systems Advisor - CIAT). The S34D's MEL, Policy and Strategy Sector lead (senior advisor for MEL - CRS) will communicate regularly with her collegial sector leaders on policy and ICT activities, scheduling baselines and setting targets, progress on indicators, leading learning agenda in collaboration with partners, assessing challenges and opportunities. The Senior Advisor for MEL, Policy and Strategy. Each sector lead, which collectively comprise much of the activity's Senior Management Team (SMT), has a responsibility to provide direction to their respective sector implementing partners, and have shared their respective Annual Work Plans with their SMT counterparts for review, comment, and identification of shared programming areas and opportunities for integration.

S34D recognizes the important donor-led investments in the seed sectors in Africa and has already begun expanding on those existing relationships within its Consortium Partners' team, attending regionally recognized and internationally attended seed conferences, and introducing itself to both CRS Country Offices and USAID Missions. We will continue to seek opportunities through the Life of Activity (LOA) to build on those donor-funded seed initiatives, as well as on USAID and US OFDA funded activities co-located within target S34D countries of operation that may have a "seed" programming interest to ensure non-duplication of activities, and whenever possible, leveraging of its technical and financial capabilities with those activities to realize synergies of effort and maximized impacts. Among the most immediate donor-funded seed sector programs and activities that S34D will seek engagement are those listed below in partners' matrix.

Table 3: S34D illustrative collaboration with partners.

Partners	IR 1.1 Formal seed systems	IR 1.2 Informal seed systems	IR 1.3 ECR seed systems	IR 2.1 Linking formal to informal systems	IR 2.2 Interface btw dev & and resilient systems	CC IR 1 Policy for pluralistic seed systems	CC IR 2 Quality information flows for seed systems
Missions 	Support existing portfolios and explore new areas of support through service models	Identify key areas of intervention, as this sector is under-invested and supports non-hybrid crops	Work with missions to support analysis of criteria used for delivery and how to avoid market distortions with free seed	Review full portfolio to gain insights into investments that support / challenge linkage in these systems	Support existing portfolio's and explore new areas of support through service models	Explore options to accelerate ways to improve practices that are supported by Government and private sector	Use existing data from various indexes and ongoing projects to support better sharing of information on seed investments, sales and exchange
	Privatization of EGS. Coordinate to access EGS for maize and beyond; capacity building of NARs	Formalizing informal seed systems in Cassava, Yam, Sweet Potatoes.	Limited options with BMGF but will work to support minimum seed standards with interventions	DNA finger printing for adoption studies;	Free seed distribution – awareness raising	Metrics for seed systems (TASAI, EBA, ASI)	research on varietal adoption; Demand / market forecasting
		QDS implementation	Collaborate on ways to reduce automatic free hand out policies and practices	Platforms and linkages	Supports SSSA and Linking vouchers with seed firms	Evidence – base generation	Collaborative research at the last mile
	Works with formal sector to reach last mile and vulnerable farmers	Diagnostics of informal sector via seed/grain traders; Piloting last mile seed options	SSSAs serve as baseline and action plans. New pre-emptive /response strategies in dev	COP serves as platform across systems. Routine discussions of high-profile seed issues	Guidance for tools, resilient responses; Public access to near real-time data.	Use findings from SSSA's to influence key standards in seed provision	
	Testing bundled seed business models-insurance	Explore ways to support less mature seed sectors, such as legumes, RTB's fodder etc.		Test last mile options for target crops	Exploring free seed issues and ways to avoid market distortions	Regional harmonization efforts	
2SCALE 	Public private partnerships to promote seed supplies; Training to SMEs	Building capacity of informal market entrants such as farmer coops		Linking farmers with micro-credit groups and output traders;			

Partners	IR 1.1 Formal seed systems	IR 1.2 Informal seed systems	IR 1.3 ECR seed systems	IR 2.1 Linking formal to informal systems	IR 2.2 Interface btw dev & and resilient systems	CC IR 1 Policy for pluralistic seed systems	CC IR 2 Quality information flows for seed systems
CGIAR **and NARS**	Coordinate on EGS supply; capacity building of NARs; Training of seed companies. Support improved seed monitoring systems, using digital platforms	EGS for low margin crop seeds, and accelerating varietal turnover	Linking seed of stress tolerant varieties to vulnerable SHF	Works with seed platforms linking formal systems with grain & commodity traders	Focus on climate-smart and nutrient enhanced crops and varieties	DNA Fingerprinting; Generating evidence base	ICT-based novel approaches, such as seed catalogues and seed production and forecasting tools

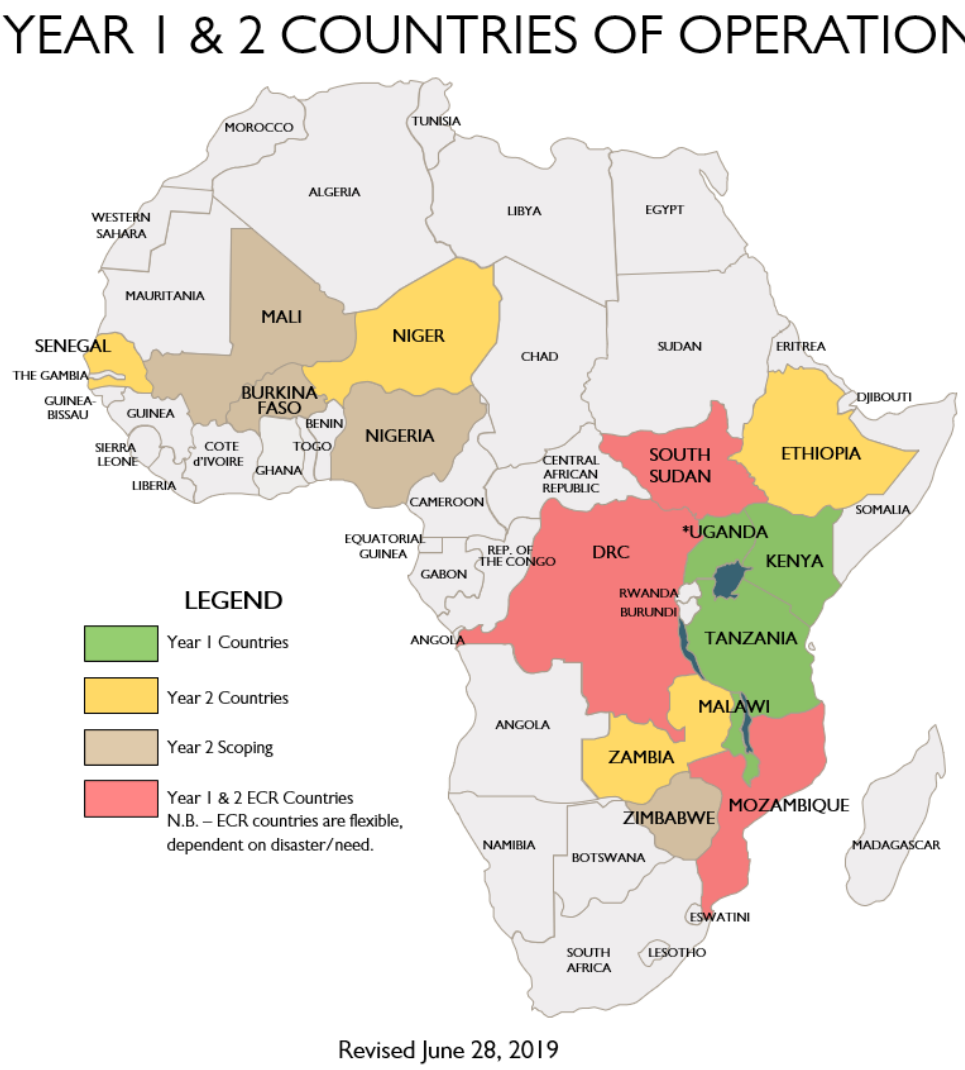
1.1 Crop Focus

S34D will support maize, but place greater emphasis on the production and marketing of legume seeds and stress tolerant crops that will integrate with cereal systems to improve production, nutrition and income. The longer-term objective is to offer farmers a cropping mix that will enhance soil fertility and water management using rotations, intercropping and cover crops.

1.2 Geography

Following S34D's Annual Work Plan planning sessions, held in Nairobi (Oct. 2018), the S34D consortium selected to initiate work on maize-legume systems with interventions along trade corridors in East and West Africa that link several countries (Figure 5 below). The corridor approach will enable the teams to explore and support both national and regional opportunities and achieve greater sectoral efficiency through policy and practice that work across national boundaries. Activities will start within the East African maize-legume production and marketing corridor, specifically in Uganda, Kenya, Tanzania and Malawi. S34D's ECR focus countries are flexible, depending on disaster; potential year 1 and 2 countries are South Sudan, DRC, Uganda, Mozambique and Nigeria.

Figure 5: S34D planned countries of operation in year 1 and 2.



1.3 Market Strategies

S34D will work with target EGS producers from public and private sector to identify ways to improve the capacity, reliability and efficiency of upstream interventions, with the aim of improving the supply of foundation seed to seed multipliers at higher volumes at lower cost. This will enable more seed companies and seed producer groups to provide greater volumes of affordable certified seed to downstream "last mile" end-users – Small-holder Farmers (SHFs). This activity will include the design and prototyping of new financial mechanisms to provide farmers with access to production credit opportunities that will strengthen their ability to buy quality seed. S34D will explore methods for linking informal seed actors, (kiosks sellers, farmer-led seed marketing groups, FBO's, etc.) with Formal Sector seed marketing agents to extend the seed marketing frontier. This will include CGIAR training in identification and marketing of quality seed, exploring ways to use technology to build local client networks and accessing capital for investment in key bottlenecks such as local transportation to extend the reach of Formal Sector seed suppliers to last mile end-users.

S34D's mandate also includes interventions that address chronic and emergency sites where seed distributions have become a mainstay of emergency response programming, and to countries and regions that are subject to habitual food assistance programs. S34D's Emergency, Chronic Stress and Resilience (ECR) programming activities will remain responsive to emerging needs within chronic and conflict-impacted countries and regions. It will also engage and build upon a Community of Practice (CoP) that will proactively seek, review and support changes of policy and practices within the institutional seed buying systems that are inherent to many emergency response programming scenarios. We will fully engage our partnering research organizations (IFDC and PABRA), extending their technical expertise to the seed value chain. This will include working with national seed agencies and NARS, to strengthen the role of farmers in varietal assessment and generation of data to accelerate the release of new varieties, then building the capacity of seed producer groups to support more localized EGS production. This means more farmers are involved in the assessment of new varieties, that are adapted to their local agronomic and nutrition needs. To achieve this S34D will work with EGS suppliers to generate the data to accelerate the release of new varieties, and then support to farmers to multiply more seed for local sales. This will lead into the multiplication and scaling up of sales of certified seed or other recognized seed classes.

We will work with seed production and marketing companies to upgrade their business models, strengthen their business management capacity and with OI support, link target seed companies and agro-dealers to local financial institutions to facilitate access to financing that expands their seed inventories of drought tolerant grains and legume varieties. S34D will start in the bean-legume trade corridor in southwestern Tanzania and northern Malawi, and along the cross-border trading areas between Kenya and Uganda, bringing an integrated effort between CRS, AE, PABRA and IFDC, while leveraging S34D's work with the other major seed initiatives engaged in overlapping geographic spaces. These collaborations will be informed and enriched with market surveys, use of ICT technologies to provide last mile market information to farmers, to support and inform better seed production and market decision-making. Financial services and capital access programming will be supported by Opportunity International (and other donor-led capital access initiatives such as Kenya Investment Mechanism/KIM), and seed company business assessments and management support will be conducted by AgriExperience (AE).

1.4 Service Delivery

The S34D activity is designed to provide seed systems services to support Feed the Future target countries and other countries, including emergency locations. S34D will employ a 'light touch' approach in terms of planned interventions in the initial target countries. S34D's plan is to obtain Mission concurrence and then enter detailed discussions with the Missions to determine how best to align with their ongoing investments. S34D plans to begin implementation with a series of scoping exercises to validate partners, identify critical challenges and gaps, and to identify specific seed services to the

Missions. These services will be based on the original 15 intervention areas outlined in the NFO (see annex 2) with adjustments to account for specific contextual situations by country. As the team builds rapport with the Mission teams and their activities, S34D plans to implement a limited number of core funded activities. Although some of the NFO intervention areas are earmarked as 'Mission funded,' in its first year of implementation, S34D plans to collect data, conduct studies and desk reviews for those Mission-funded interventions to provide Missions with a menu of seed services and tools as "demand services" for the Mission's uptake, and to develop additional work through potential buy-ins to the leader award.

S34D's ECR activities will operate in a slightly different mode, as this work has a more direct route to approval, directly between OFDA and the Missions. The activities will be based on scoping and SSSA studies, meaning the ECR work may proceed quicker. Central and Mission buy-ins to the leader award can support key services to upgrade seed systems within target countries by supporting various activities. S34D will work on efforts that are **directly (D) delivery of a service,** as well as efforts that are **facilitating (F) and providing the groundworks of a service**. The following list is an effort to distinguish between facilitation and direct service delivery. Please note this list is fluid and certain activities could fall under either or both D and F categories.

Key services to upgrade the **formal system** include:

- Characterize and profile formal seed systems actors and customers (F, D);
- Work on a process/model/protype to improve market forecasting and cost estimation (F);
- Support seed production logistics to broaden crop portfolio (F);
- Develop new market strategies with firms and informal seed system players to extend market frontiers for seed (F);
- Create new financing models to support seed inventory (F);
- Utilize DNA fingerprinting, with PABRA, to assess genetic purity of seeds and planting materials (D);
- Research on farmer adoption of new varieties and constraints to adoption (D);
- Harmonize seed systems to facilitate regional seed harmonization protocols (F), and;
- Develop last mile seed business models to support marginalized communities (F, D).

Key services to upgrade the **informal system** include:

- Develop new business models that accelerate production and delivery of higher QDS (F, D);
- Link Seed producer organizations to agro-dealer networks (F, D);
- Explore options for standard seed (non-hybrid crops) (F);
- Develop new market strategies with informal actors to open new sales points and push out market frontiers (D, F);
- Develop sustainable last mile seed business models to support highly vulnerable communities (F, D);
- Provide post-harvest management and technology solutions (F, D).

Key services to upgrade the **ECR seed system** include:

- Conduct emergency Seed System Security Assessments (SSSA) to identify seed constraints and best response interventions (D);
- Develop tools to determine the effect of market-based humanitarian seed interventions to create linkages between buyers and sellers (D);
- Find effective ways to enable vulnerable farmers to test improved varieties, and track quantities and movement of seeds, such as micro-packs (D);
- Develop sustainable last mile seed business models and distribution networks to support highly vulnerable communities (F, D);
- Analyze cash versus vouchers and practices for implementation (F, D).

Key services to seed **policy services** to meet Missions needs include:

- Support government seed road maps where they do not exist to identify gaps and needs (F, D);
- Generate evidence to influence national decision making and facilitate discussions on issues, such as private sector certifications, counterfeiting, free seed distribution; different aspects of seed quality measures (F, D);
- Focus on seed policies and standards that allow for greater liberalization in seed markets (F);
- Conduct barrier analysis to adoption of seed for new varieties (D);
- Raise global awareness to limit free seed distribution to critical needs (F);
- Support measures to stop practices such as marketing counterfeit seeds (F, D);
- Coordinate with seed indices - e.g. EBA, TASAI, Access to Seeds to benchmark and improve seed systems (D, F).
- Enable seed policy by enriching evidence-base through open digitized information, and enhanced information flows about customer profiles and technology adoption at last miles (D, F).

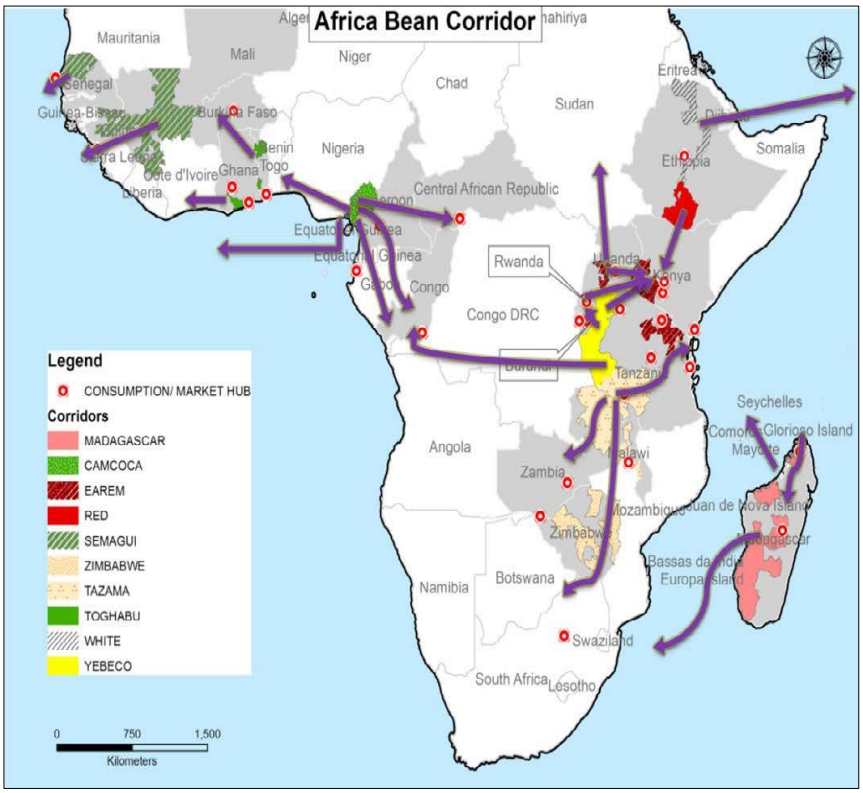
Key services to the **integration of seed systems** include:

- Expand seed systems analysis through a robust learning agenda to identify critical constraints and opportunities between formal and informal sectors (D);
- Support institutional and public policy through digitized public information and supportive evidence-base (F);
- Develop ways to gather information on seed requirements across systems, to support improved market forecasting and avoid market distortions (F);
- Strengthen interface and collaboration between development and relief to resilient seed systems (D);
- Develop and promote emergency and humanitarian responses that link relief to development (D);
- Test new business models that support improved flow of quality seed across seed systems (D, F);
- Drive an evidence-based, inclusive learning agenda that explores innovative questions about various aspects of different seed systems and their integration (D).

1.5 Working in Trade Corridors

The S34D team is keen to explore both national and regional seed systems, given that seed and crop markets are not bound by national borders. The approach aims to build on inter- and intra-country-specific investment portfolios to reach greater numbers of men and women farmers. This work will build on existing gains in formal systems, forge stronger links to informal market channels and find ways to enable informal actors to offer a broader portfolio of quality seed. S34D's initial analysis proposes to start a trade corridor focus in East and West Africa (see Figure 6). The East Africa corridor will support **Kenya**, **Uganda, Tanzania, Malawi (year 1 priority countries), Ethiopia** and Zambia (year 2 countries). The West Africa corridor consists of Senegal, Mali, Niger, Burkina Faso and Nigeria. Target countries in Asia might be Nepal in subsequent years.

Figure 6: S34D will operate in established trade corridors in East Africa.



In Year 2, S34D will continue scoping and engaging with Senegal, Niger, Ethiopia and Zambia. Country engagement justification is discussed in section 1.8. The corridor approach provides the S34D team with opportunities to pilot and scale models across agro-ecologies and explore opportunities to support trade between countries, allowing farmers in one country to benefit from quality seeds of new varieties produced in another country. Additionally, the corridor approach, along with 'diversified products,' is being increasingly utilized by Feed the Future at both the country and regional levels, due to the recognition that smallholder farmers must grow and sell a more diverse range of crops as part of their livelihood strategy. S34D will support the farm level to market shed approach. Positive spill-over effects will be examined in the gender inclusive learning agenda for replication by other implementing partners.

S34D will continue to work in target countries based on discussions with USAID Missions and partners. The team recognizes that the success of the program is based on support through the Missions and working on methods and tools that can be developed in one country, but have applicability in other countries. Cross border trade is particularly important in the seed sector, as this allows for greater regional efficiency in terms of certification; and, perhaps more importantly, regional trade agreements for seed provide the basis for greater phyto-security which is another rapidly emerging area of concern.

1.6 Sectoral Integration

S34D is designed to look at the interfaces among seed systems (formal, informal, emergency) and to push each system to reach wider—to more crops, more geographies, a greater range of clientele—and include a broader set of seed system goals (towards resilience and nutrition, as well as enhanced production and income generation). Several basic observations on the interfaces might be warranted (although the points may be obvious):

1. *Each thrust (formal, informal, ECR) encompasses multiple systems.*

2. *Specific and deliberate activities are programmed across thrusts, even for year 1.*
3. *The ECR and Policy components – at their core – span all systems.*

1. Each thrust (formal, informal, ECR) encompasses multiple systems.

For ease of presentation, and clarity of activity plan per partner, the thrusts are listed as distinct sections in the project text and in accompanying workplan tables. However, the working reality means that each of these sectors is interlinked. The formal sector workplan moves well beyond strictly formal systems, on both the production and delivery sides. For instance, catalyzing quality declared seed systems is central as is delivery (sale) through normal kiosk stores, via mobile satellite vans and through rural based agents (CRS-PASPs, Kuza). The strategies to extend the market frontier of formal seed will be achieved through engaging the informal systems whose base is the community and not the traditional formal sector supply. The classic formal sector work is found in the 'formal thrust' and is housed in 1.1.1 on strengthening seed company efficiency. Yet even here, the seed company training will cross-cut the 'informal thrust,' as this work will also focus on a range of legumes (which are nominally housed in the informal/integrated work).

Similarly, what is labeled the informal thrust encompasses significant activities of formal sector systems: broadening supply of certified seed production, sale in agro-dealer shops, supporting bundled services and stimulating formal distributor networks to sell high quality legumes to a greater range of customers (including vulnerable groups). Therefore, these current formal and informal thrusts already cross boundaries and seed systems.

2. Specific and deliberate activities are programmed across thrusts in year 1.

There are a range of specific activities which are programmed deliberately to integrate systems:

- Seed company efficiency training - across various crops
- Characterizing the corridors (with focus first on beans, groundnuts and scoping on cowpeas)
- Forecasting seed supply - formal, informal
- Testing bundled options (now housed in informal thrust)
- Using varied ICT enabled last mile business models to access new customers and their feedback
- Developing and promoting demand aggregator tools
- Platform building, e.g. first in Uganda and Tanzania and including a farmer cooperative focus

3. The ECR and Policy components at their core span all systems.

The ECR work has to draw on both formal and informal systems to achieve the impacts aspired in year 1. Explicit and novel formal sector ties are analyzing and setting guides with the formal sector in emergency seed relief (both seed companies and public research sector) by exploring cash options in emergency especially on the supply side; and, evaluating emergency response options which tie directly to private sector providers (e.g. DiNERS). The major informal-linked sector focus for year 1 is on the seed/grain traders (also in informal sector), synthesizing what we do know (8+ countries) and then practically exploring how they operate in the S34D foci corridors.

S34D policy work has two distinct thrusts and one of S34D's core aims is to push the seed sector boundaries towards more integrated systems and opening seed marketing venues and seed marketing agents. These new market options will crosscut the formal, informal and emergency seed sectors. Other key objectives are stopping counterfeiting of maize, legumes and other crops (so straddling S34D formal and informal thrusts) and halting or finetuning free seed.

The lion's share of S34D work is internally integrated in each thrust or programmed directly across thrusts. The notion of 'silos' is basically a product of activity presentation on paper only and for partner activity clarity (including budget clarity). S34D's work plans to be fully integrated and this underscores our initial geographic selection where we can initiate integrated activities from the outset. S34D will discuss this integrated strategy with the Missions in May to capture their enthusiasm to consider a more integrated analysis and response to seed systems rather than considering them separately.

1.7 Core Funds & Longer-term Interventions

In year 1, S34D plans to establish a series of activities in target countries which were identified in our initial gap analysis. This work will leverage ongoing work by consortium members, partners, and support intensive work on seed systems by USAID Missions, other private sector actors and governments. The learning from these initial activities in a 'live lab' will help the team learn more about promising new tools that link formal and informal seed systems, and explore new business models and methods to expand last mile delivery of seed to farmers who are currently unable to access quality seed. This work will explore various partnership options with partners in government, other projects and private sector and the learnings from these activities, which may run for two to three seasons (1-2 years) and will offer lessons and results that can be shared globally and integrated into other activities with other Missions. S34D will have a limited number of longer-term activities in a specific corridor, alongside Mission initiated services, which will help support regional learning and identify methods that will have global application.

Examples of initial activities that lead to longer-term sustainability

The planned activities include several examples where S34D will test a promising new approach and build on lessons learned. For each of these strategies, S34D leverages existing corridors and platforms to link up formal, informal and ECR sector partners. This work is likely to take 2-3 years of investment to demonstrate concrete results. However, as these activities are developed, the lessons being learned will be used in other locations and as new models emerge, they can be applied to many other countries. These examples of work meet existing gaps that have been highlighted in the extensive literature on improving seed systems in East Africa. This work will support ongoing initiatives supported by the Missions and will also align with other key actors, such as PIATA, in developing more scalable and sustainable seed methods. The examples cover the following areas:

1. **Building the business capacity of target seed companies:** this work will be carried out with a select number of leading seed firms, to expand the market frontier for their seed sales and find ways to profitably diversify their crop portfolio using a territorial marketing strategy. The work will not only develop training materials, but will also develop a fee for service training program that will be delivered by third party organizations to support future engagement with the seed companies and provide mentoring for learning about and implementing more targeted marketing approaches. Demand for this type of capacity building would target the more progressive seed companies.

2. **Upgrading informal seed sales:** this work will engage in regional value chains to show how a market-based approach to a crop can be upgraded across the input to output market system within and across countries. The work will emphasize strengthening informal actors, who manage the legume seed system, and supporting new methods to improve access to seed by using less costly

seed class options such as standard seed or QDS systems[10]. Furthermore, business models under PABRA (such as the niche-market model) expand market frontiers of seed sales by both actors and venues, thus validating expansion of varietal adoption at the last mile.

3. **Last mile delivery seed models**: the S34D team will test a range of business models to develop commercially viable last mile seed delivery methods using fee-for-service agents and youth agripreneurs. It will also explore ways to accelerate the scaling strategies with digital technologies that will support links between formal and informal sectors and, potentially, these methods will also provide new options in ECR sales points. The methods will be pilot tested for two years and successful components will be linked into ongoing projects and scaled in target countries in years 3-5 with both core and Mission funds.
4. **Global Goods**: there are several global goods that are articulated and produced as outputs under both the ECR component, as well as the Policy component. For example, raising awareness about free-seed distribution; development of joint standards for SSSAs; reviewing formal/private sector links to emergency interventions; global review of seed policies and standards; generating learning and practical evidence on implementation of seed quality standards (standard seed in Kenya) – to name a few. These global goods, just like business models, can be adapted and contextualized to meet needs and fill in gaps in other geographies where seed systems are a factor for agricultural transformation.

To support scaling and sustainability, S34D will expand the learning from pilot projects and replicate successful methods in year two and work with partners to adopt new methods in other locations, where similar opportunities arise. S34D will also collaborate with partners' projects and networks to scale promising methods.

1.8 Mission Engagement

S34D is committed to establishing strong relationships with the country Missions and finding ways of providing them with updates on findings from implemented seed work, and developing ways to meet the seed development needs of the Missions for formal, informal, emergency and policy seed services. S34D will discuss with each Mission successful methods to identify ways of building and scaling ideas into new projects and, where possible, work to identify either buy-ins or Associate Awards that will further sustain more promising activities and outcomes.

As indicated in the cooperative agreement, the activity will initiate work along crop corridors in sub-Saharan Africa. S34D's initial analysis proposes a trade corridor starting with the Missions of Kenya, Uganda, Tanzania and Malawi in East Africa. Specific investments will be made based on Mission interest in Asia, West Africa and Latin America in subsequent years. Strategic and catalytic core-funded initial seed work aims to develop proof-of-concepts, technologies, tools, innovative business models, and with Mission buy-ins and Associate Awards S34D will work with Missions, seed actors and Implementing

[10] Standard seed and Quality Declared Seed (QDS) are both formal classes of seed, that are recognized in Government Seed Policies, but these classes have lower levels of inspection, less rigorous seed specifications and are therefore less costly to produce than certified seed. Both QDS and standard seed are produced from authentic foundation seed, but are designated as a lower quality seed than certified seed. QDS is a seed class that was developed by FAO, to support farmer led seed production in resource poor situations. Sales of QDS are generally restricted to local areas, e.g. within a district or region and are not sold nationally. Standard seed, is a seed class is designed more for use by seed companies. The aim however is similar to QDS, in that these seed are subject to less intensive inspection and less rigorous minimum specifications, but in the case of standard seed can be sold nationally. This seed class reduces costs of production for seed companies and enables them to offer a broader range of crops and varieties, without incurring the full costs of certified seed.

