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



Feed the Future Bangladesh Agricultural Value Chains Project

Systemic Change CLA Case Study

July 2018



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USAID AGRICULTURAL VALUE CHAINS PROJECT - BANGLADESH SYSTEMIC CHANGE CLA CASE STUDY

Program Title: USAID AGRICULTURAL VALUE CHAINS PROJECT – BANGLADESH
Sponsoring USAID Office: USAID/BANGLADESH
Contract Number: AID 388-C-13-00003
Contractor: DAI
Date of Publication: July 2018

PHOTO: The USAID/Bangladesh AVC project facilitated the introduction of improved groundnut seeds through local input suppliers in the Southern Delta to help transform farmers' incomes

WITH THANKS

The authors of this report, Paul Bundick and Zaki Raheem, would like to give specific mention to all the AVC activity staff in Bangladesh including the AVC Market Systems team (Anup Kumar Roy, Mahmud Hassan, Mohammad Soeb Iftekhhar, Sadruzzaman Noor, Rubyat Tasfia Rahman, Tahsin Ahmed), the AVC Marketing and Entrepreneurship Development team (Sabrina Shahin Haque, Fahd Al Georgy, Lamia Anwar Shama); the AVC Access to Finance team (Bithika Das Hazra; Syed Shadman Haque), the Knowledge Management team (Mushtafiqur Rahman, Ariful Karim, Saiful Islam, Asif Ahmed Tonmy, Zahidul Islam), the Senior Manager for Gender Behavior Change Amita Dey and the AVC Communications, Learning and Development Officer Warda Ashraf. Thanks to the managers, field staff, and preferred agro-dealers of AVC's partner lead firms who shared their experience engaging with the project. In addition, thanks to AVC COP Mike Field for his ongoing reviews and feedback to help shape our understanding of the AVC framework. Thanks to Margie Brand for sharing her learning through her continued engagement with the project and developing an earlier AVC case study. Thanks to AVC Program Manager Sarah Wall for her reviews, edits and feedback. In addition, thanks to USAID/Bangladesh with support from Aniruddha Roy for the commitment to investing in learning case studies such as this report.

The authors' views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development or the United States Government.

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List of Acronyms

AVC	Agricultural Value Chains Activity
COP	Chief of Party
CAS	Complex adaptive systems
CLA	Collaborating, Learning, and Adapting
DCED	Donor Committee for Enterprise Development
FTF	Feed the Future
KDAD	Knowledge-Driven Agricultural Development
LEO	Leveraging Economic Opportunities
M4P	Making Markets Work for the Poor
MAP	Market Assistance Program
MEL	Monitoring, evaluation and learning
MSD	Market Systems Development
NGO	Non-government organization
SME	Small and Medium Enterprises
USAID	United States Agency for International Development
ZOI	Zone of Influence

Synopsis

The USAID Feed the Future Bangladesh Agricultural Value Chains (AVC) activity aims to develop long-term food security in the Southern Delta Region of Bangladesh by applying a market systems approach to improve availability of diverse and nutritious fruits, vegetables, and pulses in local, regional, and national markets.

To contribute to its Collaborating, Learning and Adapting (CLA) agenda, the project brought on two researchers to conduct an assessment of the systemic change effects to which AVC interventions have contributed.

The following case study presents an overview of AVC's systemic change framework. AVC sees systemic change as changing the drivers and biases that direct the way the market system self-organizes. This definition focuses on how a system changes and not just the results of such changes. Using this framework, the case study documents both the successes and sustainability of AVC's interventions in the agricultural inputs market system.

A Story of AVC Impact outside the FTF ZOI

For over 10 years, Mr. Faysal had been an agro-dealer selling mainly pulse seeds and vegetable seeds. His store is located in Natore District, five hours northwest of Dhaka and also well over five hours north of the Southern Delta - the Feed the Future – Zone of Influence (FTF ZOI). Mr. Faysal's small store had no particular branding, but sat along the main road and was well known by local farmers. He had no direct relationship with major Dhaka-based seed dealers, so did not necessarily have a preference for which brands of seeds that his store was stocked with; and hence would sell seed packets from many local seed dealers including companies such as Lal Teer, The Metal Seed, Ispahani and Partex Agro. However, his limited communication with input suppliers and distributors often led to his store being out of stock of particular brands of seed packets. He had close to 400 farmers that were regular customers, but he also knew that many neighboring farmers tended to use their own retained seed, season after season. In addition, while his customers tended to trust him and his store was a convenient location for them to buy from, he only provided limited technical information about the seeds at the time of purchase and would never visit their farms to see how effectively the products he sells were being used in the fields. Without any training from the seed dealers or distributors about new technologies or growing practices, there was limited information he could pass on to his customers, and few incentives for him to leave his store and visit customers on their farms.

Then in August 2017 (just two months before the interviews for this case study), something happened. Partex Agro Ltd. hired two new market promotion officers to be based full time in Natore District with a stated goal of expanding the model that Partex had piloted and cost-shared with Agricultural Value Chains (AVC) activity in the Southern Delta. The Partex staff identified 35 of its 300 distributors and retailers in northern Bangladesh to be part of a pilot preferred distribution model, including Mr. Faysal. As a preferred retailer, Mr. Faysal increased his Partex inventory of seeds and other inputs including fertilizer, through more favorable repayment terms. He received training on merchandise and store layout and received posters, product leaflets and other Partex learning material for his store. He participated in one of the four recent Agri-Fairs hosted by Partex in northern Bangladesh, each one comprising nearly 2,000 farmers; an estimated 70% of the farmers had never purchased Partex products before. At the Agri-Fair, Partex and the preferred dealers and retailers, showcased their products, provided hands-on demonstrations, and offered trial packs, contests and promotional discounts. A video docu-drama and songs about Partex's new products, performed by local singers, also made the Agri-Fair fun and memorable. Mr. Faysal has also begun being part of Farmer Learning Sessions funded by Partex, where on-farm training on good agricultural practices using Partex products is being regularly conducted. The learning sessions are providing evidence that while costs may go up 5-10% by using these certified inputs, yield can nearly double. Mr. Faysal is also now working with the local Partex staff to set up Farmer Loyalty Clubs for those motivated neighboring farmers willing to try Partex products, and using these new relationships to develop referrals for new farmer customers, which has resulted in his sales increasing.

The inputs market system in Natore District is already starting to change. Mr. Faysal has seen agricultural NGOs come to town to show docu-dramas; Ministry of Agriculture's Department of Agricultural Extension staff provide intermittent extension services; and input suppliers establish demo plots. However, he and his fellow agro-dealers in the district have never seen a seed dealer working so closely with its distributors and retailers to move from a traditional inputs distribution market system with extractive firm behaviors to a customer and growth oriented retail market system that can deliver ongoing innovation that meets the evolving needs of farmer customers. These early signs of systemic change in Natore District are all taking place through investments by one of AVC's lead firms on their own – without any support by AVC. As a major input supplier with a nationwide presence, Partex had clear goals of learning from and expanding its pilot activities in the Southern Delta to other parts of the country. It is estimated that already 14,000 farmers outside the FTF-ZOI are being impacted by the expansion of Partex's new distribution model, and with clear plans to expand this model to its 300 dealers and retailers, it is expecting to reach nearly 140,000 farmers through this model in the next couple of years.



Photo: Three of Partex's recently trained preferred retailers in Natore District (outside of the FTF ZOI) hold up some of their bestselling products in an agro-dealer store next to where the District's first Partex-sponsored Agri-Fair was recently held.

Chapter I. Introduction

Market Systems Development (MSD) has emerged over the past decade as an influential perspective on development interventions. This new thinking can be traced to a number of sources including Springfield Center’s work on Making Markets Work for the Poor (M4P) and more recently, the work supported by USAID under its Leveraging Economic Opportunities (LEO) project to expand its well-known value chain framework to include strengthening the broader market systems in which value chains operate.

While based on different intellectual traditions, the two approaches share a number of features that are common to all MSD approaches.¹ They focus on core transactions and relationships between buyers and sellers. They seek to understand the “rules of the game” or the social institutions that affect those relationships. They also strengthen supporting services that are essential to the functioning of a core market system. All MSD approaches espouse facilitation to make markets work rather than substitute direct interventions for them. They avoid direct support to targeted beneficiaries when possible but instead focus on understanding and amplifying underlying processes and drivers to guide the market system along new pathways to become more efficient and inclusive of those same beneficiaries. The MSD paradigm, therefore presents a fundamental challenge to donors and practitioners alike who tend to engage in direct support to targeted beneficiaries as the intervention mode of choice.

Market Systems Development (MSD) has also been evolving. Perhaps the key difference of the “new” market systems view compared to earlier approaches is that current models tend to take a broader view of “systems” in which development problems are framed. Most contemporary approaches to MSD draw explicitly on systems thinking, evolutionary theory and complexity science while retaining tried and true insights from business management on value chains and the established wisdom from institutional economics on how rules of the game constrain and enable the choice sets of individual market actors.² Since the larger system has become the new focal point within the MSD approach, the notion of systemic change has moved to center stage in many industry-wide discussions.

The Feed the Future Bangladesh Agricultural Value Chains (AVC) activity is a strong exemplar of the new market systems approach. For the first two years, the project followed a traditional model of providing direct assistance to farmers through intermediaries, mostly SMEs and NGOs, to achieve production improvements within project pre-specified value chains. But in

¹ Grant, Bill (2016), Market Systems Development: A Primer on Pro-Poor Programming, Development Alternatives Inc., Bethesda MD, USA.

² Cunningham, Shawn and Marcus Jenal, (December 2016): Rethinking Systemic Change: Economic Evolution and Institutions, Beam Exchange, London UK.

October 2015, AVC underwent a radical overhaul. Under the leadership of the new Chief of Party, Mike Field, AVC was completely transformed from a direct assistance project into one of USAID's flagship market systems development programs. This meant, not only completely changing the strategy and implementation tactics of the technical approach but also building a high-performing AVC team that could quickly learn and adapt to new ways of working. Moreover, the internal operations had to be reformed to support the new technical requirements of partnering with firms around their own business strategies as well as being in strict compliance with all of USAID rules and regulations about grant-giving and procurements.

