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

Partnering for Innovation

Accelerating Partner Impact

Understanding the Barriers to Scale
Among Commercial Partnering for Innovation Partners

January 2015

USAID
FROM THE AMERICAN PEOPLE

fintrac

Executive Summary

Feed the Future Partnering for Innovation (P4I) is a USAID program that helps the private sector to scale and market agricultural technologies for smallholder farmers through commercialization grants and knowledge exchange. Partnering for Innovation is part of Feed the Future, the US Government's global hunger and food security initiative, active in 19 countries.

The findings contained herein are based on 18 interviews with P4I partners, a review of partnership-related documents and pre-interviews with P4I grant managers. From this review process, five challenges specific to partner performance emerged, as summarized in the graphic below and expanded upon in this paper.

Challenges

- **Market Assessment** – Companies' efforts to understand the target market segment were limited or incomplete, including with respect to distribution options. As such, partners are generally unable to adequately quantify and qualify market opportunities in commercial terms with the necessary detail to assure long-term effectiveness.
- **Marketing & Value Proposition** – Companies had limited ability to establish the most effective and efficient marketing channels by which to reach smallholder farmers and expressed a need to better articulate the value proposition of the product for the smallholder in qualitative and quantitative terms.
- **Financing & Affordability** – While companies increasingly understand the role consumer financing can play in improving the affordability and market penetrations of products, the business case as to why banks should move down-market has not been made. In some instances, internal consumer financing opportunities and affordability schemes were not explored sufficiently.
- **Product Introduction** – Product Introduction and the decisions around market entry were frequently driven by opportunism and donor priorities rather than evidence-based market research and/or commercial strategies; as such, product introduction approaches have been at best ad hoc and not strategic, including with respect to logistics functions.
- **Product Adaptation** – Companies underestimated the costs and extent of smallholder-focused product adaptation, both with respect to aligning the product to smallholder needs and to aligning smallholder behavior to take advantage of the product.

Support Approach

As part of the commercialization process, P4I is developing a suite of standard and customized technical support services designed to a) meet partner needs; b) address implementation challenges; c) accelerate the commercialization of products and services for smallholder farmers to scale smallholder impact; and d) ensure investment readiness in advance of investment brokering. In short, the primary aim of these acceleration services is to help scale the partners' commercial success. The AgTechXChange Playbook Series proposed in this paper will provide standard technical support services, identifying the opportunities companies can create for themselves by addressing the identified challenges and guidance on how to do so. These practical publications will be the building blocks for the customized services offered to select companies and will inform the development of other customized training events to be offered by P4I. As companies refine their business plans through these services, P4I will assist with investment brokering of companies seeking – and ready for – private funding. The publications include the following (see chart on the next page):

Challenge	Opportunity	Proposed Deliverables
Market Assessment	Companies need to carefully evaluate the market to determine if there is a viable business opportunity, what it is and then segment the market accordingly. This assessment should include aspects such as size of the addressable market, willingness to pay, and competitors and distribution channels available, as well as the business and regulatory environment and enabling factors such as donor funding and activities.	"Quantifying and Qualifying the Business Opportunity"
Marketing & Value Proposition	The value proposition of the product to the smallholder farmer must be clearly defined with the potential return on investment directly communicated. Marketing plans should consider incorporating training and demonstrations to encourage adoption.	"Defining and Communicating the Value Proposition"
Financing & Affordability	With limited financial resources and the greatest share-of-wallet going to meet basic needs, smallholder farmers often need access to alternative schemes for affordability and financing to enable them to purchase products and services. Companies can couple financing and affordability offerings with product delivery; however, banks also need to better understand the long-term value proposition of serving these segments.	"Affordability Models for the Smallholder Market" "Moving Down-market, A Business Case for Banks"
Product Introduction	Based on a market assessment, the legal and regulatory environment and knowledge of the company's capabilities and offerings, companies must decide which markets to enter (at start-up and in scaling stages), how to enter these segments and which specific segments to pursue. These decisions must be made with consideration to the overall business plan, financial models and logistics such as manufacturing and shipping.	"Where to Play and How to Win?"
Product Adaptation	Existing products must be adapted to serve the unique needs and constraints of smallholder farmers, integrating the "voice of the customer." A critical look at the specific target market will inform what adaptations should be made to deliver value to both farmers and the company, including pre- and post-purchase support.	*Covered through deliverables listed above*

