



FEED THE FUTURE

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



FEED THE FUTURE BURMA AGRICULTURE AND FOOD SYSTEMS DEVELOPMENT (AFDA) ACTIVITY

MARKET SYSTEMS DIAGNOSTIC REPORT

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ACRONYMS AND ABBREVIATIONS

AFDA	Agriculture and Food-Systems Development Activity
BDS	Business Development Services
FTF	Feed the Future
GAP	
GMP	
USAID	United States Agency for International Development
ZOI	Zone of Influence

I. INTRODUCTION

BACKGROUND & OBJECTIVES

The United States Agency for International Development (USAID) Feed the Future (FTF) Burma Agriculture and Food-Systems Development Activity (AFDA) is designed to advance peace and reduce interethnic tensions by creating bonds of mutual self-interest and urban-rural linkages across market systems, inclusive of marginalized ethnic groups in conflict areas. AFDA uses a market systems approach to facilitate the transformation of agriculture and food systems by increasing the productivity, inclusiveness, and competitiveness of key agricultural commodity sectors and cross-market functions. AFDA's Zone of Influence (ZOI) comprises Shan State, Kachin State, Mandalay, Sagaing, and Magway.

AFDA seeks to drive improvement across a portfolio of agricultural sectors that collectively deliver benefits to ZOI regions and populations while providing diversified market opportunities and advancing markets at different levels of maturity (e.g., market entry, upgrading channels, value addition). It also will emphasize strengthening interrelated value chains and cross-market functions to improve performance and increase inclusive economic opportunities across multiple sectors.

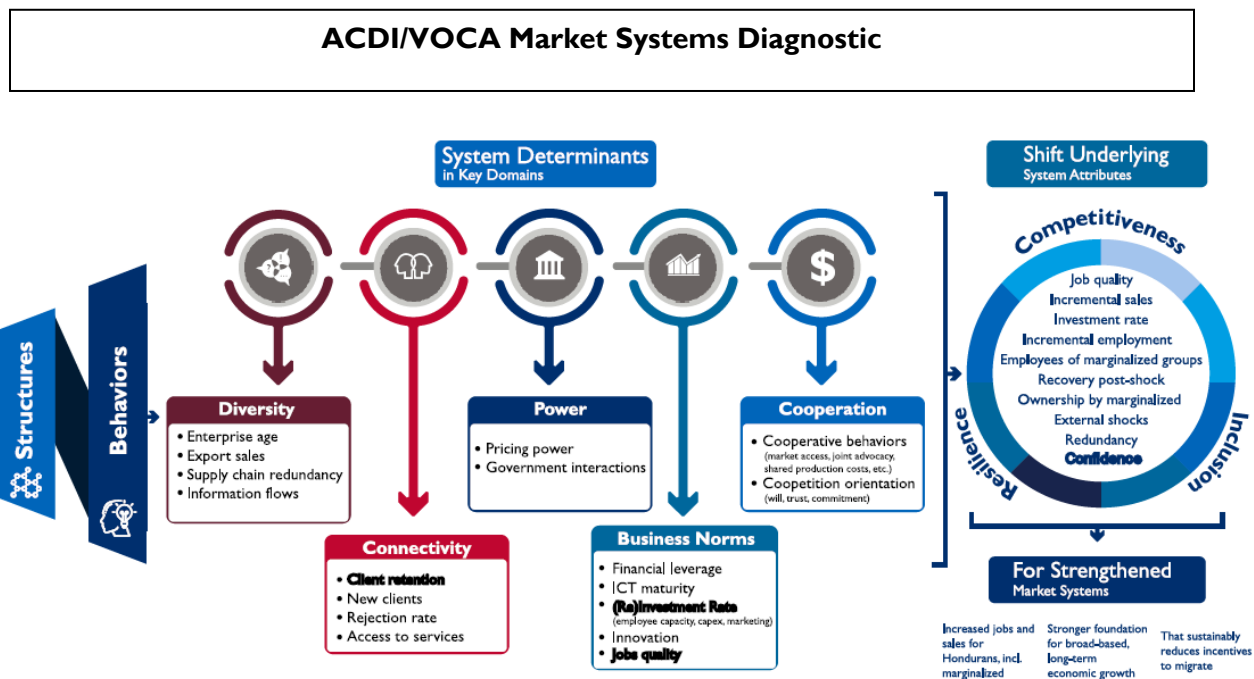
PURPOSE

The purpose of the Market Systems Diagnostic study is to improve understanding of the behavioral and structural characteristics and trends of enterprises within priority AFDA sectors and geography. The diagnostic is intended to inform AFDA's overall market systems strategy and to identify metrics that can be used to measure and monitor whether the agricultural market system in Myanmar is evolving in such a way as to produce more competitive, inclusive, and resilient results over the life of the project.

MARKET SYSTEMS DIAGNOSTIC

The market systems diagnostic is an analytical tool developed by ACDI/VOCA under the USAID/Honduras Transforming Market Systems project. The diagnostic analyzes changes in market system structures and patterns of behavior to understand how and whether the market system as a whole is changing to become more inclusive, competitive, and resilient. The market systems diagnostic is comprised of (1) enterprise-based surveys, (2) narrative-based focus groups, and (3) analytical techniques to discover and prove material and significant system-level variables and their interrelationships. More information on the Market Systems Diagnostic can be found on the [USAID MarketLinks Market Systems Resilience Measurement Resources](#) page. The AFDA team followed an abbreviated approach by first selecting the most relevant structural and behavioral factors or domains to the performance of the market system. Eight domains from USAID's Market Systems Resilience Measurement Framework (see below diagram) were considered and six were selected based on relevance to AFDA's program areas and understanding of the Myanmar agricultural market system. The report analyzes enterprise survey data across three behavioral domains: i) competition, ii) cooperation, and iii)

business strategy, and the three market structural domains: iv) diversity, v) connectivity, and vi) power dynamics to determine drivers of competitiveness, resilience, and inclusion in the market system performance in Myanmar¹.



An enterprise survey questionnaire was then developed using key variables to determine competitiveness (profits and sales turnover), resilience (confidence to over-come supply and demand side shocks), and inclusion (inclusion within ownership, suppliers, and employees). A set of questions was then developed across ten enterprise functions and characteristics which mapped closely to the six market systems diagnostic determinants. See the below table. The data was then analyzed using statistical methods to infer attributes and behaviors of enterprises that may be correlated with the desired outcomes of competitiveness, inclusion, and resilience, among other market system determinants.

AFDA Enterprise Survey Categories

<p>1) Enterprise Overview: ownership, employees, capacity utilization, sales turnover, profits, age of enterprise.</p>	<p>6) Business Partnerships: types of partnerships and alliances [Connectivity, Power Dynamics, Cooperation]</p>
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¹ The domains of market system health are derived from [USAID's Market Systems Resilience Framework](#) and a recent [Market Systems Diagnostic](#) developed under the USAID/Honduras Transforming Market Systems Activity.

