



FEED THE FUTURE

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



THE ROLE OF SEED VOUCHERS AND FAIRS IN PROMOTING SEED MARKET DEVELOPMENT: OPPORTUNITIES AND LIMITATIONS



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Author's name: Marcia Croft with Valerie Davis, Shaun Ferris, Catherine Longley, and Noel Templer

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Technical office: USAID/RFS/CA

AOR name: Daniel Bailey

Language of document: English

Submitted by: Nikaj van Wees, Chief of Party S34D activity
Catholic Relief Services USCCB
228 West Lexington Street, Baltimore, MD 21201
Nikaj.vanwees@crs.org

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ACRONYMS

CRS	Catholic Relief Services
DFSA	Development Food Security Activity
DiNER	Diversity for Nutrition and Enhanced Resilience
EU	European Union
FAO	Food and Agriculture Organization
HH	Households
IFAD	International Fund for Agricultural Development
NGO	Non-governmental organization
PASP	Private Agricultural Service Provider
PICS	Purdue Improved Crop Storage bags
QDS	Quality Declared Seed
RAICES	Restorative Agriculture in Communities for Economic Sustainability
SILC	Savings and Internal Lending Communities
SVFs	Seed Vouchers and Fairs
UBALE	United in Building and Advancing Life Expectations
VBA	Village Based Agents
VSLA	Village Savings and Loan Associations

EXECUTIVE SUMMARY

Seed vouchers, seed voucher fairs, and their variants have expanded in their use and application over the last two decades. This report aims to identify whether or not seed vouchers, seed voucher fairs, and their variants implemented through emergency and/or resilience programming can promote seed market development over time, e.g., 2-5 year projects instead of 1-2 year projects. Strengthening capacity within the seed sector to support the emergence of a sustainable, market-based seed system can offer quality, affordable seeds to smallholder male and female farmers in the long term, but this has not always been an objective of seed vouchers and fairs. Following an examination of both adjustments to the seed voucher model itself as well as alternatives used in similar emergency and/or resilience contexts, many examples were found of approaches to foster sustainable market linkages which do not rely on seed fairs. Further data collection and analysis of five case studies demonstrate the impacts of seed fairs and other approaches on seed vendors, who remain available to farmers after project funding has ended. Strengthening the connections between vulnerable farmers and seed traders will be critical to ensure sustainable market linkages, however, the interactions that take place within seed fairs are not likely to be sufficient to create these linkages. Additional attention needs to be paid to potential market constraints such as low capacity of market actors, adapted goods and services, low demand, low purchasing power, and access to finance. The report suggests multiple ways to address each of these challenges to support seed market development over time with or without seed fairs. Based on the evidence collected to date, the report concludes that seed voucher fairs are not the most effective way to promote seed market development over long-term projects.

INTRODUCTION

Background

CRS and other organizations first started implementing Seed Vouchers and Fairs (SVFs) around the year 2000 to offer project participants choice and flexibility in accessing seeds and tools, as they recovered from crises¹. Though they were initiated as an alternative to direct seed distribution, SVFs have evolved into many different formulations, including seed vouchers without fairs, livelihood fairs, and Diversity for Nutrition and Enhanced Resilience (DiNER) fairs which expanded the range of products to include inputs, agricultural technologies, fishing gear, and small livestock, with an emphasis on nutritious foods. SVFs, seed vouchers, and DiNER fairs have expanded beyond their initial focus on paper vouchers to include both cash^{2,3,4} and e-voucher⁵ modalities to offer both increased flexibility and more efficient transactions. Though SVFs, seed vouchers, and DiNER fairs emerged as a tool to respond to emergencies and provide a means of transferring assets, they have been increasingly incorporated into long-term programming with the expectation that they may have the potential to support more sustainable market linkages.

Supply-side objectives of creating sustainable market linkages are not always explicitly included as objectives in seed voucher programming. The original 2002 CRS seed voucher manual⁶ highlighted the role of a seed fair in bringing buyers and sellers together but did not include any seed fair objectives on enhancing market linkages. The original guide also advocated against the use of cash (in place of vouchers) to avoid leakage, i.e. using cash for non-seed purposes. An updated SVF manual published in 2004⁷ included greater reference to the range of seed enterprises that might be included in seed fairs – both formal and informal – and included a review of support that might be needed to include smaller vendors in the program activities as well. In 2017, the updated Agriculture Fair and Voucher Manual¹ included stimulating seed markets and building up private sector businesses as secondary objectives, suggesting that guidance on seed fairs has strengthened its focus on supply-side interventions over time with greater roles of a range of private sector actors including formal and informal vendors.

Despite the increasing focus on supply-side objectives over time, there has not been clear evidence that the structure of SVFs is well-suited to create the desired long-term market connections between farmers and seed suppliers. Seed vouchers and fairs have had mixed results on long-term local production⁸ and linkages between vendors and fair participants⁹, and though SVFs, seed fairs, and DiNER fairs have long played a role in emergency response programming their impacts in long-term programming have not been systematically evaluated. This review examines a range of models for fostering sustainable market development that include seed fairs, SVF, DiNER fairs, and complementary approaches, in the context of longer-term programming.

Review Aims

This review aims to identify whether the seed voucher and SVF/DiNER model can be modified over time (e.g., 2-5 years) to build capacity within the seed sector to support the emergence of a sustainable, market-based seed system that offers quality, affordable seeds to smallholder male and female farmers. This scoping report presents a review of the wide variety of approaches that have been tested or recommended across International NGOs. These include both adjustments to the seed voucher and SVF/DiNER model itself as well as additional activities implemented alongside or in place of SVF/DiNER fairs to address market constraints and promote the emergence of alternative viable seed markets.

Resilience Context

The focus of this report is on the nexus between relief and development where programs specifically seek to respond to immediate needs while strengthening sustainable, local seed systems (see Annex I). In contexts where recurring natural disasters or conflict exist, market actors can face a variety of constraints that limit access, availability, and utilization of essential resources, such as quality seed. Importantly, market-based approaches have a greater likelihood of promoting more sustainable and inclusive market participation on the part of vulnerable communities, but these approaches might require a shift away from seed fairs or distributions. Designing responsive and appropriate market-based approaches requires developing a nuanced understanding of both the current context and the types of seeds required by target market segments, or types of customers.

Part 1: Literature Review

Expanding Market Frontiers for Seed

Thorough seed system assessments can help practitioners to understand the formal and informal seed markets so that responses can be designed to increase the range and quality of seed products that farmers can access by expanding market access frontiers (Figure 1)¹⁰. The market access diagram in Figure 1 indicates the market segments who may or may not have access to a specific variety. If an enterprise wants to expand the geographic or farmer market segment to include more buyers, they must address the market constraints that prevent new customers from accessing these seeds. The challenge for private sector actors and NGOs is finding ways to encourage regular seed purchases that provide a sustainable business opportunity for the seller and a valued service for the farmers that justify and encourage payment.

It is possible for seed vouchers and fairs to temporarily expand market frontiers by improving access for clients, but the challenge remains in creating sustainable change.



Figure 1. Market Frontier Model from Porteous (2005).

Framework for Analysis

The framework used for grouping intervention approaches is the CRS Responses to Common Market Constraints¹¹, shown below in **Figure 2**. The common market constraints shown in the first column often appear in groups and can be present in markets across emergency or development contexts. The responses shown in the second column can take a variety of forms, but it is critical to match the responses to identified market constraints. As indicated in the market frontier model (Figure 1), there are many potential seed customers not currently accessing the market in categories 2, 3, 4, and 5. The common market constraints listed below explain why potential customers are not currently being served by the market. Seed fairs and their variants have been used to respond to many of these market constraints, in addition to many alternatives to these approaches. The review will group categories of interventions by market constraint responses.