Contents

Introduction 4
Methodology 4
Purpose 5
Summary of Findings 5
Challenges and Approaches for Resolution 6
Market Assessment 6
Marketing & Value Proposition 8
Financing & Affordability 9
Product Introduction 10
Product Adaptation 11
Conclusion, Next Steps 12
Standardized Offerings 12
Customized Support 13
AgAccelerator Lab 13
Investment Brokering 13

Introduction

It is widely accepted in business literature that for every successful new market entrant, four fail; and when layering in the complexities of emerging markets and the smallholder segment, the odds of success are even smaller. There are many blind spots and dependencies that mask the difficulties of assuring that a business in these markets will succeed. This is the backdrop for Feed the Future's Partnering for Innovation (P4I), a USAID program that helps the private sector enter new markets and commercialize agricultural technologies for the benefit of smallholder farmers. The two pillars of the program are (1) The Grants Program, which helps companies with proven technologies to enter new markets and commercialize the technologies and (2) The Knowledge Exchange, "AgTechXChange," which provides a platform through which to share effective models and practices. Partnering for Innovation is part of Feed the Future, the US government's global hunger and food security initiative.

At its core, P4I identifies innovative, off-the-shelf, agricultural technologies with the potential for adaptation to smallholder farmer requirements and scale in the smallholder market, and subsequently develops Standard Milestone Obligation Grants (SMOGs) to articulate business metrics that would indicate progress toward commercialization of the technologies. These SMOGs pair success in achieving objectives with tranches of funding from the program. To date, the majority of the P4I portfolio of 15 grantees has made progress in bringing their products to market; however, initial track records, coupled with global rates of failure for startups, especially those pursuing new market entry and common challenges of serving Base of the Pyramid customers, indicate that technical assistance may be needed for these companies to successfully develop, accelerate and scale their business models. The acceleration services are being developed to increase the likelihood of success at scale of current and future P4I partners. They will be in direct response to the challenges partners are facing, contextualized with extensive program knowledge of smallholder farming and successful Base of the Pyramid business models. Finally, these acceleration services aim to decrease the inherent risk of creating dependencies on grant and donor funding, aiming instead to develop business models that internalize true costs and clearly identify what drives profitability and growth for the products.

Methodology

In November – December 2014, P4I's acceleration services team conducted a three-phased review of all P4I grants. The phases included:

- A review and analysis of the Standard Milestone Obligation Grants (SMOG) to gain background information on the products, the challenges the businesses are trying to solve in the market and how success is being measured for both market-entry and commercialization grants;
- Pre-Interviews with P4I grant managers to add context regarding progress of grants against goals and perspectives on potential challenges; and
- Interviews with partners, most of which are commercial stakeholders, and their NGO partners, where relevant, to gain first-hand insight into the challenges of reaching smallholder farmers, scaling and commercializing the products and business models.

Interviews were conducted with the majority of the P4I grantees and partner organizations – a total of 18 interviews with stakeholders from 12 of the partnerships. The needs assessment interviews focused on ten core areas, listed below, to ascertain partners' perspectives on their cognizance of the many challenges smallholder business models face.

- Core business and smallholder focus
- Product relevance
- Business model strength
- Procurement effectiveness
- Financing requirements
- Marketing adequacy

- Potential for scale
- Leveraging enablers
- Risk management
- Investability

Responses have been aggregated, and specific examples from partner companies are provided.

Purpose

The interviews focused on understanding ongoing challenges that grantees face when pursuing the smallholder farmer segment with their products and services. By understanding these challenges, P4I can assist with mitigating them and improving the partners' investment readiness, post-grant viability and scalability after P4I's financial support concludes. Based on the information collected, the challenges have been identified, and standard offerings – not specifically tailored to partner organizations – are presented as proposals for acceleration services. While frequency with which they were mentioned in interviews was taken into consideration, the challenges have been prioritized primarily according to the importance of the challenge to the individual business model and the depth of discussion with each partner describing the challenge.