It took nearly a year to achieve this complete turnaround. It meant investing heavily in capacity building, opening up new opportunities to rethink traditional approaches and institutionalizing a strong cultural commitment on the part of the entire team to USAID's Collaborating, Learning, and Adaptation (CLA) process. For a thorough treatment of this deep organizational change process, see [Adaptive Management to Support Market Systems Development: A Case Study of USAID's Agricultural Value Chain \(AVC\) Activity in Bangladesh.](#)³ The case study serves as an important complement to the present work.

MSD Program Logic

AVC works in eight agricultural value chains in Bangladesh. These commodities are pulses, mangos, tomatoes, groundnuts, summer vegetables, flowers and natural fibers, jute and coir. Early work in these value chains provided an essential vantage point for understanding the structure of each sector, the various actors and their relationships, transactions at each step and the range of supporting services that add value to the product at various points along the chain from producer to final consumers. The overall objective of AVC is to increase the incomes of smallholder farmers and bring about a significant and sustainable positive impact on large numbers of farming households. This impact is to be accomplished through a series of intermediate outcomes such as gains in farming productivity, improved market systems and continuing innovation and upgrading of these value chains in focus. The logic flows from intervention to intermediate outcomes to final impact.

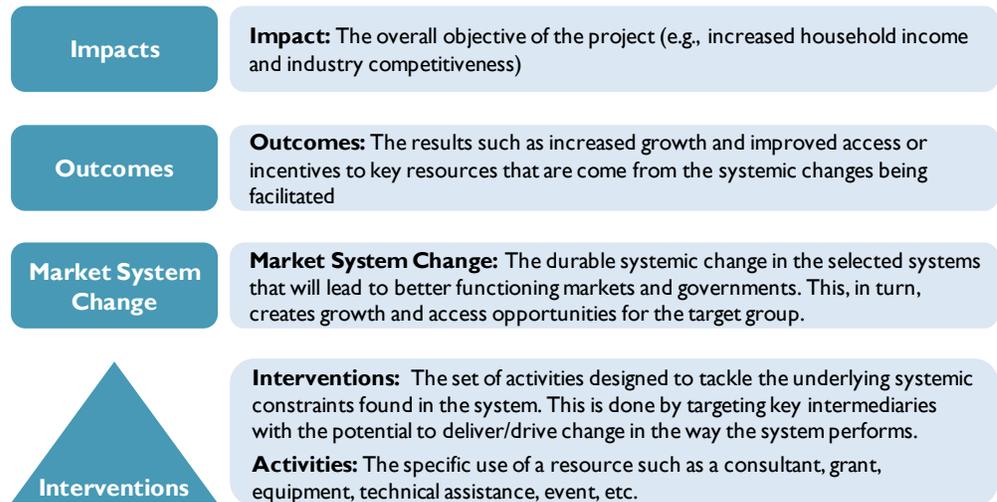
MSD requires a different logic model than many donor-financed modes of intervention. Standard project interventions tend to directly deliver intermediate outcomes (to the extent possible) with clear attributions of cause and effect. In contrast, a systems approach helps define underlying systemic constraints and those constraints usually require changes in behavior (and incentives underlying the behavior). These changes are brought about by co-creating inclusive

³ Brand, Margie. "Adaptive Management to Support Market Systems Development: Case Study of USAID's Agricultural Value Chain (AVC) Activity in Bangladesh." Pg 15. *USAID Feed the Future (FTF)'s Knowledge-Driven Agricultural Development (KDAD) Project*. MarketLinks - https://www.marketlinks.org/sites/default/files/resource/files/AdaptiveManagementCaseStudy090617low_0.pdf August 2017.

growth solutions with market system actors. This critical layer of systemic change is inserted between interventions and outcomes in the standard logic model.

For example, as AVC began to look at the eight market systems (value-chains in focus) and their common underlying problems, the project found all to be struggling with common systemic patterns such as short-

Figure 1: Market System Change in Logic Model



term incentives that drive extractive behaviors, limited information flows, reduced willingness to invest, and a high percentage of win-lose outcomes. Systemically, these institutional biases weaken the market systems' capacities to effectively communicate and respond to market signals such as price, supply, and demand.

Purpose of Study

AVC has now completed its second year of implementation using the market systems approach. Interventions are now demonstrating not just changes in the strategies of selected market actors (partner firms), but also changes at the level of the market system itself. Self-reinforcing processes have emerged that give new direction to where the market system appears to be heading as it self-organizes in response to a range of technological and organizational innovations, selective pressure from competitive forces and the pull of new demand by informed consumers. While much of the systemic change is still nascent, the time was deemed right to undertake a study of these system-level effects, at least to identify and document their incipient beginnings.

The purpose of this study is to capture and ground truth these early indications of systemic change effects arising from selected AVC interventions after two years of MSD implementation. In addition, our aim is to contribute to industry-wide learning on market development approaches by contributing to our understanding of systemic change in its own right.

Method and Approach

The method employed is best termed exploratory in nature. In contrast to confirmatory research which aims to verify (or falsify) hypotheses, exploration strives to discover valid generalizations. Such an approach seems well adapted to the “under-researched” subject matter of systemic change which is still in its early stages of conceptualization and knowledge generation.

The research team first undertook a brief review of the literature on systemic change drawing on recent LEO publications and work from the Springfield Centre. Our assignment required us to identify systemic change in AVC interventions, which led us to explore more deeply into the conceptual side of AVC’s approach as to what constitutes systemic change. The team had to understand what systemic change was before we could identify it in practice. This led us to focus much of the study on documenting a “new” AVC framework and then apply it to the most mature series of interventions in the AVC portfolio—the agro-inputs distribution system.

The literature review and conceptual work was supplemented with individual and group discussions with staff of the AVC activity including Mike Field as well as a series of meetings with AVC partner firms. The research team was expanded beyond the two external consultants to incorporate the learning and experience of those who have participated in this MSD project over the past two years. The strategy was to combine an outsider perspective (those well versed in systems theory and industry practice) with the insider view (those with both tacit and explicit knowledge of the local context along with practical implementation experience).

Two field visits were conducted. One was to the north to observe replication of innovations beyond the project zone of influence or geographic area of project implementation in the Southern Delta. A second trip explored interventions in several southern districts to ground-truth changes noted in AVC activity reporting. Again, these field trips were organized with the combined insider-outsider viewpoints to gain a more complete understanding of the complex processes being studied.

Chapter II: Recognizing Systemic Change

An MSD literature review suggests that there is now growing acceptance among practitioners that markets are complex adaptive systems (CAS).⁴ The CAS theory is the basis for much of AVC's theoretical approach, with some addendums provided in the subsequent section.

Complex Adaptive Systems and AVC's Addendums

Complex adaptive systems are composed of individual agents (individuals or organized entities acting as individuals be they clans, firms, NGOs or government agencies) interacting with each other in pursuit of their own strategies. Agents are always learning as they seek to improve their situation by changing and adapting themselves to what other agents are doing. The process of agents seeking to optimize their situation relative to one another generates innovation (variety) and drives competitive pressures (selection). At the same time, the influence of global constraints gives rise to self-preserving tendencies in systems which emphasize retention. All systems evolve through this interplay of variety, selection and retention ⁵

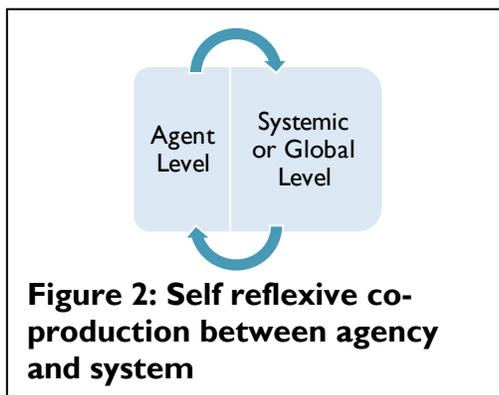


Figure 2: Self reflexive co-production between agency and system

The CAS model provides a powerful framework for understanding the evolution of markets (Figure 2). Market systems evolve as individual agents pursue their business strategies relative to what others are doing, limited by social norms which condition their choices. AVC, under the intellectual leadership of Mike Field, takes much of the above as given but adopts a more broader view of systems thinking and complexity to supplement certain aspects of the basic CAS framework as often applied by MSD practitioners.

Agricultural Value Chains (AVC) activity also draws upon cognitive scientists like Alan Fiske whose work on universal relational models supplements core insights provided by the CAS framework.⁶ Fiske's work (along with other cognitive researchers) adds much to our understanding of how human beings structure their social relationships according to biologically evolved emotional, moral and cognitive biases or propensities that underlie all forms of social interaction (including doing business) as well as the broader systemic patterns of society such as markets. Central to AVC's purpose is facilitating better functioning markets that are more

⁴ See Waldrop, M.M. (1992). *Complexity: The emerging science at the edge of order and chaos*. New York: Simon and Schuster for an early history of this movement.

⁵ See Campbell, D.T "Variation and Selective Retention in Socio-cultural evolution" in H.R Barringer, and R.W Mack (eds.), *Social Change in Developing Areas: A Reinterpretation of Evolutionary Theory*. Cambridge, Mass.: Schenkman, 1965.

⁶ Fiske, A.P. (1991). *Structure of Social Life: The four elementary forms of human relations*. New York: Free Press.

inclusive and solution-oriented. This requires some shift in the underlying biases and subsequent behaviors of market actors. Typically, this means a move away from traditional hierarchical and closed family-based (or small group) ties to more open and diverse networks based on professionalism and mutual interests as well as strategies that consciously build toward value-added solutions and continuous upgrading rather than merely extracting the maximum gain from the immediate transaction. Changing the patterns of behavior means shifting the underlying biases that give rise to that behavior. This is further elaborated below.

Systemic Change: AVC Perspective

Agricultural Value Chains (AVC) activity sees systemic change as changing the drivers and biases that direct the way the market system self-organizes. This definition focuses on how a system changes and not just the results of such changes. To further dissect AVC's definition of systemic change, each of the components - self-organization, drivers, and biases - are explained below.

Self-organization is the central concept in AVC's approach and a ground-breaking idea to emerge in systems thinking. It refers to processes whereby a system at its own level, reorders itself in response to internal and external forces. These stresses can be strong or weak. Strong disruptions can cause a system to bring forth new patterns of organization. Weak signals may only result in minor adjustments in the existing order. The strength of the disruption is generally related to the depth of change. AVC examines adjustments and changes after disruptions at the system-wide level, rather than exploring how individual actors react to and adjust to shocks.