Figure 2. CRS Responses to Common Market Constraints

Market constraints	Responses
Low capacity of market actors	Strengthen capacity of market actors
Weak market linkages	Strengthen market linkages
Products and services do not meet needs	Catalyze adapted goods and services
Absence of (perceived) demand	Generate demand
Low purchasing power	Improve purchasing power
Limited access to finance	Increase access to finance
Inadequate business enabling environment	Enhance business enabling environment

Intervention Approaches

A. Strengthen Capacity of Market Actors

- **Strengthen Business Skills:** Strengthening the business skills of seed suppliers can encompass everything from specific sales and marketing strategies to general enterprise development^{12,13}.
 - ❖ **Marketing strategies:** Basic marketing strategies could include options such as offering buyers test seed packs or discounts for larger purchases¹² and this sales method can be used by seed fair vendors to draw in business, either at a seed fair or in their regular businesses. More in-depth marketing surveys and seed systems analysis could be used to complement broader marketing strategies, if time allows.
 - ❖ **Gender-sensitive targeting:** Projects can also support vendors to develop a new customer base, through gender-sensitive services including targeting strategies for women, men, male and female youth, and other vulnerable groups. This market strategy is used by CRS as part of the sales approach used by fee-for-service agents, Private Agricultural Service Provider (PASP) model.
 - ❖ **New points of sale:** In CRS Niger’s Girma DFSA, the project pays a gradually decreasing subsidy toward the cost for a seed company to set up a new “point of sale,” essentially covering the costs of a new private sector staff who is dedicated to expanding agricultural input sales with a focus on quality seed. This approach expands the seed company’s market frontier by targeting populations in a location currently beyond the market reach, through a temporary subsidy. These interventions allow enterprises to extend their capacity to reach and serve new target populations through formal, certified seed channels.
- **Strengthen Seed Technical Skills:** Working with vendors who do not specialize in seed to improve their knowledge of seed-specific technical skills can support higher quality products for consumers. Improved seed storage such as using PICS bags and other types of improved packaging can support seed quality and extend shelf life^{13,14}.
 - ❖ CRS Nepal Gorkha Recovery and Resilience Program worked with seed vendors to understand which questions to ask of their suppliers to ensure their stocks were high quality¹⁵.

- ❖ Working with informal seed vendors to separate grain and potential seed stocks^{13,14} has also been employed to ensure customers can access a higher-quality product.
- ❖ Training seed vendors (including PASPs) on crop varieties and their production requirements so that vendors can offer agricultural extension advice as part of their services.
- ❖ FAO has combined business and seed technical capacity strengthening in their work with seed producer groups and local seed producer associations in Haiti and South Sudan, where FAO strengthens their capacities to produce high-quality seed and their ability to compete with existing seed businesses^{4,16}.

☞ In summary, SVFs, seed vouchers, and DiNER fairs have generally had limited success in strengthening the capacity of market actors beyond the training necessary to comply with procurement guidelines. It may be possible to include the kinds of capacity strengthening listed above as accompaniment to SVF, seed vouchers, or DiNER fairs if this was prioritized by project teams.

B. Improve Market Linkages

- **Facilitate linkages to seed multipliers:** Facilitating market linkages can be an important step to creating more resilient markets at many levels in the seed value chain. Specifically at the production level, seed multipliers can be linked to customers as either formal seed companies or local farmers. This approach was employed in the CRS Nepal Gorkha Recovery and Resilience Program¹⁵ by linking local agrodealer/seed vendors to national-level seed companies who were able to offer a more diverse range of improved crop varieties that had previously been unavailable in local markets.
 - ❖ In CRS Sudan’s RISING II and Taadoud II projects, seed multiplier groups were trained by Taadoud II project and then linked to DiNER fairs offered in the emergency response RISING II project, which allows them to benefit from temporary boosts in sales through the fairs while encouraging connections between emergency and development projects.
 - ❖ FAO South Sudan worked with seed multipliers to build their capacity in interventions where cash was the selected modality⁴.
 - ❖ CARE partnered with a private company who provided training to farmer seed multiplier groups on good agricultural practices and access the foundation seed needed for multiplying, then purchased and certified the seed and offered it at subsequent seed fairs (without subsidies) along with other seed¹⁷.
 - ❖ FAO Haiti established seed producer groups that supply seed for the fairs, but this particular version of the model had weak linkages to other vendors or customers who would purchase their seed if the fair was not offered¹⁶.
- **Facilitate linkages at a regional or national level:** Though most projects focused on facilitating local linkages for accessing seed through local input suppliers, there can be a role

for regional or national seed companies and research institutions in humanitarian-development nexus contexts, especially for introducing new and/or improved varieties.

- ❖ In the CRS Niger Girma project, this has taken place through a national seed company who has been expanding their sales into the project region, with support from the Girma team. This seed company now sells through local general stores (not specific to agricultural goods) which can be found at the town rather than village level.
- ❖ This approach of linking regional and national actors could also take place through linkages to research institutions (public or private) who may be able to provide foundation seed of new varieties for multiplication by local seed producer groups for onwards sales, where permitted by law. In the CRS Nepal case, national university partners were consulted on which maize and rice varieties to include in seed distributions, though seed vendors did not interact directly with these institutions.
- **Facilitate linkages at a local level:** Many SVF/DiNER fairs have emphasized the use of local rather than regional vendors as a way to include market actors that are more likely to continue serving the local population post-fair^{2,9,13,18,19,20}. These local vendors may include informal traders and seed banks as well as farmers cooperatives, where alternatives do not exist^{18,21}.
 - ❖ Evidence from the USAID-funded NAFKA II project implemented by ACDI/VOCA in Tanzania suggests that adoption of improved inputs is increased when vendors are within a 5 km radius of project participants²². Including these local vendors, on its own is unlikely to be sufficient to sustain linkages post-fair⁹, though in many cases vendors felt that their customer base would expand as a result of the fairs²³.
 - ❖ One way to foster longer-term relationships between vendors and customers could be to offer vendors the chance to present themselves and advertise their shop and products during the fair, orally or through pamphlets or other advertising materials^{12,24}. This could also include creating opportunities for local vendors to participate in and contribute to other project activities such as agricultural trainings and/or demonstration plots on the use of their products.
 - ❖ Transport subsidies to vendors could increase vendor willingness to participate in fairs¹⁴ but this strategy would only build long-term market linkages if vendors were prepared to pay for outlets in project zones⁹. This could be possible if participants (and non-target customers) use their own cash to purchase goods^{1,25}.
 - ❖ It may also be helpful for project staff to reduce subsidies in arranging fairs (or transition to fairs without vouchers) to create more of a free market system. This would help seed and input suppliers to make decisions on whether the project site has sufficient demand to maintain a presence before the project closes^{5,13}.
- **Facilitate linkages at the last mile:** Many different last-mile delivery models exist, and this review will not be exhaustive. No examples of last-mile delivery included seed fairs or vouchers, however.

- ❖ The CRS gender-sensitive PASP model has been piloted in Guatemala, Rwanda, and Senegal. PAsPs sell agricultural inputs at a village level and also provide agricultural extension. Similarly, CARE provided new agrodealers in Ethiopia with business training and an initial subsidy to reduce their risk to encourage new agricultural outlets in remote areas²⁶.
- ❖ In Bangladesh, CARE partnered with a social enterprise to offer micro-franchises of an existing agro-input company at more local levels²⁷. New entrepreneurs played an important distributor role with support from the project and parent company.
- ❖ In Eastern Kenya, FRESHCO seed company and the International Fertilizer Development Center are piloting a similar micro-franchise model that leverages motorcycle taxi drivers to help reach the most remote customers²⁸. Expanding delivery options can also support last-mile seed sales, as vendors suggested mobile outlets via bikes or vans following CRS seed fairs in Zimbabwe⁹.
- ❖ The Alliance for a Green Revolution in Africa has worked with local government extension agents to train Village-Based Agents (VBAs) who receive inputs on credit from private sector input suppliers, demonstrate best practices, and train local farmers who they also link to the necessary inputs²⁹.
- ❖ NAFKA II piloted a similar last-mile model in Tanzania in collaboration with international seed vendors^{19,22,30} by soliciting donated seed which was distributed in small test packets to training participants in the first season by lead farmers. In subsequent seasons, participating farmers were able to buy more seeds through lead farmers or agrodealers who became local input dealers, providing linkages to major seed retailers like Monsanto and Syngenta. Data were then generated from the agrodealers on sales to illustrate the benefits of the small packets accompanied with extension knowledge.
- ❖ Beyond NGOs, a number of social enterprises have emerged that have similar last-mile models for reaching rural farmers. One Acre Fund focuses on delivering high-quality inputs to farmers by providing credit, delivering the inputs, supporting farmers with technical assistance, and purchasing the produce from them to link farmers to output markets³¹. Kuza has used a similar Rural Youth Agent model and a digital platform, which helps youth provide extension services as well as input sales, mechanization services, credit, markets, and other services³². Though no longer operating, Tulaa offered a digital platform that offers farmers access to credit, inputs, output markets, and crop insurance, as well as regular SMS messages on good agricultural practices³³. These social enterprises can be valuable partners for NGOs in seeking to expand the market frontier for quality seeds.