Customer relationships: number, payment, customer feedback, advertising, and pricing decisions. [Connectivity, Business Norms, Cooperation]	7) Business Development Services: levels, types, and sources of investment to BDS services, recruitment and record keeping practices [Business Strategy]
3) Supplier relationships: number and type of suppliers (demographics), repeat suppliers, embedded services, [Connectivity, Business Strategy, Cooperation]	8) Competition: levels of competition in township, region, and internationally, pricing power [Competition, Power Dynamics]
4) Innovation: levels of investment in new products or services and new business models, [Diversity, Competition]	9) Inclusion: engagement with women, youth, and ethnic minorities [Business Strategy, Connectivity]
5) Access to Finance: levels, type, source, and barriers to financing [Business Strategy and Connectivity]	10) Resilience: types and number of shocks, confidence to overcome supply and demand-side shocks [Business Strategy]

AFDA used the following dependent variables as a measure for competitiveness, resilience and inclusion:

Competitiveness	<ul style="list-style-type: none"> i) Annual sales ii) Profits over the last three years
Resilience	<ul style="list-style-type: none"> i) Confidence in overcoming supply-side shocks ii) Confidence in overcoming demand-side shocks
Inclusion	<ul style="list-style-type: none"> i) Enterprise Ownership Demographics ii) Demographics of Employment iii) Demographics of Suppliers

II. EXECUTIVE SUMMARY

Purpose

The diagnostic is an analytical tool developed by ACDI/VOCA that identifies critical systems-level variables related to competitiveness, inclusion, and resilience. The purpose of the market systems diagnostic is to analyze market system structures and patterns of behavior to determine the overall health of the market system as defined by competitiveness, inclusion and resilience. The results help both inform AFDA program design as well as contribute to the project's efforts in measuring market systems changes over the life of the project.

This diagnostic applied descriptive and inferential statistical analysis to the sample of 100 farms and agricultural enterprises in order to determine significant trends in the desired outcomes of competitiveness, inclusion, and resilience, and to identify relationships between those outcomes and variables representing the elements of behavioral and structural determinants of market systems health. The key findings from our analysis are as follows:

General Enterprise Characteristics

Of the 100 market actors surveyed, 45 were farms, of which 30 were solely engaged in farming and 15 also engaged in other enterprise activities. Value-added processing was the second-most common type of enterprise represented in the sample, at 35%. Over a third of enterprises engaged in horticultural activities, and many enterprises reported working across multiple agricultural or non-farm sectors. The greatest portion of enterprises (46%) was considered “small” with 10-49 employees, while 19% were “micro” enterprises (fewer than 10 employees), 27% were “medium” enterprises (50-249 employees), and 8% were “large” enterprises (over 250 employees). The large and medium-sized enterprises were primarily engaged with on-farm and seed production activities (42%) and value-added processing (34%). The majority of enterprises sampled reported operating in the Shan State (36%) or Mandalay (34%), with smaller portions of enterprises saying they held operations in Sagaing (18%), Magway (17%), and Kachin (12%); several firms operated across multiple regions.

Ownership structures of the surveyed enterprises were roughly split between those with only one owner (52%) and those with multiple owners (48%). Almost one-third of all owners across the enterprises were female, including 14 females as sole-owners of their firms. Seventeen enterprises had at least one owner under the age of 30, of which 14 were male. Female-owned or youth-owned enterprises were not more prevalent in one sector, type, or size of business. Enterprises ranged widely in their age of operations, with 31% younger than five years old, 46% between 6-25 years old, and 23% at least 25 years old.

We recommend further study to determine the degree to which the characteristics of the enterprises examined here are representative of the greater population in Myanmar's ZOI, and this should be considered when seeking to apply the subsequent findings around indicators of market systems health.

Competitiveness

The measure chosen to determine market system competitiveness is the degree to which firms experience profits or losses. **A majority of all enterprises (72%) reported realizing profits over the last three years (mostly small, with some large profits), with those operating in the Sagaing and Mandalay regions the most likely to do so (83% and 82%, respectively); businesses operating in the Kachin State were least likely to report experiencing profits.**

The survey also found that micro-enterprises had the highest rates of overall profit (79%) compared to all other business sizes, indicating that larger enterprises with higher fixed cost operating structures, while capable of generating higher profits, were less likely to generate profits over the last three years than smaller enterprises. It is difficult to say whether the business size or operating region was more impactful on likelihood of reporting high profits, as micro-enterprises comprised 33% and 27% of the enterprises operating in the Sagaing and Mandalay regions, respectively, and there were zero micro-enterprises operating in Kachin.

Recommendation: AFDA should carefully analyze profitability of all partners, but in particular of large enterprises, to determine if there are operational or strategic weaknesses that limit enterprise competitiveness before encouraging investments in new business models or technologies. AFDA should also investigate how micro and small businesses are utilizing their profits, what their growth strategies are, and whether there is potential to expand into more inclusive business models, given the high number of MSMEs reporting profits.

Farms were statistically significantly less likely to report profits (62%) than non-farms (80%). Firms in the tea sector (80%) had highest rate of profits and the sectors with the lowest reported rates of overall profits was maize (57%), coffee (56%), and pulses (55%).

Recommendation: It is recommended that AFDA analyze how gross and profit margins are spread across value chains and sectors to understand if margins are being shared equitably and why farmers are reporting lower break-even rates than other types of business.

Factors found to be statistically significantly correlated with an enterprise's likelihood of reporting larger profits include: if the enterprise changed a key aspect of their business in their past year; if the firm is part of any business associations; if the enterprise sought out market information from print media or the radio in order to determine the pricing for their goods and service; and if the business utilized an electronic platform for their record-keeping.

Recommendation: The evidence collected from the Diagnostic could be used to provide a business case for other agro-enterprises to adopt these positive business behaviors.

A second measure of competitiveness addressed in the diagnostic was the reported amount of an enterprise's annual sales turnover (MMK) in the past year. ***Sales were generally reported as strong, with over half (52%) of all enterprises reporting annual sales of at least 100 million MMK (USD \$73,227), one-third of respondents reporting at least 500 million MMK (USD \$366,036) in sales, and the top 23% of enterprises reporting sales turnover of 1 billion MMK (USD \$732,072).*** Enterprises operating in the Kachin state had the highest rates of respondents (43%) reporting large annual sales turnover (>500 million MMK). Comparatively, just 23% and 29% of firms operating in Sagaing and Mandalay, respectively, reported annual sales greater than 500 million MMK.

For most agricultural sectors, enterprises reported similar rates of high annual sales turnover above 500 million (USD \$732,072) MMK, but, notably, there were no enterprises in the pulse sector that reported such high sales turnover. In fact, half the enterprises in the pulse sector (albeit, just four of eight total firms) reported less than 50 million MMK (USD \$73,207) in sales turnover, indicating pulses may be either a lower-valued sector or one that generates fewer crops in comparison to other sectors, if the survey sample is indeed representative of the greater market.