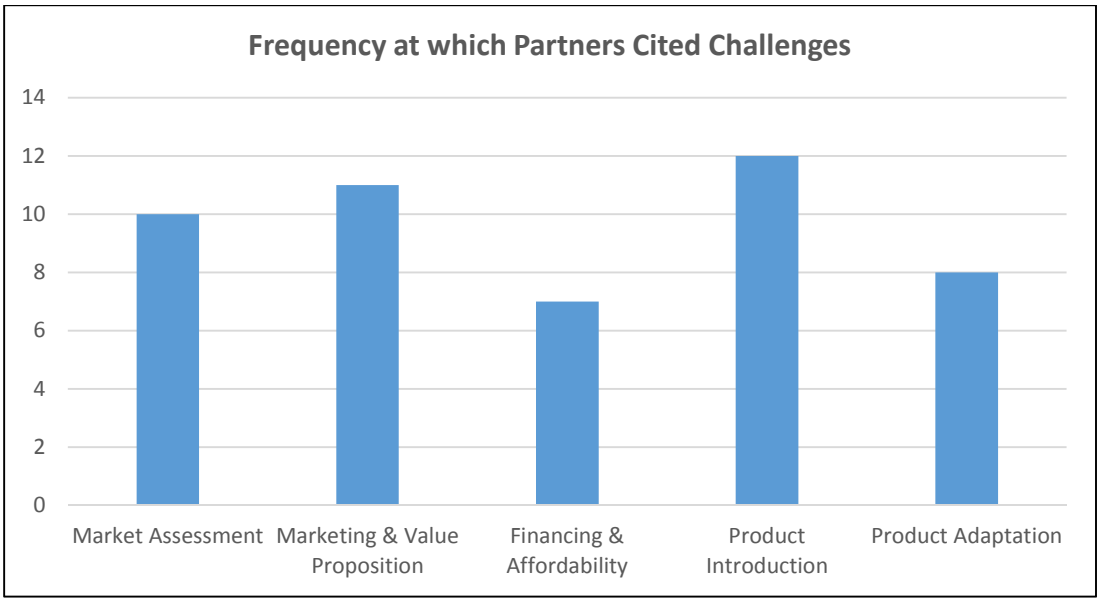
As described in this paper, P4I will develop the "AgTechXChange Primer Series," a suite of practical publications outlining approaches to solving each of the identified challenges, and subsequently share these primers with P4I grantees and more widely on the AgTechXChange. These publications will aim to accelerate the penetration these businesses have into the smallholder farmer markets, including adoption of these products and services by smallholder farmers to improve their livelihoods. The Primer Series will be supplemented with customized support for a select number of partners, the AgAccelerator Lab and investment brokering, all discussed in the Conclusion.

Summary of Findings

Similar themes related to bringing goods and services to market in the smallholder segment were reiterated across the 18 interviews with P4I grantee stakeholders. Business functions must be designed and/or modified from existing ones with the smallholder farmer in mind, and with specific knowledge of this market segment, in order to successfully reach these farmers and achieve commercial viability. For example, traditional pricing, marketing and distribution methods typically do not transfer from other market segments. The most frequent and critical challenges can be summarized as follows.

- **Market Assessment** – For the most part, companies' efforts to understand the target market segment were limited or incomplete. As such, partners are generally unable to adequately quantify and qualify market opportunities in commercial terms with the necessary detail to assure long-term effectiveness.
- **Marketing & Value Proposition** – Companies had limited ability to establish the most effective and efficient marketing channels by which to reach smallholder farmers and expressed a need to better articulate the value proposition of the product for the smallholder in qualitative and quantitative terms.
- **Financing & Affordability** – While companies increasingly understand the role consumer financing can play in improving the affordability and market penetrations of products, the business case as to why banks should move down-market has not been made. In some instances, internal consumer financing opportunities were not explored sufficiently.
- **Product Introduction** – Product Introduction and the decisions around market entry were frequently driven by opportunism and donor priorities rather than evidence-based market research and/or commercial strategies; as such, product introduction approaches have been at best ad hoc and not strategic.

- **Product Adaptation** – Companies underestimated the costs and extent of smallholder-focused product adaptation, both with respect to aligning the product to smallholder needs and to aligning smallholder behavior to take advantage of the product.



Challenges and Approaches for Resolution

Market Assessment

> "We were quite lucky in Zambia that we've been able to get this market information – the number of farmers, the average size of smallholder farms, etc. – but we're not confident that this will be available in the other markets. In other countries it's literally impossible to find anything, so we're going to be left with doing the 'best guess' approach." – *Multi-national agricultural equipment company*

Companies acknowledge the significant profit potential of the smallholder farmer segment, however they must conduct market assessments to evaluate what the value is, if it is accessible to a business and how to unlock it if so. While not exhaustive, market assessments must – at a minimum – include the number of individuals or businesses that will purchase a unit – in this case farms or farmers, how many units each will purchase, the geographic spread of these customers, their ability to pay, potential growth/shrinkage of the market and companies already present in in the market selling similar or adjacent products. They should also include a more qualitative assessment about the day-to-day life of smallholder farmers, such as how they make purchasing decisions and where and how they purchase products. From this assessment, a company should then segment the market into distinct groups; this market segmentation will enable determination of a market entry approach including prioritizing which segments to pursue and when (topics covered elsewhere in this paper).