☞ In summary, SVFs and DiNER fairs have been designed to address a lack of market linkages between vendors selling seed and crisis-affected producers. Linkages may be at the national, local, or last-mile level, but there is only anecdotal evidence that these linkages persist after programming ends.

C. Catalyze Adapted Goods and Services

- **Support vendors to offer small seed packets:** When seed is available only in large packages it can be prohibitively expensive to smallholder farmers and discourage testing out new varieties. Supporting vendors to package improved (or other) varieties in small test packets for sale or SVFs can help farmers afford improved varieties or experiment with new crops and/or varieties^{14,15,19,22}. For example, Kenya Seed Company provides a range of agronomic crops in 2 kg packages such as rice and maize, while other seeds are offered in even smaller packages.
- **Bundling seeds with other products:** Selling more nutritious crops as a set package with staple crop seeds could offer farmers the chance to diversify their farms with minimal additional expense^{9,12}. Bundling inputs in appropriate quantities could also encourage farmers to adopt good agricultural practices while increasing sales for agrodealers. This has been successfully implemented by myAgro through bundles that include seed and fertilizer to plant a 10x10 m vegetable garden, in addition to other services³⁴. In Mozambique, a government-FAO-EU-IFAD subsidy scheme (2009-2015) was implemented using vouchers, with seed-fertilizer packs made available at fairs for maize and rice³⁵.
- **Support adapted services for vulnerable populations:** Supporting vendors such as PASPs to understand gender dynamics that effect their businesses and adopt gender-sensitive targeting strategies could help vulnerable populations access and benefit from critical goods and services. Training and de-risking new business strategies could be important components for success in this approach.
- **Crowd in market actors offering new varieties:** When no seed vendors serve a particular market, it may be feasible to catalyze new services in this area by working with a single enterprise. This may often be a formal seed vendor offering improved varieties, and while this may lead to an initial monopoly on the market, other market actors are likely to join (or crowd in) and compete if this new market proves profitable. This has been the approach employed by CRS Niger in the Girma project, which supports Ferme Amate to sell seeds in an area with few formal seeds available and also for vegetable growers in Myanmar³⁶ in a Mercy Corps partnership with East-West Seeds.

☞ In summary, SVFs and DiNER fairs may have potential to help catalyze new adapted goods and services, though they would not be a sufficient means to launch new products. Any new goods or services that are intended to serve project participants would need to be accompanied by demand generation and awareness raising, along with an increase in supply through markets beyond fairs.

D. Generate Demand

- **Provide opportunities for vendor advertisements:** In addition to supporting demand for improved seeds, projects may also choose to provide opportunities for company specific marketing. This could include allowing vendors to advertise themselves before or during seed fairs and describe the product they offer, orally or through pamphlets, as above^{12,21} and/or create opportunities for local vendors to participate in and contribute to project trainings on the use of their products. As with any new product, customers would need to be

aware of the benefits as well as where to purchase it for successful uptake, so these two approaches can go hand-in-hand.

- **Provide sample packets of new varieties:** Small packets can offer producers the opportunity to try new varieties that they may be willing to purchase for trial plots or in future seasons. As in the NAFKA II project Tanzania^{19,22,30}, providing these for free or subsidized – in conjunction with demonstration plots – encouraged producer experimentation and eventual adoption.
- **Share messages on benefits of improved seed:** In locations where demand for quality seed is low, projects may choose to support advertising for improved products, either paid for with project funds or shared with private sector market actors. This could include more extensive use of demonstration plots, including messages about quality inputs in project trainings on agricultural practices and hiring marketing firms, radio advertisements, or TV programs^{9,12,13,14,15,19,22,37}.

☞ In summary, SVFs, seed vouchers, and DiNER fairs generate temporary demand for the products offered through fairs but would need to be complemented by other demand generation interventions to promote long-term demand.

E. Improve Purchasing Power

- **Gradually reducing subsidies:** While both vouchers and cash modalities increase purchasing power for project participants, they can reduce willingness to pay for goods or services if used inappropriately. Gradually reducing support to project participants to purchase seeds can encourage longer-term market linkages while providing the support needed immediately following a shock^{13,38}.
- **Invite seed vendors to SILC or VSLA share-out events:** CRS Savings and Internal Lending Communities (SILC) groups or Village Savings and Loan Association (VSLA) include annual share-out events where participants receive payouts from the money saved through these groups. CRS Ghana linked vendors providing seeds with these village-level share-out events when community members had a boost in purchasing power. Timing these events with the agricultural season could also create win-win situations for vendors and customers. In CRS Senegal, farmers participated in SILC groups with the intention of using share-out revenues to purchase sorghum seeds. Producers were also linked to sorghum markets, supporting their ability to receive a high return on investment in improved sorghum seeds.
- **Encourage household budgeting for seeds:** Training on financial management and shared household decision making has many benefits and could include messages about planning ahead for purchasing seeds. For example, CRS RAICES project in Guatemala, El Salvador, and Honduras included SILC and training on financial management in conjunction with project support to PASPs offering seeds and other agricultural inputs.

☞ In summary, SVFs, seed vouchers, and DiNER fairs temporarily increase purchasing power, but would not be sufficient on their own to increase purchasing power long-term.

F. Increase Access to Finance

- **Link vendors to financial service providers to participate in fairs:** For smaller vendors, the working capital requirements to participate in SVF/DiNER fairs may be prohibitive if reimbursement processes are slow. Facilitating linkages to microfinance institutions or other financial service providers could lower barriers to entry for smaller vendors. This process could be facilitated by providing a pre-screening of potential loan clients to microfinance institutions so that working capital loans can be expedited in the event of an emergency. For seed vendors to improve their credit-readiness, capacity strengthening and accompaniment for skills such as business recordkeeping and cash flow accounting may be necessary. No examples of this have been found, but it may be an option to consider for future projects.
- **Fairs offer goods on credit:** In Cambodia, FAO offered agricultural inputs through farmer groups, who place their orders at the beginning of the season and repaid 60% of the value of the goods following harvest³⁷. Facilitating repayment through producer organizations can support group accountability while the level of subsidy offered by the project can vary depending on the context.
- **Village-based savings and lending models:** SILC, VSLA, and other savings models offer access to loans and saving services, even in remote areas where formal financial services are not available. These groups offer small loans to members, which can be used to increase producers' purchasing power at times when their financial resources may otherwise be limited. If the loan cycle and share out are targeted to purchasing inputs, then the timings for the pay out and loan products needs to be adapted to the agricultural calendar. SILC groups have been used in CRS projects in Niger, Guatemala, Senegal, and Uganda, in addition to many others. Savings plans for agricultural inputs are offered through myAgro, which has demonstrated success in helping farmers avoid loans for inputs and instead provides a mobile layaway plan for customers³⁴. In Mozambique, SDC-funded InnovAgro project worked with VSLAs to offer a new savings product specifically targeted toward saving for seeds and inputs needed at the beginning of the planting season³⁹.
- **Selling seeds through retailers with no/low upfront costs:** For retailers stocking inputs like seed, paying upfront for the products can tie up working capital and discourage offering a variety of options²⁵. Projects can support or de-risk business models that allow retailers to pay low or no upfront costs to stock seeds and repay seed suppliers only when seed is purchased. This model is used in the CRS Niger Girma project and can help expand and diversify the range of seed products offered at a local level.

☞ In summary, SVFs, seed vouchers, and DiNER fairs could be used as platforms to increase access to finance (as in Cambodia), though ideally the project would not serve as a long-term source of finance for producers. SVFs could be used in conjunction with other project interventions, such as SILC or VSLA, to generate more sustainable linkages.

G. Enhance Business Enabling Environment

- **Advocacy for flexible requirement during crises:** Government regulations can restrict market actor participation in SVF/DiNER fairs through strict quality requirements or registration requirements that are often prohibitive of smaller or informal vendors. Projects can collaborate with private and civil society organizations to advocate for relaxed

requirements during periods of emergency response to facilitate more inclusive and diverse participation in fairs. Even with shorter project timelines, the long-term presence of many NGOs can be a strength in advocating for policy changes that often take place over many years. An alternative approach could include advocacy for cash programming, which provides participants with the flexibility to purchase seed from any vendor (formal or informal).