Drivers are the forces that reveal the intention or purpose behind the direction of the market systems change, and determine along what path the market system will evolve. Whereas biases influence a system more broadly across scale, drivers generally operate in more localized settings. For example, a driver might be the commercial incentive around buying a new type of improved seed. Drivers are the underlying incentives or pressures that "push" agent-level strategies in a certain direction.

Biases, based on AVC's framework, are a combination of biologically evolved cognitive and moral predispositions and socially constructed norms and beliefs that necessarily inform agent-level motivation, relationships and strategies and therefore condition and channel behavior both at the agent and systemic levels along certain pathways. Biases are not merely social preferences, but carry a deeper sense of what is real, what is possible and what is morally right. While more fundamental than norms or what institutional economics calls "rules of the game," biases necessarily give rise to these rules and norms by channeling behaviors into reoccurring patterns. Biases frame and condition action which in turn gives rise to social norms and institutions.

AVC identifies two sets of fundamental biases in market systems—relational and strategic—that seem particularly influential in shaping the most common patterns of behavior. Relational biases affect the interactions that people and businesses value and the types of inter-relationships they tend to form. Strategic biases affect the ways people and organizations approach their business or economic undertakings. These biases help AVC track systemic change where behaviors can be seen as both becoming more solution-seeking and valued added on the strategic front and more merit/interest-based on the relational side. Both of these shifts indicate movement or direction towards growing professionalism in business and inclusivity in relationships. Table 1 below illustrates each bias.⁷

Table 1: Biases and Patterns of Behavior in Market Systems

	Bias	Patterns of Behavior	Example
Strategic	Extractive --rooted in family or clan small group ties advancing in-group interests and treating outsiders as different and lesser.	Actors withdraw revenues and extract rents from commercial and political activities that strengthen small group ties and their group’s capital reserves. Family or clan interests are advanced at the expense of “outsiders.” The outsider is “fair game.”	Family trading firm uses political connections to squash new “outsider” competition that might upset farmer dependency on firm.
	Solution seeking/ value adding -- rooted in professional identity based on equity [value] creation and rationality.	Actors develop their capacities and those of their organization and its connections in order to innovate and solve problems and take advantage of new opportunities.	Firm internalizes competitive ethic in response to rising competition to improve value addition to customers and to stay ahead of the pack.
Relational	Patronage --rooted in dependency ties to authority figures who dispense benefits in return for loyalty and small-group communal in-group relationships.	Actors show favoritism to members of their own group and actively exclude others. Loyalty is given to leaders with expectation of reciprocal paternalistic protection or the ability to garner resources from other group members.	Firm cooperates on the basis of clan identity reinforcing traditional authority structures with family bosses in return for insider advantage and protection.
	Merit/Interest Based – rooted in professional networks that bridge across small group ties accessing relationships on individual terms rather than group affiliation.	Actors favor inter-relations with others based on merit or according to interests, which effectively connects people with particular skills and abilities with the resources they need to innovate, solve complex challenges, and take advantage of opportunities requiring diverse competencies.	Firm explores ideas through new relations and cooperates with diverse groups with different skill sets to fill out the firm’s business system both increasing the possibility space and the capacity to exploit new opportunity effectively.

⁷ This table is adapted and modified from LEO Brief “Practical Tools for Measuring System Health. The document was produced by Tim Sparkman of Market Share Associates, Mike Field of DAI, and Eric Derks of the Canopy Lab, for ACDI/VOCA with funding from USAID’s Leveraging Economic Opportunities project.

Indicators of Systemic Change⁸

Systemic change is at least the implicit goal of many development projects. Practitioners select interventions to give direction to systemic change. While AVC emphasizes the importance of holistic shifts, interventions are invariably oriented at the agent level. Projects tend to work with firms to effect larger changes in the system as a whole. All agree that systemic change occurs at the global level. But, it is unclear at what point change at the agent level become systemic?

Fowler and colleagues assert that important indications of systemic change can be observed at the agent level whenever single agents are “acting” – presumably in new ways, such as a firm pursuing a new business strategy that signals movement towards deeper systemic change, i.e. a change in the firms’ drivers or incentives. This relates to AVC’s assumption that systemic change takes place when the system’s self-organization, drivers, or underlying biases shift.⁹ While the exact threshold point remains debatable, we agree with Fowler and colleagues that the early beginnings of systemic change may be inferred by shifts in single agent strategies, particularly when those shifts are potentially disruptive, have clear direction and dynamism, and are likely to evoke strategic responses from competitors, engender new forms of strategic cooperation, or create new niches in the business eco-system.

Change that falls short of this mark should not necessarily be referred to as “systemic”. In other words, there should be at least an expected response from other agents, supporting institutions or the clear emergence of new drivers or underlying biases at the systemic level, if systemic change is to be more than just anticipatory.

Building on the AVC view of systemic change, we suggest three broad indicators, or “change markers”, to identify the existence of systemic change: 1) Directionality; 2) Dynamism and 3) Durability. These refer in general to the sequence of the AVC change process.

⁸ The most common frameworks in use are Springfield’s Adopt, Adapt, Expand and Respond (AAER), African Enterprise Challenge Fund (AECF), Donor Committee on Enterprise Development (DCED), and the Market Assistance Program (MAP) in Kenya. Currently there seems to be little consensus as to what are the best indicators to measure or even identify systemic change. The vast majority of the indicators currently in use deal with agent-level change which may or may not be systemic according to the standards applied in this paper.

⁹ Fowler, Ben, Erin Markel and Tim Sparkman (2016: p 9-15), *Disrupting System Dynamics: A framework for understanding systemic change.* Leo Report # 47. USAID

Table 2: Suggested AVC Systemic Change Markers

Indicator	Description	Tentative Set of Markers
Directionality	Agents exhibit more market inclusive behaviors which are amplified through positive feedback giving clear direction and momentum to the change.	<ol style="list-style-type: none"> 1) Drivers and self-reinforcing feedback loops intensified 2) Shift in strategic biases (see table 1 above) 3) Shift in relational biases (see table 1 above) 4) Replication of innovation in other locations and business lines 5) Competitors respond by copying and innovating on their own (crowding in) 6) Consumer demand builds, gains voice and pulls change.
Dynamism	System characterized by intensification of co-evolutionary dynamics among market actors including variety production and selective pressure.	<ol style="list-style-type: none"> 1) Emergence of positive cooperation including shifts in value chain governance 2) Intensification of positive/internalized response to competition and upgrading 3) Improved connectivity and flows (new networks and resource flows) 4) Diversification –increased numbers or types of channels 5) Churn rates related to customers and enterprises¹⁰
Durability	Systemic change becomes institutionalized and more functionally integrated and layered within the larger system.	<ol style="list-style-type: none"> 1) Change in how institutions and subsystems (judiciary, civil society, etc.) supports change and improves overall system functioning 2) Institutionalization of counterbalancing forces and feedback. 3) Alignment of inclusive patterns and norms across scale. 4) Shift in power relations towards inclusion.

The reader will note that the above table does not specify benefits to the target population as an indicator of systemic change. Fowler and Dunn (2014)¹¹ make the point that systemic change is an intermediate outcome contributing to development impact. By changing the underlying drivers and biases of a system and monitoring its direction towards inclusivity, the change being fostered will, in all likelihood, deliver the expected benefits to the “preferred agents.” This corresponds to the logic model in Figure 1.

There is strong evidence that direct implementation by development actors that merely produces results without changing drivers will yield only superficial and short-lived effects. Change that is shallow and not supported by amplifying feedback (giving direction and momentum to the change) will almost certainly revert back to old patterns that align with unchanged systemic drivers. This underscores the importance of disruption to spark self-organization along new lines.

¹⁰ Churn requires some nuanced interpretation. Lower levels of churn (higher retention in trading partners) may indicate more cooperation and mutualism—a trend towards more inclusion. But it might also mean higher degrees of dependency in patronage driven relationship which could indicate continuation of traditional exploitative patterns. See LEO Brief “Practical Tools for Measuring System Health” for more discussion.

¹¹ Fowler and Dunn (2014:19) Evaluating Systems and Systemic Change for Inclusive Market Development, LEO report #3, USAID.

Directionality is inherent in systemic behavior. At any moment, there is a direction or trajectory to where a market system is moving. Drivers infused with biases are the underlying forces that push the behavior in a certain direction both at the agent and the systemic levels. When disruption occurs, a system self-organizes and either changes direction or, if the market forces are not strong enough, reverts back to former patterns. AVC sometimes acts as a moral guarantor to reduce perceived risk where there is little trust in the behavior of others as new business models are tried out. A shift in the level of trust can spur new investment and alter the direction of agent strategies and affect overall market-level direction as well. As biases shift and behaviors change, markets self-organize around these agent intentions giving overall direction to systemic change.

Crowding in appears to be the most commonly used systemic change indicator in the MSD field.¹² It refers to when similar or competing firms copy or modify a program-supported change. As agents pursue their strategies in relation to what others are doing, the copying and incorporation of another's innovation into your own business strategy is a sure sign that some kind of systemic change is underway.

Dynamism indicates an increase in variety production and selection pressure in a market system. Firms are increasingly involved in professional upgrading in response to what others are doing. Inter-firm relations co-evolve with increasing intensity. The competitive response to constant learning and improvement becomes internalized. New forms of cooperation emerge in joint response to opportunities and threats. Evidence of strategic cooperation to compete is evident, especially among small firms, who lacking resources, must perform some business functions through external collaboration rather than internal integration. Trust develops and may lead to changes in governance regimes in value chains. New networks develop facilitating the flow of information and resource along more professional lines. As new forms of competition and cooperation emerge, changes in the underlying drivers and biases continue to build momentum as well.

Durability has sometimes been associated with firm-level buy-in. In the AVC approach such ownership is incorporated in from the outset by working with partners from the perspective of their own self-interest and strategies for growth. By co-designing new ways of working with partners and linking interventions with the partner's strategic priorities, buy-in can be assured.

From the AVC perspective, systemic change also relates to how a system is layered and interconnected. Greater connectivity between system levels and functions usually enhances system performance and the durability of change. Here, durability reflects emerging commitment at the macro level, as supporting institutions begin to adjust their own outlook and actions in

¹² Fowler and Dunn (2014:18). Evaluating Systems and Systemic Change for Inclusive Market Development, LEO report #3, USAID.

relation to this new competitive dynamism. Markets have core functions with their diverse value chains and supporting markets, but they also require functional support from civil society, media, government and other institutions. Durability is enhanced when these critical societal functions become better articulated and interconnected in support of inclusive market development.