Partners to scale-up proven seed models with to serve smallholders with improved access to quality seeds of a variety of crops.

S34D will initiate activity execution upon receiving concurrence from the USAID Missions, with a set of "light" touch centrally funded activities that will explore the seed status in the target countries, and test some promising seed interventions. In consultation with the Missions, S34D will initiate work that addresses the "seed gap areas" identified by previous studies in the regions and engage in deeper conversations with the Mission, seed actors and in-country Implementing Partners to develop and refine a seed menu-option of services. The target Missions to engage are listed below, and the selection was based on the following set of criteria:

- Geographically located in crop corridor countries;
- Has three types of seed systems and/or policy activities;
- Supports a range of nutritious, high value and resilient crops;
- S34D consortium partners have a relative comparative advantage in those countries;
- Other seed system programs being implemented so collaboration, coordination, and co-location of activities is possible;

With these criteria, S34D has selected first, second- and third-year countries, as well as potential emergency seed response countries.

List of countries

In year 1, the activity plans to start centrally funded operations with Missions in Uganda, Kenya, Tanzania, and Malawi to support the maize-legumes corridor (see Table 2). In West Africa, in year two, the activity will work in the maize-cow-pea corridor, starting in Niger and Senegal and expand the East Africa corridor to Ethiopia and Zambia. In year three, the activity anticipates expanding to more countries in West Africa and East Africa, and potentially in Central America and Asia.

Table 4: Initial list of target Missions and justification for engagement.

Country	Region	FEED THE FUTURE	FFP	PIATA	ECR	Justification for engagement
First phase countries Year 1						
Kenya	East Africa	x	x	x		Target initial countries, within East Africa bean trade corridor. Selected to leverage partner projects and where there are all three seed systems in operation. Site represents live lab to build on existing work, extend the market frontier for formal and informal seeds, test new business models and last mile strategies.
Malawi	East Africa		x	x		
Tanzania	East Africa		x	x		
Uganda	East Africa	x	x	x	x	
Emergency / Chronic Stress Year 1						
Guatemala	Central America	x	x		x	Cash v Vouchers analysis
Mozambique*	East Africa		x	x	x	Possible interventions post Cyclone Idai
Next phase countries Year 2						
Senegal	West Africa	x	x			Partners active and strong history in testing new seed mechanisms
Zambia	East / Southern Africa					Linkage to the maize-bean corridor, using digital seed certification systems, that could help to integrate regional catalogue
Niger	West Africa	x	x		x	Scoping studies build on IFDC operations
Ethiopia	East Africa	x	x	x	x	Build on extensive partner projects
Emergency / Chronic Stress Year 2						

Country	Region	FEED THE FUTURE	FFP	PIATA	ECR	Justification for engagement
Nigeria	West Africa	x	x	x	x	SSSA in North East
Uganda	East Africa	x	x	x	x	SSSA in North Uganda (Refugees SS)
South Sudan	East Africa		x		x	Support to USAID seed distribution
DRC (Kivuu)	Central Africa		x		x	Support on DFSA operations and World Bank interest in seed vouchers
Scoping phase countries Year 2						
Burkina Faso	West Africa		x	x		Links to ongoing projects and interest in Sahelian cropping systems with seed options via private sector and possible links to fodder
Mali	West Africa	x	x	x		Links between formal and emergency seed production, sales and distribution
Zimbabwe	Southern Africa					Support to Farmers interested in fodder crop seed and associated seed systems, to enable farmers to improve their feed systems and feed lots.
Nigeria	West Africa	x	x	x	x	Keen interest in RTB seed systems
Potential next phase countries Asia Year 3						
Bangladesh	Asia	x	x			Prospects to support climate smart crops, particularly drought / flood tolerant rice
Myanmar	Asia		x			Rapid activity development, seeds will be a critical part of the new portfolio
Nepal	Asia	x	x			Interest in diversification beyond rice, strong potato
India	Asia	x				Interest in rice, wheat, potato and maize. Possible linkage with Syngenta foundation
Potential next phase countries West and East Africa Year 3-4						
Ghana	West Africa	x		x		Mission shown interest in learning more
Sierra Leone	West Africa		x			Mission shown interest in learning more
Rwanda	East Africa		x	x		Following up with partners
Somalia	East Africa		x		x	Following up with partners

The activity is forming a menu of seed methods and tools as demand services for Missions' uptake. These services will be contextualized and largely driven by lessons learned. This menu will be presented to and discussed with Missions to highlight how these S34D services could fill gaps and provide expertise that aligns with Mission strategies. Central and Mission buy-ins to the leader award could support key services to upgrade the seed systems within target countries by supporting the activities listed under 1.5 Service delivery.

Steps of engagement

The S34D Mission engagement approach seeks to work with the USAID Missions to gather information on their interests and needs for upgrading and strengthening seed systems. As part of this process, S34D will also maintain close dialogue with our AOR and provide justification to USAID/BFS and OFDA in Washington for our planned engagement as shown in the hierarchy design below.

S34D's initial Mission engagement strategy has five parts: Concurrence, Buy-ins and Associate Awards, Planning, Implementation, and Communication.

Concurrence

The S34D team developed our Mission engagement approach taking into consideration parts of the USAID guidelines.[11] When S34D team members meet people informally at meetings, events, etc., S34D will inform the AOR, who may follow up by providing important background on the activity. Through formal engagements, S34D will work with the AOR, and the COP will request the AOR's support to make initial contact with the Mission. S34D will work through CRS' country program and partners' relationship with the USAID Missions to gauge initial interest in S34D's services. After this initial interest, the AOR could introduce S34D formally to the Mission. S34D will then share potential centrally funded activities with the Mission for their feedback. After the Mission has expressed interest in S34D's centrally funded activities the AOR can assist S34D in establishing a point of contact (POC) with the Mission. After a POC has been established, the COP will follow up with the POC and provide detailed S34D activity information, such as table of proposed work plan activities, factsheet, S34D PowerPoint and country profile. S34D will create room for the Mission to provide feedback on the documents shared, which can be a technical meeting in-country or a remote conference call. The COP, S34D consortium partners or CRS (country program) will set up a meeting with the POC to discuss S34D work plan activities and answer any S34D questions the Mission may have. When the Mission would like to proceed with concurrence, the AOR will send the Mission Concurrence Request (MCR) to the Mission. The POC shepherds the MCR through the internal Mission clearance process. The approved MCR will be sent from the Mission to the AOR who will share with the S34D COP any Mission-specific implementation demands (these demands are most often centered around communication from the project to the Mission and various Mission approval requirements). Before moving forward, S34D will adjust the plans and also gauge the Mission's potential interest for buy ins and Associate Awards that will support the sustainability of S34D activities.

Buy-ins and Associate Award

Once formally introduced and a Mission POC established, S34D will set up a technical meeting with the POC and Mission technical staff to discuss in greater detail potential S34D Mission-funded activities. The meeting may last 30-60 minutes. The COP will inform USAID/Washington, S34D consortium partners and CRS Country Programs about technical meetings with the Mission. The technical meetings will provide an opportunity to socialize S34D goals and provide an outline of the menu of services and methods that S34D can provide across the seed systems, as well as provide the Mission with an update on centrally funded activities. Prior to the meeting, the S34D team will undertake a robust analysis of the existing seed systems situation within a country, potentially through a country visit, and will consult with local partners to review country specific documentation. These documents may include the host

[11] Mission Engagement Playbook, June 2018

government (ag) development strategy, USAID's Country Development Cooperation Strategy, USAID's GFSS Country Strategy, USAID and other implementing partners' activity portfolios, the status of private sector and how S34D complements, differentiates or accelerates existing investments, such as AGRA/PIATA. During the technical meeting, S34D would like to meet with other Implementing Partners and seed actors, and draft a timetable to outline the activity's engagement with the Mission and planning of the strategy meeting. The COP will share the timetable and technical meeting minutes with S34D's AOR.

Based on positive feedback from the Mission, S34D may seek a more detailed implementation meeting with the Mission (1-2 hours), Implementing Partners and other seed actors to discuss proposed activities and elaborate on partner roles and how S34D's services are valuable to USAID's agricultural investment portfolio and development objectives. The objective of this meeting, unless clarified previously, will be to identify and agree on the gaps in seed programming and intervention points that align S34D's program description and results framework. S34D will then identify and recruit relevant seed actors and together draft a concept note to present to the Mission for feedback.

With Mission input, S34D will link its (proposed) activities with the gaps identified and refine the concept note that complements the GFSS Country Plan and additional country specific development plans. This concept note will include activities, budget and justification of how S34D contributes to the USAID Mission objectives and complements other seed investments in the country. The Mission's potential for buy-in to the Leader Award's country specific activities and potential for an Associate Award may be included in the plan. The COP or POC will share this plan with the AOR for feedback from USAID Washington. S34D will include the activities from the Concept Note in S34D's AWP under Mission funded activities. While continuing to implement the centrally funded activities in country, S34D will refine the Mission buy-in activities based upon new information and Mission's feedback.

If Missions are interested in buy-ins, but not necessarily in core-funded activities, S34D will engage with the Mission to develop ideas and concepts for the buy-ins with Implementing Partners and other seed actors, while keeping USAID Washington informed during this process. With the AOR's consent, S34D could assist the Mission in designing the buy-in.

ECR-only work in OFDA countries

The ECR work for year 1 will concentrate mainly on the following: a) global products, for which concurrence is not required; b) selected work in the core S34D countries, for which concurrence was obtained; and, c) a single case in Guatemala, which involved a chronic, not acute stress—and for which discussions with the Mission are ongoing. There has not been a case tested yet for ECR only work in OFDA countries or ECR work for which a rapid action plan might be needed. From the perspective of S34D (for the process for ECR-only work in OFDA countries), both BFS and OFDA must be centrally involved in deciding who needs to be informed and when. Coordination with USAID OFDA is key to make some of the preliminary introductions, if engaging with DART, etc., but also other on-the-ground responders.

Planning

S34D has received concurrence from four Missions – Kenya, Uganda, Tanzania and Malawi. Below is a preliminary timetable for the short-term Mission engagement. The engagement with the Missions, status of concurrence and planned meetings are listed below.

Table 5: S34D's Mission concurrence status by country.

	Initial meeting	Concurrence	Technical meeting	Strategy meeting
Kenya	November 2018	Completed in May	May 21	June-July
Uganda	February 2019	Completed in April	May 23	June-July
Tanzania	Pending	Completed in April	May 22	June-July
Malawi	February 2019	Completed in March	May 28	June-July
Niger	June 2019	TBD	TBD	TBD
Zambia	July 2019	TBD	TBD	TBD
Ethiopia	August 2019	TBD	TBD	TBD
Senegal	August 2019	TBD	TBD	TBD

While engaging with Missions, S34D was asked by USAID Mission staff about the differences between the AGRA's PIATA project and S34D. Some key differences between PIATA and S34D are listed in below table.

Table 6: Differences between AGRA's PIATA and S34D.

AGRA	S34D
AGRA is mainly working on formal seed	Working on Formal, Informal
AGRA is **not** working in emergency / chronic stress	Working on Emergency seed, chronic stress
Single system approach	Looking at how the three seed systems work together
Focus on limited number of crops, bias towards maize	Working on extending efforts for seed in a range of crops

In addition to the differences, S34D is also complementing PIATA. The complementarity options are listed in the table below. A more detailed list of alignment and complementary interventions can be found in Annex 10.

Table 7: S34D alignment and complementarity to AGRA's PIATA.

AGRA Seed Systems Strategic Intervention Areas	Alignment and complementarity with S34D
Improved seed policies at national and regional levels	• Socialize national seed road maps and associated discussions and findings on exactly how to link with AGRA in specific countries. • Provide feedback on implementation of regional harmonization at national levels to fill in knowledge gaps on implementation.
Early Generation Seed Supply	• Link S34D Seed producers to the AGRA seed companies to access good quality starting planting material. • Link up with AGRA efforts so S34D partners and seed producer groups have better access to EGS for a variety of crops.
Expanding certified seed markets	• Link up with willing and able AGRA seed companies to establish, scale last mile efforts under S34D activity. • Link up with AGRA private seed companies to access quality seeds. Coordinate S34D relief-to-development efforts
Increased awareness among local farmers	• Fill in gaps with studies and lessons learnt using data gathered using PoS applications • Expand and accelerate AGRA's efforts of linking seed producer groups with local grain traders and other output market nodes.
Increasing the density and sustainability of agro-dealer networks in key agro-ecologies	• Best to not duplicate agro-dealer support but accelerate and expand in different territories. • Share findings from learning studies to understand customer segments served by the agro-dealers, as well as customer preferences especially smallholders.

Communication

The COP will inform the AOR about the initial contact, progress on discussions with Missions, and shall share all documents in the process and from the technical and strategy meetings and copy AOR in communication with the Missions. Suggestions or input provided by the AOR and the Missions shall be promptly included in our engagement approach. Resources will be set aside to do both desktop research and intelligence gathering, as well as for in-country technical and strategy visits by S34D.

Annex 2. FY19 Annual Workplan Activities and Interventions

Legend to the Activities and Interventions table

NFO Intervention Area

(C = core funded, M = mission funded)

1. Seed Systems Support Services to eliminate or reduce bottlenecks to seed systems development and bottlenecks to seed availability, seed access, and seed quality (M).
2. Diagnostic Assessment of Local Capacity and Local Seed Networks (C, M).
3. Seed Production Logistics Support (M).
4. Shock Responsive Seed Systems for Greater Resilience (C, M).
5. Market forecasting and demand estimation, cost estimation (M).
6. Policy and Regulatory reform implementation, capacity building and other support to national systems (C, M).
7. DNA fingerprinting services to assess genetic purity of seeds and for other uses (C, M).
8. Intervening in both formal and informal seed systems (C, M).
9. Research on farmer adoption of new varieties (C, M).
10. Coordination with various seed indexes — EBA, TASAI, Access to Seeds (C).
11. Transfer of research material between countries and facilitate implementation of regional seed harmonization protocols (M).
12. Seed information, data and analytical services (C, M).
13. Other issues affecting seed systems (C, M).
14. Map/Develop tools to determine the effect of market-based humanitarian seed interventions in the sense of creating linkages between buyers and sellers and in exposing the most vulnerable farmers to new and/or improve varieties, and track quantities and movement of seeds (C).
15. Emergency and development seed programs to support vulnerable smallholder farmers (C, M).

Table A1: Formal Seed Sector Activities

S34D Activity Area	S34D Activities	Geography	S34D Partners (Leads in bold)	Non-S34D Partners	NFO Intervention Areas
IR 1.1 Identified and mitigates constraints in formal seed systems to offer a broad range of crops, high quality seed, and seed business options					
Sub IR 1.1.1 Increase operational efficiency of seed companies					
~~1. Address barriers to operating efficiency with selected seed companies to improve their resilience, and production and management efficiency, in producing of quality seed for a broad range of climate smart varieties and crops, including legumes and other high-nutrition crops within the target trade corridor.~~	~~1.1.1.1 Document firm level needs assessment (comparing existing/on-going interventions towards improving firm efficiency and resilience nature of firms).~~	~~KE, TZ, UG, MW~~	~~**CIMMYT**, AE, CIAT-PABRA~~	~~Private seed companies, local service providers, seed production / efficiency coaches, AGRA, AFSTA, AGRIFIN, USAID mission, DFID.~~	~~1 (M), 2 (C, M)~~
	~~1.1.1.2 Identify potential firms for initial round of coaching, focusing on relevance to formal, Informal, and ECR efforts and prospects for diversification of crops and support to trade in the target trade corridor.~~				~~1 (M), 2 (C, M)~~
	~~1.1.1.3 Identify digital tools currently used by other seed companies (or which have high potential for utilization by seed companies on a country and regional basis); share a profile of the tools for consideration by seed companies.~~				~~1 (M), 2 (C, M)~~
	~~1.1.1.4 Gather, select and develop seed systems materials for coaching from partner organizations – that meet client needs (technical, managerial and territorial marketing strategies) through engagement with internal and external partners.~~	~~KE, TZ, UG, MW~~	~~**CIMMYT**, AE, CIAT-PABRA~~	~~as above~~	~~1 (M), 3 (M)~~
2. Explore new financing options to enable seed firms to expand their access and use of financial service providers (FSPs) to promote greater investment in seed production and sales	1.1.1.5 Develop an inventory of financial services that could be used to expand seed sales from FSPs; document FSPs capacities and constraints specific to financing seed companies. -Update existing inventory (scan) of FSP's developed by AGRA and others, across the 3 sectors in target countries (incl. interest, regulatory constraints, tiers, etc.)	KE, TZ, UG, MW	**OI**, AE, ~~CIMMYT~~, PABRA, CRS	Banks and Financial Institutions	1 (M), 2 (C, M)
Sub IR 1.1.2 Increase seed availability for climate smart crops through enhancing EGS capacities					
~~3. Review and validate options for supporting increased availability of EGS through private sector companies in E&SA~~	~~1.1.2.1 Conduct seed sector landscaping and gap analysis in focus bean/legume corridor countries – drawing on prior EGS studies and most recent research to address the issues / gaps identified.~~	~~KE, TZ, UG, MW~~	~~**CIMMYT**, PABRA, AE, IFDC~~	~~ICRISAT-AVISA/ IITA/NARS, AGRA, STAK, TASTA, STAM, QBS, MOALF-KE, KALRO, BMGF-TZ, USAID missions, MoA-MW, Global Seeds (MW), MUSECO (MW)~~	~~2 (C, M), 3 (M)~~
	~~1.1.2.2 Confirm Formal Sector EGS constraints in target countries, including volumes and crops of concern i.e., demand aggregation details and quality assurance.~~				~~2 (C, M), 3 (M)~~
	~~1.1.2.3 Confirm or identify best entities and channels for sustainably ramping up reliable production of high-quality EGS.~~				~~2 (C, M), 3 (M)~~
	~~1.1.2.4 Identify and document bottlenecks with key entities and channels with recommendations for detailed action.~~				~~2 (C, M), 3 (M)~~
	~~1.1.2.5 Select firms that have the potential to expand into non-maize (legume/bean) production, or are already involved in other non-maize seed production activities~~				~~2 (C, M), 3 (M)~~
Sub IR 1.1.3 Strengthen capacity of local seed actors to extend customer base and support last mile					
4. Co-create last mile delivery strategies / business models to include linkages between agro-dealers and other / new last mile actors (e.g., Tulaa, KUZA and local agripreneurs, kiosks), leveraging existing knowledge	1.1.3.1 Synthesis of existing reports, models and approaches in all bean/legume corridor countries with a focus on last mile actor needs, options for delivery and farmer demand.	KE, TZ, UG, MW	**IFDC,** PABRA, CIMMYT, AE, CRS, KUZA	Agro-dealers, input suppliers, AFAP associations, ICRISAT, AGRA, AfricaLEAD, IFDC partners, Seeds2B	2 (C, M)

and assessments and integrating digital technologies to support market development and scaling.	1.1.3.2 Gather and select coaching materials for adaptation and 're-tooling' for agro dealers to extend their reach to new last mile customers, from various programs – that meet client needs (technical, managerial and marketing).	KE, UG, ~~TZ~~, ~~MW~~	**IFDC**	As above	2 (C, M)
	1.1.3.3 Prepare a list of agro dealers in each of the focus countries ~~– and select cohorts to building their capacities, skills and behaviors to meet emerging last mile demand~~ **Note: Choice of dealers / input suppliers – based on criteria – primarily selected from bean-legume corridor and types of input suppliers involved in those areas*.	KE, TZ, UG, ~~MW~~	**IFDC**	As above	2 (C, M)
	~~1.1.3.4 Identify and recruit an initial cohort of "last mile" input based agri-preneurs to train them in use of a digital toolkit to manage and expand inventory and customer registry and outreach, PoS data collection from last mile actors and feed-back on preferences from farmers~~	~~KE~~	~~**KUZA,** IFDC, PABRA, CIMMYT, AE~~	~~As above~~	~~8 (C, M)~~
	~~1.1.3.5 Develop materials for training courses and materials for coaching last mile cohorts identified in A3 above to meet FSP requirements – towards financing needs~~	~~KE, TZ, UG, MW~~	~~**OI,** All S34D partners~~	~~As above~~	~~8 (C, M)~~
~~5. Preparations for scoping analysis in Niger~~	~~1.1.3.6 Year 1 scoping analysis, in preparation for Year 2 activities in Niger. Leveraging IFDC projects in Niger~~	~~Niger~~	~~**S34D partners**~~		~~1 (M), 2 (C, M), (M)~~
Sub IR 1.1.4 Prototype sustainable models with private sector players to supply quality EGS and QDS to a range of suppliers and scale using innovative financing					
6. Prototype scalable next and last mile options to expand seeds of climate-smart varieties, EGS, QDS and others: marketing promotion for new varieties for Agri-preneurs to compliment IR 1.1.3.	1.1.4.1 Preparatory work to co-create new business models and prototype last mile models for seed delivery of target crops: Identify different prototype options to test and scale next and last mile options and validate feasibility of implementation (e.g. input bundles -seed dressing, and PICS bags including establishing /supporting seed contract farming arrangements, delivery options such as mobile cards, bikes and others etc). – includes demand awareness and knowledge information sharing among farm households in Kenya and Uganda.	KE, UG	**IFDC,** PABRA, OI, KUZA, ~~CIMMYT~~, PURDUE	AGRA, AGMARK, ICRISAT, IITA, KMT, AFAP, Seed firms such as Tulaa, Seeds2B	2 (C, M), 8 (C, M), 13 (C, M)
Sub IR 2.1.1 Assess local capacity and local seed network to develop strategies to interface, collaborate, and leverage					
~~7. Link Formal and Informal Sectors to understand EGS demand needs~~	~~2.1.1.1 Working with PABRA to collect current information about EGS access challenges for high-potential informal sector producers.~~	~~KE, TZ, UG, MW~~	~~**CIMMYT,** other S34D partners~~	~~Community seed multiplication groups, CG Centers, NARS, private firms~~	~~8 (C, M)~~
CCIR1.2 - Develop and implement practices to expand/liberalize seed quality possibilities; expand market outlets/venue; address counterfeit seed issues; restrict free seed distribution					
8. Facilitate implementation of standard seed (formal sector linked with policy).	CCIR 1.2.1 Facilitate meetings between KEPHIS HQ, KEPHIS regional offices, seed companies and other important stakeholders to develop protocols for standard seed production, which will determine crops and outline the inspection process to be followed.	KE	**AE,** CRS	KEPHIS, AGRA, USAID MISSION	6 (C, M)
	CCIR 1.2.2 Dissemination of approved protocols.				
CCIR-2.3 Enabling last mile markets for new and quality-assured seed varieties by developing, piloting, adapting, and scaling feed-forward and feedback mechanisms that loop farmers' preferences, as well as, provide information on new varieties and quality assured seed					
9. Pilot SMS-based farmer feedback loop on seed quality ("Stop Bad Seed").	CCIR 2.3.1 Engage with TOSCI and MoA to get government sanction for pilot. Agree on approach and timing.	TZ	**AE**, IFDC, CRS, ~~CIMMYT~~	TOSCI, BMGF, MoA, TASTA, SMS service provider, Vernacular radio stations	6 (C, M), 12 (C, M), 13 (C, M)
	CCIR 2.3.2 Determine feasibility in-country for necessary SMS system.				
	CCIR 2.3.3 Coordinate with TOSCI, TASTA, and agrodealer association to design and build awareness of tool.				

Table A2: Informal Seed Sector Activities

S34D Activity Area	S34D Activities	Geography	S34D Partners (Leads in bold)	Non-S34D Partners	NFO Intervention Areas
IR 1.2 Strengthened capacity of informal seed systems to offer improved quality seeds					
Sub IR 1.2.1 Assess informal trader capacity and local seed networks					
10. Characterize legume (Yellow Beans) input and output (seed and grain) market (sellers and buyers). The study on yellow bean in the regional bean corridor. (Informal sector linked with policy).	1.2.1.1 Collect secondary data on groundnut; Conduct a study on yellow bean in the regional bean corridor; Action field analysis to plan next steps; Preparatory desk work.	TZ, UG, KE, MW, RWA, BUR, ~~DRC~~	**PABRA,** PURDUE, IFDC, AE, ~~CIMMYT~~	ICRISAT-AVISA, Processors, Seed producer groups, Grain traders, Farmer cooperatives, Policy (cross-border?), NARS	2 (C, M)
11. Identify key seed producers / actors of integrated chain (of informal, QDS, seed companies, etc.) and assess explicit linkages for their interactions	1.2.1.2 Through field interactions/workshop and primarily through deskwork. (Desk work/Report review/Phone calls).	TZ, UG	**PABRA,** PURDUE, IFDC, AE, ~~CIMMYT~~	ISSD, ICRISAT-AVISA, Seed producer groups, Seed associations	2 (C, M)
12. Assess storage and post-harvest management constraints and capacities.	1.2.1.3 Conduct field survey with relevant stakeholders on storage management.	TZ, ~~UG~~	**PURDUE**, PABRA, IFDC, AE, ~~CIMMYT~~, CRS	Seed producer groups, Trader associations, Seed companies, PH technologies distributors	2 (C, M)
13. Conduct scoping studies to identify financial bottlenecks for seed and PH technology providers.	1.2.1.4 Field study and desk reviews.	UG, MW, TZ ~~KE,~~	**OI,** PABRA, IFDC, AE, ~~CIMMYT~~, PURDUE	Financial service providers, Seed companies, Seed producer groups, Agrodealers; PH technologies distributors	2 (C, M)
Sub IR 1.2.2 Strengthen capacity of local seed entrepreneurs and non-traditional seed actors					
~~14. Promote seed enterprises (an integrated set) to market multiple products and technologies (seed along with PH technologies i.e. Bundling)~~	~~1.2.2.1 Expose seed producers (QDS; seed companies and farmer cooperatives / organizations) on establishing seed value chain demos, organize visits and in field days, linking to seed supply, participation in demos and field days. *Based on the identified actors in the above activity: identify capacity gaps/need, identification of demos sites/hosts & technologies, characterization of the demos sites (facilitate the private sector to carry out demos of multiple products)~~	~~UG, KE~~	~~**PABRA,** PURDUE, IFDC, AE, CIMMYT~~	~~Extension SPs, Seed Trade Associations, Seed Producer Groups? Agrodealers~~	~~3 (M), 8 (C, M)~~
Sub IR 1.2.3 Validate business models to leverage integrated operations with formal enterprises					
15. Assess the nature and genetic quality (using DNA fingerprinting) of seed (different grades) and grain of yellow beans produced and traded (Linked to intervention 10).	1.2.3.1 Identify yellow bean varieties that need to be referenced; and develop variety reference.	TZ, UG, KE, MW, RWA, BUR, ~~DRC~~	**PABRA,** IFDC, AE, ~~CIMMYT~~, CRS	Seed producer groups, Seed companies, Seed Trade Associations, ICRISAT and other research institutions linked with other crops	7 (C, M)
~~16. Model 1a (Bundling technologies): Test bundled distribution of quality seed + PHT + seed dressing in the TAZAMA corridor and Uganda corridor i.e. bundling different technologies.~~	~~1.2.3.2 Develop Business plans for intervention of *Model 1a* in partnership with seed companies, PHT vendors, and QDS producers.~~	~~UG~~	~~**PABRA,** PURDUE, IFDC, AE, CIMMYT, CRS~~	~~Agro-input suppliers, Seed companies, Agrodealers, Extension SPs,~~	~~8 (C, M), 13 (C, M)~~