Additionally, a market assessment should include a review of enablers present in a market that could impact commercialization. For example, policy objectives may be present that could help or hinder the commercial-viability of a product; trade restrictions or incentives could inform commercial viability; and other USAID or international aid programs may be present in a country to assist with scalability, for example Development Credit Authorities (DCAs) to increase the likelihood of private financing.

Most P4I partner companies interviewed had not conducted – or not sufficiently conducted – a targeted market assessment. Two of the interviewed partners collaborated with NGOs present on-the-ground to

specifically access the market data and knowledge that these NGOs had readily available. One company noted that it at least requires data on farm size, the typical purchasing power of the target farm and how many of these farms exist in order to build a reasonable business case for convincing management to enter a smallholder market with a product. Another company stated that its strategy for entering new markets – beyond those in which it is currently present – will be to target multiple value chains in very large markets in order to get around the problem of not being sure of the size of the market. This is not a market assessment, but rather, it is a work-around for not performing a market assessment and requires more up-front funding to reach all of these target consumers than it would to strategically enter a specific market.

Local distribution channels are often much more fragmented in smallholder markets, given the proximity of smallholders to market, where the products are being manufactured and the variety of channels through which to reach the customer. Thus, a market assessment should explain how to actually distribute the product, and can be assisted by beginning with channels that have already been established for distribution of government or NGO goods and services. Aggregators of smallholder farmer outputs, for example Milk Collection Centers (MCC), can be used to distribute products and services. Industry associations, village cooperatives and other pre-existing groups of consumers could also be natural channels through which to distribute a product. While some of the partners have discovered these paths to market, these discoveries appeared to have been made after already beginning operations, rather than in advance while planning out the business strategy. One of the sub-partners, a local manufacturer and distributor, noted that the complications with transport to distant parts of the country have proven difficult, especially when needing to do so cost-effectively to retain very small positive margins.

Proposed Offering

Companies face numerous risks in entering a marketing without performing a market assessment in advance: shutting out market demand by pricing a product too high or offering an undesirable product; losing profit by pricing a product too low or wasting investment dollars by ineffectively entering the market; structuring logistics inefficiently by over- or under-estimating product demand; not offering products differentiated from competitors already in the market; entering a market with regulations prohibiting success of a product; and not being able to efficiently and cost-effectively deliver the product to consumers, among others.

Through an in-depth scientific market assessment, business leaders can see how consumers make decisions, especially with respect to purchasing items, and then incorporate this knowledge into product adaptation and marketing plans. Additionally, when companies better understand their consumers, they reduce the risk of under-estimating the behavioral changes required for the target consumer to purchase and use the product; this can affect pre- and post-consumer training and support offerings.

To address the need for P4I partners to conduct more comprehensive market assessments, a primer will be developed that introduces the challenge and why it is a necessary element for success; explains how to conduct a market assessment specifically in the smallholder farmer market where information is limited and imperfect; and provides workbooks to assist with performance measurement. It will include aspects such as size of the addressable market, willingness to pay and competitors. The primer will discuss established approaches, such as ethnography and Voice of Customer, for understanding the more qualitative elements of customer behavior, with the aim of understanding how the potential customers live their lives.

The primer will have an addendum or appendix that specifically details distribution methods commonly available in smallholder markets. These methods often differ substantially from those used in top of the pyramid markets, thus the appendix will include a discussion of the importance of considering this element of the business model in the context of a target market segment and product or service offering and to ensure profitability for long-term commercial success and meeting smallholder farmer needs.