Critical here is making sure that society has effective balancing feedback mechanisms in place, for example, independent media that call out corruption or abuse of power, or a civil society that advocates for vulnerable populations' rights and steps in to support and advocate when that population is being discriminated against. In more extractive societies, the evolution of media, civil society, etc. tends to be loyal to the clan/interest group that has been able to gain control. When inclusive change is moving, feedback loops must be put in place to protect it from hostile forces and keep it going. Media, civil society, law, etc. all have a major role to play. Institutionalizing counterbalancing capacity in a system to both reinforce new behaviors and push back on old behaviors that tend to reassert themselves is a critical factor in the durability of any change process.

The alignment across scales is another critical indicator of durability. Mike Field has argued that the level of durability especially in terms of positive directional change is closely related to whether a new bias aligns across scales. So, if women in a particular village or in a specific industry are given a bit more flexibility in the roles they can play, but gender norms in most other industries and in the wider social system remain static/not shifting, then any real and durable systemic shifts towards a new direction of greater flexibility for women is unlikely. Power relations must also shift towards inclusion at multiple layers of society.

Note on Scale

Scale or breadth of change is also a commonly used indicator. It is useful to show adoption rates of new practices and the diffusion of innovation. But it is also subject to misuse. Scale is more often than not a lagging indicator if systemic change is being facilitated properly. It takes more time to build relationships with market actors who themselves will drive the change rather than engage in direct delivery to ramp up project outputs. A focus on scale alone can create a perverse incentive for projects to increase its numbers quickly rather than address the underlying processes of change.

Moreover, when trying to maximize scale, practitioners find it easier to ignore how a system becomes functionally interconnected in more effective ways recalling the old distinction between growth and development. Scale for example can lead to growth in numbers without development—just more of something rather than better integration of functions. Scale must grow in tandem with functional integration and not get too far out in front. ¹³

¹³ For a more thorough treatment of the scale issue, the authors point the reader to the excellent paper by Fowler, Sparkman and Field entitled: Reconsidering the Concept of Scale in Market Development Systems; LEO Brief. The authors agree with

Chapter III: The Case of the Agricultural Inputs Market System

This chapter focuses on AVC's activities to facilitate systemic change in Bangladesh's agricultural inputs market system. Over the past two years, AVC forged partnerships with 25 private sector companies and cooperatives supplying farmers with inputs (high quality seed and fertilizer), improved technology, and management training. Three of these firms (Partex Agro, NAAFCO and Ispahani) in particular have already demonstrated significant investment in restructuring their distribution channels towards a more inclusive customer orientation—by moving from *Extractive* and *Patronage* biases to *Solution Seeking/Value-adding* and *Merit/Interest-based* patterns of behavior (as outlined in Table I above). They have also begun expanding their successful models developed and tested under AVC, with their own resources both within and outside the FTF-ZOI.

This chapter begins with looking at key characteristics of the agri-input market system before AVC's interventions, then looks at AVC's facilitation guidance with these lead firms to stimulate behavior change among their distributors, retailers, and customers (farmers). It also provides an overview of the tactical interventions that AVC engaged in with these lead firms. Finally, the chapter closes by looking at initial evidence of systemic change employing the framework from Chapter II.

The Pre-Intervention Situation

The first step in any intervention is to understand the current situation and the underlying reasons why the input supply systems (people, firms, networks, etc.) self-organize the way they do. To understand this well, AVC investigated behavior patterns, flows of information and finance, relational networks, trust and dispute patterns, and interconnectivity / influence patterns between market and other social systems (i.e., political, civil society, communal/friends and family, etc.).¹⁴ The project's End Market Analysis¹⁵ and Mental Models Research with Farmers¹⁶ provided some additional guidance for the team that would prove helpful in framing the initial interventions with input suppliers. Key findings are about the agri-input market system from these studies - especially within select FTF value chains, including mangos,

their conclusion that “scale should be understood as the outcome of the evolution of systemic features, including networks of relationships, the pace of learning and adaptation, systemic biases, rules and norms and behavior patterns.

¹⁴ Brand, pg 15.

¹⁵ DAI. (2014). Agricultural Value Chains (AVC) Activity Bangladesh: Value Chain Selection Report, End Market and Value Chain Analysis

¹⁶ Decision Partners (2016). Bangladesh AVC: Mental Models Research with Farmers – Final Report. <http://www.decisionpartners.co/>

groundnuts, and pulses - are presented below giving insight into the situation before AVC's interventions. The findings about the pre-intervention situation are framed within in the three categories of the suggested AVC Systemic Change Markers discussed above:

DIRECTIONALITY: Inputs market system geared toward extractive and patronage driven biases.

In general, prior to the AVC interventions, the market system in the agri-inputs within the Southern Delta could be characterized as extractive and patronage-driven (see Table 1). The distribution channels were typically structured in a linear chain from lead firm to distributor to retailer and lastly to the farmer (customer) as illustrated in Figure 2.

Figure 3: Pre-Intervention Linear Chain Structure of Input Supply System



Retailers often felt cheated in their transactions with distributors. Distributors tended to only communicate with retailers and had no direct engagement with their end consumer (the farmer), and hence there were no self-reinforcing feedback loops in the system for information to flow fostering learning or relationships to be built fostering trust. There was limited loyalty or established relationships between retailers and distributors. Retailers rarely developed relationships with potential new farmer customers. And because there was no direct engagement between input suppliers and retailers to transfer knowledge about new products, there were often lower rates of adoption of improved practices for certified seeds, fertilizer, and other inputs by farmers.

The Mental Model research (see text box) of Southern Delta farmers, found that when farmers were asked how they decided on where to purchase agricultural products, most of the interviewees (65%) mentioned the store location and relationship with the vendor as the top reasons. Many farmers (55%) said that they usually retained seeds from previous year's harvest rather than

AVC's Mental Models Research with Farmers

While designing its input supply interventions, AVC asked behavioural science firm Decision Partners to undertake mental model research to gain insights into how farmers are deciding where to access (or not access) seeds and to understand the "why" behind their decision-making process.

Decades of research demonstrate that people's judgments about complex issues are guided by "mental models". Mental Models:

- Are tacit webs of belief all people draw upon to interpret and make inferences about issues that come to their attention; and
- Must be addressed through communications in order to change people's attitudes, beliefs and behaviors.

When done well, mental models research enables discovery and characterization of in-depth salient beliefs and the underlying rationale for those beliefs that could not be anticipated by researchers. It provides testable hypotheses concerning people's beliefs and behaviors.

purchasing new ones. Ninety percent (90%) said they had a trustworthy relationship with their retailer but no relationship with the distributors or input suppliers (lead firms). A few (15%) felt retailers did not always have their best interest in mind when giving advice or deceived them when weighing or by applying false company labels on their products. Many farmers said they didn't jeopardize quality for price. Many (50%) expressed a willingness to pay higher prices for better quality inputs and many (45%) described high prices as a signal of quality. Some (35%) mentioned having received valuable planting advice from retailers. Most farmers (60%) received information about products and techniques from the retailer, and many farmers (45%) talked to their local Department of Agricultural Extension officials.

Dynamism: Value chain governance with few explicit grades and standards and weak mechanisms to ensure that farmers' and traders' incentives are closely aligned with end-market requirements.

The AVC's end market research found that Bangladesh's urban consumers were signaling growing demand for safe horticultural products, such as mangos and had a willingness to pay a premium price for safe produce, free from chemical residue. While the market size for mangos in Bangladesh was close to \$1 billion a year, the various market channels did not make much use of grades and standards; and there were weak communications between farmers and traders to ensure their practices and incentives were closely aligned to meet these changing end-market requirements. As was highlighted in an earlier AVC case study, "market actors were rather slow or unable to respond to opportunities in new market channels and there was little circulation of new ideas and practices down to farmers that would improve efficiencies and yields. In general, despite the sizeable demand for mangos and potential for growth, the market [was] stagnant. However, there [was] a new market channel that [had] the potential to drive improvements in the governance patterns of certain wholesalers and retailers, namely, for "safe" mangos. This channel [arose] out of growing health concerns about mangos contaminated with high levels of agro-chemicals."¹⁷

To capitalize on the nascent higher value 'safe food' channels within the mango value chain, a variety of the market system's dynamics (behaviors, inputs, and services) needed to be changed to respond positively to competition and upgrading. On the inputs markets for example, the overuse of agro-chemicals was often due to over-spraying by misinformed farmers, who were hiring untrained casual day-laborers as sprayers. In addition, new products and services gaining prominence in other countries, such as integrated pest management (IPM) including the innovative use of pheromone traps were very slow to be adopted in Bangladesh when AVC first began.

¹⁷ Erik Derks, Michael Field. "Shifting Institutional Biases: Using value chain governance to address a market's underlying systemic structures." Pg 10. The BEAM Exchange, <https://www.beamexchange.org>. May 2016.

Durability: Limited linkages with institutions and subsystems (e.g. media, communications and marketing) to foster durable relationships.

When AVC began to focus on the input supply system, most input suppliers (lead firms) managed their distribution channels by communicating with their distributors and to a lesser extent with retailers. They did not develop a real customer orientation. Moreover, they lacked professional marketing strategies that directly targeted their end consumer – the farmer. As a result, there were virtually no examples of input suppliers hiring marketing firms to help them with media engagement, advertising, branding, packaging display, logo development, store layout or other communications and marketing efforts. Some firms had large rural media campaigns but not necessarily tailored to or guided by consumer (farmer) preferences or reliable marketing data. Packaging of products such as certified seeds was often opaque (so that customers had no guarantee of what was in the package, sometimes leading to trust issues about possible fake inputs and adulteration). Branding tended to focus on a prominent display of the company's name rather than on the message about the product's use and quality.

In addition, while docu-dramas for public campaign messages were commonly used by NGOs in rural areas to share information, this was not a general practice amongst agribusinesses such as large input suppliers. Finally, while it was common for input suppliers to establish demo plots, there was often limited signage, and the trainings often focused only on their specific products, not on training farmers to upgrade agricultural practices. Demo plots were not seen as a way to get farmers to become better farmers and more loyal customers in general – it was simply seen as a space to try to sell products.