~~17. Model 2: Explore private sector farmer cooperative business model for seed production, delivery, and links to off-takers in Uganda corridor.~~	~~1.2.3.3 Facilitate forums of seed producers in the two corridors to identify target grain production zones, seed requirements; socialize the concept of linking grain and seed production in 2 corridors to agree on the design and implementation of business models in year 2; Develop Business plans for intervention of *Model 2* through discussions with seed companies, farmer cooperatives and grain traders~~	~~UG~~	~~**PABRA,** PURDUE, IFDC, AE, CIMMYT, CRS~~	~~Seed companies, Farmer cooperatives~~	~~8 (C, M), 13 (C, M)~~
~~18. Model 1b (Bundling seeds of different crops): Test bundled cross crop sale and delivery.~~	~~1.2.3.4 Develop business plan for intervention of *Model 1b* through desk review, consultations with seed companies and field visit/surveys.~~	~~KE~~	~~**PABRA,** PURDUE, IFDC, AE,, CRS~~	~~Agrodealers, Seed companies, Seed trade associations~~	~~8 (C, M), 13 (C, M)~~
~~19. Model 3: Facilitate linkages of existing and newly identified seed producers and suppliers (seed companies, QDS and traders) to grain off-takers through platform forums in TAZAMA corridor.~~	~~1.2.3.5 Facilitate forums of seed producers in the two corridors to identify target grain production zones, seed requirements; Socialize the concept of linking grain and seed production in two corrdiors to agree on the design and implementation of business models in year 2; Develop business plan for *Model 3* through multi-stakeholder interactions between grain off-takers and different categories (informal and formal) seed producers and other support services.~~	~~TZ~~	~~**PABRA,** IFDC, OI, AE, CIMMYT, PURDUE, CRS~~	~~Grain processors/off takers, Seed companies, Farmer cooperatives, Policy/Regulatory office~~	~~8 (C, M), 13 (C, M)~~
20. Model 4**:** Explore non-seed distribution and sale niches and climate smart/resilient varieties	1.2.3.6 Validate business plan of Niche model through stakeholder consultative meetings.	KE	**PABRA**	Same as above	8 (C, M), 13 (C, M)
Sub IR 1.2.4 Strengthen last mile delivery solutions through non-traditional partners and ICT					
21. Pilot ICT feedback mechanism from farmers and seed value chain actors (market size, customers' base, preferred pack size, which information is relevant). (linked with ICT and policy)	1.2.4.1 To develop and facilitate the use of tools in the field (including tools for business case, profitability and sustainability). Focus on customer feedback (i.e. CommCare application).	KE	**CRS,** IFDC, AE, OI	Farmer associations, Agrodealer associations, Seed companies, Extension service providers	8 (C, M), 13 (C, M)
~~22. Develop demand aggregator application to aggregate demand for PH tech and seed (i.e. all key seed actors in corridors) in Uganda bean corridors~~	~~1.2.4.2 Development of an application which allows farmer cooperatives and other Farmer-Based Organizations (FBO) to survey their members and collect information in the form of reports about the needs for seeds and other inputs.~~	~~UG~~	~~**Dimagi,** PABRA, PURDUE, IFDC, CIMMYT, AE, CRS~~	~~Grain trader associations, Seed companies,~~	~~8 (C, M), 13 (C, M)~~
IR 2.1 Strengthened interface and collaboration between formal and informal seed systems					
Sub IR 2.1.2 Catalyze / support crop and seed platforms that link formal/informal					
~~23. Catalyze bean and seed platforms to systematically link formal and informal seed systems in Uganda cooperative model/corridor.~~	~~2.1.2.1 Organize and hold workshops to share feedback about seed and grain market characterization; discuss linkages and opportunities (formal/informal); *Model 2 (UG); Model 3 (TZ)*~~	~~UG~~	~~**PABRA,** IFDC, AE, OI~~	~~Same as above~~	~~8 (C, M)~~
Sub IR 2.1.3 Leverage and link Formal Sector suppliers and NARs / breeders with local farming communities and professionalized informal seed sellers					
24. Model 4 (Niche market): Explore non-seed distribution and sale niches and climate smart / resilient varieties (Linked with PoS ICT application and with policy)	2.1.3.1 Test various packs with various customer-bases, backstopping seed companies, develop the tools to capture seed sales and clientele and pack size.	KE	**PABRA, CRS,** IFDC, ~~CIMMYT~~, AE	Same as above	9 (C, M), 12 (C, M), 13 (C, M)

Table A3: Emergency, Chronic Stress and Resilience (ECR) Activities

S34D Activity Area	S34D Activities	Geography	S34D Partners (Leads in bold)	Non-S34D Partners	NFO Intervention Areas
IR 1.3 Strengthened capacity of emergency and humanitarian aid programs to respond effectively to acute and chronic stresses					
Sub IR 1.3.1 Assess select emergency and humanitarian past actions: focus on farmer evaluation, new varieties, and markets (local and formal)					
~~25. Develop new template to insert in all Feed the Future programs- focus on new varieties and market distortion monitoring and evaluation.~~	~~1.3.1.1 Remote, desk-based (in close consultation with AOR); will consult with all components of S34D- to get streamlined template~~	~~Global analysis~~	~~**CIAT**, other S34D partners~~		~~14 (C)~~
26. Cash feasibility analysis linked to seed security interventions.	1.3.1.2 Review prior interventions, consult with Cash Learning Group (UK) and link with markets and emergency group (SEEP).	Global analysis, (but done remotely)	**CRS, HRD, ECR,** CIAT	Consult inl't leaders in Cash and market-based Emergency responses	4 (C, M)
27. Review of Diners and Cash systems – Guatemala (CRS' version of livelihood and nutrition fairs).	1.3.1.3 On-site monitoring and evaluation cash specialist. (interconnects with #28).	Guatemala	**CRS, HRD**, local partners	TBD	4 (C, M)
28. Review learning agenda across countries for DiNERs (CRS version of Livelihood and Nutrition fairs).	1.3.1.4 On-site monitoring and evaluation cash specialist. *Note this activity is funded and implemented by CRS country Programs and has been approved by Donor—S34D is adding a learning agenda component and Techical Research time.	Malawi, Madagascar, Zimbabwe Secondary data insights from: Lesotho, Zambia	**CRS** (with country programs), ECR	TBD	4 (C, M)
IR 2.2 Strengthened interface and collaboration between development and relief to resilient and market-based seed systems					
Sub IR 2.2.1 Adapt and scale-up Seed System Security Assessments in Feed the Future Crisis Hotspot areas (focus on formal, semi-formal and informal seed systems)					
~~29. SSSAs on demand, # possibly Northern Uganda, NE Nigeria (remote support elsewhere).~~	~~2.2.1.1 In teams, CIAT, CRS/ HRD, CRS Country Programs where site-specific links.~~	~~In country (e.g. Nigeria, Uganda) Sites to be verified 'on demand' in real time~~	~~**CRS, CIAT** (heavy involvement OFDA/USAID)~~ -		~~4 (C, M), 14 (C)~~
29 A. Rollout of SSSA course (New Activity)	2.2.1.1 A SSSA rollout with Designer MakeitMove.	Global	**CIAT** (heavy involvement OFDA/USAID		4 (C, M), 14 (C)
~~30. SSSA Field test mobile data collection tool development. SSSA real-time data backstopping, cleaning data sets, remote support~~	~~2.2.1.2 Train pilot staff and conduct pilot.~~	~~Field sites: Kenya first test, then tied to location of SSSAs.~~	~~**CRS, CIAT** (feedback from field partners~~		~~4 (C, M), 14 (C)~~
31. SeedSystem website facilitation, maintenance, upgrading and blogging.	2.2.1.3 Remote with known programmers and facilitators. Website is geared to seed system development of smallholder farmers in emergency, chronic stress and developmental contexts.	Global	**CIAT**		4 (C, M), 14 (C)
32. Develop joint Humanitarian standards (FAO/others) for what constitutes evidenced-based SSSAs	2.2.1.4 Consultation with FAO then facilitated - drawing lessons from comparable processes like Sphere or Livestock Emergency Guidelines and Standards (LEGS).	Globally through consultation, (not field-based). Consult visits to Rome and DC	**CIAT, OFDA** (humanitarian community partners)	UN-FAO, Sphere	4 (C, M), 14 (C)

~~33. Strategic high-level awareness-raising in International Community on SSSA- and seed security-related issues. Includes Free Seed discussions~~	~~2.2.1.5 International presentations at key nodes - e.g. EU/Brussels, ICRC-Switzerland, FAO-Rome, InterAction/US,~~	-	~~**CIAT, OFDA/BFS,** CIMMYT, IFDC~~	~~AGRA, AVISA~~	~~6 (C, M), 12 (C, M)~~
Sub IR 2.2.2 Develop and promote emergency and humanitarian responses that link relief to development, especially links to private sector and formal and biodiverse suppliers					
34. Scoping of current formal/private sector links to emergency interventions (range and roles) including financing approaches.	2.2.2.1 Desk-based work and then site visits.	Globally, 4 core countries (Ke, Tz, Mw, Ug) and high stress (DRC, Nigeria)	**CIAT**, ~~CIMMYT~~, IFDC, AE, CRS		15 (C, M)
35. Review of types of current market approaches support to local markets linked to seed security (humanitarian and development).	2.2.2.2 Desk-based, remote communication. Linked with Cash feasibility work.	Global, core countries, high-stress subset	**CRS/HRD** (markets and Emergency group + seed security experts	UK Cash learning group; Market response group (SEEP)	15 (C, M)
~~36. Original research on informal markets and seed/grain traders in high-stress spots.~~	~~2.2.2.3 Field research with teams to be identified. Hopefully add-ons to informal and ECR work.~~	~~Possibly: N Uganda, Northern Nigeria, Kivu, Kasai, linked to SSSAs,~~	~~**CIAT**, other partners will be site-dependent~~	~~TBD~~	~~15 (C, M)~~
~~37. Review of types of current market approaches support to local markets linked to seed security (humanitarian and development).~~	~~2.2.2.4 Desk-based, remote communication.~~	~~Global, core countries, high-stress subset~~	~~**CIAT**, other partners will be site-dependent~~	~~TBD~~	~~15 (C, M)~~
Sub IR 2.2.3 Leverage emergency and development seed programs to capture market opportunities from supply side to support vulnerable farmers in less prime market areas.					
38. Position paper on free seed definition and scope of inquiry (linked with policy).	2.2.3.1 Part of 7-step approach address the free seed challenge year 1 (see Q+A written for USAID).	Global	**CIAT, OFDA/BFS**	AGRA, AVISA	6 (C, M)

Table A4: Policies, Practices and Regulatory Formulation for Pluralistic Seed Systems

S34D Activity Area	S34D Activities	Geography	S34D Partners (Leads in bold)	Non-S34D Partners	NFO Intervention Areas
CCIR 1.1 Develop country specific seed policy road maps					
39. Develop a seed policy road-map template/ToR to populate and arrive at seed policy road-maps. *Cross-linked with Formal, Informal, and ECR.*	CCIR 1.1.1 Consult USAID, international and national seed policy experts to arrive at an adequate seed policy road-map template that caters to policy topics under S34D	Global	**CRS**, S34D partners	USAID; FAO; Think-tanks; AGRA	6 (C, M)
40. Landscape of core seed policy partners, advisors, and institutions who are aligned and working on policy areas focused under S34D	CCIR 1.1.2 Desk studies, interviews, and some potential site visits, exchanges within networks to arrive at a landscape of which partners are working on the same/similar seed policy issues as that of S34D.	Global	**CRS**, S34D partners	USAID; Africa-ISSD; FAO; AfDB; AGRA; BMGF; AfricaLEAD and others	6 (C, M)
41. Generate a synthesis of the global overview of S34D seed policies and standards by leveraging existing studies, reports, and publications.	CCIR 1.1.3 Combine desk study with field visits and consultations with relevant stakeholders - national and international seed policy experts. Activities 40 and 41 is a global review that will inform formal, informal, and ECR.	Global	**CRS**, CIAT	Donor partners; UN FAO; Think-tanks	6 (C, M), 13 (C, M)
CCIR 1.2 Develop and implement practices to expand / liberalize seed quality possibilities; expand market outlets/venue; address counterfeit seed issues; restrict free seed distribution					
42. Understand policy contexts and build evidence-base to expand market outlets and venues, as well as, expand / liberalize seed quality measures. *Cross-linked with the Informal sector, integrated.*	CCIR 1.2.3 Case on yellow beans in East Africa (with a focus on Tanzania and Uganda). Linked with informal sector --- Activity 10 above.	Global	**CRS, CIAT,** other S34D partners		12 (C, M)
43. First draft a 2-pager on free seed definition and scope of inquiry. *Cross-linked with ECR.*	CCIR 1.2.4 The two pager is for internal S34D use and for USAID partners. Linked with ECR ---- Activity 38.	Global	**CIAT**, CRS		6 (C, M)
44. Conduct program visits to key "donor" and institutional nodes to raise awareness of issues related to free seed distribution. *Cross linked with ECR component (Sub IR 2.2.1).*	CCIR 1.2.5 Site visits followed up by a free seed-distribution community-of-practice stakeholders meeting. We will strengthen the CoP platform to raise awareness and disseminate / share evidence on seed security policies. Linked with ECR ---- Activity 38.	Global	**CIAT**, CRS		12 (C, M)
45. Build evidence-base linked to policy effects and subsequent implementation practices and results.	CCIR 1.2.6 Using data generated through studies and reports undertaken in S34D activities, and data from implementing partners, formulate an evidence-base containing relevant quality information. Linked with Informal sector – Activities 10, 21, 24.	Global	**CRS,** CIAT, IFDC	FAO, USAID, ISSD, AGRA's Policy and Gov't capacity team	12 (C, M)
CCIR 1.3 Strengthen linkages and coordination of seed development efforts through consolidation of data and evidence					
46. Coordinate with TASAI, EBA, and ASI to develop a synthesis of indicators across the three groups for one sample country.	CCIR 1.3.1 Review the indicators for one geography across TASAI, EBA, and ASI to understand how to tell a narrative about the seed sector using the available metrics and indices. Identify gaps and potential for improvement. Conduct a workshop to socialize and present findings.	Global	**CRS,** other S34D partners	BMGF, USAID, TASAI, ASI, World Bank, IFPRI	10 (C)
47. Conduct a workshop to socialize and present findings.	CCIR 1.3.2 Facilitate and coordinate with donor-partners, and other relevant stakholders.	Global	**CRS,** other S34D partners	BMGF, USAID, TASAI, ASI, World Bank, IFPRI; Development Gateway	10 (C)

Table A5: ICT Activities

S34D Activity Area	S34D Activities	Geography	S34D Partners (Leads in bold)	Non-S34D Partners	NFO Intervention Areas
CCIR 2.3 Enabling last mile markets for new and quality-assured seed varieties by developing, piloting, adapting, and scaling feed-forward and feedback mechanisms that loop farmers' preferences, as well as, provide information on new varieties and quality assured seed					
48. Develop a comprehensive MLE (Monitoring, Learning and Evaluation) Tool to monitor the use of small packs (market size, customers base, preferred pack size, which information is relevant) for use in PABRA's Niche market business model	CCIR 2.3.4 Development of a comprehensive Monitoring, Learning and Evaluation (MLE) tool using CommCare platform as the data collection form to monitor the usage of small packs, and sale of new bio-fortified bean varieties. Linked with 21, 24.	KE	**CRS, PABRA**	Dimagi and TBD	9 (C, M), 12 (C, M), 13 (C, M)

Table A6. MEL Activities and Data Plans

Planned activities	Approach to activities	Expected Deliverables / Results	S34D Partners	Outputs / Outcome
1. Develop and submit draft Performance Indicator Reference Sheets	Using GFSS indicator handbook, USAID technical guidance, review and feedback of work plan from USAID, and consultation with S34D partners (as need be); Discuss indicator details with consortium members and USAID, balancing rigor and feasibility. We will consult CRS' staff on internal indicator harmonization efforts.	PIRS with performance indicator summary tables per USAID guided formats. PIRs will reflect data disaggregation by gender, geography etc.	Consultation with S34D partners to agree on indicator granularities - especially on incorporating gender. Socialize PIRs (once approved by USAID) with S34D partners so that indicators' implementation and measurement efforts are harmonized	Comprehensive indicator reference sheets for all outcome and output indicators, detailing definitions, calculations, purpose, frequency of collection and analysis, responsibility for collection and analysis, use and reporting outlets, etc.
2.Conduct a data landscaping to produce data maps for S34D	Link each of the indicators to the specific sub-IR. This will show the process and the individual elements that will lead to aggregated value for the indicators.	Data table / inventory containing variables and data elements by IR, activity, partner etc. A) Result a data matrix that details comprehensive list of variables. B) Second output is how this matrix overlaps with the MEL indicators. What sources and nodes provide information. Identify gaps and needs.	Socialize relevant portions of the data map with partners and identify data collection points, frequencies, approaches etc. Consultation with S34D partners to agree on indicator granularities - especially on incorporating gender, youth, and spatial disaggregation	Detailed data map/matrix. Identified data source for each of the indicators and mapped to the S34D Activities.
3. Operationalize the performance indicators	a) Consult with S34D partners to identify partner-staff to work with b) Using the data maps, socialize what is needed from partners c) in consultation with partners, develop data collection forms and templates d) transfer conceptual design into actual forms on CommCare d) deploy tablets and mobile devices e) train partners and staff on using CommCare f) Test collection systems	Researched and mapped data sources, frequencies, and locations	Group indicators that have similar sources, frequencies and locations into workflows; Collaborate with consortium to seek feedback on workflows	Establish work flow and full cycle to populate data for the agreed upon S34D performance indicators

	g) Work with partners to develop targets at Activity levels			
4. Compile and disseminate S34D MEL plan and guidelines handbook	Compile various outputs above, and use CRS internal MEL policy guidelines	S34D MEL Handbook	Socialize and raise awareness amongst S34D partners to harmonize MEL approaches and measurement efforts	S34D MEL and Data Handbook
5. Baseline scenarios - needs assessment and filling in information	Based on data and indicator mapping, work with S34D partners to develop and implement a strategy to fill in information for baseline values	Quantitative and qualitative baseline information for performance indicators, as well as, any other contextual elements	All S34D partners (Coordination nodes: IFDC, CIAT/PABRA)	Populated baseline values for indicators
~~6.Setting targets~~	~~After baseline evaluation, consult with partners to set annual and 5-year targets. Information from targets set at activity levels will be used to arrive at higher outcome targets.~~	~~Annual and 5-year targets~~	~~S34D partners~~	~~established targets and goals~~
7. Operationalize the learning agenda	a) Using March 2019 Final draft of FtF Learning Agenda, S34D learning agenda is confirmed. b) Socialize the learning agenda with partners. c)Map S34D activities to the learning questions. d) Studies to undertake in year 1 identified and initiated desktop research and Skype calls with relevant partners – case of yellow bean dissemination	Socialized and established learning questions for s34D strategy including emphasis on gender and resilience	S34D partners	S34D Strategic Learning Agenda. Learning study: Case of yellow beans (to be completed by year 1)
8. Create a portfolio with anecdotal stories. Small Vignettes with messages.	Use a monthly collection process of interesting anecdotes etc. from our partners.	Portfolio of anecdotal stories	S34D partners	At least 5 anecdotal stories generated and shared.

~~9. Spatial mapping of S34D investment activities and activity outcomes~~	~~Geo-spatially map out locations where S34D activities are taking place, and spatially map out the outcomes. We will collect geo-disaggregated information both on investments, implementation efforts, and resulted outcomes. We will use an open source geo-spatial mapping platform (that was pioneered by BMGF and currently used by MCC, World Bank, few NGOs etc.)~~	~~A geo-spatial mapping tool that fosters coordination, co-location, and collaboration of activities and understanding of S34D Activity. Information is updated real-time. Few key staff from partners will be trained on the tool.~~	~~S34D partners~~	~~Established platform with spatial display on both investment activities, and associated outcomes taken under S34D program up to Sep 2019. The platform will be accessible on the S34D webpage.~~
10. Annual reporting	Collect, compile, and report on indicators and learnings to comply with annual reporting procedures	Comprehensive annual report	S34D partners	1 Comprehensive annual report
11. Incubate a CRS-led data-hub for S34D Activity	Leveraging work done by CRS under MEL, develop a data dictionary necessary for MEL, knowledge management, and for building an evidence base for policy and practices Establish a process to combine all data generated across all ICT tools used under S34D activity Data manipulation, analyses; modeling; visualization; reporting; building storyboards etc.	An established data hub	Consult with, and enable partners to collect data in a harmonized manner for further compilation and analyses	Established data-hub with clear data processes and cycles in collaboration with S34D partners

Annex 3. Detailed Implementation Plan

Table B1: Formal Sector

S34D Intervention Area	S34D Activities	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
IR 1.1 Identified and mitigates constraints in formal seed systems to offer a broad range of crops, high quality seed, and seed business options														
Sub IR 1.1.1 Increase operational efficiency of seed companies														
~~1. Address barriers to operating efficiency with selected seed companies to improve their resilience, and production and management efficiency, in producing of quality seed for a broad range of climate smart varieties and crops, including legumes and other high-nutrition crops within the target trade corridor.~~	~~1.1.1.1 Document firm level needs assessment (comparing existing/on-going interventions towards improving firm efficiency and resilience nature of firms)~~	-	-	-	-				-	-	~~x~~	~~x~~	~~x~~	~~x~~
	~~1.1.1.2 Identify potential firms for initial round of coaching, focusing on relevance to formal, Informal, and ECR efforts and prospects for diversification of crops and support to trade in the target trade corridor.~~	-	-	-	-				-	-		~~x~~	~~x~~	~~x~~
	~~1.1.1.3 Identify digital tools currently used by other seed companies (or which have high potential for utilization by seed companies on a country and regional basis); share a profile of the tools for consideration by seed companies.~~	-	-	-	-	-	-	-				~~x~~	~~x~~	~~x~~
	~~1.1.1.4 Gather, select and develop seed systems materials for coaching from partner organizations – that meet client needs (technical, managerial and territorial marketing strategies) through engagement with internal and external partners.~~											~~x~~	~~x~~	~~x~~
2. Explore new financing options to enable seed firms to expand their access and use of financial service providers (FSPs) to promote greater investment in seed production and sales	1.1.1.5 Develop an inventory of financial services that could be used to expand seed sales from FSPs; document FSPs capacities and constraints specific to financing seed companies. -Update existing inventory (scan) of FSP's developed by AGRA and others, across the 3 sectors in target countries (incl. interest, regulatory constraints, tiers, etc.)										x	x	x	X
Sub IR 1.1.2 Increase seed availability for climate smart crops through enhancing EGS capacities														
3. Review and validate options for supporting increased availability of EGS through private sector companies in E&SA	~~1.1.2.1 Conduct seed sector landscaping and gap analysis in focus bean/legume corridor countries – drawing on prior EGS studies and most recent research to address the issues / gaps identified.~~	-	-	-	-	-	-			~~x~~	~~x~~	~~x~~	~~x~~	~~X~~
	~~1.1.2.2 Confirm Formal Sector EGS constraints in target countries, including volumes and crops of concern i.e., demand aggregation details and quality assurance.~~									~~x~~	~~x~~	~~x~~	~~x~~	~~X~~
	~~1.1.2.3 Confirm or identify best entities and channels for sustainably ramping up reliable production of high-quality EGS.~~									~~x~~	~~x~~	~~x~~	~~x~~	~~X~~
	~~1.1.2.4 Identify and document bottlenecks with key entities and channels with recommendations for detailed action.~~	-	-	-	-	-	-			~~x~~	~~x~~	~~x~~	~~x~~	~~x~~
	~~1.1.2.5 Select firms that have the potential to expand into non-maize (legume/bean) production, or are already involved in other non-maize seed production activities~~	-	-	-					-	~~x~~	~~x~~	~~x~~	~~x~~	~~x~~
3a. Scope options for supporting increased availability of certified / standard /QDS seed through	~~1.1.2.6 Attend AGRA's 10K Seed Conference in Ghana as a key opportunity to meet with seed companies and donors to engage and understand potential EGS production activities and scoping for Year 2~~	-	-	-	~~x~~	-	-	-	-	-	-	-	-	-

private sector companies in E&SA														
Sub IR 1.1.3 Strengthen capacity of local seed actors to extend customer base and support last mile														
4. Co-create last mile delivery strategies / business models to include linkages between agro-dealers and other / new last mile actors (e.g., Tulaa, KUZA and local agripreneurs, kiosks), leveraging existing knowledge and assessments and integrating digital technologies to support market development and scaling.	1.1.3.1 Synthesis of existing reports, models and approaches in all bean/legume corridor countries with a focus on last mile actor needs, options for delivery and farmer demand.								x	x	x	x	x	X
	1.1.3.2 Gather and select coaching materials for adaptation and 're-tooling' for agro dealers to extend their reach to new last mile customers, from various programs – that meet client needs (technical, managerial and marketing).									x	x	x	x	X
	1.1.3.3 Prepare a list of agro dealers in each of the focus countries ~~– and select cohorts to building their capacities, skills and behaviors to meet emerging last mile demand~~ **Note: Choice of dealers / input suppliers – based on criteria – primarily selected from bean-legume corridor and types of input suppliers involved in those areas*.										x	x	x	x
	~~1.1.3.4 Identify and recruit an initial cohort of "last mile" input based agri-preneurs to train them in use of a digital toolkit to manage and expand inventory and customer registry and outreach, PoS data collection from last mile actors and feed-back on preferences from farmers~~													
	~~1.1.3.5 Develop materials for training courses and materials for coaching last mile cohorts identified in A3 above to meet FSP requirements – towards financing needs~~													
~~5. Preparations for scoping analysis in Niger~~	~~1.1.3.6 Year 1 scoping analysis, in preparation for Year 2 activities in Niger. Leveraging IFDC projects in Niger~~													
Sub IR 1.1.4 Prototype sustainable models with private sector players to supply quality EGS and QDS to a range of suppliers and scale using innovative financing														
6. Prototype scalable next and last mile options to expand seeds of climate-smart varieties, EGS, QDS and others: marketing promotion for new varieties for Agri-preneurs to compliment IR 1.1.3.	1.1.4.1 Preparatory work to co-create new business models and prototype last mile models for seed delivery of target crops: Identify different prototype options to test and scale next and last mile options and validate feasibility of implementation (e.g. input bundles -seed dressing, and PICS bags including establishing /supporting seed contract farming arrangements, delivery options such as mobile cards, bikes and others etc.). – includes demand awareness and knowledge information sharing among farm households in Kenya and Uganda.											x	x	x
Sub IR 2.1.1 Assess local capacity and local seed network to develop strategies to interface, collaborate, and leverage														
~~7. Link Formal and Informal Sectors to understand EGS demand needs~~	~~2.1.1.1 Working with PABRA to collect current information about EGS access challenges for high-potential informal sector producers.~~													

CCIR1.2 - Develop and implement practices to expand/liberalize seed quality possibilities; expand market outlets/venue; address counterfeit seed issues; restrict free seed distribution															
8. Facilitate implementation of standard seed.	CCIR 1.2.1 Facilitate meetings between KEPHIS HQ, KEPHIS regional offices, seed companies and other important stakeholders to develop protocols for standard seed production, which will determine crops and outline the inspection process to be followed.								x	x	x	x	x	X
	CCIR 1.2.2 Dissemination of approved protocols.								x	x	x	x	x	X
CCIR-2.3 Enabling last mile markets for new and quality-assured seed varieties by developing, piloting, adapting, and scaling feed-forward and feedback mechanisms that loop farmers' preferences, as well as, provide information on new varieties and quality assured seed															
9. Pilot SMS-based farmer feedback loop on seed quality ("Stop Bad Seed"). *Cross-linked with the Formal Sector (Sub IR 2.1.1)*	CCIR 2.3.1 Engage with TOSCI and MoA to get government sanction for pilot. Agree on approach and timing.								x	x	x	x	x	X
	CCIR 2.3.2 Determine feasibility in-country for necessary SMS system								x	x	x	x	x	X
	CCIR 2.3.3 Coordinate with TOSCI, TASTA, and agrodealer association to design and build awareness of tool								x	x	x	x	x	X

Table B2: Informal Sector

S34D Intervention Area	S34D Activities	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
IR1.2 Strengthened capacity of informal seed systems to offer improved quality seeds														
Sub IR 1.2.1 Assess informal trader capacity and local seed networks														
10. Characterize legume (Yellow Beans) input and output (seed and grain) market (sellers and buyers) (The study on yellow bean in the regional bean corridor).	1.2.1.1 Collect secondary data on groundnut; Conduct a study on yellow bean in the regional bean corridor; Action field analysis to plan next steps; Preparatory desk work.								x	x	x	x	x	X
11. Identify key seed producers / actors of integrated chain (of informal, QDS, seed companies, etc.) and assess explicit linkages for their interactions	1.2.1.2 Through field interactions/workshop and primarily through deskwork. (Desk work/Report review/Phone calls)								x	x	x			
12. Assess storage and post-harvest management constraints and capacities.	1.2.1.3 Conduct field survey with relevant stakeholders on storage management.								x	x	x	x	x	X
13. Conduct scoping studies to identify financial bottlenecks for seed and PH technology providers.	1.2.1.4 Field study and desk reviews.								x	x	x	x		
Sub IR 1.2.2 Strengthen capacity of local seed entrepreneurs and non-traditional seed actors														
~~14. Promote seed enterprises (an integrated set) to market multiple products and technologies (seed along with PH technologies i.e. Bundling)~~	~~1.2.2.1 Expose seed producers (QDS; seed companies and farmer cooperatives / organizations) on establishing seed value chain demos, organize visits and in field days, linking to seed supply, participation in demos and field days. *Based on the identified actors in the above activity: identify capacity gaps/need, identification of demos sites/hosts & technologies, characterization of the demos sites (facilitate the private sector to carry out demos of multiple products)~~													
Sub IR 1.2.3 Validate business models to leverage integrated operations with formal enterprises														
~~15. Assess the nature and genetic quality (using DNA fingerprinting) of seed (different grades) and grain of yellow beans produced and traded (Linked to intervention 10).~~	~~1.2.3.1 Identify yellow bean varieties that need to be referenced; and develop variety reference.~~	-	-	-	-				~~x~~	~~x~~	~~x~~	~~x~~	~~x~~	~~X~~
~~16. Model 1a (Bundling technologies): Test bundled distribution of quality seed + PHT + seed dressing in the TAZAMA corridor and Uganda corridor i.e. bundling different technologies.~~	~~1.2.3.2 Develop Business plans for intervention of *Model 1a* in partnership with seed companies, PHT vendors, and QDS producers.~~													