- **Working groups support public-private dialogue:** In Myanmar, Mercy Corps has formed the Vegetable Sector Acceleration Task Force with partners such as Syngenta and the Ministry of Agriculture, Livestock, and Irrigation³⁶. Members convene to discuss topics such as wholesale market policies as well as seed sector laws. This platform gives public and private sector actors the chance to learn from each other and facilitate development of policies that will support sustainable market development.
- **Advocacy for smaller enterprises to counteract power of larger businesses:** If larger seed enterprises are attempting to use their power and influence to negatively impact local seed vendors serving target populations, projects may choose to advocate on behalf of smaller seed vendors or convene platforms for these businesses to raise their concerns. In many cases, small businesses do not coordinate to advocate for their policy concerns with a unified message and civil society actors can play the role of neutral third party to bring together public and private actors to support an inclusive business environment. Government policies can also facilitate multiple classes of registered, unregistered, or “truthfully labeled” seed that allows customers to select for themselves the level of quality they prefer. More flexibility from a regulatory standpoint can help facilitate a broader array of quality seeds of different standards in the market and increase customer choice.

☞ In summary, SVFs, seed vouchers, and DiNER fairs could be significantly impacted (positively or negatively) by the enabling environment and humanitarian actors could play an important role in facilitating dialog between public and private sectors. Advocating for policy changes that benefit vulnerable populations and increase access to high-quality seeds can only take place over time. Projects that operate in disabling business environments should consider incorporating activities aimed at improving the enabling environment when a longer timeline permits.

Literature Review Conclusion

Despite the increasing focus on supply-side objectives over time, there has not been clear evidence that the structure of SVFs is well-suited to create the desired long-term market connections between farmers and seed suppliers. Though SVFs, seed fairs, and DiNER fairs have long played a role in emergency response programming, the increasing prevalence of cash programming is an option that is far more likely to work directly through existing market channels (see Annex I). The interactions that take place within occasional SVFs and DiNER fairs are often not sufficient to create sustainable market linkages^{2,3,23}, suggesting that project teams should pursue other interventions for facilitating these long-term impacts. Seed fairs can offer benefits in terms of providing high-quality products (verified by project staff), and an expanded (or narrowed) range of seed options in comparison to the local market. However, seed fairs address only a narrow range of market constraints – temporarily improving purchasing power and market linkages – which may help to explain why SVFs alone are not likely to be sufficient to strengthen markets and expand market access frontiers.

Project teams have a wide variety of available approaches beyond seed fairs as they seek to foster sustainable market linkages. Selecting the appropriate strategy will need to be grounded in a thorough understanding of the seed sector and market constraints that impact the local context. This may vary by crop and should be influenced by the type of seed available (i.e. hybrid and non-hybrid). There are relatively few retrospective studies that can offer evidence on the role of project interventions in creating long-term market linkages^{9,23}, and more research is needed on the approaches that best facilitate long-term seed market development. To date, there has been little evidence that seed fairs lead to sustainable market development^{2,3,23}, but a range of alternative approaches exist that are appropriate to the humanitarian-development nexus and can be incorporated and adapted to the local context, seed systems, and project timelines. While seed fairs may continue to play a role in short-term, emergency response programming that revolves around short funding cycles, opportunities exist in long-term programming to be more intentional about fostering sustainable business relationships between farmers and various types of seed suppliers who sell quality seed of improved varieties.

Part 2: Case Studies

Case Study Methods

The literature review presented in Part 1 suggests that there is limited evidence that seed vouchers and fairs support seed market development over time. This hypothesis was tested through the case studies which form the focus of Part 2.

The research questions these case studies were designed to address are:

1. What approaches were (or could have been) employed to facilitate long-term market linkages?
2. How effective were these approaches at ensuring sustainable market linkages?
3. What barriers exist to adopting these approaches?

Data collection took place through semi-structured key informant interviews with project staff and private sector actors. Five case studies were selected to represent a range of contexts and challenges. Project documentation was reviewed to provide context and project staff were interviewed first to provide an overview of project approaches and implementation strategy. Two to four private sector seed vendors for each project were then interviewed to better understand the impact of the project on their businesses and whether they continue to serve project participants. Vendors were selected to include both large and small businesses as well as the perspectives of men and women, wherever possible. Following interviews, case study summaries were prepared and shared with project staff for validation.

Case Studies

The details on the five case studies are included in the table below and the following summaries.

	Nepal	Malawi	Uganda	Guatemala	Ghana
Lead	CRS	CRS	CRS	CRS	CARE
Project Duration	2016-2020	2014-2019	2017-2022	2020-2022	2018-2021
Project Budget	\$11M	\$65M	\$35M	\$6M	
Donor	Multiple ¹	USAID	USAID	USAID	Anonymous
Modality	Direct seed distribution	Vouchers at DiNER fairs	DiNER fairs + PASPs	Cash at DiNER fairs + PASPs	No subsidy; coordinated fairs
Fairs implemented	Year 1	Year 1-4	Year 1-4; decreasing subsidy	Year 1	Year 1-2

¹ Australia Development Corporation, Caritas Australia, Spain, and Canada, and LDS Charities.

H. Case Study Nepal

Project: Gorkha Recovery and Resilience Program

Sponsor: Austrian Development Cooperation, Caritas Spain, Caritas Canada, Caritas Austria, Latter-day Saint Charities

Duration: 2016-2020

Budget: \$11M

Context:

Large scale damage to households' seed storage structures and loss of stored cereal seeds was one of the key impacts of the earthquake on community livelihoods that struck Nepal in 2015. A large majority of households in remote locations did not have access to markets to buy seeds and lack of funds and multiple competing priorities following the earthquake meant that communities did not have access to quality cereal seeds for restarting their production. The agrodealers in the local market hubs, who also suffered significant losses in the earthquake, were unable restart their businesses to meet the demand for seeds. It is under this context that CRS decided to work with local agrodealers to support communities' access to quality seeds through direct seed distribution.

Approach:

In addition to responding to communities' rebuilding needs, the Gorkha Recovery and Resilience Program promoted improved seed varieties in affected communities. Project staff worked with local universities to identify improved maize and rice OPV varieties that were adapted to specific altitudes, then consulted community members to identify the altitudes of each of their production plots. Seeds were distributed in the first year of the project to community members based on their responses, e.g. high-altitude producers received high-altitude adapted seeds.

Improved varieties of maize and rice seeds were not commonly demanded by local producers, as most producers save their own traditional seeds. In addition, most of the required improved varieties were not available locally, even in project locations where multiple agrodealers had shops and sold a variety of agricultural inputs. The low supply and low demand for improved varieties were a challenge for the project, but the project sought to create strong partnerships with private sector agrodealers.

The project identified 6 local agrodealers and worked to strengthen their capacity in many areas. Local agrodealers did not have connections to sources of the improved seed varieties, so the project facilitated linkages to national-level seed companies that were able to supply the selected varieties. The project also provided training on seed quality to ensure that agrodealers were able to source high quality seeds as well as repackage seeds into smaller quantities with the appropriate information on seed source, germination rate, etc. Vendors learned about seed vigor, purity, and the seed certification process and were able to share this information with customers. High quality seed packaging was also important in preserving the quality of the seeds.

Because many of the project villages were extremely remote, the project delivered the seeds directly to end users. Some villages could only be reached after several days of travel by mule, so bringing producers together for seed fairs was determined not to be a feasible approach. Project staff delivered the improved varieties to participants along with extension information and demonstration plots for the new varieties. The seed distributions took place early in the project but did not continue into the later years. Under the Gorkha Earthquake Recovery and Resilience project, CRS and partners distributed 113,606 kgs of seeds (four varieties of maize and six varieties of rice) to 30,082 HHs. Post distribution monitoring showed that 97% of the seed recipients planted the seeds and 79% reported germination to be either very good or good.

Impacts:

Producers in this region traditionally save their own maize and rice seeds and the improved varieties were open pollinated as well so there was not a strong incentive for producers to seek out agrodealers year after year post-project. While other crops such as vegetables are often purchased annually, the low demand for improved cereal varieties is still a challenge for sustainable market linkages for maize and rice. Despite this, both interviewed vendors said that they have continued to sustain market linkages for these crops in different ways.

The agrodealers located in town centers noted that they had previously worked primarily with individual farmers. One vendor noted that through the project, he was able to visit more remote villages and build contacts with smaller seed vendors in those areas. These smaller vendors continue to purchase seed from the larger agrodealers, ensuring access to quality seeds in the more remote regions. Though this does not appear to be part of the project approach, it has had a positive impact for vendors and producers.

Both agrodealers noted that their relationships with the national-level seed suppliers continue, which has enabled them to procure larger quantities and increase sales. Though they packaged cereal seeds in small quantities for the project, they have not continued to sell small packages due to a lack of demand for the small packages and the increased production costs.