Tactical Interventions

The overarching goal of AVC's engagement in the input market system was to support input suppliers interested in moving more towards a farmer (customer) oriented growth strategy. Through an adaptive process, this objective was met by piloting and scaling up a variety of interventions with input suppliers including:

- Developing a preferred agro-dealer network for both distributors and retailers
- Using farmers' engagement events as learning sessions
- Highlighting branding and promotional campaigns through local level agro-fairs
- Developing professional spraying and pruning services for mango orchards through spray men Service Provider Groups.

- Packaging new product featuring new logos, logo placement, and more transparent packaging materials
- Producing video docu-dramas mixing critical messaging and education with entertainment
- Introducing a phone call service, where staff of the input suppliers collect farmers' phone numbers at the agro-fairs, call them on occasion to begin building a relationship, gauge their preferences and assess their usage of the company's products
- Tracking ag-inputs authenticity through product and carton coding system and SMS verification These tactical interventions with agro-dealers and inputs suppliers were guided by four overarching behavior change objectives, namely:
 1. Generating new interactions with farmers
 2. Ensuring interactions are perceived as fair/valued by farmers
 3. Generating repeat interactions with farmers
 4. Creating competitive pressure on others to adopt/copy

These four behavior change objectives for the inputs market system are described in more detail below, complemented with the tactical interventions that AVC engaged in with these market actors. The interventions were designed to change both strategic and relational biases and move firms from an extractive mind set towards value adding behaviors and also move from patronage-type relationships towards merit-based behaviors (as described in Table 3 above).

Generating new interactions with farmers

Bringing regional and international good practice to the project, AVC understood that agro-dealers (distributors and retailers) and input suppliers tend to invest more resources when interacting directly with farmers at their farms through promotional events, which in turn generates new interactions to build trust, transfer knowledge, build brand awareness, expand their customer base, and increase sales. AVC wanted partner firms to realize that direct interpersonal contact is critical to develop a more trusting relationship, which is required to reduce the perceived high risk of investing in quality inputs. AVC encouraged firms to use modern marketing practices such as trial packs, contests, and promotional discounts to establish many on-farm demonstrations where they could generate authentic positive testimonials from farmers which they could use for word of mouth advertising opportunities.

At these farm demos, the input suppliers would also share information on cost-benefits and technical aspects of various products and services offered.

Perhaps the largest mindset shift that AVC encouraged was to support input suppliers to rethink their distribution channels which at the time only had direct relationships with distributors. AVC understood that for communities that have strong and deep social networks, such as the Southern Delta, a proven distribution tactic is pulling a member of that network to act as an agent for the distributor. AVC wanted to encourage distributors to invest in growing their distribution network, but do so in a way that established a virtuous cycle including perceptions of fairness and customer retention.

Using an adaptive co-creation process, the AVC team worked closely with input suppliers (lead firms) to explore a variety of different retail distribution models. It was important for staff to be trained on the market facilitation approach¹⁸, to ensure they were supporting these lead firms to build a mindset of innovation and experimentation focused on farmer customer service, especially amongst mid-level managers in charge of rethinking their firm’s relationship with distributors and their retail networks. This led to all three lead input suppliers developing their own version of a preferred distributor / preferred retailer program. The table below summarizes some of the various retail distribution models that the AVC team explored with input suppliers:

Table 3: Options for Building an Input Distribution Network

Distribution Models	Model Basics	Pros	Cons
Brick and Mortar	Input supplier builds a store and fills it with inventory. Requires substantial upfront capital.	Physical location can create a sense of stability with customers and can help build large customer base.	More capital intensive in terms of building the space, and stocking it. Risk of expansion covered by firm.
Village Agent	An input supplier identifies high-potential farmers to act as their promotional agents.	Trust from farmer conveyed to store. Incentives to grow sales and limit adulteration and fakes.	Agents do not compete well against established stores. Model requires strong social capital.
Buying Clubs	The input supplier catalyzes farmers to self-organize around an opportunity to buy inputs in bulk at a discount.	Can have bulk orders directly from a community. Few upfront costs, but on-going benefits (e.g. training) critical to entice self-organization.	Self-organized so social capital (trust) is foundational to create loyalty. Subject to community politics and social issues.
Virtual Store	Through a website an online retail store front can be developed	No bricks and mortar stores required. Low-cost consumer connection	Outreach defined by network access and mobile money.
Combination Model	Sequence with village agents and/or buyers’ clubs to	Could be the most effective way to expand fast and provide	Metrics on when to invest in a store would have to

¹⁸ Brand. Pg 32.

Distribution Models	Model Basics	Pros	Cons
	expand into rural communities connected to existing stores. Physical stores act as hubs for next expansions of agents & buyer clubs.	customers with a strong sense of stability. Store investments would have a greater likelihood of being viable since loyal customers already defined.	evolve and high capital investment and staff requirements would remain in order to build and run physical stores.

Ensuring interactions are perceived as fair and valued by farmers

The AVC team also focused on getting input suppliers to work with distributors in their distribution network to adopt tactics that would ensure high levels of perceived fairness and satisfaction with farmers. One of these tactics focused on minimizing farmer mismanagement or poor use of products and services, by expanding on-farm demos. Farmers could test how to use something and then the best performing farmer customers that learned how to properly use the product or service could teach others through their own testimonial advertising – a trusted communication channel.

Another tactic was to facilitate input suppliers to reduce the risk for the farmer by offering a service rather than simply offering a product. For a lead firm such as NAAFCO, this resulted in developing cohorts of professionalized spray men groups (formerly untrained casual labor), trained and certified on proper agro-chemical sprayer application for mango orchards. There are a multitude of benefits in developing such professionalized groups:

- 1) farmers get a higher return on their investment since the efficacy of professional sprayers is higher than farmers;
- 2) health benefits for farmer families due to the better and safer management of dangerous chemicals (farmers rarely use safety equipment and will often use their children to spray; they also do not properly handle or store the chemicals);
- 3) the systems become more efficient due to the efficacy and equipment utilization and improvements in durability (service providers tend to utilize more and take better care of their equipment compared to farmers); and
- 4) the emergence of spray services as commercially viable options has catalyzed a wider set of opportunities for other specialized ag services.

A successful innovation of this initial sprayer activity was expanding the services offered to include appropriate fertilizer application, best practices techniques for pruning, and proper harvesting thereby creating income opportunities year-round for the newly created service providers instead of only during the time of spraying. The increasing professionalization is real sign that the system is moving towards merit-based networks.

In addition, the AVC team continued to innovate with partner firms on ways to encourage perceptions of fairness by ensuring the newly developed preferred agro-dealers ¹⁹(both distributors and retailers) were establishing robust customer service capacity. This included managing farmer insecurities around using certain products and services, but also managing customers that felt mishandled or had complaints. A marketing mantra that the team shared with distribution managers was that “turning a complaining farmer into a person that feels treated fairly often just requires validating the farmer’s perspective.” Input suppliers, therefore, moved towards adopting modern customer service tactics and skills for their preferred agro-dealers in order to manage farmer perceptions and expectations.

Generating repeat interactions with farmers

AVC’s most dynamic input suppliers quickly learned during the pilot phase of their preferred dealer activities that the foundation for repeated interactions is about having agro-dealers (both distributors and retailers) with customer service capacity. Once this foundation was established, input suppliers worked with preferred distributors and preferred retailers to apply additional tactics to establish more loyalty and improve the effectiveness of targeting higher returning clients. AVC worked with the firms to pilot a well-proven marketing tactic by encouraging the establishment of loyalty clubs. See text box at right.

A key to success was establishing a virtuous cycle between new and repeat interactions. For agro-dealers they did this via special referral programs. Referrals programs included discounts, membership into the loyalty club, free trials, and training for any repeat farmer that refers another farmer. Tracking referrals became an important metric for growth especially in communities with strong and deep social networks.

Piloting Farmer Loyalty Clubs with Bangladesh’s leading input suppliers

AVC piloted loyalty clubs with all of the project’s three major input supplier lead firm partners. Loyalty clubs is a customer management mechanism to identify and target with additional resources high potential farmers/customers. The club typically sets basic criteria for becoming a member such as volume of purchases and number of transactions. The key is to define customers that demonstrate a willingness to invest in their farm (i.e., value/volume of purchases) and a propensity to be loyal (number of times they interacted with the agro-dealer). For clubs to be effective the agro-dealers need to establish clear and compelling benefits. These can be trainings, discounts, special demonstrations, special events or access for club members.

Creating competitive pressure on others to adopt/copy

For agri-inputs market systems to evolve in a more inclusive way, competitive forces need to support better behavior and punish poor behavior. Creating competitive pressure on other input suppliers in the market system to adopt/copy some of the inclusive business practices that

¹⁹ We use the term agro-dealers in a generic sense to include both distributors and their retailer networks.

AVC was piloting with select firms was part of the broader behavior change objectives that the project was focused on helping to facilitate. The project also used the Agricultural Market Systems Change Wheel²⁰ to continuously adapt and shift technical focus with input suppliers towards interventions with the most momentum, while being cognizant of the wider competitive pressures of other systems that needed to align to support the inputs market system such as media, alternative disputes, civil society and regulatory systems. The team was cognizant that the path towards increasingly inclusive growth meant that these interconnected systems would evolve in their own way, but would need to support and counterbalance the changes happening in the inputs market system. Some initial results are highlighted in the last section of this chapter.

Self-Selection Process

Determining which partners to work with is critical, and AVC always sets up and manages a step-wise self-selection process. AVC initially offers to work with any and all firms in an industry and then allocates resources to partners depending on their commitment and engagement. AVC allocated resources to amplify/support firms that demonstrated behaviors/practices that align with inclusive business practices, and reduced or stopped allocating resources to market actors that did not adopt or continued those behaviors/practices.²¹ AVC finds real value in taking this approach because it builds initial “buy-in” as opposed to more traditional types of grant-giving mechanisms which are too rigid to quickly adapt to partner changes in behavior having to start over with a new selection process. The AVC team and partners themselves internalize the message that support depends upon observable behavior change making it easy to assess if a partner firm is really serious about aligning its business strategy and practices with new expected behaviors that would support inclusive growth.