~~17. Model 2: Explore private sector farmer cooperative business model for seed production, delivery, and links to off takers in Uganda corridor.~~	~~1.2.3.3 Facilitate forums of seed producers in the two corridors to identify target grain production zones, seed requirements; socialize the concept of linking grain and seed production in 2 corridors to agree on the design and implementation of business models in year 2; Develop Business plans for intervention of *Model 2* through discussions with seed companies, farmer cooperatives and grain traders~~													
~~18. Model 1b (Bundling seeds of different crops): Test bundled cross crop sale and delivery.~~	~~1.2.3.4 Develop business plan for intervention of *Model 1b* through desk review, consultations with seed companies and field visit/surveys.~~													
~~19. Model 3: Facilitate linkages of existing and newly identified seed producers and suppliers (seed companies, QDS and traders) to grain off takers through platform forums in TAZAMA corridor.~~	~~1.2.3.5 Facilitate forums of seed producers in the two corridors to identify target grain production zones, seed requirements; Socialize the concept of linking grain and seed production in two corridors to agree on the design and implementation of business models in year 2; Develop business plan for *Model 3* through multi-stakeholder interactions between grain off takers and different categories (informal and formal) seed producers and other support services.~~													
20. Model 4**:** Explore non-seed distribution and sale niches and climate smart/resilient varieties	1.2.3.6 Validate business plan of Niche model through stakeholder consultative meetings.								x	x	x	x	x	X
Sub IR 1.2.4 Strengthen last mile delivery solutions through non-traditional partners and ICT														
21. Pilot ICT feedback mechanism from farmers and seed value chain actors (market size, customers' base, preferred pack size, which information is relevant).	1.2.4.1 To develop and facilitate the use of tools in the field (including tools for business case, profitability and sustainability). Focus on customer feedback (i.e. CommCare application)								x	x	x	x	x	X
~~22. Develop demand aggregator application to aggregate demand for PH tech and seed (i.e. all key seed actors in corridors) in Uganda bean corridors~~	~~1.2.4.2 Development of an application which allows farmer cooperatives and other Farmer-Based Organizations (FBO) to survey their members and collect information in the form of reports about the needs for seeds and other inputs.~~													
IR2.1 Strengthened interface and collaboration between formal and informal seed systems														
Sub IR 2.1.2 Catalyze / support crop and seed platforms that link formal/informal														
~~23. Catalyze bean and seed platforms to systematically link formal and informal seed systems in Uganda cooperative model/corridor.~~	~~2.1.2.1 Organize and hold workshops to share feedback about seed and grain market characterization; discuss linkages and opportunities (formal/informal); *Model 2 (UG); Model 3 (TZ)*~~													
Sub IR 2.1.3 Leverage and link Formal Sector suppliers and NARs / breeders with local farming communities and professionalized informal seed sellers														
24. Model 4 (Niche market): Explore non-seed distribution and sale niches and climate smart / resilient varieties (Linked with	2.1.3.1 Test various packs with various customer-bases, backstopping seed companies, develop the tools to capture seed sales and clientele and pack size								x	x	x	x	x	X

PoS ICT application under IR1.2.4)														

Table B3: ECR Component

S34D Intervention Area	S34D Activities	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
IR 1.3 Strengthened capacity of emergency and humanitarian aid programs to respond effectively to acute and chronic stresses														
Sub IR 1.3.1 Assess select emergency and humanitarian past actions: focus on farmer evaluation, new varieties, and markets (local and formal)														
~~25. Develop new template to insert in all Feed the Future programs- focus on new varieties and market distortion monitoring and evaluation.~~	~~1.3.1.1 Remote, desk based (in close consultation with AOR); will consult with all components of S34D- to get streamlined template~~													
26. Cash feasibility analysis linked to seed security interventions.	1.3.1.2 Review prior interventions, consult with Cash Learning Group (UK) and link with markets and emergency group. (SEEP…)									x	x	x	x	X
27. Review of DiNERS and Cash systems – Guatemala (CRS' version of livelihood and nutrition fairs).	1.3.1.3 On-site monitoring and evaluation cash specialist. (interconnects with #28).									x	x	x	x	X
28. Review learning agenda across countries for DiNERS (CRS version of Livelihood and Nutrition fairs).	1.3.1.4 On-site monitoring and evaluation cash specialist. *Note this activity is funded and implemented by CRS country Programs and has been approved by Donor—S34D is adding a learning agenda component and Technical Research time.									x	x	x	x	X
IR 2.2 Strengthened interface and collaboration between development and relief to resilient and market-based seed systems														
Sub IR 2.2.1 Adapt and scale-up Seed System Security Assessments in Feed the Future Crisis Hotspot areas (focus on formal, semi-formal and informal seed systems)														
~~29. SSSAs on demand, # possibly Northern Uganda, NE Nigeria (remote support elsewhere)~~	~~2.2.1.1 In teams, CIAT, CRS/ HRD, CRS Country Programs where site-specific links~~													
29 A. Rollout of SSSA course (New Activity)	2.2.1.1 A SSSA Rollout with Designer MakeitMove.									x	x	x	x	X
~~30. SSSA Field test mobile data collection tool development. SSSA real-time data backstopping, cleaning data sets, remote support~~	~~2.2.1.2 Train pilot staff and conduct pilot~~													
31. SeedSystem website facilitation, maintenance, upgrading and blogging.	2.2.1.3 Remote with known programmers and facilitators. Website is geared to seed system development of smallholder farmers in emergency, chronic stress and developmental contexts									x	x	x	x	X
32. Develop joint Humanitarian standards (FAO/others) for what constitutes evidenced-based SSSAs	2.2.1.4 Consultation with FAO then facilitated - drawing lessons from comparable processes like Sphere or Livestock Emergency Guidelines and Standards (LEGS)									x	x	x	x	X
~~33. Strategic high-level awareness-raising in International Community on SSSA- and seed security-related issues. Includes Free Seed discussions~~	~~2.2.1.5 International presentations at key nodes - e.g. EU/Brussels, ICRC Switzerland, FAO Rome, InterAction/US,~~													
Sub IR 2.2.2 Develop and promote emergency and humanitarian responses that link relief to development, especially links to private sector and formal and biodiverse suppliers														

34. Scoping of current formal/private sector links to emergency interventions (range and roles) including financing approaches.	2.2.2.1 Desk-based work and then site visits.									x	x	x	x	X
35. Review of types of current market approaches support to local markets linked to seed security (humanitarian and development).	2.2.2.2 Desk-based, remote communication. Linked with Cash feasibility work									x	x	x	x	X
~~36. Original research on informal markets and seed/grain traders in high-stress spots.~~	~~2.2.2.3 Field research with teams to be identified. Hopefully add-ons to informal and ECR work.~~													
~~37. Review of types of current market approaches support to local markets linked to seed security (humanitarian and development).~~	~~2.2.2.4 Desk-based, remote communication.~~													
Sub IR 2.2.3 Leverage emergency and development seed programs to capture market opportunities from supply side to support vulnerable farmers in less prime market areas.														
38. Position paper on free seed definition and scope of inquiry	2.2.3.1 Part of 7-step approach address the free seed challenge yr 1 (see Q+A written for USAID)									x	x	x	x	X

Table B4: Policies, Practices and Regulatory Formulation for Pluralistic Seed Systems

S34D Intervention Area	S34D Activities	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
CCIR 1.1 Develop country specific seed policy road maps														
39. Develop a seed policy road-map template/ToR to populate and arrive at seed policy road-maps. *Cross-linked with Formal, Informal, and ECR.*	CCIR 1.1.1 Consult USAID, international and national seed policy experts to arrive at an adequate seed policy road-map template that caters to policy topics focused under S34D								x	x	x			
40. Landscape of core seed policy partners, advisors, and institutions who are aligned and working on policy areas under S34D	CCIR 1.1.2 Desk studies, interviews, and some potential site visits, exchanges within networks to arrive at a landscape of which partners are working on the same/similar seed policy issues as that of S34D.										x	x	x	X
41. Generate a synthesis of the global overview of seed policies and standards by leveraging existing studies, reports, and publications.	CCIR 1.1.3 Combine desk study with field visits and consultations with relevant stakeholders - national and international seed policy experts.									x	x	x	x	X
CCIR 1.2 Develop and implement practices to expand / liberalize seed quality possibilities; expand market outlets/venue; address counterfeit seed issues; restrict free seed distribution														
42. Understand policy contexts and build evidence-base to expand market outlets and venues, as well as, expand / liberalize seed quality measures. *Cross-linked with the Informal sector, integrated.*	CCIR 1.2.3 Case on yellow beans in East Africa (with a focus on Tanzania and Uganda).								x	x	x	x	x	X
43. First draft a 2-pager on free seed definition and scope of inquiry. *Cross-linked with ECR.*	CCIR 1.2.4 The two pager is for internal S34D use and for USAID partners.								x	x	x	x	x	X
44. Conduct program visits to key "donor" and institutional nodes to raise awareness of issues related to free seed distribution. *Cross linked with ECR component (Sub IR 2.2.1).*	CCIR 1.2.5 Site visits followed up by a free seed-distribution community-of-practice stakeholders meeting. We will strengthen the CoP platform to raise awareness and disseminate / share evidence on seed security policies.								x	x	x	x	x	X
45. Build evidence-base linked to policy effects and subsequent implementation practices and results.	CCIR 1.2.6 Using data generated through studies and reports undertaken in S34D activities, and data from implementing partners, formulate an evidence-base containing relevant quality information.								x	x	x	x	x	X
CCIR 1.3 Strengthen linkages and coordination of seed development efforts through consolidation of data and evidence														
46. Coordinate with TASAI, EBA, and ASI to develop a synthesis of indicators across the three groups for one sample country.	CCIR 1.3.1 Review the indicators for one geography across TASAI, EBA, and ASI to understand how to tell a narrative about the seed sector using the available metrics and indices. Identify gaps and potential for improvement. Conduct a workshop to socialize and present findings.								x	x	x	x	x	X
47. Conduct a workshop to socialize and present findings.	CCIR 1.3.2 Facilitate and coordinate with donor-partners, and other relevant stakeholders.								x	x	x	x		

Table B5: ICT Activities

S34D Intervention Area	S34D Activities	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
CCIR 2.3 Enabling last mile markets for new and quality-assured seed varieties by developing, piloting, adapting, and scaling feed-forward and feedback mechanisms that loop farmers' preferences, as well as, provide information on new varieties and quality assured seed													
48. Develop a comprehensive MLE (Monitoring, Learning and Evaluation) Tool to monitor the use of small packs (market size, customers base, preferred pack size, which information is relevant) for use in PABRA's Niche market business model	CCIR 2.3.4 Development of a comprehensive Monitoring, Learning and Evaluation (MLE) tool using CommCare platform as the data collection form to monitor the usage of small packs, and sale of new bio-fortified bean varieties.							x	x	x	x	x	X

Table B6: MEL and Data Plan Activities

Planned Activities	Approach to Activities	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1. Develop and submit draft Performance Indicator Reference Sheets	Using GFSS indicator handbook, USAID technical guidance, review and feedback of work plan from USAID, and consultation with S34D partners (as need be); Discuss indicator details with consortium members and USAID, balancing rigor and feasibility. We will consult CRS' staff on internal indicator harmonization efforts.				x	x	x	x	x	x	x	x	x
2. Conduct a data landscaping to produce a data map for S34D	Link each of the indicators to the specific sub-IR. This will show the process and the individual elements that will lead to aggregated value for the indicators.						x	x	x	x	x	x	x
3. Operationalize the performance indicators	a) Consult with S34D partners to identify partner-staff to work with						x	x	x	x	x	x	x
	b) Using the data landscape, socialize what is needed from partners							x	x	x	x	x	x
	c) in consultation with partners, develop data collection forms and templates										x	x	x
	d) transfer conceptual design into actual forms on CommCare									X	x	x	x
	e) deploy tablets and mobile devices									X	x	x	x
	f) train partners and staff on using CommCare											x	x
	g) Test collection systems										x	x	x
	h) Work with partners to develop targets											x	x
4. Compile and disseminate S34D MEL plan and guidelines handbook	Compile various outputs above, and use CRS internal MEL policy guidelines											x	x
5. Baseline scenarios - needs assessment and filling in information	Based on data and indicator mapping, work with S34D partners to develop and implement a strategy to fill in information for baseline values							x	x	x	x	x	x
~~6. Setting Targets~~	~~After baseline evaluation, consult with partners to set annual and 5-year targets. Information from targets set at activity levels will be used to arrive at higher outcome targets.~~												
6. Operationalize the learning agenda	a) Using March 2019 Final draft of Feed the Future Learning Agenda, draft S34D learning agenda is confirmed. b) Socialize the learning agenda with partners. c) Map S34D activities to the learning questions.							x	x	x	x	x	x
	d) Studies to undertake in year 1 identified and initiated desktop research and Skype calls with relevant partners – case of yellow bean dissemination and flow in Tanzania							x	x	x	x	x	x
							x	x	x	x	x	x	x
							x	x	x	x	x	x	x
7. Create a portfolio with anecdotal stories. Small Vignettes with messages.	Use a monthly collection process of interesting anecdotes etc. from our partners.											x	x
~~9. Spatial Mapping of S34D investment activities and activity outcomes~~	~~Geo-spatially map out locations where S34D activities are taking place, and spatially map out the outcomes. We will collect geo-disaggregated information both on investments, implementation efforts, and resulted outcomes. We will use an open source geo-spatial mapping platform (that~~												

	~~was pioneered by BMGF and currently used by MCC, World Bank, few NGOs etc.)~~												
8. Annual reporting	Collect, compile, and report on indicators and learnings to comply with annual reporting procedures												x
9. Incubate a CRS data-hub for S34D Activity	a) Leveraging work done by CRS under MEL, develop a data dictionary necessary for MEL, knowledge management, and for building an evidence base for policy and practices										x	x	x
	b) Establish a process to combine all data generated across all ICT tools used under S34D activity											x	x
	c) Data manipulation, analyses; modeling; visualization; reporting; building storyboards etc.											x	x

Annex 4. Expected Results and Outputs by Key Intervention Areas

Table C1: Formal Sector

S34D Intervention Area	S34D Activities	Expected Outputs	Expected Use of the Outputs
IR 1.1 Identified and mitigates constraints in formal seed systems to offer a broad range of crops, high quality seed, and seed business options			
Sub IR 1.1.1 Increase operational efficiency of seed companies			
~~1. Address barriers to operating efficiency with selected seed companies to improve their resilience, and production and management efficiency, in producing of quality seed for a broad range of climate smart varieties and crops, including legumes and other high-nutrition crops within the target trade corridor.~~	~~1.1.1.1 Document firm level needs assessment (comparing existing/on-going interventions towards improving firm efficiency and resilience nature of firms)~~	~~Complete Report on Firm level needs assessment towards improving OE of seed firms completed including existing digital tools in use by firms. Clearly identified set of outcomes to be achieved by firms due to increase in operational efficiency.~~	~~The needs assessment will be used to design the coaching / training modules for use and training the seed companies. It will also lay out the pathway to go from assessments to training to achieving increased efficiency, with clear definitions of the ultimate change we want to bring with increased efficiency.~~
	~~1.1.1.2 Identify potential firms for initial round of coaching, focusing on relevance to formal, Informal, and ECR efforts and prospects for diversification of crops and support to trade in the target trade corridor.~~	~~Complete Identification of firms – beyond maize with wider portfolio for coaching on territorial marketing aspects, etc.~~	~~These firms identified will become the cohort that S34D will work with (training, capacity building etc.)~~
	~~1.1.1.3 Identify digital tools currently used by other seed companies (or which have high potential for utilization by seed companies on a country and regional basis); share a profile of the tools for consideration by seed companies.~~		
	~~1.1.1.4 Gather, select and develop seed systems materials for coaching from partner organizations – that meet client needs (technical, managerial and territorial marketing strategies) through engagement with internal and external partners.~~	~~Developing coaching materials for improving OE of seed firms (for beyond maize based seed firms). Clearly identified set of outcomes to be achieved by firms due to increase in operational efficiency.~~	~~Activity 1.1.1.1 above will help determine what coaching materials need to be developed.~~
2. Explore new financing options to enable seed firms to expand their access and use of financial service providers (FSPs) to promote greater investment in seed production and sales	1.1.1.5 Develop an inventory of financial services that could be used to expand seed sales from FSPs; document FSPs capacities and constraints specific to financing seed companies. -Update existing inventory (scan) of FSP's developed by AGRA and others, across the 3 sectors in target countries (incl. interest, regulatory constraints, tiers, etc.)	Inventory of financial services needs of the seed firms across all focus countries and crops completed. Identified financing options based on the inventory.	The options identified will be used to fulfill the financial services needs of the firms selected to work with.
Sub IR 1.1.2 Increase seed availability for climate smart crops through enhancing EGS capacities			
~~3. Review and validate options for supporting increased availability of EGS through private sector companies in E&SA~~	~~1.1.2.1 Conduct seed sector landscaping and gap analysis in focus bean/legume corridor countries – drawing on prior EGS studies and most recent research to address the issues / gaps identified.~~	~~Detailed landscaping report on EGS needs/ constraints in target countries including firms involved in crops beyond maize, volumes and capacities of EGS production, constraints faced and best practices (models/approaches) for ramping up quality seed production for crops. This report will leverage all existing all EGS studies.~~	
	~~1.1.2.2 Confirm Formal Sector EGS constraints in target countries, including volumes and crops of concern i.e., demand aggregation details and quality assurance.~~		

	~~1.1.2.3 Confirm or identify best entities and channels for sustainably ramping up reliable production of high-quality EGS.~~		
	~~1.1.2.4 Identify and document bottlenecks with key entities and channels with recommendations for detailed action.~~		
	~~1.1.2.5 Select firms that have the potential to expand into non-maize (legume/bean) production, or are already involved in other non-maize seed production activities~~		
Sub IR 1.1.3 Strengthen capacity of local seed actors to extend customer base and support last mile			
4. Co-create last mile delivery strategies / business models to include linkages between agro-dealers and other / new last mile actors (e.g., Tulaa, KUZA and local agripreneurs, kiosks), leveraging existing knowledge and assessments and integrating digital technologies to support market development and scaling.	1.1.3.1 Synthesis of existing reports, models and approaches in all bean/legume corridor countries with a focus on last mile actor needs, options for delivery and farmer demand.	Detailed landscaping report on last mile models of delivery and approaches in the focus countries produced	The last mile models and options identified will be validated with partners, and then used to prototype or scale based on contexts.
	1.1.3.2 Gather and select coaching materials for adaptation and 're-tooling' for agro dealers to extend their reach to new last mile customers, from various programs – that meet client needs (technical, managerial and marketing).	Coaching materials prepared for 're-tooling' agro dealer capacities and identification of firms for training – for capacity building activities in Year 2	This material will be used for training in year 2
	1.1.3.3 Prepare a list of agro dealers in each of the focus countries – ~~and select cohorts to building their capacities, skills and behaviors to meet emerging last mile demand~~ **Note: Choice of dealers / input suppliers – based on criteria – primarily selected from bean-legume corridor and types of input suppliers involved in those areas*.	Final List of select list of agro dealers /input suppliers identified and prepared across focus countries for further coaching in year 2.	This will be the cohort who will be trained in year 2
	~~1.1.3.4 Identify and recruit an initial cohort of "last mile" input based agri-preneurs to train them in use of a digital toolkit to manage and expand inventory and customer registry and outreach, PoS data collection from last mile actors and feed back on preferences from farmers~~	~~List of cohorts of agro dealers to use digital tools for customer/inventory management identified for further implementation.~~	
	~~1.1.3.5 Develop materials for training courses and materials for coaching last mile cohorts identified in A3 above to meet FSP requirements – towards financing needs~~	~~Coaching materials on financial needs for agro dealers re-tooling training program prepared.~~	
~~5. Preparations for scoping analysis in Niger~~	~~1.1.3.6 Year 1 scoping analysis, in preparation for Year 2 activities in Niger. Leveraging IFDC projects in Niger~~	~~1 analytical report with proposed intervention areas for S34D.~~	
Sub IR 1.1.4 Prototype sustainable models with private sector players to supply quality EGS and QDS to a range of suppliers and scale using innovative financing			
6. Prototype scalable next and last mile options to expand seeds of climate-smart varieties, EGS, QDS and others: marketing promotion for new varieties for Agri-preneurs to compliment IR 1.1.3.	1.1.4.1 Preparatory work to co-create new business models and prototype last mile models for seed delivery of target crops: Identify different prototype options to test and scale next and last mile options and validate feasibility of implementation (e.g. input bundles - seed dressing, and PICS bags including establishing /supporting seed contract farming arrangements, delivery options such as mobile cards, bikes and others etc.). – includes demand awareness and knowledge information sharing among farm households in Kenya and Uganda.	~~Train a cohort of selected agro dealers on potato seed delivery (quality, storage and technical aspects, including best practices) and linkages with seeds firm in Kenya.~~ Detailed landscaping report prepared with feasible options on the co-creating new business models of last mile delivery for crops beyond maize in the focus countries prepared along with existing or on-going seed delivery mechanisms.	The report will be used as discussion material with partners to arrive at potential new business models that could be co-created for last mile delivery.
Sub IR 2.1.1 Assess local capacity and local seed network to develop strategies to interface, collaborate, and leverage			

~~7. Link Formal and Informal Sectors to understand EGS demand needs~~	~~2.1.1.1 Working with PABRA to collect current information about EGS access challenges for high-potential informal sector producers.~~	~~Consultations with CIAT-PABRA and ICRISAT to expand EGS options through existing maize seed firms – way forward linkages established across institutions.~~	
CCIR1.2 - Develop and implement practices to expand/liberalize seed quality possibilities; expand market outlets/venue; address counterfeit seed issues; restrict free seed distribution			
8. Facilitate implementation of standard seed.	1.2.1 Facilitate meetings between KEPHIS HQ, KEPHIS regional offices, seed companies and other important stakeholders to develop protocols for standard seed production, which will determine crops and outline the inspection process to be followed.	Facilitate dialogues with KEPHIS about adoption of Standard seed classification in the system.	These dialogues will help KEPHIS to arrive at next steps / action points for Standard seed protocols dissemination approach, and inspection processes in its system.
	1.2.2 Dissemination of approved protocols.		
CCIR-2.3 Enabling last mile markets for new and quality-assured seed varieties by developing, piloting, adapting, and scaling feed-forward and feedback mechanisms that loop farmers' preferences, as well as, provide information on new varieties and quality assured seed			
9. Pilot SMS-based farmer feedback loop on seed quality ("Stop Bad Seed"). *Cross-linked with the Formal Sector (Sub IR 2.1.1)*	2.3.1 Engage with TOSCI and MoA to get government sanction for pilot. Agree on approach and timing.	Buy-in from GoT to agree to operate a farmer feedback loop	Buy-ins from stakeholders is a necessary first step to build the SMS system. So, the awareness creation and getting the activity socialized will be used to build the SMS system. As a result, stakeholders will be aligned on the approach and timing.
	2.3.2 Determine feasibility in-country for necessary SMS system	Buy-in from seed companies, TOSCI and agrodealers	
	2.3.3 Coordinate with TOSCI, TASTA, and agrodealer association to design and build awareness of tool	1 stakeholder consultation and buy-in report that will detail approach and timing.	

Table C2: Informal Sector

S34D Intervention Area	S34D Activities	Expected Outputs	Expected Use of the Outputs
IR 1.2 Strengthened capacity of informal seed systems to offer improved quality seeds			
Sub IR 1.2.1 Assess informal trader capacity and local seed networks			
10. Characterize legume (Yellow Beans) input and output (seed and grain) market (sellers and buyers) (The study on yellow bean in the regional bean corridor).	1.2.1.1 Collect secondary data on groundnut; Conduct a study on yellow bean in the regional bean corridor; Action field analysis to plan next steps; Preparatory desk work.	1 yellow bean report to be posted publicly on website	Findings from this analytical study will be used to inform implementation of subsequent business models under S34D --- particularly on issues such as how seed/grains move / disseminate from one region to the other; cross-border issues; and policy implications that affect technology dissemination. The study will be a global product too --- to highlight the case of yellow bean adoption patterns for other partners in the sector.
11. Identify key seed producers / actors of integrated chain (of informal, QDS, seed companies, etc.) and assess explicit linkages for their interactions	1.2.1.2 Through field interactions/workshop and primarily through deskwork. (Desk work/Report review/Phone calls)	Database comprising list of types of producers, profiles, and constraints	The database will be used to understand the value chain actors, their profiles, and constraints. That understanding will inform the business models --- capacity building, as well as, the interlinkages that need to be strengthened, or formed.
12. Assess storage and post-harvest management constraints and capacities.	1.2.1.3 Conduct field survey with relevant stakeholders on storage management	1 report to guide interventions in year 2	Will be usesd to design interventions in collaboration with other S34D partners in year 2
13. Conduct scoping studies to identify financial bottlenecks for seed and PH technology providers.	1.2.1.4 Field study and desk reviews.	Report on financial bottlenecks pertaining to seed and PH technology providers per country.	The findings from these country specific reports will be used to determine interventions with innovative financing that helps the seed and PH technology providers.
Sub IR 1.2.2 Strengthen capacity of local seed entrepreneurs and non-traditional seed actors			
~~14. Promote seed enterprises (an integrated set) to market multiple products and technologies (seed along with PH technologies i.e. Bundling)~~	~~1.2.2.2 Expose seed producers (QDS; seed companies and farmer cooperatives / organizations) on establishing seed value chain demos, organize visits and in field days, linking to seed supply, participation in demos and field days. *Based on the identified actors in the above activity: identify capacity gaps/need, identification of demos sites/hosts & technologies, characterization of the demos sites (facilitate the private sector to carry out demos of multiple products)~~	~~# distributors / vendors linked~~	
Sub IR 1.2.3 Validate business models to leverage integrated operations with formal enterprises			
15. Assess the nature and genetic quality (using DNA fingerprinting) of seed (different grades) and grain of yellow beans produced and traded (Linked to intervention 10).	1.2.3.1 Identify yellow bean varieties that need to be referenced; and develop variety reference.	List of varieties identified and referenced	This information is very helpful to the sector and will be shared widely. It is a public good.
~~16. Model 1a (Bundling technologies): Test bundled distribution of quality seed + PHT + seed dressing in the TAZAMA corridor and Uganda corridor i.e. bundling different technologies.~~	~~1.2.3.2 Develop Business plans for intervention of *Model 1a* in partnership with seed companies, PHT vendors, and QDS producers.~~	~~Baseline established~~	
~~17. Model 2: Explore private sector farmer cooperative business model for seed production, delivery, and links to off takers in Uganda corridor.~~	~~1.2.3.3 Facilitate forums of seed producers in the two corridors to identify target grain production zones, seed requirements; socialize the concept of linking grain and seed production in 2 corridors to agree on the design and implementation of business models in year 2; Develop~~	~~Assessment report to be part of refereed article~~	