Resilience

Resilience of an enterprise was measured by a respondent's assessment of how confident their enterprise is in their ability to overcome shocks to their supply chain or consumer market (i.e. supply or demand side

shocks). **Overall, enterprises were largely “very confident” their firm could overcome supply (68%) and demand (69%) side shocks.** Enterprises operating in Mandalay had the highest rates of “very confident” responses in overcoming supply (82%) and demand (85%) side shocks. Kachin had the lowest rates of “very confident” responses (50%) in regards to preparedness to demand side shocks, and second lowest (58%) for supply side shocks (closely following Sagaing at 56%). These regional trends can be partially explained by the fact that Mandalay has the largest number of agri-enterprises (48%) operating in the ZOI, according to AFDA’s recent Agriculture Infrastructure Inventory Study, supporting greater diversity and redundancy of market actors need to cope with shocks.

Recommendation: It is recommended that there be further study of market structures in conflict-affected regions, particularly of the ethnic minority regions of northern Shan and Kachin, to determine what types of market functions and enterprises might be most vulnerable to shocks and look to facilitate greater investment or innovation in those areas.

Farms had the lowest rates of being “very confident” (58%) and the highest rates of being “somewhat confident” (29%) in overcoming supply side shocks.

Recommendation: Further study should examine risk mitigation mechanisms for on-farm producers, and identify potential weaknesses in farms’ supply chains.

Horticulture had the highest rates of “very confident” responses (74%) in regards to overcoming demand side shocks, compared to pulse, oilseed, or tea sectors (46%, 50%, and 53%, respectively), which may in part be explained by the fact that horticulture covers a greater number of products than pulses or oilseeds and, making it potentially less vulnerable to shocks to the market.

A trend in resilience pertaining to the gender of enterprise owners was that majority-female run businesses were more likely to rate themselves “very confident” in overcoming supply (79%) and demand side shocks (79%) as compared to joint or majority-male owned enterprises’ rates being of “very confident” in overcoming supply (65%) and demand side shocks (69%).

Recommendation: That female entrepreneurs were more confident in overcoming both supply and demand side shocks could be used to create a stronger business case for women entrepreneurship, and further examination of resilience and inclusion capacities of female entrepreneurs is recommended.

Several other factors were linked with greater resiliency in managing shocks to supply chains or markets. Enterprises that were part of a business partnership or alliance, as well as enterprises declaring greater pricing power, were more likely to have a greater level of confidence in overcoming shocks or interruptions to the market. Enterprises utilizing a greater portion of their production capacity were more likely to have higher levels of confidence in overcoming both supply and demand side shocks. Additionally, enterprises reporting having experienced fewer types of shocks had a higher degree of confidence in their ability to weather demand side shocks.

Recommendation: It is recommended that AFDA promote increased risk mitigation mechanisms within the agricultural system, particularly for businesses that were less resilient to shocks, such as insurance products and improved supply chain and business relationships.

The diagnostic also uncovered a relationship between resilience and competitiveness: as confidence in an enterprise’s ability to overcome any supply or demand side shocks increased, enterprises were more likely to have reported higher overall profits over the past three years. Unsurprisingly, levels of confidence in overcoming demand and supply side shocks were significantly, positively correlated with each other.

Inclusion

The metrics used to determine inclusivity of the surveyed enterprises were the percent of female ownership of firms, percent of youth ownership of firms (those under 30 years old), percent of full-time female employees, percent of full-time employees from the regions' smallest ethnic groups, and percent of female-run supply businesses used by enterprises.

In total, 32% of all owners of enterprises surveyed (out of the summed owners across both single and multiple owner businesses) were female, and 17% were youth. Full-time employment was more equitable by gender: 42% of the average firm's full-time employees were female. Women tended to be employed more frequently on a part-time basis, however, at an average rate of 61%. Just 7% of an average firm's full-time employees were members of ethnic minority groups. ***The diagnostic found that 62% of enterprises sourced from at least one female supplier, though just 28% of suppliers used by enterprises, on average, were female-led firms.***

While most enterprises reported male and mature ownership, i.e. men between the ages of 30 to 49, Mandalay had higher rates of majority-female enterprise ownership (29%) than all other regions combined (14%). In Kachin, youth ownership is highest amongst the regions surveyed, with a third of all enterprises owned by at least one youth representative. Seed enterprises had youth ownership rates of 25% and at the low end, plant protection and fertilizer enterprises only had 7% youth ownership.

There were a few notable correlations between inclusive ownership, hiring, and supply chain sourcing and different business characteristics and/or behaviors. For example, enterprises with more females in ownership positions tended to hire more women or ethnic minorities as full-time employees. In another finding, younger businesses, those that were five years old or less, had much higher average rates of using female supply firms, at 37% compared to 24%.

Enterprises reporting large overall profits from the past three years had higher rates of female full-time employees than enterprises reporting large overall losses. Enterprises reporting higher levels of sales turnover also had higher rates of full-time employees from their region's smallest ethnic groups.

Recommendation: Additional research is needed to validate connections between enterprise profitability and employment practices (e.g. equitable wages) in order to strengthen the business case for inclusive hiring and sourcing practices.

The largest enterprises employed the highest rates of female employees while, at the same time, they had the lowest rates of female ownership.

Recommendation: AFDA could consider promoting more female agriculture entrepreneurs through accelerator programs and encouraging larger enterprises to hire more female owned suppliers to decrease the gender gap in agricultural enterprise ownership.

Enterprises providing trainings or other support services to their suppliers were more likely to have greater ratios of women in ownership positions, have greater rates of full-time female and ethnic minority employment, and report using a great percentage of female-run suppliers. The relationship between an agricultural enterprise and its suppliers is an important one, and this finding could imply that women-run enterprises were more likely to foster that relationship through trainings and other types of support, or perhaps that enterprises with inclusive hiring practices may also place emphasis on supporting their suppliers. There is also likely a connection between greater rates of female-run businesses, greater levels of female suppliers, and the likelihood of supporting those suppliers if both parties are largely female.

Behavioral Determinants of Market Health

Competition

The diagnostic found a healthy mix of old and new companies, with 28% having operated for over 30 years, likely meaning multi-generational businesses, and 31% of companies were established within the past five years. It is worth noting that firms in the agricultural and natural resources sectors face greater perceived entry costs than firms in others sectors, as well as land access and security, particularly in areas affected by conflict (Asia Foundation MBEI).

Most enterprises also reported a healthy level of competition, saying there was a “balance of small and large firms competing against each other” at the regional (38%) and township (43%) levels, while about one-third of respondents reported that “the market was dominated by one or a few large firms” at the regional level (35%) and township level (29%). **Maize sector enterprises were more likely to report the domination of one or a few large firms** (57% at regional and township levels), while enterprises in the spice sector reported low rates of monopolies (17% for both the region and township).