AVC’s market actor self-selection was guided by the project’s systemic change framework and followed an iterative six-stage process. A summary of the project’s role and the partner’s role through the six stages is described in more detail below:

²⁰ Agricultural Market Systems Change Wheel. MSD Hub. <http://www.msdhub.org/agricultural-market-system-change-wheel.html>.

²¹ Brand. Pg. 36

Figure 4: AVC’s market actor self-selection graphic

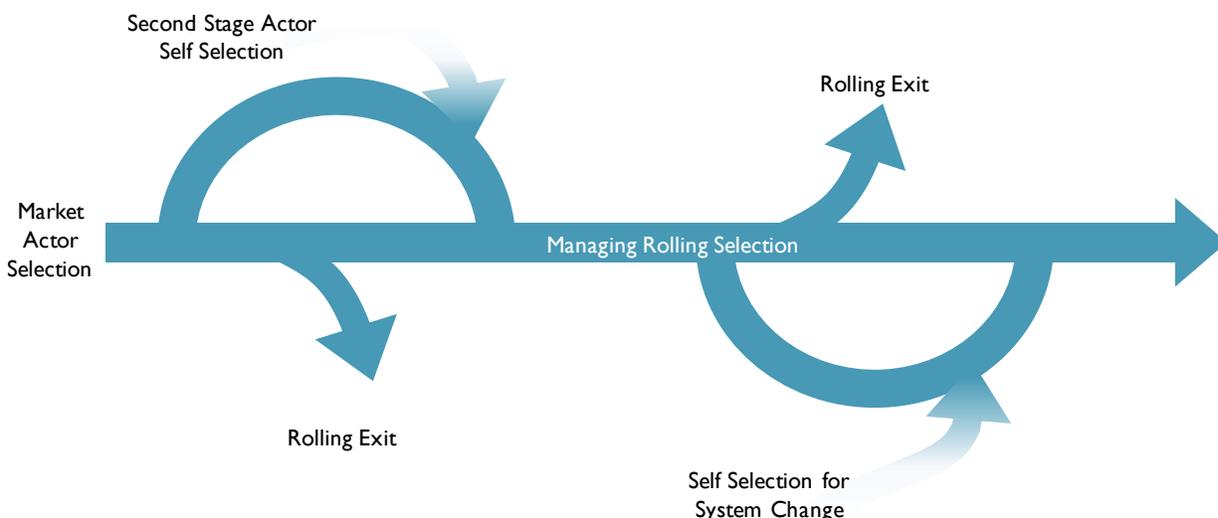


Table 4: Self-Selection Process for Lead Firms in Input Supply System

Stages of Self-Selection	Project Role	Input supplier Role - Indication of Selecting in or Out
Market Actor Selection	<ul style="list-style-type: none"> The project made an initial offer to all agro-input suppliers in the FTF-ZOI that had more than one location and also sold to agro-dealers. Most lead firms that showed interest had large distribution networks nationwide. The offer was to work with them in developing a strategy for growing their businesses over the next year. The input suppliers would have to conduct simple farmer research to identify issues and locations of where farmers buy their inputs. If the input suppliers did their research, the project scheduled a series of meetings to work through a strategic planning process to provide support with adapting their distribution model towards farmer-oriented growth. <p><i>Not all input suppliers agreed to this process and some did not conduct the research. The starting point was with the ones that saw the value in thinking and planning to grow their business.</i></p>	<ul style="list-style-type: none"> Input suppliers conducted research with seriousness and demonstrated the importance of analyzing it. The input suppliers participated actively in the strategic planning process. <p>Systemic indicators included:</p> <ul style="list-style-type: none"> Quality of new commercial interactions Perceived fairness of interactions Percentage of repeat interactions Observable competitive pressure being applied to other input suppliers to adopt and adapt the farmer oriented growth strategy/principles
Second Stage Actor Self Selection	<ul style="list-style-type: none"> The project monitored and coached input suppliers during the first test of their commitment, which was to conduct promotional events in at least four FTF-ZOI communities such as Agri-Fairs and Farmer Learning Sessions. AVC cost shared 50%, covered fuel and some promotional discount offers to get farmer/customers to try the new agro-inputs. 	<ul style="list-style-type: none"> The input suppliers needed to be the ones leading the events. They should be tracking if farmer response is positive and if sales are made during the events.

Stages of Self-Selection	Project Role	Input supplier Role - Indication of Selecting in or Out
	<ul style="list-style-type: none"> ▪ AVC coached the input suppliers to start to implement the expansion component of their more farmer-focused strategies – e.g. developing farmer buying clubs (for bulk purchase discounts), and encouraging regular visits by preferred retailers to collect orders. ▪ Some firms were partnered with marketing companies to redesign logos, develop docu-dramas, and develop branding and leaflets for preferred agrodealers. ▪ Depending on the firm’s commitment, AVC provided extra support such as training of new staff on retail management and customer service practices. It also sometimes cost shared the hiring of higher quality staff or a new type of position. 	<ul style="list-style-type: none"> ▪ They should be taking the improvement process of each event seriously. <p>Systemic indicators to be tracking are:</p> <ul style="list-style-type: none"> ▪ Quality of new commercial interactions ▪ Perceived fairness of interactions ▪ Percentage of repeat interactions ▪ Observable competitive pressure being applied to other input suppliers to adopt and adapt the farmer oriented growth strategy
Managing Rolling Self Selection	<ul style="list-style-type: none"> ▪ AVC monitored the input suppliers to track whether they were investing time and money to push their strategic plans forward; providing a coaching, mentoring, and mediating role to improve relationships with farmer/customers, and other related commercial actors. ▪ Based on the commitment and pace of implementation from individual input suppliers, AVC modulated its resource allocation to focus on input suppliers that were pushing the market system in a better direction. As more input suppliers began moving in a better direction, AVC reduced its role and lowered its cost share – since the business case for the new distribution model had been proven in the market. 	<p>AVC’s objective was to leverage high performing input suppliers to push others to adopt behavior change. The project needed to monitor and respond to the input suppliers’ levels and patterns of investment in the basic areas targeted in their strategic plans such as:</p> <ul style="list-style-type: none"> ▪ Improved farmer relationships ▪ Expansion to new communities ▪ Assets related to expansion (e.g. shops, vehicles, storage, etc.)
Rolling Exit - identification of higher level self selection criteria – building momentum for breadth and depth of change	<p>AVC modulated individual support based on how much a firm was pushing the overall system through competitive pressure.</p> <ul style="list-style-type: none"> ▪ For input suppliers moving very fast, AVC would exit early stage roles like cost sharing events to support higher-level business practices (e.g. staff training; quality assurance). ▪ For input suppliers not moving as fast, AVC used peer exchanges to show how others were adopting new models. ▪ For input suppliers moving slow or not at all, AVC trained its team to not show judgment, but relay the message that if the firms were not interested or needed to slow down then the project would respect their decision and slow down or stop interaction. They messaged that the door was open 	<p>The project needed to monitor and respond to the input suppliers’ levels and patterns of investment in higher level practice areas such as:</p> <ul style="list-style-type: none"> ▪ Quality of preferred distributor / preferred retailer programs ▪ Establishing supplier credit mechanisms with distributors ▪ Training programs for staff; and staff incentive schemes ▪ Quality assurance certifications ▪ Shopping experience for farmer/customers (e.g., shop layout)

Stages of Self-Selection	Project Role	Input supplier Role - Indication of Selecting in or Out
	<p>for any input suppliers that wanted to re-engage later on.</p> <p><i>Momentum tended not to be linear so managing non-linear change process meant shifting resources to support when change was happening</i></p>	<ul style="list-style-type: none"> ▪ management systems (e.g., IT, etc.)
<p>Self Selection for System Change – leverage points; structure, rules, feedback / pressure</p>	<ul style="list-style-type: none"> ▪ As momentum was building through work with input suppliers, it was critical that to increase the pace of change at the systemic level, AVC had to design new interventions that targeted other actors. ▪ When competitive pressure applied from partner firms did not substantially affect other input suppliers’ adoption rates, the project looked for ways to amplify competitive pressure in favor of customer/farmer driven business practices through radio stations, business to business services, consumer protection, retail associations, peer to peer learning/gathering events, and the Chambers of Commerce. <p><i>When engaging any market actor including actors providing supporting functions (e.g. transport), it was important for AVC to manage them in a similar way to how input suppliers were managed. Sustainability required that the project focus resources on the market actors that were pushing the system to change in line with the project’s intended systemic change. Using project resources to push a market to support the input suppliers only while the project was active would not have resulted in a durable change.</i></p>	<p>Levels and patterns of investment in time and resources in:</p> <ul style="list-style-type: none"> ▪ Marketing research firms targeting input suppliers ▪ Chamber of Commerce offering events targeting input suppliers <p>The project managed other indicators of systemic change such as:</p> <ul style="list-style-type: none"> ▪ Level and rate of adoption not driven by project in the core and interconnected market systems ▪ New supporting services emerging without project support <p><i>Tipping point being achieved (systemic pressure shifting from pushing back to supporting a specific practice, norm or rule) on a specific or set of practice(s), rule(s) and/or norm(s).</i></p>
<p>Exit</p>	<p>As the project plans to wind down, it will need to push all market actors to take on more responsibility for the key changes that they want to make. AVC has set clear time lines and clear guidance on how the project will wind down. AVC plans to eliminate cost shares a few months before project close down, so the final interactions are advisory in nature.</p>	<p>Continued monitoring of systemic changes:</p> <ul style="list-style-type: none"> ▪ The way market actors responded to competitive pressure ▪ Level and rate of adoption not driven by project ▪ New supporting services emerging

Understanding the project’s adaptive approach to market actor self-selection, lays the foundation to understand why AVC’s most successful partners have now all begun to invest outside of the FTF ZOI using their own resources, and why there is already clear evidence of systemic change within the inputs markets system.

Evidence of Systemic Change

Of the suggested AVC Systemic Change Markers discussed in the previous section, the research team found mostly evidence of systemic change for the first two indicators, Directionality and Dynamism, and some limited evidence within Durability. Considering that the tentative set of markers for Durability are looking at changes in institutions, subsystems and social norms, we believe this is an indicator that needs to also be looked at on a longer time horizon. As highlighted below, the more substantive evidence of systemic change was found within the indicator of Directionality – namely, evidence of more intensified self-reinforcing feedback loops, shifts in strategic and network biases, replication of innovations to other locations and business lines, crowding in by competitors and increased consumer demand pulling change. In this section, we showcase some of these key findings.