Marketing & Value Proposition

> "We initially started marketing the product with a message about meeting government standards; however, when the standards weren't implemented and we shifted to a clear ROI [return on investment] value proposition, we saw more uptake. We should have come out with this from the beginning – 'if you use our product, your animal is healthier and you make more money'. This is a compelling story to the prospective customer." – *Animal health company*

> "We're not selling a piece of equipment – that's a completely foreign concept to these smallholder farmers. Rather, we are selling the idea of having a new source of livelihood. This is something that they definitely want to hear more about." – *Small-scale technology designer and producer for poultry*

Once it has been demonstrated that there is a viable market, a simple and clear value proposition is essential to turn potential customers into paying ones. Farmers must grasp the causal relationship between purchasing the product and increasing his/her income. Additionally, companies need to understand the indirect benefits or non-economic values of products to smallholders and appropriately communicate these as well. Often economic and non-economic benefits of a product can compound each other, for example when an advanced harvester frees up additional time in a girl's day during which she can attend school, thereby increasing her long-term earning potential. In businesses where the customer is a middle-man (e.g., distributor), articulating the value of the product to the smallholder farmer can be helpful in generating demand.

Once the value proposition to the smallholder farmer is quantified, the messaging to communicate this value must be developed as well as the methods by which to communicate with the smallholder farmer. These marketing channels may be influenced by the distribution channel selected. Generally, with extremely low risk tolerance, the smallholder segment is best reached through demonstrations, trainings and seeing first-hand the success of early adopters in their communities. These methods are often most effective in locations where there is a certain degree of smallholder density. When smallholder farmers are dispersed, other channels need to be explored, though judiciously so that the efficacy of each can be evaluated. One partner, for example, used trade shows, television interviews, billboards and more simultaneously, resulting in the company being unable to evaluate which method was most relevant for a given community.

Rather than offer a stand-alone product, companies can benefit from marketing and distributing a product in conjunction with existing successful market products. *Smallholders to Shareholders* discusses the distribution concept of "bundling," when the distribution of a product piggy-backs on the success of an established product in the market. This often works when a product is "no frills" and requires high-volume sales to cover low unit margins and when there is not sufficient margin on a product to cover marketing costs.

Proposed Offering

The value proposition of the product to the smallholder farmer must be clearly defined with the potential return on investment directly communicated. Marketing plans should consider incorporating training and demonstrations to encourage adoption. Without clearly communicating and demonstrating the return on investment for farmers, companies risk not achieving sales in the very risk-averse smallholder farmer market segment.

P4I will construct a primer that offers guidance on effectively communicating the value proposition of the product to the market, primarily focused on options for marketing to the smallholder segment based on channels being used for distribution and nuances of the smallholder consumers. It will also discuss the usefulness of trainings and demonstrations and the importance of pre- and post-purchase support, effective means of providing this support to smallholder farmers and the role this support plays in marketing and branding. Additionally, the primer will include worksheets to help evaluate the value to a smallholder farmer of a given product. Through use of the worksheets, a company will be able to clearly calculate the return on investment – both amount and timeline – for a smallholder farmer in terms of direct financial benefit. The

publication will also offer guidance for how to consider the non-economic or non-direct returns – social benefits that may be indirectly provided by having access to the product or service.

Financing & Affordability

> "Despite seeing the vast potential in the smallholder market and knowing that it's the way forward, [the banks] don't know how to structure their businesses to work with numerous small loans; in fact, this is parallel to the challenges we're facing in restructuring our own business." – *Multi-national agricultural equipment company*

With little expendable income, smallholder farmers often need financing to enable them to purchase many of these products. Banks have historically not offered robust lending programs to the smallholder segment, meaning that companies that want to sell products to smallholder farmers, may need to include innovative financing methods as part of their offerings; in many cases the business model is fundamentally dependent on facilitating consumer financing. There are many financing methods available for companies to present to consumers outside of traditional bank lending, including loan guarantees, subsidization, buy-backs, asset financing, credit enhancements, leasing, group purchasing, etc.

Additionally, the smallholder farmer segment and players along the value chains in which these farmers participate present a substantial market opportunity for banks, although, for this group, business fundamentals are substantially different from current offerings to the top and upper-middle sections of the income pyramid. Lending officers have had difficulty making the case to management and lending committees for expanding offerings to the smallholder segment.

Two partners, due to the higher prices of their products, have faced the most pressing challenges with banks of any of the P4I partners, finding banks resistant to smallholder lending. One of them anticipated the need for financing and consequently included relationship-building with banks into its model; however, the banks have thus far imposed collateral requirements that are unachievable by smallholder farmers who typically lease land and do not own equipment. Despite the efforts to de-risk the loans – implementing a 70 percent buy-back guarantee and adding agro-support to purchasers – banks do not appreciate the long-term value in taking on the remaining 30 percent risk. The other partner noted that the banks had been supportive throughout the process, including attending sales events and demonstrations; however, when it came to actually making the loans, the banks did not complete the transactions due to issues with credit committee approval of the seemingly high-risk loans.