Over half of the enterprises surveyed reported innovation through the launch of a new product or service within the last year, and 64% reported changing one or more key aspects of their business, of which the vast majority (92%) said increased profits or led to other business improvements.

Recommendations: AFDA should consider how best to harness high levels of competitive behavior by helping accelerate growth of innovation and value-added products and services, without disrupting the healthy competition that currently seems to exist across most of the ZOI. In support of promoting innovation and growth, AFDA should focus on increasing investment and adoption in the professional business development services sector in order to expand the needed technical, logistical, and administrative services enterprises need to compete effectively.

Cooperation

One measure of cooperation amongst enterprises was whether firms provided trainings or other supports to their suppliers. Just under half (42%) of the surveyed enterprises reported that they provide such supports, and there was a significant, positive correlation found between providing these supports to suppliers and higher levels of female-owned enterprises. Additionally, enterprises in the oilseed sector were less likely to support their suppliers than enterprises in all other sectors, and those in the coffee sector were more likely to support their suppliers.

Recommendations: Provision of support for suppliers does not appear to be a new practice (unless it is new to a particular sector), therefore, partnership development should consider the additionality of such support, if this is already a common practice in the agricultural market system. Additionally, the strong levels of cooperation that exist within supply chains should make facilitating new technologies and business models through lead firms easier.

While there is much cooperation within supply chains, there was a lot less cooperation across enterprises within the broader market system. Only one-fifth of enterprises reported having any kind of partnerships or alliance with other businesses. Seed enterprises were more likely to engage in partnerships/alliances than businesses engaged in other types of activities, and enterprises in the coffee and horticulture sector were significantly more likely to be part of a partnership/alliance than those across other sectors.

Recommendation: The lack of connectivity outside of supply chains does appear to be an area of improvement. Market facilitation should focus on increasing greater connectivity in the market system and in B2B partnerships, be they on an individual basis or through establishment of marketing platforms.

Business Strategy

The study assessed the trends and outcomes of a variety of business strategies, including enterprises' relationships with customers and suppliers, innovation, access to external finance, investments in business development services, and record-keeping and marketing strategies.

Enterprises seemed to indicate a high level of customer loyalty, with 64% percent of firms reporting that 76-100% of their customers were repeat from the previous year. **Similarly, there seems to be high levels of supplier loyalty in the market system. There was a high-level of investment in innovation among firms** (64% of firms surveyed), and firms with external financing reported that 56% was allocated capital expenditures (e.g. machinery, investment, technology, etc.).

Only 36% of respondents reported paying for external business development services (BDS), but most reported being satisfied with the quality of the BDS. Those that did not use BDS typically said it was because it held no use for them. When enterprises were satisfied with most or all of the BDS services they paid for, they were more likely to report seeing profits.

Recommendations: Further research is warranted to understand the reasons behind low use of external BDS services despite enterprises being motivated to grow and expand their businesses. As well, more research is warranted that will help determine the types of external BDS that could be most beneficial to different types of enterprises.

Seventy-eight percent of surveyed participants still use paper or a mix of record-keeping methods, while 47% use an electronic system. Of those reporting use of electronic record-keeping, 17% had large profits over the past three years, compared to just 6% of those using paper record systems only.

Recommendation: It is recommended that AFDA promote the digitization of business operations for enterprises.

Finally, more than half of the respondents stated they do not use any marketing strategies or advertising methods. Facebook was the most popular tool for enterprises that did report marketing activities. Forty percent of enterprises using TV ads reported seeing large profits, compared to 10% of all other enterprises not using TV ads.

Structural Determinants of Market Health

Diversity

The diagnostic found a limited diversity among supply chain structures: more than half the respondents (53%) relied on between 1 and 5 suppliers, and 78% of enterprises changed fewer than 25% of their suppliers over the past three years. While it is a positive that enterprises reported largely being satisfied with the quality, price and timeliness of their suppliers, it has likely led to some complacency and reliance on a smaller number of trusted suppliers, which can present some risk to supply chain shocks. **There were also a limited number of market channels being utilized** – enterprises reported relying on a small number of customers to sell their products and services, with 56% of surveyed firms reporting having between just 1 to 20 customers.

Recommendation: Market facilitation efforts should consider raising this issue among medium and larger sized enterprises and help facilitate greater redundancy within their supply chains to source commodities across different regions in the ZOI and to diversify the market channels and buyers.

Data from AFDA's agricultural inventory study indicates a somewhat even spread of the 5,739 enterprises identified across the five regions in the ZOI. Mandalay is the largest outlier, with 48% of the total enterprises despite a population not that much larger than the other regions. **The inventory identified a diversity of downstream and upstream businesses from the total population.** Most notable are the large number of processing enterprises (29%) and logistics providers (22%). The smallest number of market actors was in specialized services such as standards and certification, marketing services, and BDS providers.

According to the inventory study, pulses and oilseeds, despite being Myanmar's two largest agricultural sectors, are comprised of a relatively small number of enterprises as a percentage of the total market actors accounted for in the ZOI, especially when compared to smaller sectors such as tea and horticulture. The agricultural inventory study and subsequent maps provide very detailed information to determine diversity by geographic region.

Recommendation: It would be worth exploring what is behind the lower numbers of enterprises in the oil seeds and pulses sectors, and whether this might be limiting competitiveness or resilience in the market system.

Connectivity

Enterprises, overall, reported having a limited number of supplier and buyer relationships, while also indicating high levels of satisfaction and trust within those relationships. Fifty-seven percent of enterprises reported having 0-50% their customers pay after delivery. These delays in payments would indicate higher levels of trust between buyers and suppliers. At the same time, they also pose a potential concern that financial flows could be constraining commodity purchases due to a lack of operating capital. This is a potential area for the AFDA team to investigate further.

There were a relatively large number of enterprises reporting they collect customer feedback (55%), primarily for the purpose of improving the quality of their products and services. Most of this feedback is collected in-person (67%) and over the phone (47%).

Recommendation: Given there is already a practice of collecting customer feedback, facilitation could focus on introducing customer relationship management systems to help enterprises manage their relationships and interactions with customers easier, rather than manually over the phone or in person as it is currently being done.

Services such as extension, training, or input supply are another indicator of strong connectivity. **Connectivity with fee-based business development services is limited to only 36% of enterprises.** Partnerships with other similar businesses are limited to only 20% of enterprises, though there were high participation rates in business associations (70%).

Recommendation: More research should be undertaken to better understand the effectiveness and quality of embedded ag extension services and see what upgrades can be made, either through mobile extension or by introducing more modern farming practices.

Connectivity with the finance sector is mixed, with half of enterprises reporting no sources of external financing. Firms that made the decision to use external financing were more likely to report large profits (18%) as opposed to anything less than large profits (4%).