“We realized that if we wanted to grow and build customer loyalty, we had to rethink our approach to engaging with farmers, who are our real consumers. We needed to move from being just a trading company to becoming a services company.

– Managing Director of major Bangladesh agri-input supplier, AVC partner

i. Directionality: Consumer demand builds, gains voice and pulls change, leading to a momentum in sales growth

In the two years since AVC began taking a market systems approach, there has already been some significant evidence of systemic change in the agri-inputs market system, both in the FTF ZOI and outside the ZOI; and both in FTF value chains (VCs) and in other VCs that lead input suppliers sell to. AVC helped to validate the business case and support ongoing adaptations of various activities to develop a farmer customer oriented distribution model. Input suppliers have seen significant increases in sales through these new marketing and distribution models. For example, Partex and NAAFCO both saw sales increase by over 50% in two years reaching over \$800,000 and \$2,700,000 in sales respectively; and Ispahani has seen its bio-pesticides sales increase over 40% in the Southern Delta.

ii. Directionality: Replication of innovation outside ZOI

All three of AVC’s major inputs supply partners have expanded and adapted the AVC-supported activities in other parts of Bangladesh including Natore District, Mymensingh Division, Dhaka division, and Chittagong division.

- Partex has already 35 preferred distributors outside the FTF-ZOI. It is estimated that they were reaching 15,000 farmers in the 2015-16 growing season, and that this has increased to 40,000 in the 2016-17 growing season. The firm has clear plans to expand this model to its

300 dealers and retailers and is expecting to reach nearly 140,000 farmers in the coming few years.

- NAAFCO has developed over 700 preferred retailers nationwide (an estimated 50 percent reached without direct AVC assistance), and is now reaching an estimated 30,000 farmers through the new distribution model with ambitious plans to continue to expand. Also, outside of the estimated 20,000 farmers in the Southern Delta with the phone service center, an additional 80,000 outside the Southern Delta are already in the company's growing customer database. NAAFCO's mango bagging and yellow sticky paper technologies were piloted in the South and have also already been replicated in the North.²² The company has already begun to train an additional 500 certified spray men nationwide.
- Ispahani saw sales increase quickly through the pilot activities in the FTF-ZOI, reaching 10,000 farmers in just six months. Three months later the company invested their own resources to expand the model to the Northern Districts. They have recruited 10 new sales officers, who are now working with additional 75 preferred dealers and 500 preferred retailers nationwide; and have already hosted 200 farmer learning sessions (80-100 farmers attending per session), reaching an estimated 20,000 farmers through new distribution, marketing, and embedded training of IPM products nationwide. They have seen a 100% increase in overall sales so far, are expecting 30% growth in 2018 and 20% growth in 2019. The firm expects to connect to 20,000 new farmers via advertising that will translate into increased sales within 1-2 years.
- NAAFCO and Partex have both already hosted four Agri-Fairs outside of the FTF-ZOI, reaching an estimated 16,000 farmers – at least 70% (over 11,000) of whom are farmers that have never bought their products before. Ispahani is planning six Agri-Fairs in the coming year outside the FTF-ZOI with their own resources. It is expected that there will be significant opportunities to generate new interactions with potential customers to increase the churn rate²³ of the preferred retailers.

iii. *Directionality: Replication of Innovations in non-FTF value chains.*

As a Feed the Future project, AVC was mandated to work in the specific FTF value chains including pulses, groundnuts, summer vegetables, natural fibers, mangos, tomatoes, flowers, and potatoes. The lead firm input supplier partners helped the project reach farmers in the pulses, groundnuts and mango value chains. However, none of these input suppliers sell inputs only in

²² The yellow stick paper is a low-cost bio-technology pest control technology. The mango bagging is another bio-technology which helps with ripening and pest control; and ensures optimum sunlight to produce bright colorful fruits that help farmers get better prices based on appearance.

²³ Churn rate is a balance between repeat and new customers

these value chains, and in fact sell seeds and other inputs to farmers growing many different crops. The AVC-tested models have therefore already begun to benefit farmers working in other non-FTF value chains. There is evidence that in both the FTF-ZOI and outside the FTF-ZOI, the AVC-supported farmer-oriented distribution models are being used to provide inputs and services to farmers also working in other value chains such as winter vegetables, rice, and chili. In addition, the mango orchard spray men are also now providing professionalized spraying/pruning/fertilizer application services to guava orchards.

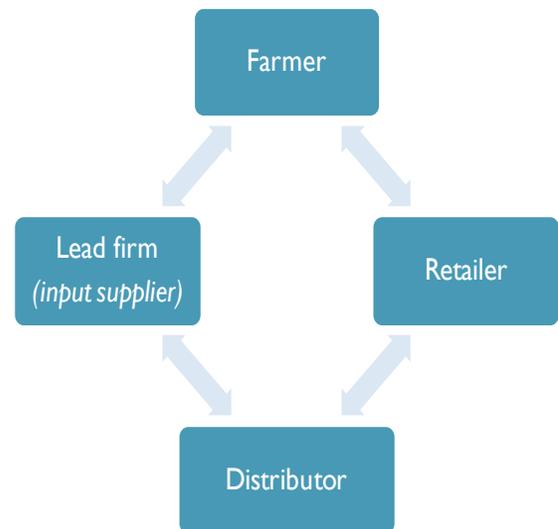
iv. Directionality: Replication and adaptations of Innovations in other business lines.

NAAFCO has recently begun a preferred retailer model for its agro-veterinary ('agro-vet') products – without the support of AVC. NAAFCO is a major supplier of certified fish feed and fish additives, as well as veterinary medicines to the livestock and poultry sectors through a network of 300 agro-vet retailers nationwide. The company chose to adapt the AVC model to its agro-vet product line in the Northern Districts because the retailer network and lack of connection with farmers was similar to that of the South's agri-inputs system, and hence much of the activities with AVC could be adapted for this business line. Similar to other farmers, fish farmers had limited direct links with input suppliers and limited access to technical assistance. The few agro-vet suppliers who conducted demos would focus the training solely on the product, and not on more holistic cultivation techniques to improve overall fish pond management. The pilot preferred agro-vet retailer model has started with 10 preferred dealers – each reaching an average of 150 fish farmers (total of 1500 farmers). They plan to scale this up to 50 preferred retailers to reach at least 7,500 fish farmers within two years, and scale up further to an estimated 45,000 fish farmer customers after that. In the past three months since the learning sessions began, preferred retailers are reporting increases in sales of over 50% and an estimated 10% increase in new customers (churn). NAAFCO plans to replicate AVC-supported activities such as Agri-Fairs, phone service centers and product coding in the coming year for this business line as well.

vi. *Directionality: Intensified self-reinforcing feedback loops, leading to a shift in relational bias*

One of the major changes in the input supply system has been the beginnings of a significant structural change driven by new interconnectivity and communication. The reader will recall the linear structure of distribution in Figure 3 above. In this chain-like structure, retailers often felt exploited by distributors and farmers were inclined to distrust retailers given the latter's focus on the sale, not the farmer's needs and requirements. There were ample opportunities for retailers to cheat the farmers and little communication beyond mere transactions. The structure fostered the lack of trust, low investment in exploration of new and better ways of doing things, and little knowledge sharing about new technologies, products, or training in how to use products. There was virtually no feedback loop between farmer, retailer, distributor and lead firm.

Figure 5 Self-Reinforcing Loop as a Key Driver of Change



With the shift toward a customer-led business strategy and the development of preferred agro-dealer groups, what emerged was a new interconnectivity similar to the type of self-reinforcing loop shown in Figure 5. Investment by lead firms in building preferred distribution networks and groups of preferred retailers building in continual interaction with farmers created a positive feedback loop directed towards business mutualism—distributors gained when retailers gained, when farmers gained and so forth. This interconnectivity led to the building up of more investment, knowledge sharing and trust in a self-reinforcing manner. The zero-sum game (win-lose) inherent in the linear chain was transformed into a positive sum structure (win-win) that is self-reinforcing. Even though individuals may exit and be replaced by other individuals, the self-reinforcing nature of this structure will continue to drive innovation, mutualism and growth. Moreover, strong brand development was not possible without this kind of circular communication or informational closure. Loops develop identity whereas chains diffuse it.

This rising mutualism has led to significant internal changes in staffing. Input supply firms are now hiring more staff for field positions. They used to run most operations from their Dhaka offices with intermittent communications with regional distributors. Now gathering farmer feedback and major inventory decisions are made at the regional offices, also streamlining communication flows and bringing their staff more directly in contact with retailers and farmers

as customers. In a major recent shift, all three of the major input suppliers have also seen the growing market potential in the value chains that they are selling inputs to and are exploring options to develop '360-degree models' where they also become buyers of produce from their most loyal and productive farmer groups. These internal strategic changes emanate from the power of these win-win structural changes and underscore the growing dynamism within these companies to improve connectivity and resource flows and to more deeply embrace the customer-oriented model.

vii. Directionality: Shift in strategy biases

Input suppliers can be observed shifting their biases as they experience the benefits of the new customer-oriented approach. There has already been a significant shift from the once dominant short-term extractive bias (just sell more at the highest cost possible) to a value-adding mindset, where lead firms are increasingly interested in their customer's views and build up entire new distribution structures that are responsive to their needs. This longer term view favoring investment over extraction is a clear shift toward a more professional approach to business management which in turn supports the emergence of more inclusive functioning markets. This shift in strategic bias has been accompanied by complementary changes in relational or network biases as new and more diverse non-traditional relationships have formed. Network diversity, such as using professional marketing firms to help with branding or building preferred groups for communicating with retailers and farmers, greatly increases business performance and opens up possibilities for new business opportunities as well. In sum, the experience gained by lead firms trying out new ways of working have led to growing business success, shifts in underlying biases, and the rise of new structured feedback loops between farmers and input suppliers for the first time in this particular market system.

V. Dynamism: Intensification of positive response to competition and upgrading

While AVC's partners have ambitious growth strategies, they understand that their distribution networks will never cover the whole country. Therefore, while they see themselves as first movers in this farmer customer oriented distribution model, they seem rather open to having their competitors learn from them and appear ready to continue to adapt and co-evolve as more input suppliers copy some of their new business practices. In fact, even in just the past six months as some of the AVC partners have begun to expand their model nationwide, there has been evidence of replication

"We see it as a good thing when a competitor starts copying us. We know we cannot cover the entire market with our products and services. Since we believe we are beginning to promote more good practices, then copying by the competition will benefit the Bangladeshi agriculture sector overall."