Proposed Offering

With limited financial resources, smallholder farmers often need access to innovative financing methods to enable them to purchase products and services; without financing, companies may have no market for their products. Companies can couple financing methods with product delivery; however, banks also need to better understand the long-term value proposition of serving these segments. Because there are merits to both keeping financing in house with the companies and using external banks for financing, P4I will develop two primers to address these issues. The first will detail the variety of methods a company can use to help customers afford a product, including leasing, group purchasing, offering credit schemes, pay-per-use, and more. It will also provide examples of success stories of each and how a company can decide which is best for its business model.

Based on what was stated in interviews, a primer that demonstrates the business case for banks to move "down-market" into the smallholder segment will be the relevant and beneficial to immediate partner needs and thus will be the second publication. It will be written with banks as the primary audience, though small-medium enterprises (SMEs) and large companies also could use it for guidance when approaching the banks for partnership. P4I intends to build on the content of the USAID training manual published in September 2012 "Strengthening Agricultural Value Chain Lending," and co-author this new publication with the Initiative for

Smallholder Finance (ISF), if ISF is amenable. Questions that will be addressed include collateral sources and requirements, alternate sources of transaction history, loan guarantees and buy-backs, additional business opportunities beyond lending, how to reach the smallholder farmers to build this customer base and how to de-risk lending given inherent risks in the segment.

Product Introduction

> "To be honest, I'm not sure this was the best country for us to start in and even if it was, we might have been better served starting with depth – concentrating on a specific locale – rather than breadth – testing it across a variety of segments for universal validation." – *Animal health company*

> "We were astonished at how long it takes to get our product to market. We currently manufacture in it California, then it spends 90 days in a container as it is shipped to east Africa, then we have to fight the bureaucracy of customs and imports and then finally we face the complicated distribution process in the market. By the time we got through all of this this first time, we had missed the growing season. We need help thinking through all this so that we time it properly for future seasons." – *Multi-national irrigation equipment company*

Product introduction covers the topics of how and when to enter a market, building on the results from a market assessment and the objectives of a business. In light of what is known about a market and its opportunities, companies must identify which market segment to target with a given product, or vice versa – which product to use to target a given segment. Based on our interviews, product introduction encompasses three facets: a) how to decide what country (or specific sub-geography or market segment) to enter initially and with which product(s) or service(s); b) once those are decided, what strategy to use for entrance (e.g., breadth and depth tradeoffs); and c) how to scale the product after initial market entry is successful. Finally, entry strategies also typically include business fundamentals about how to market and distribute a product, topics covered elsewhere in this paper.

Feed the Future is present in 19 countries around the world, consequently P4I funding is available only to companies launching smallholder-targeted products and services in these 19 countries. While the need for innovative agricultural solutions is certainly proven in all of these countries, nearly all of the partner companies interviewed were unable to identify the business reason for entering the geography that they did; a few even noted that Feed the Future funding had been the primary motivation for choosing that geographic market specifically. Given that not all markets and market opportunities are identical, it is necessary to develop a market entry strategy prior to entering to measurably increase the opportunities for success. Additionally, with the presence of P4I funding as a catalyst, certain pre-planning and development of business strategy can assist with identifying and planning for the risks of entering the wrong market with the right product.

For example, one partner relied on the government's planned implementation of a law regulating standards that would necessitate using the product; however, this did not occur and the partners were left with limited product demand. With thorough evaluation of the market entry strategy, the partner may have found it more profitable to enter a market where these quality testing regulations were already in place.

Another partner that produces plastic post-harvest storage bags discovered after entering the market that the bags were not exempt from the plastic bag tax levied by the government. Similarly, the same bags were launched in a country in which plastic is illegal. The two local producers of the bags were both successful in gaining exemptions to their respective restrictions, however the designer of the product may have found it more logical and effective to initially launch and test the product in a more standard context – in markets without such hurdles.

Another partner relied on the expectation that another set of government requirements would be implemented; given that government regulations are frequently not implemented on schedule and that the

product needed to be reconfigured for language and cultural differences, there may have been a more logical next place for to launch the product.