In terms of inclusivity, connectivity between enterprises and vulnerable groups varied. For example, 62% of enterprises reported sourcing products from women-owned businesses or households. Additionally, over three-quarters of respondents (77%) reported no problems conducting business with members of ethnic groups outside their own. In the Kachin and Shan states, 42% and 36% of enterprises, respectively, reported challenges in doing business with ethnic minority groups.

Recommendation: AFDA should follow-up with enterprises reporting difficulties working with ethnic minorities and determine if there is a need for community or local systems dialogues.

In a recent report from the Asia Foundation, infrastructure has been known to be a major impediment to doing business in Myanmar (Asia Foundation MBEI). According to their findings, enterprises in Myanmar expressed dissatisfaction with road quality and electrical power (only 49% of firms say these features are good or very good). Meanwhile, firms are more positive about the telephone (66% report good or very good) and Internet (54% report good or very good).

Recommendation: AFDA should consider supporting businesses and communities to lobby and advocate to government for improved infrastructure as well as link to other donor programs working on electric and road improvements, when possible.

Power

Pricing power, measured by a survey respondent's estimate of how many customers their firm might lose if they raised their prices by 10%, was mixed across enterprises. Forty percent of enterprises reported a potential loss of 25% or fewer customers, 24% of firms reported a 26-50% potential loss, and 29% reported a 76% or greater loss in customers.

Recommendation: For those enterprises or sectors where price sensitivity among customers is high, AFDA could investigate avenues for product or service differentiation so that they can have stronger position in the market system. For those firms working in commodity markets, a low price strategy maybe more efficient.

Power was also measured through an enterprise's ability to influence the business enabling environment.

Businesses reported few types of formal business alliances and for those that did, none mentioned forming any alliances in order to influence government policy.

Recommendation: Participation in business associations was very high (70% of respondents), however, and further research is needed to understand the extent to which business associations have the potential to influence policy decisions.

The Asia Foundation's MBEI report noted significant issues with government transparency: only 3.6% of firms, for example, reported having access to the state or regional budget, and only 4.3% of firms reported having access to new investment plans. Firms in the agricultural and natural resources sector also face greater perceived entry costs than firms in other sectors, as well as issues of land access and security.

III. RESEARCH METHODOLOGY

Sampling and Data Collection

The diagnostic collected survey data from 100 enterprises representing a diversity of both on and off-farm agricultural enterprises. For sampling, the contracted research team Thura Swiss randomly sampled enterprises from a list of 1,873 firms across AFDA targeted regional and state strata (Shan, Kachin, Mandalay, Sagaing and Magway), with sampling weights based on the proportion of enterprises AFDA anticipates working with in each region/state. The sample size was defined at 100 respondents based on budget allocation constraints. For sampling, the contracted research team used the contact data provided by the AFDA project team in the five regions of interest (Shan, Kachin, Mandalay, Sagaing and Magway) as well as some internal contacts proprietary to Thura Swiss. The location (region or state) was the only sampling constraint considered in the sampling methodology. Since the agricultural sectors of operations were quite large they were not subject to a specific quota. A desired statistical power or standard deviation was not considered, however, we were able to use this data to better understand the Myanmar market system context and identify key metrics for future market systems monitoring via statistically significant differences and correlations, with a p-value <0.1, as well as notable data patterns. Non-parametric statistical tests were used where data was not normally distributed.

Thura Swiss interviewed 18 enterprises in-person, and 82 by phone to reduce contact due to the Covid-19 pandemic. The firm used 4 enumerators and data collection took 16 days. Each survey took approximately 60 minutes to complete. The survey comprised of 26 qualitative (open-ended) and 54 quantitative questions covering nine specific topics below (see Annex II for full survey). Each of the survey topics aligned with the six determinants of market systems health.

Statistical Analysis Methodology

There were nine survey topics that were used as primary dependent variables that were analyzed to determine which characteristics or factors are most significantly correlated with the desired outcomes of competitiveness, resilience, or inclusion. Data was used in its original data format, as either ordinal or interval variables, however, in some instances, the variables were re-coded as binary, categorical variables in order to focus on factors correlating with a more specific outcome.

Depending on the types of dependent and independent variables utilized in the analysis, different tests were used. To test for differences in the ranked means of the ordinal (e.g. degree of confidence in overcoming supply-side shocks on a five-point scale) or non-normally distributed interval (e.g. percent of female suppliers used) dependent variables, given the groupings of the categorical independent variables (e.g. whether or not an enterprise used external financing), the Wilcoxon-Mann Whitney test was run (this is an analog to the two-independent samples t-test typically used for normally distributed interval dependent variables). When testing for relationships between the ordinal or interval dependent variables and the non-normally distributed interval independent variables (e.g. degree of pricing power), non-parametric Spearman rank-order correlations were conducted. For instances where the binary, categorical versions of dependent variables (e.g. large profits v. anything less than large profits) were tested against categorical independent variables, Chi-Squared tests were run. For all the analyses, the statistically significant findings are detailed in this report.

Ethical Considerations

Due to the COVID-19 outbreak that began just as the research was getting underway, the research team shifted to conducting phone interviews with enterprises. The team also collected verbal (recorded) or written consent from each survey respondent.

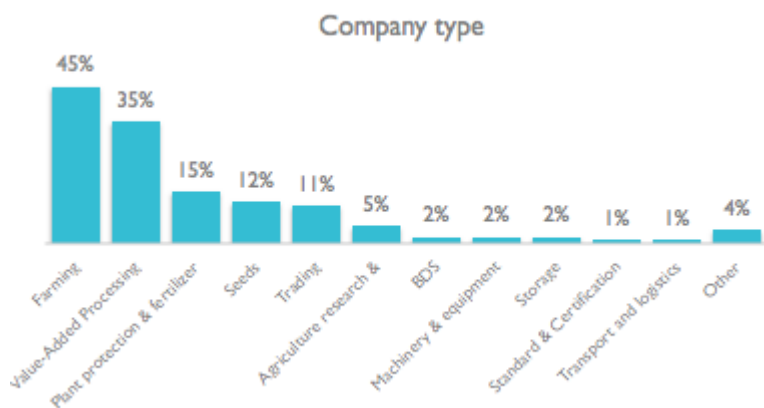
Limitations

While we were able to discern a number of statistically significant correlations or differences between the attributes and behaviors of enterprises surveyed and the desired market systems outcomes identified in the survey, the small sample size of 100 respondents has limited the potential for more robust, predictive analysis. It is our recommendation that, in order to better determine the drivers of resilience, inclusion, and competitiveness, research be expanded with a larger survey comprised of a more representative sample of firms across the different regions of the ZOI, agricultural sectors, and types of business activity. Additionally, a large portion of the surveyed respondents reported that farming (45%) was their primary enterprise; a diagnostic focused more specifically on non-farm agricultural enterprises that have greater influence on driving supply and market demand would be more useful in drawing conclusions about the agricultural market system health in Myanmar.