	~~Business plans for intervention of *Model 2* through discussions with seed companies, farmer cooperatives and grain traders~~		
~~18. Model 1b (Bundling seeds of different crops): Test bundled cross crop sale and delivery.~~	~~1.2.3.4 Develop business plan for intervention of *Model 1b* through desk review, consultations with seed companies and field visit/surveys.~~	~~increased demand of quality seed (MT)~~	
~~19. Model 3: Facilitate linkages of existing and newly identified seed producers and suppliers (seed companies, QDS and traders) to grain off-takers through platform forums in TAZAMA corridor.~~	~~1.2.3.5 Facilitate forums of seed producers in the two corridors to identify target grain production zones, seed requirements; Socialize the concept of linking grain and seed production in two corridors to agree on the design and implementation of business models in year 2; Develop business plan for *Model 3* through multi-stakeholder interactions between grain off-takers and different categories (informal and formal) seed producers and other support services.~~	~~1 report for internal use to be posted on website~~	
20. Model 4**:** Explore non-seed distribution and sale niches and climate smart/resilient varieties	1.2.3.6 Validate business plan of Niche model through stakeholder consultative meetings.	1 report for internal use to be posted on website	The report of the consultations will be used to roll out the business model itself.
Sub IR 1.2.4 Strengthen last mile delivery solutions through non-traditional partners and ICT			
21. Pilot ICT feedback mechanism from farmers and seed value chain actors (market size, customers' base, preferred pack size, which information is relevant).	1.2.4.1 To develop and facilitate the use of tools in the field (including tools for business case, profitability and sustainability). Focus on customer feedback (i.e. CommCare application)	A system to collect information and feedback on varietal dissemination and adoption at the grass-root level	The information on PoS, and customer feedback generated through this system will be utilized to understand efficacy of different dissemination avenues, and how the varieties performed at the farm level.
~~22. Develop demand aggregator application to aggregate demand for PH tech and seed (i.e. all key seed actors in corridors) in Uganda bean corridors.~~	~~1.2.4.2 Development of an application which allows farmer cooperatives and other Farmer-Based Organizations (FBO) to survey their members and collect information in the form of reports about the needs for seeds and other inputs.~~	~~number of actors/individuals participating, number of forms submitted, number of users of the application; # of linkages established~~	
IR 2.1 Strengthened interface and collaboration between formal and informal seed systems			
Sub IR 2.1.2 Catalyze / support crop and seed platforms that link formal/informal			
~~23. Catalyze bean and seed platforms to systematically link formal and informal seed systems in Uganda cooperative model/corridor.~~	~~2.1.2.1 Organize and hold workshops to share feedback about seed and grain market characterization; discuss linkages and opportunities (formal/informal); *Model 2 (UG); Model 3 (TZ)*~~	~~# of individuals reached through the linkages; # of actors~~	
Sub IR 2.1.3 Leverage and link Formal Sector suppliers and NARs / breeders with local farming communities and professionalized informal seed sellers			
24. Model 4 (Niche market): Explore non-seed distribution and sale niches and climate smart / resilient varieties (Linked with PoS ICT application under IR1.2.4)	2.1.3.1 Test various packs with various customer-bases, backstopping seed companies, develop the tools to capture seed sales and clientele and pack size	Model deployed so seed actors can sell bio-fortified bean variety for farmers to buy.	Bio-fortified bean variety disseminated and adopted

Table C3: ECR Component

S34D Intervention Area	S34D Activities	Expected Outputs	Expected Use of the Outputs
IR 1.3 Strengthened capacity of emergency and humanitarian aid programs to respond effectively to acute and chronic stresses			
Sub IR 1.3.1 Assess select emergency and humanitarian past actions: focus on farmer evaluation, new varieties, and markets (local and formal)			
~~25. Develop new template to insert in all Feed the Future programs focus on new varieties and market distortion monitoring and evaluation.~~	~~1.3.1.1 Remote, desk-based (in close consultation with AOR); will consult with all components of S34D to get streamlined template~~	~~1 report to be used for partner and humanitarian community buy-in; public presentation e.g. At Interaction~~	
26. Cash feasibility analysis linked to seed security interventions.	1.3.1.2 Review prior interventions, consult with Cash Learning Group (UK) and link with markets and emergency group. (SEEP…)	1 template	This template is expected to be used by the Humanitarian and ECR community.
27. Review of DiNERS and Cash systems – Guatemala (CRS' version of livelihood and nutrition fairs).	1.3.1.3 On-site monitoring and evaluation cash specialist. (interconnects with #28).	1 feasibility review (likely an internal document posted on website)	This review can be used to guide future DiNERS and Cash systems
28. Review learning agenda across countries for DiNERS (CRS version of Livelihood and Nutrition fairs).	1.3.1.4 On-site monitoring and evaluation cash specialist. *Note this activity is funded and implemented by CRS country Programs and has been approved by Donor—S34D is adding a learning agenda component and Technical Research time.	1 review report (field)	Same as above
IR 2.2 Strengthened interface and collaboration between development and relief to resilient and market-based seed systems			
Sub IR 2.2.1 Adapt and scale-up Seed System Security Assessments in Feed the Future Crisis Hotspot areas (focus on formal, semi-formal and informal seed systems)			
~~29. SSSAs on demand, # possibly Northern Uganda, NE Nigeria (remote support elsewhere)~~	~~2.2.1.1 In teams, CIAT, CRS/ HRD, CRS Country Programs where site-specific links~~	~~2 SSSAs in hotspot area~~	
29 A. Rollout of SSSA course (New Activity)	2.2.1.1. A SSSA rollout with Designer MakeitMove.	1 SSSA course	Development practitioners and students enroll and learn how to conduct a SSSA. This is a global good.
~~30. SSSA Field test mobile data collection tool development. SSSA real-time data backstopping, cleaning data sets, remote support~~	~~2.2.1.2 Train pilot staff and conduct pilot~~	~~1 assisted SSSA~~	
31. SeedSystem website facilitation, maintenance, upgrading and blogging.	2.2.1.3 Remote with known programmers and facilitators. Website is geared to seed system development of smallholder farmers in emergency, chronic stress and developmental contexts	one test tool template	This site has a very good strike rate so will be used for dissemination of information as described in 2.2.1.3
32. Develop joint Humanitarian standards (FAO/others) for what constitutes evidenced-based SSSAs	2.2.1.4 Consultation with FAO then facilitated - drawing lessons from comparable processes like Sphere or Livestock Emergency Guidelines and Standards (LEGS)	1 mobile data collection tool	The tool will be used to collect data.
~~33. Strategic high-level awareness-raising in International Community on SSSA and seed security-related issues. Includes Free Seed discussions~~	~~2.2.1.5 International presentations at key nodes - e.g. EU/Brussels, ICRC Switzerland, FAO Rome, InterAction/US,~~	~~Ongoing user-friendly website~~	
Sub IR 2.2.2 Develop and promote emergency and humanitarian responses that link relief to development, especially links to private sector and formal and biodiverse suppliers			
34. Scoping of current formal/private sector links to emergency interventions (range and roles) including financing approaches.	2.2.2.1 Desk-based work and then site visits.	1 report and action plan – posted on website, possible refereed article	The report and action plans will be used to determine next steps for year 2.
35. Review of types of current market approaches support to local markets linked to seed security (humanitarian and development).	2.2.2.2 Desk-based, remote communication. Linked with Cash feasibility work	1 draft tool	Will be used by the community

~~36. Original research on informal markets and seed/grain traders in high-stress spots.~~	~~2.2.2.3 Field research with teams to be identified. Hopefully add-ons to informal and ECR work.~~	~~1 review~~	
~~37. Review of types of current market approaches support to local markets linked to seed security (humanitarian and development).~~	~~2.2.2.4 Desk-based, remote communication.~~	~~# sites where seed grain traders are better understood and engaged~~	
Sub IR 2.2.3 Leverage emergency and development seed programs to capture market opportunities from supply side to support vulnerable farmers in less prime market areas.			
38. Position paper on free seed definition and scope of inquiry	2.2.3.1 Part of 7-step approach address the free seed challenge yr 1 (see Q+A written for USAID)	A brief paper	The brief positioning paper will be used to host dialogues with multiple stakeholders to raise awareness about free seed distribution and to arrive at a set of good practices and approaches

Table C4: Policies and Practices

S34D Intervention Area	S34D Activities	Expected Outputs	Expected Use of Outputs
CCIR 1.1 Develop country specific seed policy road maps			
39. Develop a seed policy road-map template/ToR to populate and arrive at seed policy road-maps. *Cross-linked with Formal, Informal, and ECR.*	CCIR 1.1.1 Consult USAID, international and national seed policy experts to arrive at an adequate seed policy road-map template that caters to policy topics under S34D	Seed policy road map template	The template will be used to conduct policy roadmaps for key areas of regulatory policies and practices that impact interlinkages across the 3 seed systems.
40. Landscape of core seed policy partners, advisors, and institutions who are aligned and working on policy areas under S34D	CCIR 1.1.2 Desk studies, interviews, and some potential site visits, exchanges within networks to arrive at a landscape of which partners are working on the same/similar seed policy issues as that of S34D.	One report that Identifies country and regional nodes for collaboration purposes for specific S34D seed policy issues	This information will be used for further coordination and collaboration among partners --- who is doing what, where, and with whom in the seed policy space.
41. Generate a synthesis of the global overview of S34D seed policies and standards by leveraging existing studies, reports, and publications.	CCIR 1.1.3 Combine desk study with field visits and consultations with relevant stakeholders - national and international seed policy experts.	1 comprehensive report of publishable quality	This is a global product, and insights from the study will be used to compare and contrast with seed policies in S34D geographies to draw on any contextualized lessons that could be learned, adapted, scaled etc.
CCIR 1.2 Develop and implement practices to expand / liberalize seed quality possibilities; expand market outlets/venue; address counterfeit seed issues; restrict free seed distribution			
42. Understand policy contexts and build evidence-base to expand market outlets and venues, as well as, expand / liberalize seed quality measures. *Cross-linked with the Informal sector, integrated.*	CCIR 1.2.3 Case on yellow beans in East Africa (with a focus on Tanzania and Uganda).	1 report on policy implications for yellow bean diffusion in East Africa Bean Corridor	This report, a global product, will be used to understand the role of policies for yellow bean dissemination across East Africa
43. First draft a 2-pager on free seed definition and scope of inquiry. *Cross-linked with ECR.*	CCIR 1.2.4 The two pager is for internal S34D use and for USAID partners.	1 Comprehensive analysis of the current state of free-seed distribution policies and practices by institutions for public presentation	This analysis is a global good that will be extremely beneficial for discussions with important stakeholders on free seed distribution policies and impact on institutional buying on markets' functioning.
44. Conduct program visits to key "donor" and institutional nodes to raise awareness of issues related to free seed distribution. *Cross linked with ECR component (Sub IR 2.2.1).*	CCIR 1.2.5 Site visits followed up by a free seed-distribution community-of-practice stakeholders meeting. We will strengthen the CoP platform to raise awareness and disseminate / share evidence on seed security policies.	Initial draft on best practices for free seed distribution by donors and institutions as derived from consultation with community and stakeholders	Best practices will be used to guide interventions by donors

45. Build evidence-base linked to policy effects and subsequent implementation practices and results.	CCIR 1.2.6 Using data generated through studies and reports undertaken in S34D activities, and data from implementing partners, formulate an evidence-base containing relevant quality information.	Initial Evidence-base for East Africa Corridor, Global, and S34D focus geographies; evidence base will contain both qualitative and quantitative information on focus S34D policies and practices	Evidence-base will be used to spur discussions, dialogues, and future consultations with the policy community members and beyond.
CCIR 1.3 Strengthen linkages and coordination of seed development efforts through consolidation of data and evidence			
46. Coordinate with TASAI, EBA, and ASI to develop a synthesis of indicators across the three groups for one sample country.	CCIR 1.3.1 Review the indicators for one geography across TASAI, EBA, and ASI to understand how to tell a narrative about the seed sector using the available metrics and indices. Identify gaps and potential for improvement. Conduct a workshop to socialize and present findings.	1 synthesized report for a conference proceeding for sharing on public domain	Raise awareness among USAID, BMGF, World Bank EBA, the US OFDA, TASAI, IFPRI and others about where the gaps in metrics are. Also arrive at better methods, metrics, and approaches to strengthen existing metrics under TASAI and EBA.
47. Conduct a workshop to socialize and present findings.	CCIR 1.3.2 Facilitate and coordinate with donor-partners, and other relevant stakeholders.	1 presentation of findings; workshop proceeding summary with next steps and remarks	

Table C5: Information Flows and ICT Systems

S34D Intervention Area	S34D Activities	Expected Outputs	Expected Use of Outputs
CCIR-2.3 Enabling last mile markets for new and quality-assured seed varieties by developing, piloting, adapting, and scaling feed-forward and feedback mechanisms that loop farmers' preferences, as well as, provide information on new varieties and quality assured seed			
48. Develop a comprehensive MLE (Monitoring, Learning and Evaluation) Tool to monitor the use of small packs (market size, customers base, preferred pack size, which information is relevant) for use in PABRA's Niche market business model	CCIR 2.3.4 Development of a comprehensive Monitoring, Learning and Evaluation (MLE) tool using CommCare platform as the data collection form to monitor the usage of small packs, and sale of new bio-fortified bean varieties.	1 initial database (PoS data, customer feedback) created; Seed value chain actors connected through an initial feedback and collection loop.	Linked with niche-market model implemented by PABRA. Understand varietal dissemination and adoption of bio-fortified beans in Kenya.

Annex 5. Template for country specific seed policy road maps

Example: Tanzania Seed Policy Road Map – S34D Activity

Contractor: **TBD**
STTA duration: **TBD**
Location: **Tanzania**
CRS contact: **Dr. Bhramar Dey, CRS**
DSPN: **8538.917.0438**

I. Background:

The Supporting Seed Systems for Development (S34D) is a five-year Leader with Associates Award, issued to Catholic Relief Services and its Implementing Partners (IP's) through USAID's Bureau of Food Security (BFS), with support from the U.S. Office of Foreign Disaster Assistance (OFDA). The S34D Activity will run from August 2018 through August 2023.

Our overarching goal is to improve the functioning of the national and regional seed sectors in an inclusive manner in our focus countries. We define "inclusive" to mean all types of farmers, including women farmers and youth, and will implement interventions and engage range of seed actors in ways that will enable those farmers to cultivate a wider portfolio of crops within multiple agro-ecologies.

The S34D activity will implement a set of purposefully designed activities that will : 1) facilitate and leverage on increasing private sector supply of early generation seed (EGS) to a broader and more inclusive range of farmers 2) forge stronger links between formal and informal seed actors to expand the crops offered and accelerate varietal turnover, and 3) extend the market frontier for climate-smart crop combinations and varieties, including through emergency response programming that addresses food and nutrition security and resilience needs of returnees and IDP's.

Besides maize, the S34D Leader Award will support at least five legume and stress tolerant crops that will integrate with cereal systems to improve production, nutrition, and income, and offer enhanced soil fertility, water management and livestock feed, using rotations, intercropping and cover crops. The S34D consortium is making a choice to operate at scale from the outset – working on maize-legume systems along trade corridors in East and West Africa that link several countries.

Within this context, the S34D activities would focus on policies and practices aim to address specific policy constraints surrounding the seed systems in a more integrated way. First, we would seek to understand and help implement policies that liberalize seed quality policies and processes to increase the supply of quality enhanced seeds for a wide range of crops. Within S34D countries of operation, we will look for appropriate standards in practice such as Quality Declared Seeds (QDS), Truthfully-labelled (TFL), Standard seed that can be liberalized and guarantee seed quality. Second, we would need to understand (in collaboration with players and actors) the extent/scale of seed counterfeiting. Third, we would review free seed distribution policies that distort markets. We will particularly focus on measures and best practices affecting large institutional buyers (gov't, UN, NGOs, etc.) and private seed firms to forge pathways that link development to emergency systems in a more systematic manner so we limit free seed only to the critical needs. Finally, to reach last mile we will open-up practical approaches that extend the market frontier in the S34D geographies so that a wide range of actors can sell both new varieties and quality enhanced seeds across a range of venues. This will primarily be done through S34D programmatic implementation efforts.

We will conduct this through gathering and presenting an evidence-base with the help of our consortium partners. With the help of sector-wide partners and actors, we will leverage our advocacy agenda to make the evidence heard by policymakers and in-country decision makers. That is why, S34D policy and practice loci is within the countries of operation. We are partnering with in-country "movers and shakers" who could not only help push our strategic

agenda, but also, work systematically to enhance target countries ownership and make the program sustainable over time.

II. Scope of Work:

- Provide a quick desktop review of current national and ag sectoral plans for Tanzania (Agricultural Sector Development Plan – Phase II) ASDP-II, and the relevant regional seed policies to understand the role of seed sector within the broader framework.
- Provide a review of current legal and legislative status for –
    - *liberalizing seed quality options*
    - *expanding market frontier for seed sales (by actors and venues)*
    - *free seed distribution policies, and*
    - *extent of seed counterfeiting*
- For each of the four policy areas cited above -
    - provide an assessment of the costs, risks, benefits for each of the options. Collect any evidence available on numbers.
    - Collect evidence from published literature, grey literature, and anecdotes
    - Provide a desk review using existing literature – on the institutional architecture for seed system policy in Tanzania. Meaning --- who are the national, regional, and systemic players? (Examples include TOSCI, ASA, MALF, TARI in Tanzania). What roles and responsibilities do these players have?
    - Expalin the legal framework within which each of the aforementioned areas of work. Specifically, what is is legally allowed, not allowed, and how the laws are implemented. For example, the legal guidelines may be vague and leave much room for interpretation for implementation purposes.
- Using in-country and partner consultations, identify and provide a quick summary of the current ongoing seed policy programs active in Tanzania – what is the implication on coordination, collaboration, and co-location for S34D activities in Tanzania? This summary should focus on each of the three seed systems and the interface of the systems where the policies could potentially have an impact or consequences. Provide some kind of networks mapping for formal/informal/resilient seed system integrated actors.

1) Examples of illustrative questions to understand liberalizing seed policy options.

A. What are the current costs of seed certification in Tanzania (by crops) and actors across the seed value chain?
B. Provide cost comparison estimates for major cereals and legume crops axross different forms of certification – formal vs QDS systems, and compare them with farmer saved seeds and seed available in local markets.
C. What share of those costs is borne by seed producers and public certification systems?
D. How does the public system recover their costs?
E. What are the "hidden" costs?
F. What are the transaction costs? Transport costs?
G. "The FAO guidelines are rather general and leave the exact interpretation of QDS to governments and regulatory bodies". How are the QDS guidelines interpreted in Tanzania ?
    a. Estimate trend (from the last ten years) of number of farmers producing QDS and their production capacity per target crops in Tanzania
    b. Role of central/district/local government officials
    c. What are the source of parental materials to produce QDS
    d. Which crops/varieties allowed

e. Packaging and labelling rules for QDS
f. Training requirements (who provides, with what frequency, how is it attended, who pays etc.)
g. Registration requirements for seed producers
h. Sampling and testing requirements
i. Inspection frequency and mandates
j. Rules of trading QDS seeds --- what are the legal geographic boundaries etc? For example, in Tanzania, sellers can only sell within their wards. Although I think, very recently this changed where sellers can see to their districts --- meaning outside of wards.
k. Who can label QDS? What are the costs, mechanisms?
l. Where doe QDS producers access their EGS? What are the constraints? How do they vary by crops?
m. What can we say about scaling up QDS? For example, in Tanzania, farmers are not paying for seed inspection and certification. What is the funding mechanism – is it sustainable?
n. Are QDS producers contracted by private sector companies as outgrowers for their certified seeds?
o. How many hectares of land can be cultivated by a QDS producer for one particular variety? In Tanzania, for example, it is five hectares.
p. Current seed subsidy programs in place.
q. Any seed assurance program – we need to understand: costs, risks, benefits, constraints.
r. What happens to seed lots rejected during inspection? Can those be sold as grains?
s. Can QDS producers source EGS from private sectors? For which crops? (In Tanzania, can they do that from Quali-Basic for example?).
t. What are the packet sizes in which QDS could be sold?

2) **Counterfeit seeds - cite any legal cases undertaken to stop bad practices; using literature, anecdotal evidence, and consultation with key in-country stakeholders provide quantitative and qualitative assessment of counterfeit seeds**

3) **Policy landscape – implications of private sector participation in production of the EGS**

4) **Role of associations – seed traders / and input based organizations in policy advocacy**

5) **Using existing legal framework and policies, what constraints do grain traders face to move grains across the country and across the border?**

III. Deliverables and Milestones

i. Use existing literature to first determine the literature database. CRS already has initiated the task and has identified the starting documents. **See Annex A**.
ii. Then in consultation with S34D technical leads develop a seed road map template using guidance provided in this contract (*see above*). CRS will liaise with USAID to solicit feedback and comments on the template.
iii. Conduct desk studies to populate the seed road map as much as possible
iv. Identify stakeholders – both in-country and international -- to solicit input to populate the road map for Tanzania.
v. Produce a first draft of the road map for review by CRS and S34D technical leads
vi. Upon receipt of feedback and comments, refine the road map

vii. Once the road map is final, lead in-country stakeholder workshop to socialize and collect feedback and comments on the road map.
viii. Produce a stakeholder convening report
ix. Soon after, produce a final road map for deployment for S34D
x. The road map will be determined complete with accompanied evidence base, bibliography, and list of institutional partners, and stakeholders' contact lists.

Required Qualifications:

- The Contractor must have demonstrated experience working in agricultural policy in Tanzania
- Minimum 8+ years international research design and implementation experience.
- Proven experience in technically supporting seed system investments, and in seed policy reforms / legal and regulatory framework analyses
- Strong communication skills, especially in public presentations and in writing
- Fluency in written and spoken English and Kisawihili
- Excellent stakeholder facilitation skills is a must

PROPOSAL REQUIREMENTS

Interested parties should submit a proposal of not more than 10 pages with the following information:

1. Contact information:
    i) Name of the agency
    ii) Postal Address
    iii) Telephone/Fax/Email/web site address
    iv) Contact person details
2. Relevant past experience including names and contact information for previous clients (you may reference information already provided in the Expression of Interest, but include any additional, recent, relevant experience in this proposal)
3. Detailed work plan, including time line for completion of all deliverables. The plan sould clearly explain the approach that the Contractor shall undertake to deliver all outputs.
4. Budget and explanatory notes, in BWP and USD.
5. Quality control plan
6. Staffing plan, including for all known positions, name, and CV/resume
7. Detailed job descriptions and minimum qualifications for interviewers, supervisors, and other staff not named above.

Proposals should be sent by email to S34D@crs.org not later than 08:00 AM Washington DC time on Monday, May 8th , 2019.

S34D will award one successful applicant, through the prime organization, Catholic Relief Services (CRS). S34D and CRS reserve the right not to make an award if no applicants offer an acceptable proposal, at the sole discretion of

S34D. S34D and CRS reserve the right to negotiate the agreed price to be included in the award for carrying out this work.

Payment Modality:

The consultant will be paid on a quarterly basis against the submission of invoices for time worked and approval of quarterly progress reports (see Deliverables section above).

Annex A: Initial Literature Database for Tanzania seed policy road map

http://www.issdseed.org/sites/default/files/case/issd_africa_twg1_sp2_seed_quality_assurance_170412.pdf

http://www.issdseed.org/sites/default/files/case/synthesis_paper_the_support_for_farmer-led_seed_systems_in_african_seed_laws_issd_africa_twg3.pdf

http://www.fao.org/3/CA1483EN/ca1483en.pdf

https://www.agriknowledge.org/concern/generics/f4752g81k?locale=en

https://www.agriknowledge.org/concern/generics/nk322d50f?locale=en

https://docs.wixstatic.com/ugd/095963_3a4f751a4c83488982341082f530aa32.pdf

https://docs.wixstatic.com/ugd/095963_54f31e030cf946519c2c974f7e11afa1.pdf

https://www.newmarketslab.org/transfarm-africa

http://www.tzdpg.or.tz/fileadmin/documents/external/national_development_frameworks/ASDP2_Final_Document_20_May._2016__after_edit__1_.pdf

http://eatproject.org/docs/tanzania_seedCLIR.pdf

https://www.tanzaniacsaalliance.or.tz/project/vuna/

http://africasoilhealth.cabi.org/wpcms/wp-content/uploads/2016/10/Synthesis-Report-Landscaping-for-ISSD-Tanzania.pdf

https://tasai.org/wp-content/themes/tasai2016/img/tasai_brief_2017_tanzania_final_lr.pdf

https://www.agrilinks.org/sites/default/files/resource/files/tanzania_early_generation_seed_report.pdf

https://www.tanzaniainvest.com/agriculture/seed-sector-international-accreditation

http://www.repoa.or.tz/documents/REPOA%20BRIEF%2040.pdf

Annex 6. Program Indicator Reference Sheet (PIRS)

(The PIRS will be updated with data collection instruments as and when they are developed)

USAID Performance Indicator Reference Sheet
Name of Indicator: G-1. Number of individuals in the agricultural system who have applied improved management practices or technologies with S34D assistance (FtF EG.3.2-24)
Name of Result Measured: S34D Goal
Link to foreign assistance and activity frameworks: FtF EG.3.2-24
DESCRIPTION
Precise Definition(s): This indicator tracks those actors who are changing their behavior while participating in the USG funded S34D Activity by making the decision to apply a particular management practice or technology. Individuals or actors include: private sector (seed companies), seed suppliers/producers, grain traders, distributors, wholesalers, retailers, agri-preneurs, farmers, service providers (example could be trainers), policymakers, extension workers, researchers, academics, non-governmental and community organization staff. Management practice and technology type categories are -- i) crop genetics (such as improved/certified seed), ii)cultural practices (such as seedling production and transplantation), iii) pest and disease management (such as crop rotation), iv)climate adaptation/climate risk management (such as stress tolerant varieties, short duration varieties, early warning systems etc.), v)marketing and distribution (such as contract farming technologies, improved market information system technologies and practices etc.), vi) post-harvest handling and storage (such as sorting and handling, use of PICS bags etc.), v) value-added processing (improved packaging practices etc.); vi)Other (improved record keeping, improved budgeting and financial management, improved quality of agricultural products).
Unit of Measure: Number
Disaggregated by: First level: value chain actor type; Second level: sex (M/F); Age (15-29; 30+); Management practice or technology type; Commodity; Geography
Rationale for Indicator *(optional)***:** Improved management practices and technological change and adoption by different actors throughout the seed sector will be important to increasing agricultural productivity and supporting stronger and improved function of an integrated seed sector
PLAN FOR DATA COLLECTION
Data Source: S34D implementing partners.
Method of Data Collection and Construction: Count the participant, if they applied a management practice or technology at least once in the reporting year, If more than one participant in the household is applying, then count each member who does so. Count each participant only once under each commodity - for commodity disaggregate values. Same applies for management practice or technology type. So, for example, if a participant is applying a practice for maize and for legumes, we will count the participant once under maize and once under legumes when we disaggregate data by crops. Data collection process will be timely aligned with the agricultural seasons in respective geographies.
Reporting Frequency: Baseline; 3rd year, 5th year
TARGETS AND BASELINE
Direction of Change: Higher is better
Baseline Timeframe: Linked with locations and groups where S34D partners will conduct activities. TBD
DATA QUALITY ISSUES
Dates of Previous Data Quality Assessments and Name of Reviewer(s):
Date of Future Data Quality Assessments *(optional)***:** Before 11/24/19 and annually thereafter as required by CRS internal policies & procedures
CHANGES TO INDICATOR

Changes to Indicator:
Other Notes *(optional)**:***
THIS SHEET LAST UPDATED ON: 7 May 2019

USAID Performance Indicator Reference Sheet
Name of Indicator: G-2. Number of hectares under improved management practices or technologies with S34D assistance (FtF EG.3.2-25)
Name of Result Measured: S34D Goal
Link to foreign assistance and activity frameworks: FtF EG.3.2-25
DESCRIPTION
Precise Definition(s): This indicator measures the area in hectares where S34D-promoted management practices or improved technologies were applied during the reporting year to areas managed or cultivated by producers participating in S34D Activity. Improved management practices or technologies are those promoted by the implementing partner(s) as a way to increase producers' productivity directly or to support stronger and better functioning seed systems. Some illustrative examples of management practice and technology type categories include the following: Crop genetics: such as – improved/certified seed that could be higher yielding / higher in nutritional content (through biofortification)/and or more resilient to climate impacts (such as drought tolerant, stress tolerant); disease resistant varieties; improved germplasm Cultural practices: context specific agronomic practices that do not fit in the other categories such as – seedling production and transplantation; cultivation practices such as planting density, crop rotation, and mounding. Livestock management: such as, improved fodder crop; cultivation of dual-purpose crops Pest and disease management: such as, integrated pest management; crop rotation etc. Climate adaptation/climate risk-management: Examples include drought and flood resistant varieties; short duration varieties; adjustment of sowing time; diversification; use of perennial varieties; agroforestry. Others: example – improved mechanical and physical land preparation.
Unit of Measure: Hectare
Disaggregated by: First level: Hectare type (crop land, cultivated pasture, Rangeland, protected area, freshwater or marine ecosystem, aquaculture, other); Second level: sex (M/F); Age (15-29; 30+); Management practice or technology type; Commodity; Geography
Rationale for Indicator *(optional)***:** Improved management practices on agriculture and crop land is critical to increasing agricultural productivity. This indicator tracks successful application of technologies and management practices to improve agricultural productivity, and resilience to climate change.
PLAN FOR DATA COLLECTION
Data Source: S34D implementing partners.
Method of Data Collection and Construction: This indicator allows the tarcking of the number of hectares under the different management practices and technology types and the total unique number of hectares on which one or more practices or technologies has been applied by the participants at the activity level. If a participant applied more than one improved technology, we count that area on which the participant applied those technologies under each relevant Management Practice type. If the activity is promoting a single technology (say, DT Maize) for multiple benefits, the area could be reported under each relevant category under the Management Practice ? Technology type (such as – Crop Genetics; Crop adaptation/ climate risk management). If a participant cultivates a plot of land more than once in the reporting year, the area should be counted each time one or more improved management practice/technology is applied. Data collection process will be timely aligned with the agricultural seasons in respective geographies.
Reporting Frequency: Baseline; 3rd year, 5th year
TARGETS AND BASELINE
Direction of Change: Higher is better
Baseline Timeframe: Linked with locations and groups where S34D partners will conduct activities. TBD