Product introduction should also consider logistics challenges, encompassing many facets including manufacturing and shipping, which in turn affect production volume, inventory holding and cash flow cycles. Companies must decide where to manufacture a product – internationally or domestically, and – if domestically – whether to set up its own operations, partner with a manufacturer or contract out manufacturing. Each of these decisions could have follow on effects; for example, if manufacturing it out-of-country, shipping time must be factored in; if in-country, sources for inputs must be secured and a plan for maintaining quality assurance must be established.

Proposed Offering

Based on a market assessment, the legal and regulatory environment and knowledge of the company's capabilities and offerings, companies must decide which markets to enter, which specific segments to pursue and what product(s) to initially offer to ensure success within the law and with consumers. It will be structured around the three items noted above a) initial product introduction – which market or country to enter and how to arrive at that decision; b) within a country or segment, how to approach product introduction; and c) how to scale after initial success of product introduction. The primer will discuss the two lenses through which to view product introduction strategy: the legal and regulatory lens and the business fundamentals lens. The former must be well understood to ensure compliance, to use regulations constructively and to decide if entry into the market is well-timed, among other aspects. The latter – business fundamentals – builds on the results of the market assessment, helping decide when (e.g., harvest timings), how (e.g., with what products) and where (e.g., to which segment and in which geography). It will also discuss what to evaluate when considering localization of manufacturing, including maintaining in-house operations or forming a joint venture. With all of the information in place, companies will be better able to conduct a market prioritization – based on the alignment of business objectives with market opportunities, the company will be identify which segments to target and in which order given known restrictions on Feed the Future funding.

Product Adaptation

> "Despite 100 years of experience and hundreds of irrigation products available worldwide, we needed to conduct deep market research about local consumer needs to adapt our product specifically to the smallholder farmers in Zambia." – *Multi-national irrigation equipment company*

Products must either be originally designed to serve the smallholder farmer market or be adapted from existing products to serve the unique needs, wants and constraints of smallholder farmers as uncovered in the market assessment. Through critical consideration of the market and development of solutions for the challenges previously identified, the product will be adapted to address a number of requirements specific to the smallholder market. Additionally, partners should consider the numerous issues of product adaptation while developing solutions to the aforementioned challenges. Without effective product adaptation, companies risk offering the market a product that does not meet the needs of consumers, providing value to neither smallholders nor the company itself. Interviewees noted several issues that must be considered in adapting or designing a product for this market segment. Though not exhaustive, they include:

- *Inputs required for operation*: Many agricultural equipment products on the market require inputs that are not available – or not consistently available – to smallholder farmers. For example, some products require electricity to operate. Products must be adapted to either not require electricity, such as manual-pump irrigation systems, or have self-contained electricity, such as rechargeable batteries for incubators or solar pumps for drip systems.
- *Product-only solutions rather than product as part of the solution:* With products that only offer part of the solution, it is a challenge to "make the case" for smallholder benefits *and* commercial viability. Pre- and post-purchase support to the consumer is also an integral part of selling a complete solution

that ensures smallholder impact while also building positive brand awareness. Without integrating training, support and maintenance into the product offering, companies are unlikely to create repeat customers.

- *Area covered or size of product*: Agricultural equipment is often optimized to cover very large plots of land as is typical in commercial farming. Irrigation systems and harvest equipment especially are most efficient when covering the largest areas possible. Equipment for smallholder farmers should be optimized for other factors rather than for area covered, given that smallholders, by definition, operate on less than 1 to a maximum of 10 hectares. The same can be said for post-harvest equipment and products which do not need to hold maximum quantities; rather, for smallholders, they must be portable and ensure minimum spoilage.
- *Affordability*: Simply, the majority of products on the market are too expensive to be purchased by smallholders. Existing products and services must be reengineered to optimize for affordability while balancing other requirements. *Smallholders to Shareholders* describes this as a "no frills" model, valuing simplicity over all else. "No frills" suggests a certain degree of scale needs to be achieved in order to make the commercial aspects viable and more importantly relevant to the distributors/retailers who have a choice as to what products they choose to carry. However, affordability can also be addressed through alternative financing models as discussed in the consumer financing section.
- *Usage methods*: Consideration for the unique characteristics of smallholder farmers themselves, in addition to their markets, must be taken into consideration. For example, engineers need to be cognizant of potentially low literacy rates when authoring instructions or with technology products.
- *Package sizing*: Rather than offer bulk packages with many units, smallholders need packages with fewer units to achieve affordability or to ensure that all units are used prior to spoilage. Packaging decisions for a product are also a marketing consideration, impacting to yet another of aspect of a product's go-to-market strategy.