As mentioned, the majority of surveys were conducted over the phone due to Covid-19 concerns. While phone surveys can be beneficial in that they allow respondents a certain degree of anonymity when responding to more sensitive questions, there is, conversely, a limitation in the survey enumerator’s ability to gauge a respondent’s reactions to specific questions read over the phone and thus expand on those questions adequately. There is also a potential issue of time constraints when conducting phone surveys; respondents may be limited in the amount of time they can allocate to staying on the phone for a survey (which they might give more freely for in-person interviews), they may be limited in their ability to maintain a quiet, secure space for the duration of the call, and for those respondents using cell phones, they may lack adequate funds to sustain a longer phone interview. For these reasons, there may be some implicit bias in the characteristics of enterprise representatives that carried out the phone interviews.

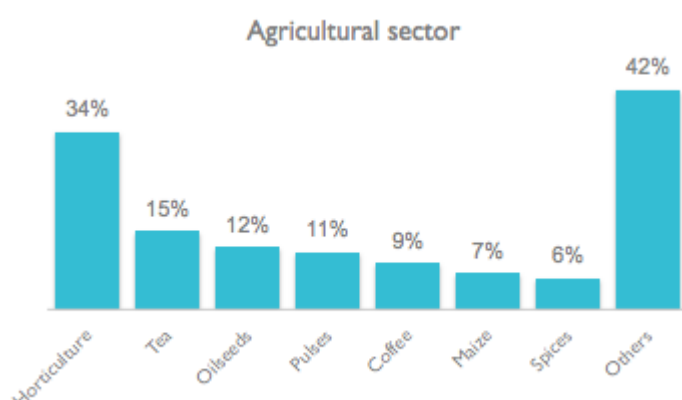
IV. GENERAL OVERVIEW OF ENTERPRISES IN SURVEY POPULATION

Type of Market Actors: In total, 100 market actors were surveyed representing micro, small, medium, and large enterprises in AFDA’s prioritized agricultural sectors and targeted states and regions. For 30% of the 100 enterprises, farming was the sole source of income; 15% of respondents’ income comes from farming and at least one additional type of enterprise; and 55% of respondents represented at least one type of non-farm, agricultural enterprise. Other than farms, the primary types of agricultural enterprises represented in the survey included: value-added processing (35%), plant protection and fertilizers (15%), seeds (12%), and trading (11%). Enterprises around trading, agricultural research and extension, business development services (BDS), machinery and equipment, storage, standard & certification, transport and logistics, and other

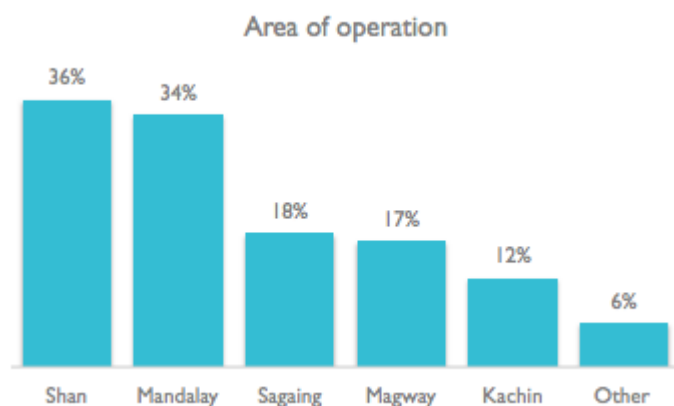


storage, standards and certification, transport and logistics, and other unidentified agricultural activities, each comprised 5% or fewer, respectively, of all interviewed persons. Over a quarter of all respondents (26%) were representatives of enterprises that combined two or more of the enterprise types.

Ownership Structure and Demographics: Of the market actors surveyed, 52% were sole proprietorships, while 48% had multiple ownership structures. In total, 19 enterprises were run under majority-female ownership. Almost one-third (32%) of all owners across the surveyed enterprises were female. There were no discernable trends among sector, size or type of business for female-owned enterprises. Of the 48 companies with multiple ownership structures, 30 companies had mixed gender ownership. Of the 52 sole-proprietors, 14 companies were owned by women. Seventeen percent of all enterprises surveyed had at least one owner under the age of 30, representing "youth ownership," and on average, about 11% of all owners across the 100 enterprises were youths. Of the 17 enterprises surveyed that comprised of youth ownership, 14 out of 17 enterprises were young men owners, while 8 enterprises were young women owners (5 enterprises had both young men and women owners). Similar to female-owned enterprises, youth-owned enterprises were not more prevalent in one sector, or size or type of business.



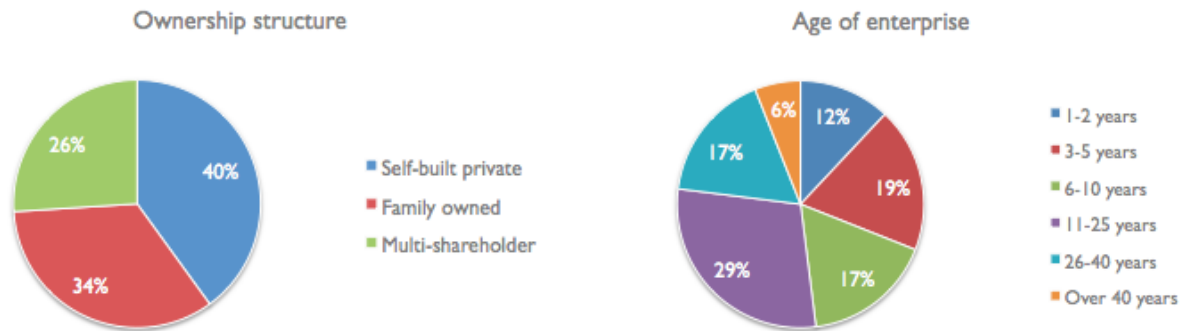
Agricultural Sector: Just over one-third (34%) of survey respondents said their enterprises were in the horticulture sector. Other sectors represented were tea (15%), oilseeds (12%), pulses (11%), coffee (9%), maize (7%), and spices (6%). Many survey respondents reported that their enterprises were engaged in multiple sectors, and a wide range of other less common agricultural sectors or non-farm related ag activities were also mentioned.



Geographic Location: The AFDA survey focused its interviews on representatives of enterprises in the five regions/states of Mandalay, Shan, Sagaing, Magway, and Kachin, as well as two interviews with enterprises based in the capital city of Yangon. Several firms operated across multiple regions, with around just over one-third each operating in the Shan state (36%) and Mandalay district (34%), and with 18% operating in the Sagaing region, 17% in the Magway region, 12% in the Kachin state, and 6% in other areas. Although most enterprises have just one primary address, many enterprises reported operating across several regions; the area of operation was the variable of primary interest in our analysis.