DATA QUALITY ISSUES
Dates of Previous Data Quality Assessments and Name of Reviewer(s):
Date of Future Data Quality Assessments *(optional)***:** Before 11/24/19 and annually thereafter as required by CRS internal policies & procedures
CHANGES TO INDICATOR
Changes to Indicator:
Other Notes *(optional)**:***
THIS SHEET LAST UPDATED ON: 7 May 2019

USAID Performance Indicator Reference Sheet
Name of Indicator: RES-1. Number of organizations with increased performance improvement with S34D assistance
Name of Result Measured: S34D Outcome
Link to foreign assistance and activity frameworks: FtF EG.3.2-29; S34D Objective 1; S34D IR1.1 (for formal seed system), and IR1.2 (for informal seed system)
DESCRIPTION
Precise Definition(s): Organizational performance improvement reflects a deliberate process that is undertaken to improve execution of organizational mandates. This includes internal processes, addressing internal and/or externmal bottlenecks, human capacity development, establishing linkages - internally and externally, and other efforts. Organizations will undego four steps to qualify as a count for this indicator. Step 1: Organizational stakeholder defines desired performance outputs or outcomes. Step 2: The gap between desired performance and actual performance is assessed. Step 3: performance improvement solutions will be selected and implemented. Step 4: The organization achieves its improvement performance target. The types of organizations appliable here are --- private sector firms; producer associations; extension organizations; government agencies; non-government and not-for-profit organziations; research and educational. The exact type of capacity development and performance improvement will vary based on organizational partner and type of seed system (that is formal or informal).
Unit of Measure: Number
Disaggregated by: By type of organization (Research and educational; Producer associations; Extension organizations; Private sector firms; government agencies; government agencies; NGOs; Other). Geo-location of the organizations shall be noted and reported.
Rationale for Indicator *(optional)***:** Under S34D, capacity building and development of organizations is key to change attitude, and thus change practice to strengthen functioning of integrated seed systems.
PLAN FOR DATA COLLECTION
Data Source: IFDC, OI, CIAT/PABRA. Data will be drawn from seed companies, agripreneurs, seed producer groups, farmers cooperatives that will undergo capacity development and performance improvement.
Method of Data Collection and Construction: Based on organization, and the type of performance improvement, we will have different colelction instruments. Organizational partners will provide the data. Data collection will be done in coordination with S34D Partners. Information will be separately provided by the formal and informal seed system activities. Numerical value of the objective will be the sum of two components.
Reporting Frequency: Years 2, 3, 4, and 5
TARGETS AND BASELINE
Direction of Change: N/A
Baseline Timeframe: Zero
DATA QUALITY ISSUES
Dates of Previous Data Quality Assessments and Name of Reviewer(s):
Date of Future Data Quality Assessments *(optional)***:** Before 11/24/19 and annually thereafter as required by CRS internal policies & procedures
CHANGES TO INDICATOR
Changes to Indicator:
Other Notes *(optional)**:***
THIS SHEET LAST UPDATED ON: 1 April 2019

USAID Performance Indicator Reference Sheet
Name of Indicator: RES-2. Number of collaborating seed businesses/actors who have broadened crop portfolios
Name of Result Measured: S34D Outcome
Link to foreign assistance and activity frameworks: S34D IR 1.1 (for formal seed system) and IR 1.2 (for informal seed system)
DESCRIPTION
Precise Definition(s): This indicator tracks the number of those actors in formal and informal seed systems who are expanding their crop portfolios --- by both crops and varieties. The actors could be expanding portfolios not just on the production side, but also, on the marketing and distribution side of value chain activities. Actors include - private sector partners, producer organizations, NARs, farmer cooperatives, traders, agripreneurs, farmers etc.
Unit of Measure: Number
Disaggregated by: First level: type of seed actors; Second level: By Crop/variety; Age; Sex; value-chain segment (such as research, seed production, seed multiplication; seed distribution, seed marketing, seed purchased etc.) Third level: Type of seed class; grain
Rationale for Indicator *(optional)***:** To increase resilience, productivity, and income at farm-level, we need improved and quality seeds for a range of crops - not just maize. To do that, seed businesses and actors along the seed value chain will need to broaden their portfolio.
PLAN FOR DATA COLLECTION
Data Source: IFDC, CIAT/PABRA; Market surveys; Point-of-sale data collected in last mile
Method of Data Collection and Construction: We will count an actor if s/he has increased the crop portfolio by at least one crop (either a new variety and/or quality seeds) in the reporting year. If an actor has initiated seed production for beans and soy (for example), then under crop disaggregation, we will count the actor under both beans and soy, but just once under value chain point - production. Geo-location of the seed actors will be collected.
Reporting Frequency: Annually from year 3 onwards
TARGETS AND BASELINE
Direction of Change: Higher the better
Baseline Timeframe: TBD
DATA QUALITY ISSUES
Dates of Previous Data Quality Assessments and Name of Reviewer(s):
Date of Future Data Quality Assessments *(optional)***:** Before 11/24/19 and annually thereafter as required by CRS internal policies & procedures
CHANGES TO INDICATOR
Changes to Indicator:
Other Notes *(optional)**:***
THIS SHEET LAST UPDATED ON: 1 April 2019

USAID Performance Indicator Reference Sheet
Name of Indicator: RES-3. Volume of seeds, grain
Name of Result Measured: S34D Outcome
Link to foreign assistance and activity frameworks: S34D IR 1.1 (formal seed system); IR 1.2 (informal seed system); Objective 2, IR 2.1 (interlinkages and platforms created or strengthened across systems)
DESCRIPTION
Precise Definition(s): This indicator tracks the quantity of seed accessed (for multiplication), produced, distributed, and marketed for sale. The types of seeds could be early generation seeds, certified seeds, Quality Declared Seed etc. Actors involved include those in all seed systems. This indicator also captures the change in the volume of seed/grain due to linkages established across seed sytems through interface and platforms.
Unit of Measure: MT
Disaggregated by: First level: Type (EGS, Certified, QDS; grain etc.); Second level: Crop/variety; Third level: Purpose (example could be for production, marketing; selling etc.); seed actor (type, sex, age)
Rationale for Indicator *(optional)***:** To increase availability of new varieties and improved seeds, there should be sufficient quantity of appropriate seeds (and grains) for crop/variety combinations available at various stages of the value chain --- from production to distribution to marketing (even at the last mile).
PLAN FOR DATA COLLECTION
Data Source: Private sector companies, NARs, Seed producer associations, informal traders, farmer cooperatives; agripreneurs
Method of Data Collection and Construction: We will track volume of seed by its "type" -- whether it is EGS or certified, or QDS etc. Then we will identify for which crop/variety. For each crop-variety combination, we will assess the purpose -- whether it is the volume of seed accessed (example for EGS), or supplied, or multiplied or produced, or even marketed for sale. At the last mile, to understand volume of seed/grain sold, we could use point-of-sale data. The data will be aggregated to report volume of seed at various levels -- formal seed system, informal seed system, volume changed due to linkages and platforms / interfcae established or strengthened. Data collection timing will be aligned to specific crop seasons. Geo-location of volume of seed will be tracked as much as possible.
Reporting Frequency: Annually from year 2 onwards
TARGETS AND BASELINE
Direction of Change: Higher the better
Baseline Timeframe: TBD
DATA QUALITY ISSUES
Dates of Previous Data Quality Assessments and Name of Reviewer(s):
Date of Future Data Quality Assessments *(optional)***:** Before 11/24/19 and annually thereafter as required by CRS internal policies & procedures
CHANGES TO INDICATOR
Changes to Indicator:
Other Notes *(optional)**:***
THIS SHEET LAST UPDATED ON: 1 April 2019

USAID Performance Indicator Reference Sheet
Name of Indicator: RES-4. Portfolio of broadened tool-kit and response options for promoting resilience in politically fragile and climate-stressed areas
Name of Result Measured: S34D Outcome
Link to foreign assistance and activity frameworks: S34D IR 1.3
DESCRIPTION
Precise Definition(s): Portfolio includes tools, models, approaches, responsive actions etc.
Unit of Measure: Number
Disaggregated by: First level: Portfolio content type; Purpose
Rationale for Indicator *(optional)***:** Broadened tool and response options provide a wider choice to strengthen caacity of emergency and humanitarian aid programming to respond effectively to shock and chronic stress. Wider choice set also implies "one size does not need to fit all", and actors can respond with the most relevant tool for action.
PLAN FOR DATA COLLECTION
Data Source: CIAT/PABRA
Method of Data Collection and Construction: S34D ECR unit – CRS HRD and CIAT/PABRA
Reporting Frequency: Annually
TARGETS AND BASELINE
Direction of Change: Higher the change the better
Baseline Timeframe: Zero
DATA QUALITY ISSUES
Dates of Previous Data Quality Assessments and Name of Reviewer(s):
Date of Future Data Quality Assessments *(optional)***:** Before 11/24/19 and annually thereafter as required by CRS internal policies & procedures
CHANGES TO INDICATOR
Changes to Indicator:
Other Notes *(optional)**:***
THIS SHEET LAST UPDATED ON: 1 April 2019

USAID Performance Indicator Reference Sheet
Name of Indicator: RES-5. Number of linkages and platforms strengthened and / or catalyzed
Name of Result Measured: S34D Outcome
Link to foreign assistance and activity frameworks: S34D IR 2.1
DESCRIPTION
Precise Definition(s): This indicator tracks the number of linkages created between actors and entities participating in formal and informal seed systems. Linkages could include -- platforms, a co-partnered business model, interface etc. Example -- Linkage between a NAR and farmers cooperatives in Uganda. Linkages could also include interface between S34D implementing partners themselves. For example linkages between a seed company that works with CYMMYT links with seed producer association that works with PABRA. Entities include private sector organizations; NARs, Seed producer groups, traders, marketers, research organizations etc. Under type of linkage we will record names of the actors linking, and whether the linkage is between public-private, or private-private or public-public etc.
Unit of Measure: Number
Disaggregated by: First level: Type (see above); Second level: Geography; Third level: purpose of the linkage (strengthened or catalyzed)
Rationale for Indicator *(optional)***:** Linkages across seed systems is essential to increase improved and quality seeds for crops and varieties so that adequate amount of volume of seed for the desired crop/variety combination is available even at the last-mile for smallholders.
PLAN FOR DATA COLLECTION
Data Source: S34D Implementing Partners – IFDC, CIAT/PABRA, CRS
Method of Data Collection and Construction: Linkages are determined between entities or organizations, within a certain geography. So, for example, if the same seed company is linked with a producer organization in Uganda and in Tanzania, that will be counted as two linkages. Another example is, if two different agro-dealer hubs within the same country are connected to different seed companies, then we count that as two linkages.
Reporting Frequency: Annually starting year 2 of implementation
TARGETS AND BASELINE
Direction of Change: Higher the better
Baseline Timeframe: Zero
DATA QUALITY ISSUES
Dates of Previous Data Quality Assessments and Name of Reviewer(s):
Date of Future Data Quality Assessments *(optional)***:** Before 11/24/19 and annually thereafter as required by CRS internal policies & procedures
CHANGES TO INDICATOR
Changes to Indicator:
Other Notes *(optional)**:***
THIS SHEET LAST UPDATED ON: 1 April 2019

USAID Performance Indicator Reference Sheet
Name of Indicator: RES-6. Number of partnerships interfacing under relief to development sector
Name of Result Measured: S34D Outcome
Link to foreign assistance and activity frameworks: S34D IR 2.2
DESCRIPTION
Precise Definition(s): We track the number of partnerships forged to increase the interface and interlinkages between relief and development seed systems, especially with resilient enhancing, and market-based interventions**.**
Unit of Measure: Number
Disaggregated by: Type of partnership (public-private; private-private; public-public); Purpose of the partnership (describing the objective of the partnership and the interface the partnership would strengthen/create/or catalyzed)
Rationale for Indicator *(optional)***:** Linkages between development and relief to resilient and market-based seed systems strengthens the seed sector in a country. Smallholders and vulnerable segments of population can then access quality seed for improved varieties – many of which will be climate smart – thereby increasing resilience in conflict and stress regions.
PLAN FOR DATA COLLECTION
Data Source: CIAT/PABRA
Method of Data Collection and Construction: S34D ECR Unit
Reporting Frequency: Starting year 2, annually
TARGETS AND BASELINE
Direction of Change: N/A
Baseline Timeframe: Zero
DATA QUALITY ISSUES
Dates of Previous Data Quality Assessments and Name of Reviewer(s):
Date of Future Data Quality Assessments *(optional)***:** Before 11/24/19 and annually thereafter as required by CRS internal policies & procedures
CHANGES TO INDICATOR
Changes to Indicator:
Other Notes *(optional)**:***
THIS SHEET LAST UPDATED ON: 1 April 2019
USAID Performance Indicator Reference Sheet
Name of Indicator: RES-7. Number of inclusive seed policy specific dialogues conducted with S34D assistance
Name of Result Measured: S34D Outcome
Link to foreign assistance and activity frameworks: S34D CCIR-1
DESCRIPTION
Precise Definition(s): This indicator tracks the number of inclusive dialogues on each specific policy issue. Dialogues will be considered inclusive if the consultation and facilitation process incorporates multiple key groups across --- private sector, informal seed system partners, multi-laterals, regional bodies (such as AGRA), key seed sector players (such as non-government organizations), institutional buyers, and donor groups. These are dialogues for which we have created and shared evidence; held workshops, facilitated discussions; and disseminated information (in the public domain – as and when appropriate)
Unit of Measure: Number

Disaggregated by: First level: Specific policy advancement; Second level: Geography; Type of advancement (Diagnostics, Evidence-base, Stakeholder consultation; Stakeholder facilitation; Advocacy/Dissemination)
Rationale for Indicator *(optional)***:** Inclusivity and sector-wide stakeholder consultation is key to improving and moving the policy enablers. Rich dialogues and evidence-based facilitation across a wide array of stakeholders foster greater coordination and collaboration on the ground --- both at national and regional levels
PLAN FOR DATA COLLECTION
Data Source: CRS
Method of Data Collection and Construction: collect meeting agenda's, minutes and notes and presentation from workshops and facilitated discussions, and disseminated information. Will also collect attendance sheets for workshops, conference and meetings that S34D organizes.
Reporting Frequency: Annually
TARGETS AND BASELINE
Direction of Change: N/A
Baseline Timeframe: Zero
DATA QUALITY ISSUES
Dates of Previous Data Quality Assessments and Name of Reviewer(s):
Date of Future Data Quality Assessments *(optional)***:** Before 11/24/19 and annually thereafter as required by CRS internal policies & procedures
CHANGES TO INDICATOR
Changes to Indicator:
Other Notes *(optional)**:***
THIS SHEET LAST UPDATED ON: 29 June 2019

USAID Performance Indicator Reference Sheet
Name of Indicator: RES-8. Number of information flows generated with S34D assistance that are systematically used by seed system actors
Name of Result Measured: S34D Outcome
Link to foreign assistance and activity frameworks: S34D CCIR-2
DESCRIPTION
Precise Definition(s): Information flows could be – information channels per site, datasets, evidence-base, ICT and other digital applications, Tools. By use we mean – whether these information streams are being used to inform decision-makings in the seed sector.
Unit of Measure: Number
Disaggregated by: First level: Flow type; Second level: Use type (who is using the information, for what, where and how);
Rationale for Indicator *(optional)***:** Reliable and timely information flows enable decision makings across seed value chain actors. If data and annecdotes could be turned into valuable information sets in a near real-time fashion then decisions about seed supply (how much and where) could be made before sowing season.
PLAN FOR DATA COLLECTION
Data Source: S34D partners
Method of Data Collection and Construction: S34D Partners. Information will be spatially geo-disaggregated
Reporting Frequency: Annually from Year 2 onwards
TARGETS AND BASELINE
Direction of Change: Higher is better
Baseline Timeframe: Zero
DATA QUALITY ISSUES
Dates of Previous Data Quality Assessments and Name of Reviewer(s):
Date of Future Data Quality Assessments *(optional)***:** Before 11/24/19 and annually thereafter as required by CRS internal policies & procedures
CHANGES TO INDICATOR
Changes to Indicator:
Other Notes *(optional)**:***
THIS SHEET LAST UPDATED ON: 7 May 2019

USAID Performance Indicator Reference Sheet
Name of Indicator: OUT-1. Number of seed actors trained
Name of Result Measured (DO, IR, sub-IR, Activity Purpose, Activity Outcome, Activity Output, etc.): Output
Link to foreign assistance and activity frameworks: S34D Sub IR1.1.1; Sub IR1.1.3; Sub IR1.2.2; Sub IR2.2.1
DESCRIPTION
Precise Definition(s): This indicator tracks training by type of seed actors for S34D Activity. Training or coaching could be short-term or long-term, based on the activity. This indicator will track both. Seed actors include: seed companies, seed producer organizations, agripreneurs, distributors, informal grain traders etc.
Unit of Measure: Number
Disaggregated by: First level: Type of seed actor; Second level: type of training (short term or long term); purpose of training (describes the ultimate objective for which training is conducted)
Rationale for Indicator *(optional)***:** Training is essential for capacity building. Training of different seed actors across value chain will lead to increased capacity for all types of seed systems.
PLAN FOR DATA COLLECTION
Data Source: S34D partners
Method of Data Collection and Construction: This indicator is linked with capacity building. We will document what kinds of training is provided, and how. Given that training is provided by various partners through multiple activities across seed systems, we will collect this data for activities and will track by the sub-IRs of our Results Framework. Geo-location of actors trained will be collected.
Reporting Frequency: Annually
TARGETS AND BASELINE
Direction of Change: Higher is better
Baseline Timeframe: Zero
DATA QUALITY ISSUES
Dates of Previous Data Quality Assessments and Name of Reviewer(s):
Date of Future Data Quality Assessments *(optional)***:** Before 11/24/19 and annually thereafter as required by CRS internal policies & procedures
CHANGES TO INDICATOR
Changes to Indicator:
Other Notes *(optional)**:***
THIS SHEET LAST UPDATED ON: 1 April 2019

USAID Performance Indicator Reference Sheet
Name of Indicator: OUT-2. Number of individuals participating in the S34D Activity (FtF EG.3.2)
Name of Result Measured (DO, IR, sub-IR, Activity Purpose, Activity Outcome, Activity Output, etc.): Output
Link to foreign assistance and activity frameworks: FtF EG.3.2; S34D – Sub IR1.1.1; Sub IR1.1.2; Sub IR1.1.3; Sub IR1.1.4; Sub IR1.2.2; Sub IR1.2.3; Sub IR1.2.4; CCIR2.3
DESCRIPTION
Precise Definition(s): This indicator tracks the estimated number of individual participants S34D Activity reaches through its activities and significant interventions, and capture the breadth of S34D Activity. This indicator includes participants reached, and not number of contacts made. Examples of individuals are - smallholder and non-smallholder producers that S34D reaches directly; Proprietors of firms in the private sector that S34D helps strengthen (agrodealers, aggregators, processors), but NOT all the employees of those firms; individuals who are trained by S34D as part of a deliverate serivice delivery startegy. Note: this indicator does NOT count the indirect beneficiaries of S34D activities.
Unit of Measure: Number
Disaggregated by: First level: Sex (Male/Female); Age category (school-aged; 15-29; 30+) ; type of individual (Household members; school-aged children; people in government; proprietors of S34D assisted private sector firms - agrodealers, traders, aggregators, processors, service providers, manufacturers; people in civil society - NGOs, CBOs, CSOs, research and academic orgs, community workers; producers - farmers); Second level: Size of farmers (smallholder, Non-smallholder)
Rationale for Indicator *(optional)***:** Understanding the reach of S34D Activity is important to inform our programming and the impact we are having in the seed systems. This understanding will also then help us to reach our beneficiaries and target groups in an effective manner.
PLAN FOR DATA COLLECTION
Data Source: S34D Partners --- Activity information; Sale data; Partner records
Method of Data Collection and Construction: Data collection for this indicator will be linked to each activity that Partners implement. This indicator cannot be summed across years for a activity total, because new and continuing participants are not disaggregated. This indicators shows the total of individuals reached in any one reporting year. We will collect data for this indicator at activity levels that fall under each of the sub-IRs. The total number for S34D in any given reporting year will be summed across all sub IRs. For Feed the Future, smallholder is defined as one who holds 5 Ha or less of arable land or equivalent units of livestock - that is, cattle: 10 beef cows; dairy: two milking cows; sheep and goats: five adult ewes/does; camel meat and milk: five camel cows; pigs: two adult sows; chickens: 20 layers and 50 broilers. The farmer does not have to own the land or livestock.
Reporting Frequency: Annual
TARGETS AND BASELINE
Direction of Change: Higher is better
Baseline Timeframe: Zero
DATA QUALITY ISSUES
Dates of Previous Data Quality Assessments and Name of Reviewer(s):
Date of Future Data Quality Assessments *(optional)***:** Before 11/24/19 and annually thereafter as required by CRS internal policies & procedures
CHANGES TO INDICATOR
Changes to Indicator:
Other Notes *(optional)**:***
THIS SHEET LAST UPDATED ON:

1 April 2019

USAID Performance Indicator Reference Sheet
Name of Indicator: OUT-3. Number of options reviewed and validated for enhancing EGS capacities
Name of Result Measured (DO, IR, sub-IR, Activity Purpose, Activity Outcome, Activity Output, etc.): Output
Link to foreign assistance and activity frameworks: S34D Sub IR1.1.2
DESCRIPTION
Precise Definition(s): Models and approaches that are reviewed and validated to increase capacities of entities to produce EGS for a wide number of crops (beyond Maize)
Unit of Measure: Number
Disaggregated by: First level: crop/variety; purpose of the option reviewed and validated (description of what is being validated and to achieve exactly what result)
Rationale for Indicator *(optional)***:** To increase availability of climate smart crops, we need to scale options and approaches that will increase capacities of entities to produce greater amount of EGS for a wider number of crops (beyond Maize). But before scaling, those options will need to be validated with partners and collaborators
PLAN FOR DATA COLLECTION
Data Source: IFDC/ PABRA
Method of Data Collection and Construction:
Reporting Frequency: Annually starting year 2
TARGETS AND BASELINE
Direction of Change: N/A
Baseline Timeframe: Zero
DATA QUALITY ISSUES
Dates of Previous Data Quality Assessments and Name of Reviewer(s):
Date of Future Data Quality Assessments *(optional)***:** Before 11/24/19 and annually thereafter as required by CRS internal policies & procedures
CHANGES TO INDICATOR
Changes to Indicator:
Other Notes *(optional)**:***
THIS SHEET LAST UPDATED ON: 1 April 2019

USAID Performance Indicator Reference Sheet
Name of Indicator: OUT-4. Number of models
Name of Result Measured (DO, IR, sub-IR, Activity Purpose, Activity Outcome, Activity Output, etc.): Output
Link to foreign assistance and activity frameworks: S34D Sub IR1.1.4; Sub IR1.2.3; Sub IR1.2.4; Sub IR1.3.2; Sub IR1.3.4
DESCRIPTION
Precise Definition(s): Models could be a new technology, collaboration, business or a new approach to supply quality seeds (and grains) of improved varieties of a range of crops to diverse to seed actors including those in the last mile.
Unit of Measure: Number
Disaggregated by: First level: Model type (such humanitarian, financing, forecasting, business) . Second level: model implementation stage (such as - planning, developing, testing, scaling); Purpose of the model -- describes what it does, who it links, which crop/varieties; Geography
Rationale for Indicator *(optional)*: The goal is to understand and track business models under the different seed systems, so that cost-effective sustainable models could be contextualized for other geographies and scaled up.
PLAN FOR DATA COLLECTION
Data Source:
Method of Data Collection and Construction:
Reporting Frequency: Annually starting year 3
TARGETS AND BASELINE
Direction of Change: N/A
Baseline Timeframe: Zero
DATA QUALITY ISSUES
Dates of Previous Data Quality Assessments and Name of Reviewer(s):
Date of Future Data Quality Assessments *(optional)*: Before 11/24/19 and annually thereafter as required by CRS internal policies & procedures
CHANGES TO INDICATOR
Changes to Indicator:
Other Notes *(optional)*:
THIS SHEET LAST UPDATED ON: 1 April 2019

USAID Performance Indicator Reference Sheet
Name of Indicator: OUT-5. Number of studies that have fulfilled all criteria
Name of Result Measured (DO, IR, sub-IR, Activity Purpose, Activity Outcome, Activity Output, etc.): Output
Link to foreign assistance and activity frameworks: S34D Sub IR1.2.1; Sub IR1.3.1; Sub IR2.1.1; Sub IR2.1.4; Sub IR2.2.1
DESCRIPTION
Precise Definition(s): Studies take various forms here. They could be - assessments, diagnostics, reviews, SSSAs, reports, publications, conference proceedings. All studies will be shared on the public domain for dissemination purposes. On the humanitarian side studies could include - NGO scoping of approaches, Overview of Cash and seed approaches, Overview of former approaches to markets, DiNERS review. There are four criteria for each study ---- (i) Does the study have an abstract; (ii) Does the study have a targeted audience? (iii) Does the study have a clearly stated use-case, (iv) Were the findings of the study disseminated to the targeted audience? For each criterion that the study satisfies it gets a score of 0.25. If the study satisfies all the criteria and gets an overall score of 1, then we count that as one study which has satisfied all criteria. If the study gets a score less than 1 then we do not count that study as an output.
Unit of Measure: Number
Disaggregated by: First level: Type (Diagnostic assessment; Landscape; Report; Conference or workshop proceeding; Peer reviewed publication; other); Objective of the study; Location (Global or Local – If Local, then country and agro-ecology)
Rationale for Indicator *(optional)***:** understanding landscape, conducting diagnostics, literature reviews and desk studies, and conducting research leading to peer reviewed publications for sharing knowledge is important for dissemination of shared understanding, across an array of stakeholders.
PLAN FOR DATA COLLECTION
Data Source: S34D Partners
Method of Data Collection and Construction:
Reporting Frequency: Annually
TARGETS AND BASELINE
Direction of Change: N/A
Baseline Timeframe: Zero
DATA QUALITY ISSUES
Dates of Previous Data Quality Assessments and Name of Reviewer(s):
Date of Future Data Quality Assessments *(optional)***:** Before 11/24/19 and annually thereafter as required by CRS internal policies & procedures
CHANGES TO INDICATOR
Changes to Indicator:
Other Notes *(optional)**:***
THIS SHEET LAST UPDATED ON: 29 June 2019

USAID Performance Indicator Reference Sheet
Name of Indicator: OUT-6. Number of tool-kits for diverse types of shocks
Name of Result Measured (DO, IR, sub-IR, Activity Purpose, Activity Outcome, Activity Output, etc.): Output
Link to foreign assistance and activity frameworks: S34D Sub IR1.3.3
DESCRIPTION
Precise Definition(s): The main categories of shocks could be - 1) Slow onset or chronic stress (such as drought); 2)rapid onset shocks (such as, natural disaster, conflict); 3)protracted crises (displacement caused by extended conflict)
Unit of Measure: Number
Disaggregated by: First level: Tool Kit type; Second level: Shock type
Rationale for Indicator *(optional)***:** Tool kits enable to strengthen capacity of emergency and humanitarian aid programming to respond effectively to shock and chronic stress.
PLAN FOR DATA COLLECTION
Data Source: CIAT/PABRA
Method of Data Collection and Construction:
Reporting Frequency: Annually
TARGETS AND BASELINE
Direction of Change: N/A
Baseline Timeframe: Zero
DATA QUALITY ISSUES
Dates of Previous Data Quality Assessments and Name of Reviewer(s):
Date of Future Data Quality Assessments *(optional)***:** Before 11/24/19 and annually thereafter as required by CRS internal policies & procedures
CHANGES TO INDICATOR
Changes to Indicator:
Other Notes *(optional)**:***
THIS SHEET LAST UPDATED ON: 29 June 2019