– Managing Director of major Bangladesh agri-input supplier, AVC partner

and copying by some competitors, and a response by the partners to see this as healthy competition and innovation in this sector:

- Within one month of the phone service center activity being proposed and piloted with one input supplier, two other input suppliers saw the benefits of developing a customer database and were ready to invest in the idea.
- AVC supported Partex to work with a local marketing company to redesign their packaging, providing a larger clear opening on the bags for farmer customers to see more of the products for mung bean seeds (a crop that was not traditionally commercialized in the Southern Delta until AVC intervention). Learning from the Mental Model research, the goal was to increase trust that agro-dealers were not selling fake or adulterated products. This innovation has been well received. In the past three months, at least one other competitor has copied this practice and is now selling products with more transparent packaging.
- After NAAFCO's success with mango post-harvest innovations (e.g. the use of yellow sticky paper and mango bagging, and taking on a new role as a buyer), this case study's authors were made aware of two other competitors beginning to copy these practices.
- Two major competitors of NAAFCO have recently declared their intention to develop professionalized Spray men groups to provide 360-degree crop protection services. This is the first direct competitor of an AVC partner to replicate a major innovation that has been successfully piloted. One of the companies has some field staff that work for both companies, and it is reported that they are sharing their learning from AVC with both input suppliers. The other company plans to innovate from the AVC model to also explore lease-to-own financing models of sprayer equipment. In addition, while these firms plans to target the lucrative mango sector as well, they are also investigating the feasibility of investing in advisory and sprayer services for rice, vegetable, and mung bean crops, beginning in the Southern Delta with plans to expand nationwide.

VI. Durability: Increased linkages with partners in interconnected systems (e.g. marketing)

Before AVC, most marketing firms had limited experience in the agribusiness sector. Partnering input suppliers with marketing firms to provide support with media engagement, advertising, branding, packaging display, logo development, store layout or other communications and marketing efforts gave these firms the ability to open a new service line. While the project's partner input suppliers have not independently hired outside marketing firms with their own resources yet, there is evidence that other competitors have already done so. For example, after Partex brought on a local marketing firm to help develop a new more transparent packaging display (to better help customers trust what was in the package), a competitor hired

another marketing firm to copy this feature, after it was found to be well received by farmers/customers. Follow-up research to measure the durability of systemic change should investigate how much the AVC participating marketing firms have expanded their customer base in the agribusiness sector and if any other competitor marketing firms have entered into this space as well.



Photo: One of NAAFCO's first ever branded preferred agro-vet retailers showcases some of his bestselling fish feed products. Sales have increased 68% since NAAFCO adapted its AVC-supported activities to its agro-vet business line in the major aquaculture districts north of Dhaka. Now the retailer and his neighboring fish farmer customers are gaining new technical skills through NAAFCO's new comprehensive pond management Learning Sessions that have recently begun.

Key Strategies for Facilitating Change

Within the agri-inputs market system, this CLA case study found a number of key strategies within AVC's approach to facilitate change. These key strategies are presented here.

- Once transformed to a market systems activity, AVC used the market actor self-selection process to co-create and co-invest with larger firms that already had nationwide presence. The activity understood that if it could facilitate a more customer (farmer) focused business strategy with increased sales for lead firms in the FTF-ZOI, then the managers of these firms would want to invest their own resources to expand the models nationwide.
- While AVC had an ongoing open call for businesses to submit concept notes, the team was clearly on the look-out for lead firms with a real willingness to experiment and innovate. AVC staff observed that some of the lead firms were more interested than others in piloting new activities and those companies were also the ones that were hiring younger, more dynamic staff who were bringing new ideas about agribusiness. Furthermore, it was observed that these more innovative firms often had internal procedures for promoting staff based on performance rather than simply based on family patronage. The market actor self-selection process allowed for the team to build stronger relationships with those companies that were more committed to change.
- AVC engaged with lead firms differently than many NGOs and development partners had previously done. Many input suppliers have received grants from donor partners – often to conduct a specific requested set of trainings for smallholder farmers – and the grant structure was often designed for the project to reach an expected target number. AVC did not enter relationships with lead firms by discussing the project's targets. Instead, it began by asking the firms if and how they wanted to grow their business. This was a major change from how donors have partnered with the private sector in Bangladesh – and in many other places around the world. By building trust and continuously adapting, learning and co-creating with lead firms on their own business strategy, AVC saw that once the pilot activities had been tested, firms were often very quickly willing to invest much more of their own resources.
- AVC encouraged the mid-level managers of lead firms who were not based in the FTF-ZOI, to attend training and learn from the pilot activities in the Southern Delta. Such tactics laid the foundation for these key mid-level manager staff to see the new business models being tried and quickly expand to other parts of the country.

“Often NGOs would tell us what they wanted from us and what they expected us to do for them. AVC is enabling us to grow our business for ourselves. The project is big on adaptation, and helping us to keep learning.”

—Major Bangladesh agri-input supplier, AVC partner

Chapter IV. Concluding Observations

The AVC activity presents important lessons for development practitioners on how to approach market systems development and begin to think systemically about development more broadly. We have presented these observations in a series of bullet points below.

On Interventions

- In agriculture-focused MSD projects the input supply system is an excellent place to start. A project is often assured of quick wins because the interests of the farmers, retailers and dealers in the input supply system more easily align. Farmers are the consumers of the product or service and can see the direct benefits of higher quality inputs and knowledge sharing related to their use.
- In approaching MSD, practitioners should take a holistic view of the market. We need to look at the full range of functional roles needed to produce a high performing inclusive market and not just focus on existing market actors alone. What functions need to be developed in support of more inclusive market development? By focusing on functions, one gets a broader view of potential partners that might be brought in to fill gaps and develop new functions as markets become more complex and differentiated.
- The use of non-traditional partners to stimulate new knowledge and awareness can support systemic change. For example, using a behavior science research firm to conduct Mental Models mapping in Bangladesh greatly added to AVC's understanding of biases and behaviors of smallholders and input suppliers which informed the design of their intervention. Using traditional agricultural consulting firms may not have shed as much light on the problem at hand. Using non-traditional partners can stimulate innovation rather quickly as an outsider can often spot new opportunities that traditional players could not see as clearly. Therefore, think outside the box as to how agribusinesses can partner with non-traditional partners working in interconnected and support services systems, such as marketing and media firms with skills and approaches to changing perceptions and behaviors; and help both parties make 'the business case' to continue working together after project end.
- In partnering for systemic change, consider working with highly motivated lead firms with a national presence. Larger firms with national coverage can employ their own resources quickly, once an idea has proven its business potential, to replicate an innovation on a large scale and have a positive disruptive effect on the evolution of the market, with scaling being accelerated.

- In working with partners, always start where the partners are and engage them around their own strategy, not the project's strategy. To speak the language of business, deemphasize the project in all discussions. Begin with what the firm wants to achieve and then work with them on how best to achieve their goals. They should not necessarily think they are doing something for a project, but rather the project is helping them achieve their own corporate growth strategy. Collaboration can be structured so that benefits will accrue to the target population even if that was not a direct part of the firm's intention. Finding ways that the project's procedures, indicators, and goals can align with a firm's incentives is key, rather than building activities around project indicators. Critical for success is designing result frameworks to measure a firm's business achievements not centered on the project's targets but against the company's own business plan. Partners should self-select and show willingness to commit to their growth strategy.

- Ensure that your entry strategy is your exit strategy. A project should be able to clearly articulate the exit strategy to manage expectations from the very beginning, which means engaging private sector partners differently than the standard donor-contract typically used when working with NGOs. Agreements need to be entered into that are flexible and that can be easily changed and adapted toward successful interventions and away from under-performing activities and under-performing partners. This means getting a project's internal management team on board to ensure that operations, technical, MEL (monitoring, evaluation and learning) and grants teams are working together toward the goal of achieving systemic change. In this regard:
 - 1) AVC focused on coordinating with other projects to have clear idea of which partners were focusing more on donor versus internal funds for investment – this was an important criteria for self-selection;
 - 2) exit is relative to a specific behavior or context and often does not mean that additional support in a different area would not be needed, but it does mean that the targeted behavior should be tracked to ensure the market actor has fully realized the importance/self interest in maintaining those behaviors/practices; and
 - 3) the most important aspect of self-selection is really the close and honest monitoring of market actors to assess their orientation – firms that have a real growth orientation tend to use donor funds as stepping stone. Growth-oriented firms learn this quickly.

- Consider MEL processes on market systems projects that count contribution, not only direct attribution. For example, all major input suppliers working with AVC have replicated their activities – with their own resources nationwide - within just two growing seasons. To

show USAID's real scalable successes, the project could explore how to appropriately a) count smallholders who have been impacted by AVC's activities outside the FTF-ZOI and b) count smallholders working in non FTF value chains.

On Managing Complexity

- Complexity has radical implications for the way we do development in general and for MSD in particular. Dealing with complexity requires a fundamental shift in the way we recruit, organize, train our teams, apply strategies and tactics in our interventions and even learn. Complexity requires diversity of views rather than the singularity of expert perspective. A project must internalize a multi-perspectival approach in both its internal training and interventions. Diversity in staffing must be built in from the beginning and constantly be supported and reinforced. The management team must have at least the same diversity or variety as the system they are trying to influence. This also requires the project to invest substantially in staff development to converge around a fundamental approach and at the same time encourage divergence of perspective.
- Developing a culture of learning is an essential feature of successful MSD projects. A key lesson learned is that CLA is something that needs to be implemented internally first so that the project leadership creates a culture of learning and adaptation, allowing the team to better analyze issues and challenges. With its internal CLA approach—the Quarterly Portfolio Review—AVC technical, operations, and crosscutting teams work together to achieve a nuanced understanding of the development challenge with private sector firms (i.e., the firms that were not pursuing business strategies or tactics that promote inclusive growth). Once CLA has been established internally, the project can turn the CLA lens outward to ensure the interventions and activities the project is designing are adaptable and can be changed based on iterative learning.



Photo: One of Ispahani's first preferred retailers outside the FTF-ZOI shares his enthusiasm of his increased sales and growing customer base after the new Learning Session and Agri-Fairs began.