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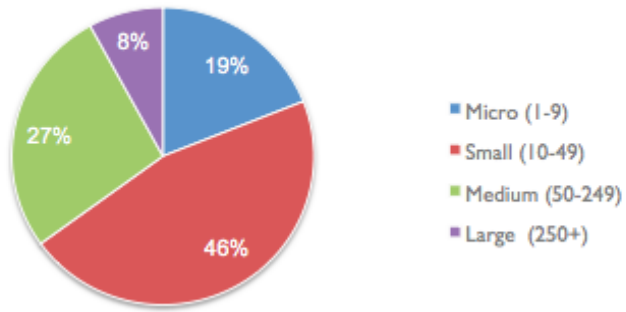
Characteristics of Enterprises Surveyed



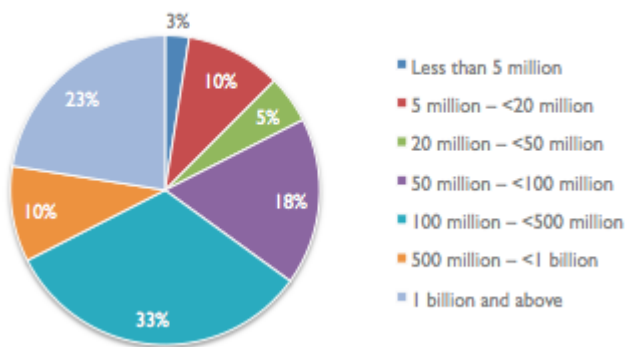
Type, Age and Size of Business: Of the hundred enterprises, 40% were self-built, privately owned firms, 34% were family-owned, and 26% were owned and run by multiple shareholders. Over half of all enterprises had only one owner (52%), a quarter had 2-3 owners (25%), and just 5% had ten or more owners, with an average of 3 owners per enterprise. **The average age of the enterprises is 16.9 years old; almost one-third are fewer than 5 years old (31%), almost half are between 6-25 years old (46%), and the remainder are over 25 years old (23%).** In terms of annual sales turnover, 18% of firms reported sales turnover of over 1 billion kyat (\$732,227), 34% of firms reported turnover between 100,000 million kyat (\$73,227) and 1 billion kyat, 26% of firms reported turnover between 5 million kyat (\$3,361) and 100 million kyat, and 2% reported less than 5 million kyat in turnover (20% reported not knowing their annual income). Combining the total number of owners, full-time employees, and part-time employees, the average size of the enterprises surveyed was 76.3 people. Nineteen percent of businesses could be considered micro enterprises, with fewer than ten employees (part-time, full-time, or owners), almost half could be considered small enterprises (46%) with 10-49 employees, over a quarter are medium-sized enterprises (27%) with 50-249 employees, and eight percent of the enterprises surveyed were large, with 250 or more employees.² Large and medium size enterprises were mostly engaged with on-farm and seed production (42%) as well as value-added processing (34%).

²Size definitions for SMEs as determined by OECD: [https://data.oecd.org/entrepreneur/enterprises-by-business-size.htm#:~:text=of%20people%20employed,-In%20small%20and%20medium%2D-sized%20enterprises%20\(SMEs\)%20employ%20fewer,employ%20250%20or%20more%20people](https://data.oecd.org/entrepreneur/enterprises-by-business-size.htm#:~:text=of%20people%20employed,-In%20small%20and%20medium%2D-sized%20enterprises%20(SMEs)%20employ%20fewer,employ%20250%20or%20more%20people)

Company size (owners + all employees)



Annual sales turnover (MMK)



V. MAJOR FINDINGS

COMPETITIVENESS

Situational Analysis

Overall, **most enterprises (72%) reported realizing profits (mostly small, with some large profits) over the last three years.** Just 12% of respondents reported experiencing losses, either large or small. Similarly, among the 80 enterprises that reported their annual sales turnover, **sales were reported as strong**, with one-third of respondents (32.5%) reporting an annual sales turnover of at least 500 million MMK (\$366,036 USD) and the top 22.5% reporting sales turnover of 1 billion MMK, (\$732,072 USD).

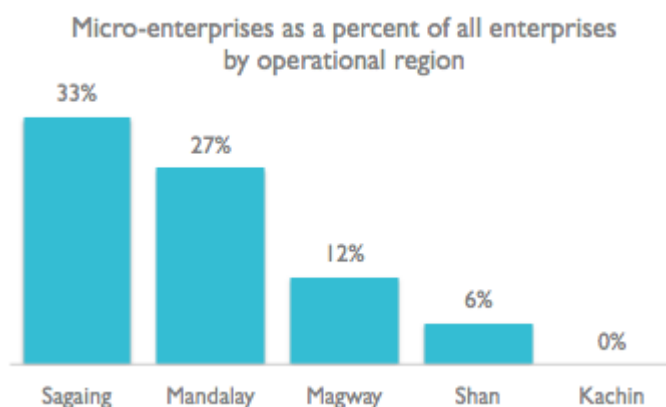
Geography: Enterprises operating in the Sagaing (15 total) and Mandalay (30 total) regions were the most likely to report having overall profits (either large or small) over the past three years (83.3% and 82.4%, respectively), while businesses operating in the Kachin state (12 total) were least likely (58%)



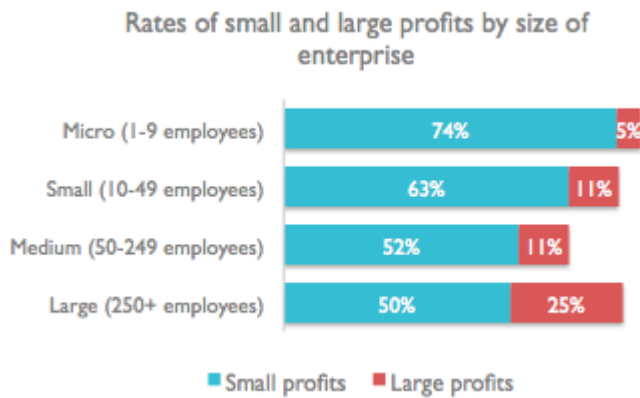
Interestingly, the enterprises operating in Kachin state had the highest rates of respondents (42.9%) reporting large annual sales turnover of 500 million MMK or greater (> \$366,036 USD), even though it was the operational region with the lowest reported rates of profit. Meanwhile, enterprises in **Sagaing and Mandalay reported annual sales turnover of over 500 million MMK at much lower rates (23% and 29%, respectively)** despite being in regions with the highest rates of overall profits. These findings

could be, in part, due to the average size of the enterprises found in the different regions and the impact of business size on sales turnover and profits.