Because the project delivered seeds directly to participants, there were not opportunities to facilitate market linkages directly between agrodealers and project participants. However, the linkages between larger and smaller seed vendors appears to have facilitated an improved supply of quality seeds at the last mile without project support. The ongoing relationship with national-level seed companies also continues to facilitate the introduction of new and improved varieties.

Considerations:

Though the project had a strong approach for increasing the supply of improved varieties, the challenges of low demand were not as much of a focus. One vendor noted that having the opportunity to advertise his business more would have been beneficial for creating linkages, but it may have helped drive demand for other improved varieties as well. Including vendors in agricultural extension trainings could have offered opportunities to build relationships between producers and vendors as well. Gender-sensitive or youth-targeted business practices were not included in the project approach but could be considered in the future. The linkages to smaller, last-mile seed vendors had positive impacts and could be more intentionally integrated into future programming.

I. Case Study Malawi

Project: United in Building and Advancing Life Expectations (UBALE)

Sponsor: USAID

Duration: 2014-2019

Budget: \$65M

Context:

The United in Building and Advancing Life Expectations (UBALE) Development Food Assistance Program (DFAP) targeted 250,000 vulnerable households in three districts in southern Malawi. UBALE focused on reducing chronic malnutrition and food insecurity and building resilience among vulnerable populations. Through close collaboration with Government of Malawi ministries and other stakeholders, the UBALE program aimed to reduce chronic malnutrition and food insecurity and build resilience among vulnerable populations in three of the most food-insecure, chronically malnourished, and disaster-prone districts of Southern Malawi. UBALE worked towards 1) smallholder farming households sustainably increasing productivity of nutritious and profitable farm products, 2) vulnerable rural households successfully engaging with markets, 3) reducing stunting among children under five, 4) households and communities being more resilient to shocks and, in a cross-cutting manner, 4) underlying systems and structures are sustainably contributing to reducing chronic malnutrition and food insecurity while building resilience. DiNER fairs were included in the first four years of the project.

Approach:

DiNER fairs took place during both rain-fed and winter seasons with a variety of vendors providing access to improved seeds. Wherever possible, Quality Declared Seed and/or Certified Seeds were included. Though the project attempted to include local vendors, local vendors were found to be too small and unable to meet the volumes needed by the project. Instead, the project worked with district-level vendors who were able to meet Government of Malawi regulations and CRS procurement guidelines.

In total, UBALE worked with over 20 DiNER fair vendors, though each fair might include 7 or 8 vendors. Market assessments were carried out to map vendors and the products and volumes they sold, though only formal vendors who were registered with the government were included in the assessment. Larger vendors were able to travel to many different fairs, while smaller vendors may have participated in only a few of the biannual fairs. In some cases, the project supported vendors to register with seed associations, which was a step taken in response to demands by seed traders.

From the second year of the project onward, some vendors established (or helped others to establish) demonstration plots to raise awareness about the improved seed varieties. These demonstration plots also helped advertise the vendors as a source for high quality inputs as well. Vendors were also invited to join monitoring visits to check the quality of seeds distributed through DiNER fairs. The crops targeted by the DiNER fairs were primarily used for home consumption purposes, though some cash crops were included as well. Seeds for nutritious crops were included in the fairs, as these were not locally available on the market.

Of the more than 20 vendors who participated in DiNER fairs, 3-4 were owned by women. The project did not specifically seek out or target female-owned businesses for participating in the fairs, which was reflected by the vendors who were selected. Project staff did not notice any differences in the male or female-owned businesses in terms of their ability to continue serving producers. Vendors also shared that they did not have specific strategies for reaching female or youth clients, stating that their needs were the same as any other customers.

Impact:

Vendors who participated in the UBALE DFAP stated that they have continued to serve many clients from the DiNER fairs. The fairs brought in a large profit for both agrodealers interviewed, who said that these events were very helpful for their businesses. Both stated that they had increased the number of sales outlets as a result of the DiNER fairs, which could help to increase access to improved seed in remote locations. Neither agrodealer interviewed had strategies or plans to adapt their business practices to address the needs of women or youth but suggested that women might take up income generating activities to be able to afford more inputs. The agrodealers were very positive about their experience working in DiNER fairs and encouraged the expansion and increase in number of future DiNER fairs.

Considerations:

By working only with larger formal vendors, the project may have inadvertently excluded more local and potentially female-owned businesses from participating in the DiNER fairs. If the project had included a strategy for reaching female-owned businesses or provided training to vendors on meeting the needs of female customers, it may have been possible to avoid any unintended gender bias in the DiNER fairs. Including training for vendors may have also altered business practices in ways that could help to meet the needs of female clients post-project and encourage more inclusive businesses. None of the interviews included in this case study suggested that the needs of female participants had not been met, though female producers were not included in the data collection.

While local vendors may be more likely to continue serving targeted populations after the end of the project, both of the larger agrodealers interviewed stated that they had continued serving many of the farmers who participated in DiNER fairs. It may be possible to include smaller, more informal, and local vendors in the future with updated CRS procurement guidelines and this could contribute to more project funds being spent closer to targeted communities.

The UBALE approach included Marketing Field Agents, who were trained to create marketing clubs with targeted producers. Marketing Field Agents help producers aggregate their products, identify buyers, and negotiate fair prices, for which the agents receive a commission. These agents also supported marketing clubs to purchase inputs in bulk by facilitating linkages in some of the same areas where DiNER fairs took place. One alternative approach that could be considered for future programming would be to link the marketing clubs to producers participating in the DiNER fairs. If participants received cash for inputs or vouchers that were redeemable through group purchases of inputs, these two approaches could be more closely linked and help promote connections to both input and output markets. This may pose challenges to project implementation, as marketing clubs were formed only after a few years and DiNER fair participants were limited to the most vulnerable while marketing clubs were open to all. Gradually phasing out DiNER fairs or providing the most vulnerable households with cash transfers may be able to address some of these challenges.

J. Case Study Uganda

Project: Nuyok

Sponsor: USAID

Duration: 2017-2022

Budget: \$35M

Context:

The CRS-led DFSA Nuyok is implemented in Karamoja, which is considered one of the least developed sub-regions in Uganda. It has been the site for many development projects and is a regular site for government-distributed free seed. An estimated 80% of residents live in absolute poverty;⁴⁰ 73% of HH heads have never attended school and 98% of women aged 15 to 49 have not completed primary school.⁴¹ Myriad environmental, socioeconomic, political, and historical factors contribute to food and nutrition insecurity in Karamoja, but recent years have seen positive changes.

Approach:

The Nuyok project includes multiple years of DiNER fairs with gradually decreasing subsidies and capacity strengthening for existing and new input vendors. DiNER fairs were fully subsidized in the first year, subsidized at 80% in the second year, 60% in the third year, and will not be subsidized in fourth year. The project supported field agents in the first year who were expected to transition to PASPs by years 2 and 3. Though not all continued with the project, seven total input dealers continued, serving communities and participating in DiNER fairs. In addition to the seven project-supported input vendors, nine existing input vendors joined DiNER fairs making the total of 16 vendors.

The project supported input vendors with connections to seed companies, which were incredibly important to the vendors. These seed companies were able to offer seeds on consignment so that input dealers only need to pay a fraction of the cost of the seeds upfront in order to stock the seeds (repaying a total of \$65,000 of seed sales). Vendors noted that they had dramatically increased their quantity (volume) and diversity (variety) of seeds for sale, from approximately 3 to 15 different crops over the years according to one vendor. Mentorship was provided by the project on what kinds of seeds to stock and help in planning for the agricultural season. The project also linked vendors to finance through SILC and through collaboration with the Mastercard Farmer Network and Equity Bank to provide loans to farmers in the form of seed rather than cash. As described below, the project created demand through a combination of demonstration gardens and DiNER fairs, which were designed to respond to project-sponsored assessments of farmer demand for crops.

Input vendors were selected to come from project communities and have a record of accomplishment in sales. Input vendors share weather forecast information with participant farmers as well as advice on agronomy, crop selection (OPV vs. hybrid), and appropriate planting rates. Input vendors also host their own demonstration gardens and train lead farmers to plant demonstration gardens, which has increased the market for their seeds. This platform enables the farmers see in detail the variety performance based on known attributes like yield, early maturity, or drought tolerance. The vendors provide after-sales services such as replacement or compensations for crops that did not germinate well and follow up with farmers to ensure they are satisfied with their purchases.