Based on experience in other markets, one partner began offering a suite of products for grain harvesting and processing that included a grinder. However, the partner later determined that because of the way farmers in this particular market harvest, grinders were unnecessary. The partner adapted the product on the fly – removing the grinder from the suite and offering it separately when the company discovered the grinder could be useful for other processing, an example of product adaptation while active in the market.

Product adaptation will not be addressed through a specific offering. Rather, it is evident from the examples provided by partners how critical it is for a business to address the prior challenges in order to inform product adaptation.

Conclusion, Next Steps

The results of the needs assessment, as presented in this paper, will be addressed through four complementary elements: standardized offerings, discussed in more detail in each challenge area above; customized support specific to a business and its challenges; the AgAccelerator Lab event; and investment brokering for companies ready for and seeking additional funding.

<u>Standardized Offerings</u>

The challenges presented in this paper and faced by P4I companies in reaching smallholder farmers and scaling business models are faced by many businesses either iterating on current offerings or starting as entrepreneurial ventures in the smallholder market. To approach these common challenges, P4I will publish the AgTechXChange Primer Series – the proposed offerings presented in this paper and make them available to all P4I grantees, regardless of grant stage. Each of these will be launched with a webinar on the AgTechXChange to include first-hand accounts from experts, provide an opportunity for questions and answers and increase engagement with the content. The first three will be developed in advance of the

AgAccelerator Lab and will form the foundational content for the topics covered at the event. These primers and toolkits will be available via the P4I website, and the program can provide one-on-one assistance in how to apply each offering to a company's specific challenges.

Proposed Deployment Schedule for Acceleration Tools to Address Scaling Challenges		January	February	March	April	May	June	July	August	September	October	November
	Month	2	3	4	5	6	7	8	9	10	11	12
Challenge Area	Acceleration Tools											
Market Assessment	"Quantifying and Qualifying the Business Opportunity"			■								
Marketing & Value Prop.	"Defining and Communicating the Value Proposition"					■						
Financing & Affordability	"Affordability Models for the Smallholder Market"						■					
Financing & Affordability	"Moving Down-Market, a Business Case for Banks"								■			
Product Introduction	"Which Market and How?"										■	
	AgAccelerator Lab Event in Early-Mid June											

Customized Support

In addition to the standard offerings available via publications, P4I has the capacity to provide customized services to a number of partner organizations, likely up to three in the first year of the Acceleration Services component of the program. While definitive criteria for selection of these recipients remains to be finalized, preliminary prioritization criteria are for:

a) The potential to scale a product or service;
b) The number of smallholder farmers that will be affected with scale;
c) Commercial viability of the business model;
d) Off-the-shelf product readiness;
e) The potential for the scaling of the product or service to catalyze other market improvements – possibly decided on based on position in the value chain.

AgAccelerator Lab

A multi-day in-person workshop called "AgAccelerator Lab" will take place likely in late May or early June 2014. This invitation-only clinic will combine hands-on practical skill-building, creative problem solving and idea generation to refine business and marketing strategies, access innovative finance mechanisms, create local partnerships and glean knowledge of what works and why. The primary content will address the three most pressing challenges: conducting market assessments, defining marketing and value propositions and financing options. In parallel with the other Acceleration Services, the AgAccelerator Lab aims to boost partners' profitability, potential for scale and smallholder impact.

Investment Brokering

Companies are unaware of investors interested in opportunities within the smallholder farmer segment and do not exhibit investment readiness, as evident through the incomplete or absent business plans and accompanying investor prospectuses. In many of the partner interviews, stakeholders noted the need for additional funding to successfully scale the business model to reach smallholder farmers; six partners specifically requested assistance identifying appropriate private-sector investors. To assist with this, P4I will act as an investment broker, where appropriate, connecting P4I grantees with sources of investment. Investment brokering will include assuring "investability" or "fundability" by assuring that relevant proposals and/or investment prospectuses are formulated adequately, developing effective "investment pitch" methods

and simulations, providing assistance in identifying potential funding sources (from angel investors, impact investors, relevant bilateral and multilateral development agencies, etc.) and providing introductions when feasible. The offer of introductions will be contingent on these presentable prospectuses and refined pitches.