USAID Performance Indicator Reference Sheet
Name of Indicator: OUT-7. Number of partnerships formed and/or strengthened
Name of Result Measured (DO, IR, sub-IR, Activity Purpose, Activity Outcome, Activity Output, etc.): Output
Link to foreign assistance and activity frameworks: S34D Sub IR2.1.2; Sub IR2.1.3
DESCRIPTION
Precise Definition(s): Partnerships that are created and/or strengthened to link formal with informal sectors; and/or between NARS / breeders with local farming communities and professionalized informal seed sellers
Unit of Measure: Number
Disaggregated by: First level: Partnership Type (Desribes whether it is a public-public or private-public; or private-private); Purpose of the partnership (see above); Location
Rationale for Indicator *(optional)***:**
PLAN FOR DATA COLLECTION
Data Source: S34D Partners
Method of Data Collection and Construction:
Reporting Frequency: Annually starting year 2
TARGETS AND BASELINE
Direction of Change: Higher the better
Baseline Timeframe:
DATA QUALITY ISSUES
Dates of Previous Data Quality Assessments and Name of Reviewer(s):
Date of Future Data Quality Assessments *(optional)***:** Before 11/24/19 and annually thereafter as required by CRS internal policies & procedures
CHANGES TO INDICATOR
Changes to Indicator:
Other Notes *(optional)**:***
THIS SHEET LAST UPDATED ON: 7 May 2019

USAID Performance Indicator Reference Sheet
Name of Indicator: OUT-8. Number of actors linked relief to development with S34D assistance
Name of Result Measured (DO, IR, sub-IR, Activity Purpose, Activity Outcome, Activity Output, etc.): Output
Link to foreign assistance and activity frameworks: S34D Sub IR2.2.2
DESCRIPTION
Precise Definition(s): Seed system actors who are connected between relief to development. Actors include seed companies, seed producer associations, farmer cooperatives, NGOs, other institutional buyers, community-based organizations, Humanitarian groups etc.
Unit of Measure: Number
Disaggregated by: First level: Actor type; Sex; Age Second level: Link type; Purpose of the link; Location of links
Rationale for Indicator *(optional)***:** If actors and entities are linked from development to relief sectors, then a

greater number of new and improved technologies could reach last mile and vulnerable groups for adoption leading to increased productivity and resilience.
PLAN FOR DATA COLLECTION
Data Source:
Method of Data Collection and Construction:
Reporting Frequency: Annually starting year 2?
TARGETS AND BASELINE
Direction of Change: Higher the better
Baseline Timeframe:
DATA QUALITY ISSUES
Dates of Previous Data Quality Assessments and Name of Reviewer(s):
Date of Future Data Quality Assessments *(optional)***:** Before 11/24/19 and annually thereafter as required by CRS internal policies & procedures
CHANGES TO INDICATOR
Changes to Indicator:
Other Notes *(optional)**:***
THIS SHEET LAST UPDATED ON: 1 April 2019

USAID Performance Indicator Reference Sheet
Name of Indicator: OUT-9. Number crisis sites (where new market approaches for production and distribution of new varieties and quality seeds have been catalyzed)
Name of Result Measured (DO, IR, sub-IR, Activity Purpose, Activity Outcome, Activity Output, etc.): Output
Link to foreign assistance and activity frameworks: S34D Sub IR2.2.3
DESCRIPTION
Precise Definition(s): A crisis site could be a region (like northern Nigeria, or Kivu / Kasai in DRC), or could be a country (like South Sudan). New market approaches on distribution side could be cash (mobile money, direct cash, others); vouchers or fairs; local and regional procurement; linking with suppliers from existing development programs or local private sector, and on production side could include cash grants, access to loans or other financing, links to other private sector (formal or informal)
Unit of Measure: Number
Disaggregated by: First level: location of crisis site; Second level: type of market approach; production and / or distribution; type of seed/variety
Rationale for Indicator *(optional)***:**
PLAN FOR DATA COLLECTION
Data Source: CIAT/PABRA
Method of Data Collection and Construction:
Reporting Frequency: Annually, starting Year 2
TARGETS AND BASELINE
Direction of Change: N/A
Baseline Timeframe: Zero
DATA QUALITY ISSUES
Dates of Previous Data Quality Assessments and Name of Reviewer(s):
Date of Future Data Quality Assessments *(optional)***:** Before 11/24/19 and annually thereafter as required by CRS internal policies & procedures
CHANGES TO INDICATOR
Changes to Indicator:
Other Notes *(optional)**:***
THIS SHEET LAST UPDATED ON: 1 April 2019

USAID Performance Indicator Reference Sheet
Name of Indicator: OUT-10. Number of shock responsive frameworks
Name of Result Measured (DO, IR, sub-IR, Activity Purpose, Activity Outcome, Activity Output, etc.): Output
Link to foreign assistance and activity frameworks: S34D Sub IR2.2.4
DESCRIPTION
Precise Definition(s): A shock responsive framework is a proof of concept. It is focused on seed security integrated into varied assessment and response model.
Unit of Measure: Number
Disaggregated by: N/A
Rationale for Indicator *(optional)***:**
PLAN FOR DATA COLLECTION
Data Source: CIAT/PABRA (ECR Component)
Method of Data Collection and Construction:
Reporting Frequency:
TARGETS AND BASELINE
Direction of Change: N/A
Baseline Timeframe: Zero
DATA QUALITY ISSUES
Dates of Previous Data Quality Assessments and Name of Reviewer(s):
Date of Future Data Quality Assessments *(optional)***:** Before 11/24/19 and annually thereafter as required by CRS internal policies & procedures
CHANGES TO INDICATOR
Changes to Indicator:
Other Notes *(optional)**:***
THIS SHEET LAST UPDATED ON: 1 April 2019

USAID Performance Indicator Reference Sheet
Name of Indicator: OUT-11. Number of seed policy road maps
Name of Result Measured (DO, IR, sub-IR, Activity Purpose, Activity Outcome, Activity Output, etc.): Output
Link to foreign assistance and activity frameworks: S34D CCIR1.1
DESCRIPTION
Precise Definition(s): Number of seed policy road maps at country level that are developed and socialized.
Unit of Measure:
Disaggregated by: First level: Country
Rationale for Indicator *(optional)***:** This indicator helps us to understand how many road maps are produced and socialized with relevant stakeholders. Such road maps (identifying gaps and opportunities help) foster policy dialogues with in-country and regional partners.
PLAN FOR DATA COLLECTION
Data Source: CRS
Method of Data Collection and Construction: S34D Policy team
Reporting Frequency: Annual
TARGETS AND BASELINE
Direction of Change: N/A
Baseline Timeframe: Zero
DATA QUALITY ISSUES
Dates of Previous Data Quality Assessments and Name of Reviewer(s):
Date of Future Data Quality Assessments *(optional)***:** Before 11/24/19 and annually thereafter as required by CRS internal policies & procedures
CHANGES TO INDICATOR
Changes to Indicator:
Other Notes *(optional):*
THIS SHEET LAST UPDATED ON: 1 April 2019

USAID Performance Indicator Reference Sheet
Name of Indicator: OUT-12. Number of policy specific advances in the designated realms facilitated
Name of Result Measured (DO, IR, sub-IR, Activity Purpose, Activity Outcome, Activity Output, etc.): Output
Link to foreign assistance and activity frameworks: S34D CCIR1.2
DESCRIPTION
Precise Definition(s): This indicator tracks the total number of policy advancements we undertake facilitation with stakeholders (both global and local) in the S34D Activity.
Unit of Measure:
Disaggregated by: First Level: Policy Area Type; Second Level: Geography
Rationale for Indicator *(optional)***:** Policy specific advances push discussions and dialogues in the designated S34D seed policy realms, raising awareness, and enabling greater coordination
PLAN FOR DATA COLLECTION
Data Source: CRS
Method of Data Collection and Construction: S34D Policy team
Reporting Frequency: Annually
TARGETS AND BASELINE
Direction of Change: Higher the better
Baseline Timeframe: Zero
DATA QUALITY ISSUES
Dates of Previous Data Quality Assessments and Name of Reviewer(s):
Date of Future Data Quality Assessments *(optional)***:** Before 11/24/19 and annually thereafter as required by CRS internal policies & procedures
CHANGES TO INDICATOR
Changes to Indicator:
Other Notes *(optional)**:***
THIS SHEET LAST UPDATED ON: 1 April 2019

USAID Performance Indicator Reference Sheet
Name of Indicator: OUT-13. Number of evidence-based seed policy briefings with S34D assistance
Name of Result Measured (DO, IR, sub-IR, Activity Purpose, Activity Outcome, Activity Output, etc.): Output
Link to foreign assistance and activity frameworks: S34D CCIR1.3
DESCRIPTION
Precise Definition(s): This indicator tracks reports that draw from a consolidation of data and evidence-base formulated under S34D efforts. Such briefings could include ad-hoc studies, conference proceedings, and/or peer reviewed publications.
Unit of Measure: Number
Disaggregated by: Geography (Global or Local)
Rationale for Indicator *(optional)***:** Strong evidence-base helps facilitate discussions and debates among stakeholders. Articulating evidence in a manner that is digestable for various stakeholders (both local and glocal) to foster discussions on policies that influence / impact seed systems is necessary.
PLAN FOR DATA COLLECTION
Data Source: CRS
Method of Data Collection and Construction: S34D Policy team
Reporting Frequency: Annual
TARGETS AND BASELINE
Direction of Change: N/A
Baseline Timeframe: Zero
DATA QUALITY ISSUES
Dates of Previous Data Quality Assessments and Name of Reviewer(s):
Date of Future Data Quality Assessments *(optional)***:** Before 11/24/19 and annually thereafter as required by CRS internal policies & procedures
CHANGES TO INDICATOR
Changes to Indicator:
Other Notes *(optional)**:***
THIS SHEET LAST UPDATED ON: 1 April 2019

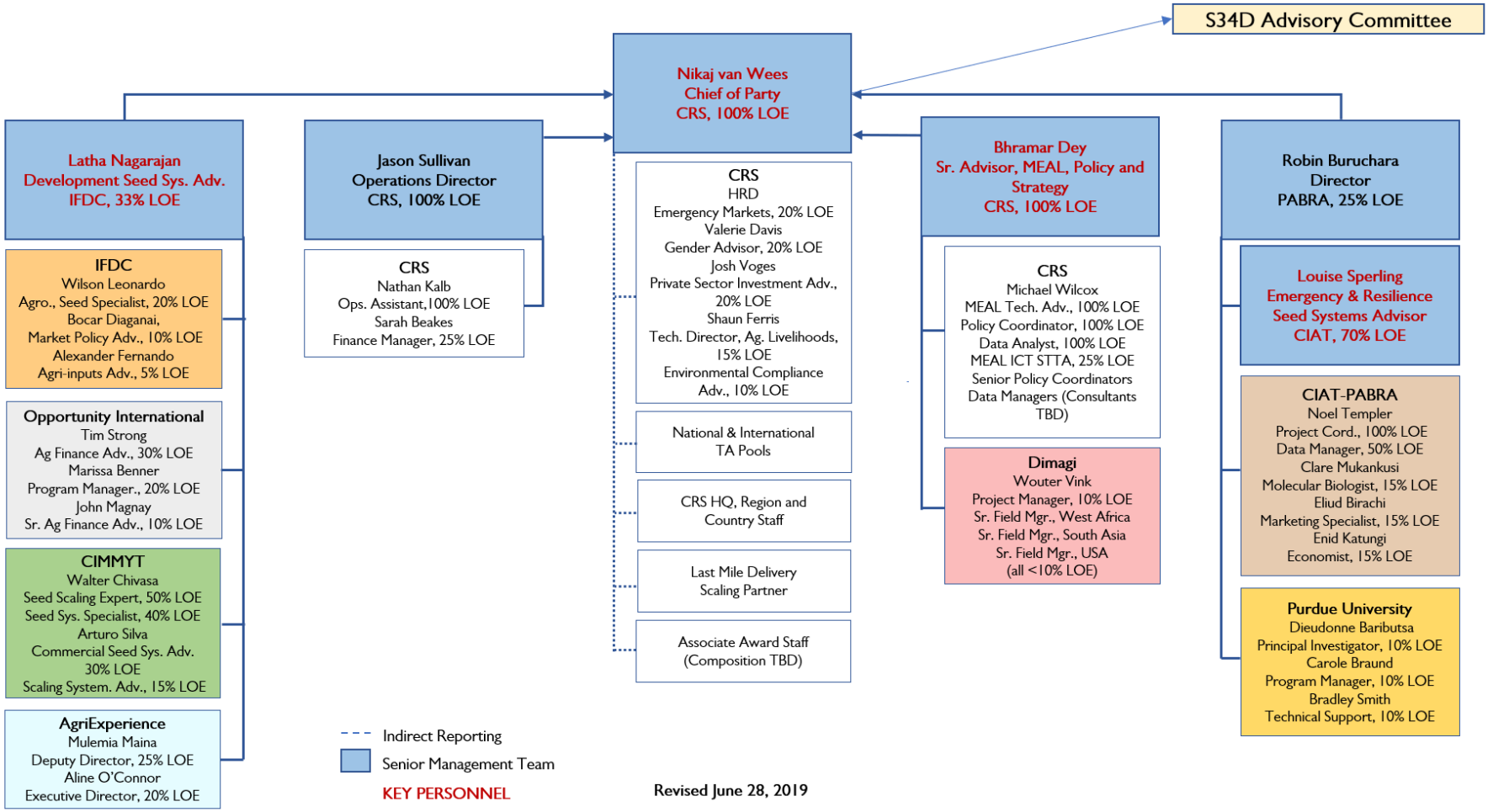
USAID Performance Indicator Reference Sheet
Name of Indicator: OUT-14. Number of information sets digitized and shared in public domain
Name of Result Measured (DO, IR, sub-IR, Activity Purpose, Activity Outcome, Activity Output, etc.): Output
Link to foreign assistance and activity frameworks: S34D CCIR2.1
DESCRIPTION
Precise Definition(s): This indicator captures the number of datasets, documents, procedures and other items that are digitized and shared in the public domain.
Unit of Measure: Number
Disaggregated by: Type of information set by country
Rationale for Indicator *(optional)***:** Digitized information in public domain reduces gaps in understanding by relevant stakeholders, fosters transparency and efficiencies in coordination on the grounds
PLAN FOR DATA COLLECTION
Data Source: CRS
Method of Data Collection and Construction:
Reporting Frequency: Annual starting year 2
TARGETS AND BASELINE
Direction of Change: Higher is better
Baseline Timeframe: Zero
DATA QUALITY ISSUES
Dates of Previous Data Quality Assessments and Name of Reviewer(s):
Date of Future Data Quality Assessments *(optional)***:** Before 11/24/19 and annually thereafter as required by CRS internal policies & procedures
CHANGES TO INDICATOR
Changes to Indicator:
Other Notes *(optional)**:***
THIS SHEET LAST UPDATED ON: 1 April 2019

USAID Performance Indicator Reference Sheet
Name of Indicator: OUT-15. Number of ICT-based applications developed and / or adapted to capture information
Name of Result Measured (DO, IR, sub-IR, Activity Purpose, Activity Outcome, Activity Output, etc.): Output
Link to foreign assistance and activity frameworks: S34D CCIR2.2
DESCRIPTION
Precise Definition(s): This indicator tracks the number of applications adapted and/or developed to capture information about seed supply in a geo-referenced manner. Examples could include – demand aggregator tools, Point-of-sale applications etc.
Unit of Measure: Number
Disaggregated by: Geography; Purpose of the application; Stage of the application (planned, developed, tested, deployed, scaled)
Rationale for Indicator *(optional)***:** Information flows - especially on seed systems - in a near real-time manner influences seed supplies, and fosters efficient functioning of seed markets. To capture such information, we need tools and applications.
PLAN FOR DATA COLLECTION
Data Source: CRS and S34D partners
Method of Data Collection and Construction:
Reporting Frequency: Annually
TARGETS AND BASELINE
Direction of Change: N/A
Baseline Timeframe: Zero
DATA QUALITY ISSUES
Dates of Previous Data Quality Assessments and Name of Reviewer(s):
Date of Future Data Quality Assessments *(optional)***:** Before 11/24/19 and annually thereafter as required by CRS internal policies & procedures
CHANGES TO INDICATOR
Changes to Indicator:
Other Notes *(optional)**:***
THIS SHEET LAST UPDATED ON: 1 April 2019

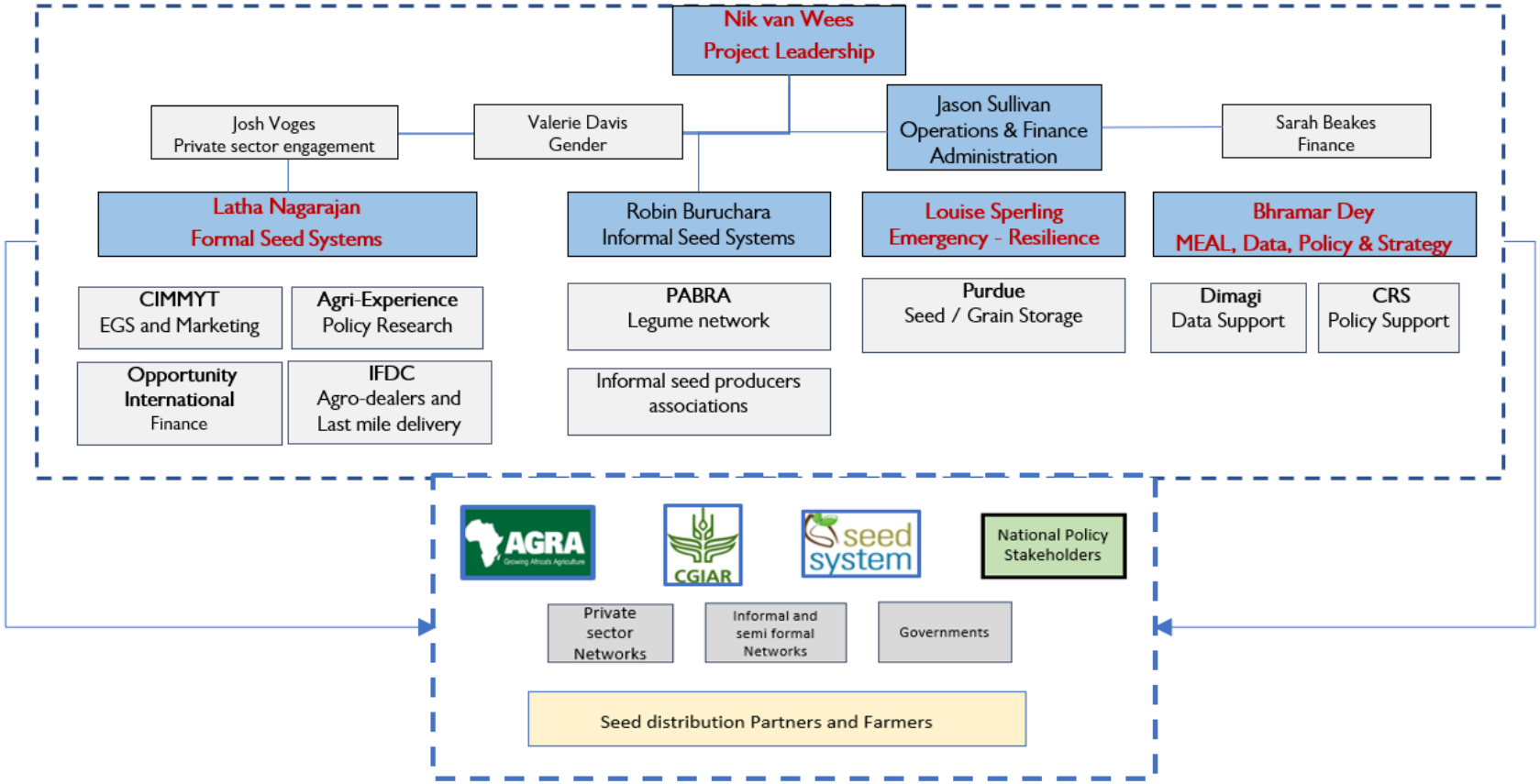
USAID Performance Indicator Reference Sheet
Name of Indicator: OUT-16. Number of information loops established and / or reinforced;
Name of Result Measured (DO, IR, sub-IR, Activity Purpose, Activity Outcome, Activity Output, etc.): Output
Link to foreign assistance and activity frameworks: S34D CCIR2.3
DESCRIPTION
Precise Definition(s): Information channels are feedback and feed-forward loops between different entities and seed actors. Sometimes, S34D will need to create a loop, while in other cases, strengthen an existing one.
Unit of Measure: Number
Disaggregated by: Type of loop (Feedback; feed-forward); Purpose of the loop; Stage of the loop (developing or piloting or adapting or scaling)
Rationale for Indicator *(optional)***:** Information flows - especially on seed systems - in a near real-time manner

influences seed supplies, and fosters efficient functioning of seed markets, especially in last-mile markets.
PLAN FOR DATA COLLECTION
Data Source: CRS and Dimgai
Method of Data Collection and Construction:
Reporting Frequency: Annually
TARGETS AND BASELINE
Direction of Change: N/A
Baseline Timeframe: Zero
DATA QUALITY ISSUES
Dates of Previous Data Quality Assessments and Name of Reviewer(s):
Date of Future Data Quality Assessments *(optional)***:** Before 11/24/19 and annually thereafter as required by CRS internal policies & procedures
CHANGES TO INDICATOR
Changes to Indicator:
Other Notes *(optional)**:***
THIS SHEET LAST UPDATED ON: 1 April 2019

Annex 7. S34D Organogram and Institutional Roles



Institutional Roles & Collaboration



Senior Management Team

KEY PERSONNEL

Annex 8. Branding Strategy and Marking Plan

CRS, as lead on the S34D activity, will ensure compliance by partners with both Feed the Future and USAID's branding and marking requirements, as set forth in 2 CFR 700.16, ADS 302.3.4 and Feed the Future branding guidance. Below is the S34D activity Branding Strategy and Marking Plan.

Positioning

CRS and its partners will use the name Feed the Future Global Supporting Seed Systems for Development activity for this activity and in all communications and materials directed to beneficiaries and cooperating country citizens. CRS and its consortium partners will use the exclusive branding and the USAID message, "This [product name] was made possible by the generous support from the American people through the U.S. Government's Feed the Future initiative and the United States Agency for International Development (USAID) through Cooperative Agreement 7200AA18LE00004. The contents are the responsibility of Catholic Relief Services and do not necessarily reflect the views of USAID or the United States Government." Equipment, publications and materials developed and produced under this activity will be co-branded Feed the Future and USAID, following the Feed the Future graphic and naming standards. In all materials and events, the activity will be branded as part of the *Feed the Future Global Supporting Seed Systems for Development activity*. As such, all materials will acknowledge that they were produced with support "from the American people." In cases where a local language predominates above English, the appropriate translation into the local language will be used in branding the program. Additional ideas to increase awareness that the American people support this program include: all technical experts and trainers will be trained to include in each presentation or training session a statement at the beginning of their meeting or training session that the technical assistance that they provide, and other program services are made possible because of "assistance from the American people." CRS will follow specific procedures for including the Branding Strategy requirements as stated in the mandatory internal reference Branding and Marking in USAID Automated Directives System, Chapter 320. Materials produced for the activity will include the Feed the Future logo in the upper left-hand corner, the USAID in the lower left corner, and CRS logo in the lower right, at a size equal to or smaller than the USAID logo. In addition, S34D consortium partners will be recognized with the logo structure as displaced on page 2 of this annual workplan at the bottom of activity produced materials, space permitting, depending on the work product.

Figure 3: S34D activity Consortium Partners' Logos

Publicizing the S34D Activity and its Activities

CRS will use the following communication tools to publicize the S34D activity and its implementation activities:

- Activity fact sheets
- Activity country profiles (menu of services)
- Beneficiary testimonials
- Field site visits
- Information graphics
- Media interviews
- Press conferences
- Press releases
- Print and online public service announcements
- Professional photographs
- Social media posts and online content
- "Transforming Lives" success stories
- Videos, webcasts, e-invitations, or other emails sent to group lists, such as participants for a training
- Session, blast emails or other Internet activities
- An S34D activity webpage may be considered in consultation with USAID.

S34D will ensure that prior to holding media interviews and press conferences, at either a global or country level that the activity has the concurrence of the appropriate USAID office and works closely with the communications specialist.

Key Milestones or Opportunities

The following key milestones or opportunities are anticipated to generate awareness that the S34D activity and its associated activities are from the American people. These milestones may be linked to specific points in time, such as the beginning or end of a program, or to an opportunity to showcase publications or other materials, research, findings or program success. These include, but are not limited to:

- Announcing findings from the situational analysis
- Communicating activity impact/overall results
- Launching the activity
- Highlighting success stories
- Promoting final or interim reports
- Publishing reports or studies, including the transformation and sustainability plans
- Securing endorsements from ministry and/or local organizations
- Spotlighting trends

Audiences

Subject to approval by USAID, Fed the Future Global Supporting Seed Systems for Development activity (S34D) has the following target audiences with whom it will promote and publicize USAID sponsorship:

a) *Primary Audience*—The primary audience for all materials and documents produced under this award is USAID staff in Washington and USAID Missions in cooperating countries.

b) *Secondary Audience*—The secondary audience for materials and documents produced under this award includes relevant country government ministries, non-governmental organizations, and private sector organizations and co-operating partners.

Acknowledgements

a) *Acknowledging Feed the Future and USAID*—The following acknowledgement will be included on external Feed the Future Global Supporting Seed Systems for Development (S34D) activity publications and internal publications, such as quarterly reports, as appropriate: "**This (report/ publication/document) is made possible by the generous support of the American people through *the* U.S. Government's Feed the Future initiative and the United States Agency for International Development (USAID) under Cooperative Agreement 7200AA18LE00004. The contents are the responsibility of Catholic Relief Services and do not necessarily reflect the views of USAID or the United States Government**."

b) *Acknowledging Host-Country Governments*—All Supporting Seed Systems for Development (S34D) activity documents will follow Feed the Future and USAID branding guidelines.

c) *Acknowledging Other Host-Country Partners*—Co-branding with civil society groups will occur when these organizations have contributed funds to the activity. Co-branding with in-country partners may also be desirable when trying to promote local ownership and capacity building. However, when products are fully funded by Feed the Future and USAID, USAID's approval is required for any exceptions to exclusive branding requirements.

Marking Plan

With reference to ADS 320.3.3.2, below is the S34D activity's Marking Plan.

Marking Plan for Materials to be Produced

The table (see below) outlines the types of materials that may be produced under the Feed the Future Global Supporting Seed Systems for Development (S34D) activity. Any materials that are not anticipated below, but are produced under the activity, will also be subject to branding and marking guidelines and USAID approval, as appropriate. Please note that marking is not required on items used as part of the administration of the award, such as stationery products, equipment and offices or office supplies. Thus, implementing partners' letterhead, name tags, business cards, office space, equipment and supplies are not subject to branding.