Impacts:

The input vendors describe large impacts of participating in project DiNER fairs. One vendor stated that the large volumes of seed he has been able to sell through collaborating with the project has allowed him to open three more service points. The high seed quality vendors offer through project-facilitated linkages has also been a draw for repeat customers. As one vendor describes, in the first DiNER fair participants selected more OPV than hybrid maize while by the second fair the hybrid maize was preferred based on the experiences of the participants with the previous season's crop. A

different vendor stated that stocking new products was a significant draw for repeat customers, including seven farmers who had come to his shop since the DiNER fair four days ago to purchase groundnut seeds.

Impacts from participating in the project include many new business practices. In addition to the three new service points, a separate vendor stated that he now offers extension services to other sub counties not included in the project. Demonstration plots were a new approach for the vendors, which one stated was critical to market continuity for the products including seed. Providing after-sales services was a new practice, allowing vendors to also collect feedback on variety performance in farmer fields. Additional varieties, such as QDS iron-rich beans, have been included through project connections and overall diversity of seeds has increased over the project lifetime.

All three interviewed vendors stated that they continue to serve project participants and highlighted the quality of the seeds as a primary driver. Agronomic advice remained a strong connection to participants as well and was a new service for input vendors. Close proximity has helped vendors draw in customers as well as the new varieties offered through DiNER fairs which brought customers back seeking specific varieties. Changing climatic conditions were also cited as an important factor driving up demand for improved varieties.

Considerations:

Vendors were generally very positive about their experience with the project but included a few suggestions for improvement. Improved communication between vendors, the project, and participants around expectation setting for the exit strategy and decreasing subsidies was suggested. One vendor specifically requested a post-fair meeting to share lessons learned with project staff and vendors. Some suggested more advertisements or information sharing with community for vendors to create more visibility. One vendor mentioned that linkages to output markets would help DiNER fair participants generate income beyond supporting their ability to meet food security needs. Other suggestions include engaging youth to provide technical services, addressing postharvest losses, and focusing on locals as agrodealers. It will help input vendors to cover more area if their numbers are gradually increased throughout the remainder of the project. Hiring youth as sales agents can also expand coverage as well.

K. Case Study Guatemala

Project: RAICES

Sponsor: USAID (OFDA/BHA)

Duration: 2020-2022

Budget: \$6M

Context:

The Dry Corridor of Guatemala has been characterized by repeated periods of drought, inconsistent rainfall, and short periods of intense rain that contribute to multiple consecutive seasons of crop losses or failure. Tens of thousands of smallholder farmers who rely on small plots of often degraded land have been unable to meet their basic food and income needs. As of March 2020, this has led to more than 500,000 people experiencing crisis-level food insecurity⁴² and more than one million requiring emergency food assistance.⁴³ The economic impacts of COVID-19 are expected to double these numbers in the face of exacerbated economic vulnerability.

Approach:

The RAICES-DFP OFDA project incorporates SILC, disaster risk reduction, conservation agriculture, agricultural diversification, and community-based veterinary services to contribute to building diversified and resilient agricultural livelihoods. The Guatemala Country Program has strong experience with both DiNER fairs and PASPs, which are both incorporated into the RAICES project. Both paravets² and PASPs will be trained by the RAICES project, though only paravets have received training at this time.

To respond to food insecurity, cash transfers are combined with DiNER fairs to provide access to a variety of crop and livestock agricultural inputs in the first and second years. Previous cash transfer programs had some challenges but this program combined DiNER fairs with transfers of approximately \$65 per household in the first year. Project participants were organized through community leaders to travel in small groups to central locations and collect the cash transfer from financial institutions on the days when DiNER fairs took place. Due to COVID restrictions, the fairs took place over 2 weeks with only small numbers of participants in each fair at a time. Project staff encouraged all participants to spend at least \$55 of their \$65 by the time they left the fair, though some participants purchased inputs with their own money in addition to the cash transfers.

Both paravets and PASPs will be trained by the RAICES project on technical and gender-sensitive business skills. DiNER fairs were organized in April 2021 to include paravets; PASPs could be included in the future but had not received training yet. Paravets were stationed closest to the entrance of the DiNER fairs to attract attention and also raise awareness about the services they offer, which many fair participants were not aware of. PASPs and paravets are selected separately but chosen based on their interest and qualifications.

Impacts:

Though the project is still in very early phases, the combination of cash transfers and DiNER fairs seems to be convenient for project participants. The fact that some participants spent their own money at fairs also suggests that the fairs were meeting the demands of participants with appropriate goods.

² Para veterinary workers are those people who assist a veterinary physician in the performance of their duties, or carry out animal health procedures autonomously as part of a veterinary care system. A person who, for the purposes of the *Terrestrial Code*, is authorised by the *veterinary statutory body* to carry out certain designated tasks (dependent upon the category of *veterinary para-professional*) in a country, and delegated to them under the responsibility and direction of a *veterinarian*. The tasks authorized for each category of *veterinary para-professional* should be defined by the *veterinary statutory body* depending on qualifications and training, and according to need (World Organisation for Animal Health, 2006).

Paravets benefitted from participating by generating demand for their services as well as making a high profit. One paravet was able to make \$52 in one day, equivalent to one week's income even with the limited number of participants in each DiNER fair. Paravets that participated in the DiNER fairs still needed some support from staff to keep track of their income during fairs as they are still in early phases of their training. In the future PASPs will be able to join and based on team experience are likely to earn even more than paravets from their goods and services.

Though DiNER fairs required a lot of staff time to prepare, the fairs from the first two years of the project might be able to help launch the paravets and PASPs toward success in providing sustainable access to goods and services post-project. DiNER fairs provide a great incentive early on for new paravets and PASPs by generating significant income in a short period of time and raising awareness about their services. Positioning them close to fair entrances also helped to ensure that fair participants took notice and may have been more likely to select the paravets over other vendors.

If cash transfer programming had been implemented without DiNER fairs, it might have been possible for fair participants to access the agricultural inputs they needed but at the risk of receiving low quality services and products. Project staff were careful to sensitize vendors about the importance of bringing high-quality inputs and one staff member was dedicated to checking the quality of inputs. While paravets and participants may have been able to travel individually to reach each other, hosting DiNER fairs helped coordinate travel among many people (saving costs) and raised awareness about paravets who might otherwise have been unknown to fair participants.

Considerations:

Vendors from this project were not interviewed as part of this case study due to the early nature of project implementation but it seems likely that they were satisfied with their experience joining DiNER fairs due to the high profits they received. In the future, it will be helpful to include PASPs in the DiNER fairs as well to raise awareness. The combination of technical and business skills capacity strengthening will be important to ensure the paravets and PASPs are able to operate independently during future DiNER fairs and post-project. Opening DiNER fairs to non-project participant farmers could also help generate business for paravets and PASPs, once COVID-19 restrictions are lifted.

L. Case Study Ghana

Project: Agro-Source (CARE)

Sponsor: anonymous donor

Duration: 2018-2021

Budget: Funded through anonymous donor as part of the She Feeds the World signature program

Context:

The Agro-Source project targets producers in Ghana's Upper East Region (Garu, Tempene & Bawku West districts) and Upper West Region (Lambussie & Namdom districts). In these regions, accessing quality inputs is often a challenge and many smallholder farmers will travel long distances to purchase inputs. Despite the potential demand, agricultural input dealers are scarce and the lack of last-mile delivery agents negatively impacts the production capacity of smallholder farmers, especially women.

Approach:

The goal of the Agro-Source project is to increase the availability, access, and use of high-quality agricultural inputs for 30,000 smallholder female farmers. The approach includes training agrodealers to sell agricultural inputs in rural communities, facilitating linkages between seed multipliers and private sector seed companies, and organizing agricultural input fairs that bring together producers and vendors.

Of the 142 (41 female) agrodealers that were trained by the project and the Ghanaian government, all were selected to come from project communities to ensure they were well known and trusted by local producers. The project facilitated linkages to private sector suppliers for agricultural inputs to the agrodealers and most carry the same kinds of fertilizer with a few different pesticides. These agrodealers have also been involved in training community members on production practices with high-quality inputs. Agrodealers describe learning from local producers as well as other input dealers about best practices in production as well as how to give training.

Linkages between seed multipliers and two seed companies helped to facilitate availability of quality seed at the community level. Two private seed companies were connected to new seed multipliers from project communities. The two-year project started with 66 outgrowers and reached 230 by the end of the project (169 female), with which the two seed companies say they will largely continue working. The private companies (with project support in some cases) provided foundation seed to multipliers, who were then obligated to repay the cost of the foundation seed at the end of the season. Outgrowers used high-quality seed and also maintained demonstration plots in local communities for the cowpea, sorghum, rice, soy, and groundnut certified seeds. Outgrowers could choose to sell their seed to the private companies or local community members, as long as they repaid the costs of foundation seed. Because the private seed companies were registered to sell certified seed, only the companies could package and sell seed as certified, whereas the outgrowers could sell the same seed at a slightly lower price because it was not officially certified. In the future, some outgrowers are becoming registered themselves in order to be able to sell certified seed. Initially, outgrowers would sell about 80% of their seeds back to the companies but at the end of the project 65%-100% were sold to local community members. The increasing demand was attributed to the combination of local producers seeing firsthand the quality of the improved crop varieties and the trust of local outgrowers, fake seed had previously been a problem. Registering outgrowers to become certified seed vendors didn't seem to be a threat to the two seed companies' business models, possibly because of their focus on institutional buyers. With 70%-80% of their seed sold directly to government or other institutions, it would be unlikely for seed companies to compete with local outgrowers for smallholder farmers' seed business.

The project facilitated 6-10 fairs in each district at the beginning of the agricultural season, which included 4-5 government agencies, other NGOs, 3 agrodealers per fair, and 500-600 local producers. No cash, vouchers, or other incentives were provided to local producers. Government agencies and NGOs were present to provide advice on quality inputs and production practices, while agrodealers coordinated among themselves to make sure that 3 local agrodealers attended each fair to sell agrochemicals. More than 3 agrodealers per fair was determined to be too many for each agrodealer to make a sufficient profit.

Impacts:

Overall, the project appears to have positively impacted the supply and demand for high-quality inputs through its approaches. The 230 seed multipliers produced 101.7 tons of seed across two seasons, dramatically increasing the supply of quality seeds at the community level. There were challenges early on with the project-identified outgrowers because they lacked the experience of existing outgrowers who had a relationship with the private companies. The seed companies said that more handholding was needed early on, and they were obligated to come pick up the seed rather than outgrowers delivering it to their warehouse, which was common practice for the existing outgrowers. In addition, some outgrowers complained that late delivery of foundation seed impacted their production potential while the debt for foundation seed remained the same.

Despite these challenges, only about 5-10 outgrowers were unable to repay the cost of the foundation seed and the seed companies intend to continue working with the majority of the new outgrowers. Both private seed companies describe an increase in customers from the project communities as a result of the collaboration. The growing proportion of community seed purchases (from 20% to about 65% of total production) also suggests a growing and sustainable market for quality seed. The price for the outgrowers' seed was twice as high as local grain, which also suggests that local producers recognize the value of this product. Because both seed companies sell a majority (70%-80%) of their seeds to government or other institutional buyers rather than end users, the approach of selling seeds through community-based multipliers seems like an appropriate alternative to building up sales agents with the private companies.

Because the project did not include cash, vouchers, or other subsidies in its input fairs, the fairs' success suggests that there is strong local demand for agricultural inputs. In the future, it is not clear if government, other NGOs, or agrodealers will take on the role of organizing similar fairs, but agrodealers stated that they were able to make connections through the fairs and serve new customers as a result. One agrodealer stated that his demand had outstripped his supply, which could be a challenge if he is unable to restock through linkages to suppliers. The agrodealers can also serve as a sustainable link to extension information in addition to inputs. The combination of last-mile supply and demand for high-quality inputs seems highly likely to continue serving local producers after the end of the project.

Considerations:

One major challenge highlighted by seed companies, outgrowers, and agrodealers was working capital. Seed companies faced working capital challenges because they sell seed primarily to the government, which has a very delayed payment schedule. The companies sometimes pass these challenges along to outgrowers, who complained of late payments for their seed. One outgrower shared that she had chosen to sell her seed to Togolese buyers instead of the seed company because they could pay her on time. An agrodealer also stated that his demand had outstripped supply, and he was forced to use a motorbike to transport goods when fairs were cancelled for COVID-19 but he was unable to deliver the full amount of inputs that his customers had requested. He is now seeking credit to purchase a means of transport to address local needs. With a longer timeline, it may have been possible to facilitate linkages to working capital loans for men, women, and businesses, which are likely larger than local VSLAs are able to provide. Improved access to finance could address some of the growth challenges

experienced by agrodealers, outgrowers, and private seed companies. In the future, private seed companies may use working capital loans to expand their sales and distribution networks to diversify their sales base beyond institutional buyers. Though government and institutions can be large seed customers, their demand can fluctuate based on funding levels and focusing on local producer demand may prove to be a more sustainable strategy for the seed companies.

Case Study Summary

In each of the case studies included above, vendors stated that they were continuing to serve the project participants. There is likely some response bias among participating vendors to give responses that they anticipate the interviewer is looking for, but this is generally a positive finding. The enduring connection was mentioned even in cases where fairs had not taken place (Nepal) and vendors had no direct interactions with participants. In the case of Nepal, vendors stated that they had continued serving communities through last mile sales agents, which were employed in Uganda, Guatemala, and Ghana. It may have been possible to achieve the same goals without the use of subsidized fairs, as was the case in Ghana, though this has not been tested in an emergency response context.

In both Uganda and Malawi, vendors who participated in fairs were able to open new service locations with the income generated through participating in fairs. Whether or not these additional outlets prove to be sustainable has yet to be seen, but at least in the case of Malawi where project interventions ended two years ago, they appear to be meeting existing demand. The additional service points expand last-mile access to their products, but it may have been possible to incentivize vendors to create these sales points through other means. Perhaps subsidizing the costs of a new location (as has taken place in other projects) would have been a more cost-effective strategy, which could be complemented by (e)vouchers to support vulnerable households and link them to the new locations. PASPs, input vendors, or agrodealers are all potential last-mile approaches that could complement vouchers even in non-fair settings.

Quality was another issue raised by project staff (especially in Guatemala) as a challenge when working through existing market channels. Poor seed quality and fake seed can be major challenges for producers, especially those who are not used to purchasing seed and do not have trusted vendors to go to. By selecting known vendors, seed fairs can avoid these issues, though the standard quality checks for seed (germination tests) cannot be carried out in the short time permitted to actually verify seed quality. Seed fairs are not necessarily an ideal filter for excluding poor quality and should only be applied when: farmers do not have trusted vendors available; poor seed quality in local markets has been confirmed; and project staff can confirm in advance that the seed vendors contracted for seeds will offer an above-market quality product. Addressing poor quality seed in the market would require long-term engagement at the policy level with regulatory authorities, inspectors, seed companies, agrodealers, and other retailers, but seed fairs may be justified as a stopgap measure if they are able to meet the criteria outlined above.

As noted in Uganda, close proximity and high-quality seeds were able to bring back repeat customers, even immediately following a subsidized fair. Last mile delivery and high seed quality can be some of the benefits of seed fairs, though ideally these traits would not need project facilitation after the end of the project. To ensure that seed fairs and vouchers are implemented only when necessary, other approaches should be considered first and SVFs applied only when no other alternatives are possible rather than as a go-to activity. Based on the data collected so far, the interactions that take place within seed fairs are not usually sufficient to create sustainable market linkages and they may not be necessary to achieve these linkages as well. Project teams should aim to facilitate proximity of sales points and high-quality agricultural inputs through alternative market-based approaches wherever possible, though SVFs will likely continue to play a role as stopgap measures and in emergency situations.

Conclusion

Seed vouchers and seed voucher fairs have been implemented in a wide variety of contexts across the humanitarian-development nexus. Over the last 20+ years, a variety of complementary interventions have been piloted alongside seed vouchers to address many different market constraints. With the increase in the prevalence of cash programming, the benefits in flexibility and time savings may lead to a decrease in the use of vouchers and fairs for seed in the future. Vouchers may continue to play an important role in contexts where low quality or fake seeds are common in the local market and humanitarian actors can verify seed quality. Fairs may also continue to fill a gap when project participants cannot physically access markets and last-mile delivery services are not an option. Vouchers may continue to help projects influence participant seed purchases, for example encouraging the purchase of vegetables and other nutritious crops. However, when projects have 2-5 years (or more) to facilitate participant access to quality seeds, teams should explore alternatives to seed vouchers and fairs. Thorough gender-sensitive seed systems and market analyses can help project teams design appropriate responses to address identified market constraints. The examples in this review are not an exhaustive list but provide potential approaches to address seed security without the use of seed fairs. The evidence from both case studies and the documented literature suggest that seed voucher fairs are not the most effective way to promote seed market development over long-term projects, but that many alternatives exist to these approaches.