Marking Requirements

With reference to ADS 320.3.2.2, below is the draft Marking Plan:

Category	Type of Marking	Remarks
Administrative		
Stationery products (administrative business)	USAID standard graphic identity will not be used.	Pertains to letterhead, envelopes, and

		mailing labels
Stationery products (program related)	Feed the Future or USAID standard graphic identity will be used.	Pertains to letters that accompany program materials
Business cards	Feed the Future or USAID standard graphic identity will not be used on business cards. CRS and partners will use their own business cards but include the line "Supporting Seed Systems for Development activity" on the business card.	N/A
Office signs	Feed the Future or USAID standard graphic identity will not be used to mark activity offices.	N/A
Activity deliverables	The Feed the Future and USAID identities will be printed on the cover of documents; design follows guidelines for co-branding.	N/A
Website	This will follow the requirements of ADS 302.3.5.17: USAID-financed Third-Party Web Sites (Aug 2013).	N/A
Technical		
Technical reports and studies	The Feed the Future and USAID identities will be printed on the cover of documents; design follows guidelines for co-branding.	N/A
Briefing papers, memoranda and policy recommendations	The Feed the Future and USAID identities will be printed on the cover of documents; design follows guidelines for co-branding.	N/A
Government policies, strategies, plans and guidelines (regional, national and subnational levels) or other materials positioned as being from the host-country government	The Feed the Future and USAID identities will be printed on the cover of documents; design follows guidelines for co-branding.	N/A
Organizations' policies, strategies, plans and guidelines (e.g., an NGO's procedures manual, a workplace antidiscrimination policy) or other materials positioned as being from the host-country partner	The Feed the Future and USAID identities will be printed on the cover of documents; design follows guidelines for co-branding.	N/A

Training materials and manuals	The Feed the Future and USAID identities will be printed on the cover of documents; design follows guidelines for co-branding.	N/A
CD-ROMs	The Feed the Future and USAID identities will be printed on the cover of documents; design follows guidelines for co-branding.	N/A
PowerPoint presentations	The Feed the Future and USAID identities will be printed on the cover of documents; design follows guidelines for co-branding.	N/A
Conference posters and presentations	The Feed the Future and USAID identities will be printed on the cover of documents; design follows guidelines for co-branding.	N/A
Videos	The Feed the Future and USAID identities will be printed on the cover of documents; design follows guidelines for co-branding.	N/A
Program materials	The Feed the Future and USAID identities will be printed on the cover of documents; design follows guidelines for co-branding.	N/A
Technical web portal (housed within Activity Website noted above)	This will follow the requirements of ADS 302.3.5.17: USAID-financed Third-Party Web Sites (Aug 2013).	Individual documents included on the portal will be branded as appropriate
Promotional		
Event signs, banners and exhibition booths materials	The Feed the Future and USAID identities will be printed on the cover of documents; design follows guidelines for co-branding.	N/A
Activity promotional materials (e.g., success stories, beneficiary announcement of research, testimonials, findings or activity results)	The Feed the Future and USAID identities will be printed on the cover of documents; design follows guidelines for co-branding.	N/A
Materials for field site visits	USAID standard graphic identity will not be used.	N/A

Social Media/Online Outreach	This will follow USAID Graphics Standard Manual guidelines. A USAID branded photo will be displayed as the banner photo and acknowledgement of USAID support will appear in the "Profile" or "About" section. In consultation with the CO, COR and DOC team, social media will be part of an integrated communications campaign to communicate directly with stakeholders or beneficiaries.	N/A

Every S34D activity deliverable that is marked with the Feed the Future and USAID identities for the Feed the Future Global Supporting Seed Systems for Development (S34D) activity will follow design guidance for color, type and layout in the Graphic Standard Manual as related to equipment, reports, studies, events and public communication (including printed products, audio, visual and electronic communications). The Feed the Future and USAID logos will be used for programmatic correspondence. CRS letterhead will be used for administrative matters and will not bear the USAID logo. Business cards will not show the USAID logo. All studies, reports, publications, web sites, and all information and promotional products not authored, reviewed or edited by USAID will contain a provision substantially as follows: *"***This (*study*/*report*/*website*/*video*) is made possible by the generous support of the American people through *the* U.S. Government's Feed the Future initiative and the United States Agency for International Development (USAID)".**

Preproduction Review

CRS understands that USAID reserves the right to request preproduction review of USAID-funded public communications and program material for compliance with USAID graphic standards and the approved Marking Plan. Examples of (study) report, PowerPoint and trip report template are attached to the submission of the May 2019 FY19 AWP submission.

Annex 9. Environmental Mitigation and Management Plan (EMMP)

Summary of Activity

The past 10 years have seen major investments in upgrading seed systems. Most investments were in formal seed systems with emphasis on hybrid maize and vegetables. The Feed the Future Global Supporting Seeds Systems for Development (S34D) activity will : 1) focus on private sector supply of early generation seed (EGS) for a broader range of crops, 2) forge stronger links between formal and informal seed actors to expand the crops offered and accelerate varietal turnover, and 3) extend the market frontier for climate-smart crop combinations and varieties, including through emergency programming. In addition to maize, we will support 5+ legume crops and stress tolerant crops that will integrate with cereal systems to improve production, nutrition, and income and offer enhanced soil fertility, water management and livestock feed, using rotations, intercropping and cover crops. This approach will also support livestock with the promotion of fodder crops such as high protein forages. Based on USAID country mission demand, this activity is also positioned to support other stress tolerant crops such as millet, sorghum, cassava, yams, flood and drought tolerant rice.

Summary of IEE conditions in relation to overall activity implantation

The initial environmental examination (BFS-17-03-005, 05/11/17) assessed illustrative examples defined in the award's NFO. For each intermediate result and corresponding activities, we evaluate the risk of adverse impacts on the natural physical environment, particularly as they are related to the following sub activities: 1) Supporting the growth of foundation or certified seed companies and local community efforts to multiply seeds within informal systems 2)Small scale infrastructure rehabilitation or construction 3)Pesticide use that could be actions within the following a) Leverage and link emergency seed programs to support vulnerable smallholder farmers b)Develop shock responsive seed systems for great resilience c)Seed System Support Services to eliminate or reduce bottlenecks to see system development and bottlenecks to seed availability, seed access, and seed quality d) Intervening in both formal and informal seed systems e)Addressing other issues related to seed systems.

Many activity outputs follow an adaptive approach, where many of the activities will be developed following an initial consultation with stakeholders and/or other types of assessments that may identify or suggest activities that could result in adverse impacts where mitigation modalities are not readily apparent. In such case, CRS in collaboration with appropriate IP, MEO, or BEO to submit an Environmental Review Form/Checklist for approval to USAID before these activities. If any activity results in a recommendation of negative determination with conditions, the appropriate mitigation measures will be annexed into the activity EMMP for continued reporting.

Purpose

In accordance with 22CFR216 and USAID policy, the conditions and requirements defined in the activity IEE (BFS-17-03-005, 05/11/17) are considered mandatory and will be implemented, monitored, and reported upon. The purpose of this document is to address activities determined to have a negative impact on the natural physical environment in the activity IEE. This document will identify key mitigating actions, monitoring activities to ensure the practices are being followed in accordance with federal regulations, and timeline for reporting on such findings for adherence, reflection, and adaptation to any mitigating activity that may not be achieving desired impacts.

Mitigation

Condition # 1
Supporting the growth of foundation or certified seed companies and local community efforts to multiply seeds within informal systems • The program will rely on seed varieties that have already been developed, field tested and officially released. • Approved chemical and cultural pest and disease control measures will be practiced ensuring that seeds are free of seed-borne pests and diseases. • Only GMOs that have been evaluated in line with country regulations and are officially released will be promoted. • Where feasible, the use of out growers (contract seed growers) that already have access to irrigation facilities and can-do time and space isolation. • support to small scale irrigation for bulking Early Generation Seed. • Appropriate soil and water conservation practices will be promoted. • Capacity building for formal and informal seed systems actors.
Condition # 2
Use of Pesticides It is unlikely that the Seed Systems Support Activity will use pesticides but if necessary to use pesticides in implementation then, the SSSA will use and update the already approved PERSUAP developed for the seed scaling activity by AGRA Seed and Technology Scaling covering five countries (Mozambique, Ethiopia, Ghana, Tanzania and Malawi) and the proposed new AGRA PERSUAPs in the 6 other target countries (Burkina Faso, Kenya, Uganda, Rwanda, Mali, and Nigeria) which will evaluate the interventions for pesticide impacts on humans and environmental resources. The SSSA will use and update already approved PERSUAPs in any other country where pesticide use may be a needed action.
Condition #3
Development of Infrastructure • Water Quality Assessment (WQA) Plan will be put in place and in accordance with the USAID regulations • Ensure that construction or rehabilitation activities will be done within existing facilities where changes have already occurred and may not cover more than 10,000 sq. ft.

The following activities were recommended as a negative determination with conditions in the IEE:

- Leverage and link emergency and development seed programs to support vulnerable smallholder farmers
- Develop shock responsive seeds systems for greater resilience
- Seed system support services to eliminate or reduce bottlenecks to seed support systems development and bottlenecks to seed availability, seed access, and seed quality.
- Intervening in both formal and informal seeds systems
- Address other issues affecting seed systems

In the time from the development of the IEE as a part of the S3A NFO, slight changes have been made to the activities, titles and alignment within the logical framework. As such, Table 1 presents the outcome goals. Each outcome that includes corresponding activities that were recommended as a negative determination with conditions are indicated below with a blue (_) highlight

Table 1. Reference to logical framework of outcome goals for Activities that are recommended as a negative determination with conditions in the IEE highlighted in blue.

Intermediate Results	Sub Intermediate Results / Intervention Areas			
IR 1.1 Identified and mitigated constraints in formal seed systems to offer a broader range of crops, high quality seed, and seed business options	**Sub IR 1.1.1** Increase operational efficiency of seed companies	**Sub IR 1.1.2** Increase seed availability for climate smart crops through enhancing EGS capacities	**Sub IR 1.1.3** Strengthen capacity of local seed actors to extend customer base and support last mile	**Sub IR 1.1.4** Prototype sustainable models with private sector players to supply quality EGS and QDS to a range of suppliers and scale using innovative financing
IR 1.2 Strengthened capacity of informal seed systems to offer improved quality seeds	**Sub IR 1.2.1** Assess informal trader capacity and local seed networks	**Sub IR 1.2.2** Strengthen capacity of local seed entrepreneurs and non-traditional seed actors	**Sub IR 1.2.3** Validate business models to leverage integrated operations with formal enterprises	**Sub IR 1.2.4** Strengthen last mile delivery solutions through non-traditional partners and ICT
IR 1.3 Strengthened capacity of emergency and humanitarian aid programming to respond effectively to acute and chronic stresses	**Sub IR 1.3.1** Assess select emergency and humanitarian past actions: focus on farmer evaluation, new varieties, and markets (local and formal)			
IR 2.1 Strengthened interface and collaboration between formal and informal seed systems	**Sub IR 2.1.1** Assess local capacity and local seed network to develop strategies to interface, collaborate, and leverage	**Sub IR 2.1.2** Catalyze / support crop and seed platforms that link formal/informal	**Sub IR 2.1.3** Leverage and link Formal Sector suppliers and NARs / breeders with local farming communities and professionalized informal seed sellers	
IR 2.2 Strengthened interface and collaboration between development and relief to resilient and market-based seed systems	**Sub IR 2.2.1** Adapt and scale-up Seed System Security Assessments in Feed the Future Crisis Hotspot areas (focus on formal, semi-formal and informal seed systems)	**Sub IR 2.2.2** Develop and promote emergency and humanitarian responses that link relief to development, especially links to private sector and formal and biodiverse suppliers	**Sub IR 2.2.3** Leverage emergency and development seed programs to capture market opportunities from supply side to support vulnerable farmers in less prime market areas.	
CC IR-1 Improved effective policy and regulatory formulation for pluralistic seed systems	**CCIR 1.1** Develop country specific seed policy road maps	**CC IR-1.2** Develop and implement facilitation practices to expand / liberalize seed quality possibilities; expand market outlets/venue; and address counterfeit seed issues	**CCIR 1.3** Strengthen linkages and coordination of seed development efforts through consolidation of data and evidence	**CC IR-1.4** Research farmer adoption of new varieties for decentralized programs/crops in hot-spot areas – especially for women farmers
CC IR-2 Established quality information flows for seed systems	**CCIR 2.3** Enabling last mile markets for new and quality-assured seed varieties by developing, piloting, adapting, and scaling feed-forward and feedback mechanisms that loop farmers' preferences, as well as, provide information on new varieties and quality assured seed			

Table 2. Description of mitigation implementation and how mitigation is integrated into overall activities for activities corresponding with recommendation of negative determination with conditions

Ref to output	Title of Activity	Description of Activity
Description of mitigation implementation, responsible IPs, and how the mitigation in integrated into overall activity activities. This section will also include the proposed timing of mitigating activities.		
Sub IR1.1.4	**Scope options for supporting increased availability of EGS through private sector companies in E&SA**	Identify best entities and channels for ramping up reliable production of high quality EGS
The target of this activity is to clear priorities for Year 2 work to increase EGS supply in E&SA. The scoping will be conducted as a joint effort between multiple Implementing Partners; AGRA , STAK, STAM,QBS,MOALF-Ke, BMGF-TZ,USAID missions, MoA-MW, Globalseeds (MW), MUSECO(MW). The scoping work is meant to identify private sector partners with the capacity to sustainably increase the supply of EGS. In this case, to support the mitigating actions identified in the IEE, IPs will respond to prospective private sector partner's ability to act upon the previously defined mitigation modalities as a part of the scoping report.		
Sub IR1.2.2	**Develop/adapt extension tools on pre and post-harvest management**	A multi-disciplinary (researchers, extension and private sector) teams to assess the existing resource training manuals and current training of seed producers), adapt, develop and produced relevant manuals
The major output of this activity is to the development of training materials, which in itself is not expected to cause adverse negative impacts. However, this platform can be capitalized to include information necessary to reduce the risk of additional hazards, including guidance on proper pesticides use. One example of a pre- and post-harvest technology that will be recommended in this case are PICS bags, which are designed to reduce the need for the use of synthetic pesticides. PABRA will be involved and the activity is expected to take place over the FY19		
Sub IR1.2.2	**Support seed enterprises to establish marketing demos and market the seed along with PH technologies**	Expose seed producers (QDS; seed companies and farmer cooperatives / organizations) on establishing seed value chain demos, organize visits and in field days, linking to seed supply, participation in demos and field days.
PABRA will be responsible for this activity. The post-harvest technology that will be recommended in this case, is the PICS bags, which are designed to mitigate many of the adverse impacts identified in the IEE. Seed that receives market support will be supported on the condition that it conforms with the specification that it is free from pests or disease that may be spread as a result of these activities and that the seeds known varieties that have already been field tested and officially released.		
Sub IR1.2.3	**Test bundled distribution of quality seed + PHT + seed dressing in the TAZAMA corridor**	
Seed dressing Apron (metalaxyl) has known environmental hazards. S3A, CRS, and affiliated partners promotes, uses, and monitors a wide variety of IPM tools specific to each crop. As pesticide use questions arise the PIATA Programmatic PURSUAP provides mandates and best practices for reducing risks with storage, transport, use, disposal. As a part of mitigation measures, the seed treatment will be used exclusively to control damping off, as a seed dressing, through the identified activity output. To the best of our ability, the IPs will seek to mitigate human and environmental exposure to toxic substances including training of targeted stakeholders and routine monitoring of targeted enterprises to discern compliance.		
Sub IR1.3.2	**Feasibility study if IDPs/repatriates bring vectors of seed security actions**	remote- desk based (in close consultation) consultation with wider humanitarian community
As this is a desk-based study, there is not mitigation action necessary for this activity. CRS will be the lead partners for this output, in collaboration with CIAT. Should the resulting study identify recommendations that could result in a negative		

determination with conditions, the IP will submit an Environmental Review Form/Checklist for approval to USAID before initiation of these activities. This study is expected to be completed in FY19.		
Sub IR1.3.3	**Develop toolkit for shock responsive seeds systems**	vernacular advice catalogues for climate stress crops and varieties
CRS, in collaboration with leads of different seed sectors work stream (CIAT, PABRA, and IFDC), will incorporate learnings from the collective of initial assessments to develop a toolkit for shock responsive seeds systems. As this output is based on meetings and other academic reviews there are no anticipated adverse effects on the natural physical environment. Expected to be initiated in FY20, with no anticipated date from completions.		
Sub IR2.1.3	**Build capacity of Last Mile actors to deliver more quality seed to farmers**	Assess and develop tools to effectively scale capacity development
IFDC, Dimagi, and Opportunity International will work to assess, develop, and identify credit options, respectively, to build the capacity of last mile actors to deliver more quality seed to farmers. Should the resulting study identify recommendations that could result in a negative determination with conditions, the IP will submit an Environmental Review Form/Checklist for approval to USAID before initiation of these activities. This study is expected to be completed in FY19.		
Sub IR2.2.2-A	**Continue to develop mobile data collection tool format for SSSA**	Build platform in SurveyCTO; procure technology;
CRS/CIAT will develop a digital data collection tool for Seed System Security Assessments. As this output is pilot in a new method of data collection, there are no adverse impacts anticipated.		
Sub IR2.2.2-B	**Scoping of current formal/private sector links to emergency interventions (range and roles) including financing approaches**	Consultant remotely contacting key seed companies
CIAT will conduct the initial scoping study of private sector partners as a part of this activity to be completed in FY19. Should the resulting study identify recommendations that could result in a negative determination with conditions, the IP will submit an Environmental Review Form/Checklist for approval to USAID before initiation of these activities. This study is expected to be completed in FY19.		
Sub IR2.2.2-C	**Development of tool to assess resilience of supply, building on PCMA with intent to identify breaks in formal and informal in crisis period**	Consultant and working group
A consultant managed jointly by CIAT and CRS will be responsible for this activity in FY19. This activity identifies an academic exercise or study to assess resilience		
Sub IR2.2.2-D	**Review of data on informal market actors (esp. seed/grain traders). When possible, looking at existing data on financing mechanisms**	desk-based, existing data sets
CIAT will conduct a study to report learnings from information markets. Should the resulting study identify recommendations that could result in a negative determination with conditions, the IP will submit an Environmental Review Form/Checklist for approval to USAID before initiation of these activities. This study is expected to be completed in FY19.		
Sub IR2.2.2-E	**Original research on informal markets and seed/grain traders in high stress spots**	field research with teams to be identified. Hopefully add-ons to informal and ECR work

CIAT will conduct a study to report learnings from information markets. Should the resulting study identify recommendations that could result in a negative determination with conditions, the IP will submit an Environmental Review Form/Checklist for approval to USAID before initiation of these activities. This study is expected to be completed in FY19.		
Sub IR2.2.2-F	**Review of types of current market approaches support to local markets linked to seed security (humanitarian and development**	desk-based, remote communication
CRS-HRD will conduct a study to report learnings from information markets. Should the resulting study identify recommendations that could result in a negative determination with conditions, the IP will submit an Environmental Review Form/Checklist for approval to USAID before initiation of these activities. This study is expected to be completed in FY19.		
Sub IR2.2.3	**Encourage DiNERS to link with private sector -- before during and after implementation**	advice given as linked to each DiNER- S34D does not implement DiNERS
CRS implements Diversity and Nutrition for Enhanced Resilience (DiNER) Fairs as mechanism to link farmers with local suppliers, while disseminating appropriate technical information. AS this activity does not include the implementation of the DiNER Fair itself, but rather develop guidance for the implementing partners and other unaffiliated organizations.		
Sub IR 2.2.4	**Develop and test shock-responsive and resilience-based models--by crisis type, crop profile, and broad agro-ecological system**	Simulation based models to guide decision making
CIAT will conduct a study to simulate models for predictive qualities to determine adequate preparedness and strategic resources allocation. Should the resulting study identify recommendations that could result in a negative determination with conditions, the IP will submit an Environmental Review Form/Checklist for approval to USAID before initiation of these activities. This study is expected to be completed in FY19.		

Table 3. Mitigation monitoring plan

Indicator	Protocol	Responsible	Timing	Condition Addressed
# of private sectors partners identified that have the capacity to scale EGS	Capacity refers to the demonstrated ability to: •Use approved mechanism to prevent the spread of pests and diseases •Access to irrigation and infrastructure for space isolation •Follow Appropriate Soil and water conservation practices	AGRA , STAK, STAM,QBS,MOALF-Ke, BMGF-TZ,USAID missions, MoA-MW, Globalseeds (MW), MUSECO(MW).	Following delivery of scoping report	1
# of people trained on mitigating environmental damage from pesticides	Training of key individuals includes: •Overview of verification procedures to ensure adequate labelling of pesticides including PPE and environmental risks •Safeguard procedures to ensure health and safety of applicators as well as environmental protection •Proper storage protocol of hazardous products •Proper monitoring techniques to ensure efficacy	CRS, PABRA, IFDC	Annual	1
# of private sector partners charged with monitoring their own environmental compliance	Following identification and capacity building, private sector partners will be required to comply with environmental risk mitigation activities in compliance with activity support	Private sector partners, TBD	Annual	1
# of seed enterprises adopting PICS bags for pre- and post-harvest storage	Identifying the seed enterprises receiving marketing support that are using PICS bags in their own enterprise	PABRA	Annual	1
# of enterprises trained on date application of seed dressing	Training of key individuals includes: •Overview of verification procedures to ensure adequate labelling of pesticides including PPE and environmental risks •Safeguard procedures to ensure health and safety of applicators as well as environmental protection •Proper storage protocol of hazardous products •Proper monitoring techniques to ensure efficacy •Safe disposal techniques to prevent exposure to the environment	PABRA	Annual	2
% of enterprises adopting safe practices for seed treatment	Periodic inspection of seed treatment facilities to ensure that the enterprise is following the recommended practices in relation to the use of recommend pesticides	PABRA	Routine monitoring	2
# of communication products for relaying the dangers of treated seed	Label stickers, poster, and other types of communication products to prevent exposure of seed dressing. Report will be required for the number of different products as well as the number of units for each product	PABRA	Annual	2
# of farmers trained on safe handling and use of treated seed.	Training on the unique risks posed by treated seed to farmers that are targeted by the activity	PABRA	Annual	2
% of farmers adopting safe handling and use of treated seed	Periodic inspection of a select number of farmers to observe techniques when handling treated seed. Farmers may also be interviewed to determine recall of safety protocols.	PABRA	Routing Monitoring	2

Reporting

The conditions identified in the IEE will be communicated and reported to all Consortium Partners (CP) to ensure compliance through activity implementation. The development of mitigation activities will be a part of the Environmental Status Report. Reporting that coincides with annual reports will be reviewed by environmental compliance officer with the activity, to extract necessary information before it is then reported to the MEO or BEO as appropriate.

As the specific designee, the activity compliance officer will act as intermediary to update the MEO or BEO on activity activities, communicate concerns between with CPs, and facilitate reporting to ensure the compliance of activity activities with the conditions of the IEE.

For activity components that are being implemented as part of an adaptive approach, the activity compliance officer will extract key recommendations from the study or analysis to determine if Environmental Review Form/Checklist will be necessary. Based on the determination and analysis of that extracted information the compliance officer will facilitate the completion of the ERF and designate additional indicator protocols to ensure the mitigation practices are being followed. This/these indicators protocols will be incorporated into the EMMP mitigation monitoring plan.

EMMP Summary Table

IEE Condition	Mitigation	Monitoring	Timing and Responsible
Supporting the growth of foundation or certified seed companies and local community efforts to multiply seeds within informal systems	• The program will rely on seed varieties that have already been developed, field tested and officially released • Approved chemical and cultural pest and disease control measures will be practiced ensuring that seeds are free of seed-borne pests and diseases • Only GMOs that have been evaluated in line with country regulations and are officially released will be promoted. • Where feasible, the use of out growers (contract seed growers) that already have access to irrigation facilities and can-do time and space isolation • support to small scale irrigation for bulking Early Generation Seed • Appropriate soil and water conservation practices will be promoted • Capacity building for formal and informal seed systems actors	• # of private sectors partners identified that have the capacity to scale EGS • # of people trained on mitigating environmental damage from pesticides • # of private sector partners charged with monitoring their own environmental compliance • # of seed enterprises adopting PICS bags for pre- and post-harvest storage	AGRA , STAK, STAM,QBS,MOALF-Ke, BMGF-TZ,USAID missions, MoA-MW, Globalseeds (MW), MUSECO(MW). CRS, PABRA, IFDC Private sector partners, PABRA
Use of Pesticides	SSSA will use and update the already approved PERSUAP developed for the seed scaling activity by AGRA. To the best of our ability, the CPs will seek to mitigate human and environmental exposure to toxic substances including training of targeted stakeholders and routine monitoring of targeted enterprises to discern compliance.	• # of enterprises trained on date application of seed dressing • # of enterprises adopting safe practices for seed treatment • # of communication products for relaying the dangers of treated seed • # of farmers trained on safe handling and use of treated seed. • # of farmers adopting safe handling and use of treated seed	PABRA
Development of Infrastructure	• Water Quality Assessment (WQA) Plan will be put in place and in accordance with the USAID regulations • Ensure that construction or rehabilitation activities will be done within existing facilities where changes have already occurred and may not cover more than 10,000 sq. ft.	There are no anticipated activities that will fall into this condition. If the activities are identified through assessment, study, or other formative investigation, then appropriate monitoring indicators will be addended	N/A

Annex 10. AGRA Seed System Strategic Intervention Areas and Alignment with S34D

AGRA Seed Systems Strategic Intervention Areas	Alignment and complementarity with S34D
1) Improved seed policies at national and regional levels: • Understand and relate how policies have supported/hindered growth of private seed companies and retailers • Validate regional seed harmonization agreements at national levels • Advocate for seed policy reforms ---liberalize foundation seed supply policies • Policies around variety testing and release • Royalty charges for public varieties • Seed marketing by private seed companies • Advocate for increasing seed supply among SHF in agroecologies where new, higher-yielding varieties, climate smart varieties have been released • Work with national governments to monitor seed supply through creation and use of seed dashboards by public agencies	- Socialize national seed road maps and associated discussions and findings on exactly how to link with AGRA in specific countries - With S34D partners, provide feedback on implementation of regional harmonization at national levels to fill in knowledge gaps on implementation - Share evidence on S34D seed liberalization efforts (to extend market frontiers) for advocacy purposes and fill in gaps - Using last-mile services rendered by S34D, provide farmers' feedback on adoption of higher-yielding, as well as climate smart varieties. - Share reports and findings on metrics for seed system summaries at country levels to inform development and use of seed dashboards for integrated seed systems; thus, explore opportunities for AGRA to fill in data gaps - Fill in gaps on awareness around free seed distribution
2) Early Generation Seed Supply • Link at least 50 of the 109 seed companies to QBS and ensure access to high quality foundation seed. AGRA seed companies will become QBS clients. Some may also become out-growers of seeds. • Identify and support other non-maize EGS models: Invest and make grants to establish a new breed of stand-alone foundation seed suppliers who may also develop breeding operations leading to the development and licensing of propriety varieties; provide training so that production of certified seed does not compromise the product integrity from the high-quality foundation see	- Link S34D Seed producers to the AGRA seed companies to access good quality starting planting material? - Link up with AGRA efforts so S34D partners and seed producer groups have better access to EGS for a variety of crops - Expand/accelerate efforts to link additional seed companies to QBS using AGRA's approach? - Link with AGRA to help with identification of other approaches to support non-maize EGS models. Link S34D seed producers so they can access non-maize EGS through AGRA's efforts.
3) Expanding certified seed markets • Undertake a learning agenda with 10 most successful and 10 least successful seed companies to develop key lessons for use in mentoring and coaching using practical examples • Undertake a pilot in select countries (esp. in WA) with willing /collaborative regional and multinational companies in collaboration with local companies and national ministries to incubate a process for coaching and expanding competition • Develop innovative models to incentivize private seed companies to expand their portfolios and offerings to crops requiring PPP and where seed multiplication and distribution is marginally profitable (non-hybrids and VPCs)	- Use lessons by AGRA as input to increase operational efficiency for S34D seed companies - Share S34D lessons learnt with AGRA - Expand and accelerate efforts in collaboration with AGRA to share and co-develop innovative models to incentivize private seed companies to expand portfolios beyond maize. - Fill in gaps with learning studies and share the same with AGRA - Link up with willing and able AGRA seed companies to establish, scale last mile efforts under S34D activity. - Link up with AGRA private seed companies to access quality seeds. Coordinate S34D relief-to-development efforts

• In geographies (last-mile) where improved seed has still not been introduced, AGRA will provide financial support for the establishment of seed operations by currently active, proven seed companies.	
4) Increased awareness among local farmers • On-farm demonstration plots • Farmer field days • Agrodealers • Partner with companies to develop strategic promotion strategies • Treating farmers as customers and provide them with viable options to choose from • Recruiting and training local farmers to act as VBA • Radios • Collaborate with the National Seed Trade Associations (NSTAs), Fertilizer Associations to establish AGRA-led national strategic demos and FFDs promoting the integrated use of improved technologies and inputs (leading to advocacy for enabling policies) • Focus on building marketing systems by linking surplus-producing farmers and FOs to aggregators and grain traders	- Fill in gaps with studies and lessons learnt using data gathered using PoS applications - Expand and accelerate AGRA's efforts of linking seed producer groups with local grain traders and other output market nodes.
5) Increasing the density and sustainability of agro-dealer networks in key agro-ecologies • Survey and map, including needs assessment and characterization of existing Ads according to business size – thus, identify hub Ads, their needs, and also areas with fewer Ads. Enable targeted development of Ads in the new areas. • Provide business management and training to hub Ads. Strengthen linkage between seed companies and Ads • Design and implement a new system of demos along the agro-dealer network. Hubs will work with the retailers. Seed companies will develop small packs for these retailers. Participating agro-dealers will be required to follow-up and report on the use of small packs. • Increase use of the ICTs in – mobile money; geo-location of the Ads; monitor business transactions including demand estimation and volumes moved; accounting and record keeping among the hubs	- Best to not duplicate agro-dealer support, but accelerate and expand in different territories. - Share findings from learning studies to understand customer segments served by the agrodealers, as well as customer preferences especially smallholders.

------ End of FY19 AWP ------