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Annex I. Summary Table of Market Constraints and Potential Responses

Market Constraint	Potential seed security responses
<i>Low capacity of market actors</i>	<ul style="list-style-type: none"> ▪ Strengthen business skills of formal and/or informal seed traders ▪ Strengthen seed technical skills for specialized topics relevant to seed sales
<i>Weak market linkages</i>	<ul style="list-style-type: none"> ▪ Facilitate market linkages to seed multipliers for seed enterprises ▪ Facilitate linkages at a regional or national level ▪ Facilitate linkages at a local level at a local capital level ▪ Facilitate linkages at the last mile to deliver seeds directly to farmers
<i>Products and services do not meet needs</i>	<ul style="list-style-type: none"> ▪ Smaller seed packets to allow farmers to try new varieties ▪ Bundling seeds with other products such as new seeds or complementary inputs ▪ Support adapted services for vulnerable populations ▪ Crowd in market actors offering new varieties
<i>Absence of demand</i>	<ul style="list-style-type: none"> ▪ Provide opportunities for vendor advertisements at project events ▪ Sample packets of new varieties, either free or for a small price ▪ Raise awareness of improved seed through appropriate Social Behavior Change strategies
<i>Low purchasing power</i>	<ul style="list-style-type: none"> ▪ Gradually reducing subsidies to temporarily address purchasing power while increase incomes through complementary interventions ▪ Coordinate seed vendors and saving and lending groups to facilitate availability of seeds and cash at the same time ▪ Encourage household budgeting and joint decision-making for seeds through complementary activities
<i>Limited access to finance</i>	<ul style="list-style-type: none"> ▪ Link seed traders to financial services providers to expand their business or borrow working capital necessary to meet customer needs ▪ Provide goods on credit through seed fairs, allowing farmers to access seeds at planting to repay after harvest ▪ Include local savings and lending models to facilitate farmer access to credit ▪ Work with seed enterprises and retailers to ensure no or low upfront costs for seed retailers to stock new varieties
<i>Inadequate business enabling environment</i>	<ul style="list-style-type: none"> ▪ Advocate for flexible seed regulations during crises so that quality regulations do not exclude informal seed traders or a timely response to crises ▪ Working groups to support public-private sector dialogue and enhance the seed business enabling environment ▪ Advocacy on behalf of smaller seed businesses to counteract the business power of larger seed enterprises

Annex II. Changing Businesses Practices for Local and Regional Seed Vendors in Madagascar

As part of the Southern Africa Regional Office (SARO) DiNER study⁹, vendors were surveyed post-fair to learn from their experiences participating in the fairs. The data from the 29 vendors included in Madagascar were re-analyzed for differences between local and more distant vendors. In general, the data show that more distant vendors were more likely to change their business practices than the local vendors, though the sample size for distant vendors was small.

Of the 29 vendors who participated, 6 came from distant regions and 23 were local, though 6 of the local vendors did not sell seed in the DiNER fairs. Distant vendors were overwhelmingly male (5 out of 6), while all but one of the 23 local vendors were female. All of the distant vendors stated that they had used specific strategies to attract female customers, while only 19 of the 23 local vendors (83%) did. These strategies included bringing varieties that women prefer, engaging actively with women during the fair, and packing seeds in smaller quantities.

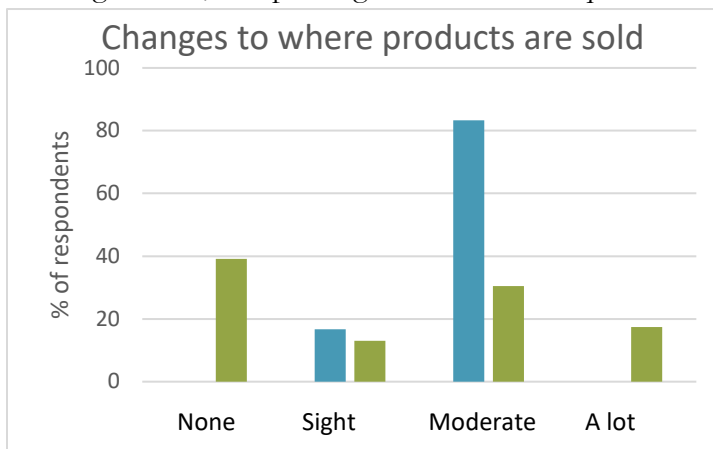


Figure 3 The degree to which vendors had changed where products were sold as a result of participating in the DiNER fairs in Madagascar, varied for distant (blue bars) and local (green bars) vendors.

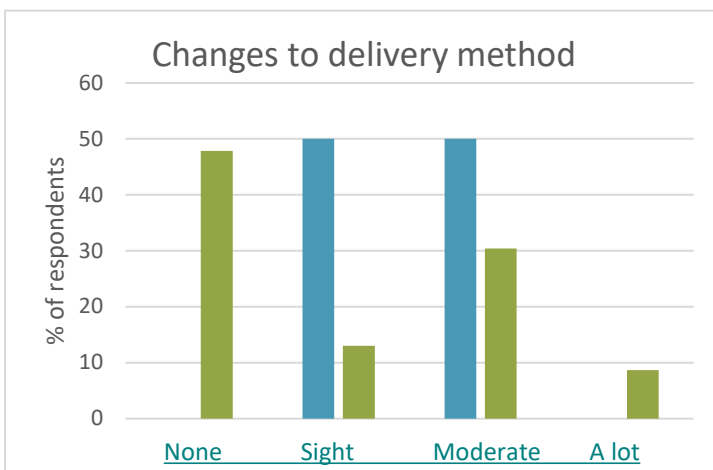


Figure 4 The degree to which vendors had changed their delivery method as a result of participating in the DiNER fairs in Madagascar, varied for distant (blue bars) and local (green bars) vendors.

Surprisingly, 100% of the more distant vendors had communicated with DiNER fair participants post-fair, in contrast to 61% of local vendors. In addition, all six distant vendors said that their relationship with the community had changed as a result of the fair while this was only true of 57% of local vendors. These results may suggest that distant vendors viewed the fairs as an opportunity to capture a new market and attract new customers, which may have led them to follow up with fair participants and view their relationship as changed with the community. Local vendors may not need to follow up with fair participants if they are already consistent customers or well-known throughout their community.

This is consistent with the degree to which distant vendors changed where they sold their products (Figure 3), which was generally greater for distant vendors than local vendors. Local vendors are likely already serving the communities that participated in DiNER fairs and may not need to change their sale outlets. Approximately half of the local vendors did not plan to change their delivery method for their products (Figure 4), while distant vendors planned to slightly (50%) or moderately (50%) alter their delivery method to options like motorcycle or van mobile outlets. The types of products sold

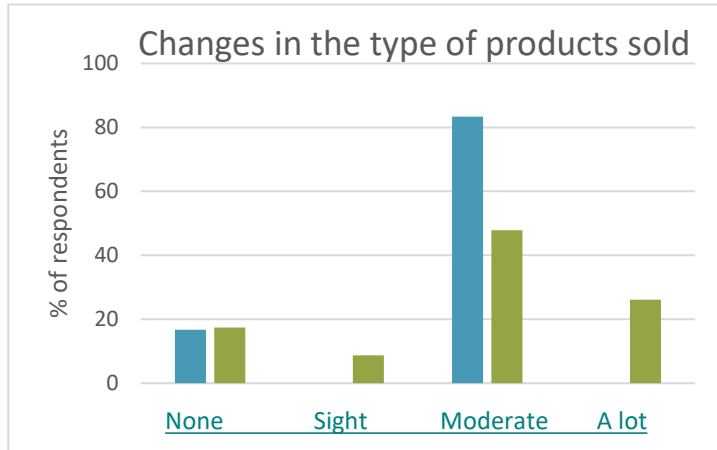


Figure 5 The degree to which vendors had changed the type of products sold as a result of participating in the DiNER fairs in Madagascar varied for distant (blue bars) and local (green bars) vendors.

by vendors were likely to change moderately for 83% of distant vendors and 74% of local vendors either moderately or a big amount (Figure 5). These changes suggest that both local and distant vendors recognized the need to offer new or different products to meet the needs of the customers they met at the DiNER fairs. It may be possible for project staff to capitalize on this desire to offer new products by facilitating linkages for vendors to new supply chains. While distant vendors may have access to a wider variety of products, project staff may be able to support linkages between local and distant vendors to encourage greater access for DiNER fair participants to a wide range of seeds in the future.