Business Size: Micro-enterprises, those having fewer than ten employees, comprised 33% and 27% of the enterprises surveyed that operated in the Sagaing and Mandalay regions, respectively, **whereas there were zero micro-enterprises operating in Kachin.** Of all the micro-enterprises surveyed, one-third had annual sales turnover less than 50 million kyat (< \$36,604 USD), while reports of such low sales turnover was half as common for small, medium, and large enterprises. The relatively large portion of micro-enterprises operating in Sagaing and Mandalay, therefore, could have an impact on the lower overall lower rates of sales turnover there, as compared to Kachin. **Most interesting is the finding that micro-enterprises had the highest rates of overall profit (79%) amongst all business sizes.** This could be explained by the fact that that larger enterprises with higher fixed cost operating structures, while capable of generating higher profits, were less



likely to generate profits over the last three years than smaller enterprises. Our analysis however showed no statistically significant correlations with size of firm and production capacity utilization. Medium businesses had the largest capacity utilization at 78%, followed by small enterprises at 74%, micro at 65%, and large businesses at 64% capacity utilization. **As seen in the chart below, as the size of the enterprises surveyed increased, so too did the overall rates of "large" profits, while the rates of "small" profits decreased.**



Program Implications: AFDA should carefully analyze profitability of all partners, but in particular of large enterprises it is considering partnering with, to determine if there are operational or strategic weaknesses that limit enterprise competitiveness before encouraging investments in new business models or technologies. Furthermore, while this diagnostic found that most enterprises (86%) planned to invest in new products/services, technologies, or business practices in the future, just 63% of microenterprises had these plans - statistically significantly less than all larger sized enterprises ($p < .01$, using Fisher's Exact test). AFDA should investigate how micro and small businesses are utilizing their profits, what their growth strategies are, and whether there is potential to expand into more inclusive business models, given the high number of MSMEs reporting profits.

Type of Business: The respondents with the highest overall profits said their primary businesses were related to agricultural research and extension (100.0%), trading (90.9%), plant protection/fertilizer (80%), and value-added processing (74.3%). These trends, however, were not statistically significant, and each of the five enterprises involved in agricultural research and extension reported engaging in at least one other primary type of business activity, of which four included plant protection/fertilizer and/or value-added processing. **Farms were both statistically significantly less likely to report profits (62.2%) than non-farms (80.0%)** at the $p < .05$ level (using the Pearson Chi-Square test), and statistically more likely to report breaking even (26.7%) than non-farms (7.3%) at the $p < .01$ level.

Program Implications: The AFDA team should look at how gross and profit margins are spread across the value chains to understand if margins are being shared equitably and why farmers are reporting lower break-even rates than other types of business.

Agricultural Sector: The agricultural sector with the highest reported rates of overall profits, though not statistically significantly so, was the **tea sector (80%) and the sectors with the lowest reported rates of overall profits was maize (57%), coffee (56%), and pulses (55%).** The tea sector also, interestingly, had

higher rates of overall losses (20%) than the average rate of losses for all non-tea sector enterprises (11%), and had zero enterprises that said they broke-even (no profit or no loss) in the past three years. For most agricultural sectors, enterprises reported similar rates of high annual sales turnover above 500 million MMK (around 38-39%), but there were no enterprises in the pulse sector that reported such high sales turnover. In fact, half of all the enterprises in the pulse sector (50%) reported less than 50 million MMK in sales turnover, which was a statistically significantly higher rate (at the $p < .05$ level, according to the Fisher's Exact test) than for all other sectors combined (14%). It should be noted, however, there were only eight enterprises in the pulse sector that reported their sales. In contrast, the oilseed sector had no responses indicating annual sales turnover of less than 50 million MMK (i.e. all oilseed enterprises reported sales greater than 50 million MMK), but there were also only a total of eight oilseed enterprises that reported sales. These findings could indicate that oilseeds may be a higher-valued ag sector and pulses a lower-valued sector, or that pulse-focused enterprises are generating lower levels of a higher-valued commodity, but the small sample size must be kept in mind before drawing conclusions.

Program Implications: Tea maybe reporting higher overall profits due to established export market sales channels to higher value markets. It would be interesting also understand the make-up of types of enterprises in the pulses and oilseed sectors to determine why enterprises in the pulses sector had lower sales turnover?

Inferential Analysis

The following were the most relevant relationships from the statistical analyses conducted that considered different relationships between other independent variables and competitiveness, primarily measured through reports of enterprises experiencing profits in the past three years.

- i) ***Enterprises reported large profits, according to statistically significant correlations, if they changed a key aspect of their business in their past year.*** Using Fisher's Exact test, we found that 15.6% of enterprises that changed a key aspect of their business last year self-reported experiencing large profits over the course of the past three years, compared to just 2.8% of enterprises that had large profits and had not changed a key aspect of their business, at the $p < .05$ level. It should be noted that the question around degree of profits experienced was for a period of the past three years and not just the past year, like the question asked around change in aspects of business. We are unable to determine the degree to which changing an element of one's businesses may affect an increase in profits, or if it is even the primary cause for a change in profits, but we recommend further investigation.
- ii) ***Enterprises that reported participating in a business association were statistically significantly more likely to experience a large degree of profits than those not in associations.*** There were 70 respondents that said they participated in business associations, of which 14.3% reported "large profits," compared to 3.3% of the 30 enterprises who reported large profits that were not in associations. This was found to be statistically significant $p < .10$ level, using the Fisher's Exact test. This may be due to the fact that business associations (53%) and social media (43%) are the two major sources of business information for most of the enterprises surveyed, and may account for the reported higher profits.
- iii) ***Enterprises that sought out market information from print media or the radio in order to determine the pricing for their goods and services were significantly more likely to see large profits overall.*** Enterprises using print media as a source of information for determining the prices of their goods and services were significantly more likely to report large profits in the past three years (37.5%) than those not using print media for their pricing (8.7%), at the $p < .05$ level, using the

Fishers' Exact test. Similarly, enterprises using the radio to help them guide their pricing decisions were more likely to report large profits (50.0%) than those not turning to the radio (9.4%), at the $p < .10$ level. While there was no statistically significant correlation between using market information, in general, and whether enterprises had higher rates of large profits, 12.8% of those who did study market information had large profits, and none of the enterprises that abstained from using market information had large profits in the past three years. Additionally, the significant correlations we did find should be understood with the caveat that there were only eight enterprises in total that said they used print media, and four that used the radio for pricing guidance; a further look, using a large sample, into what sources of market information may be the most effective for helping enterprises strategize pricing to maximize their profits could be beneficial.

- iv) ***If an enterprise utilized an electronic platform for their record-keeping, they were also significantly more likely to report large profits over the past three years.*** Using the Pearson Chi-Square test, we found that, at the $p < .10$ level, enterprises using an electronic platform to track all their records was significantly correlated with reports of large profits (17.0% compared to just 5.7% of enterprises not using electronic record-keeping). There may be other factors, such as size of business, that contribute to this correlation, however. As previously discussed, as the size of businesses increased, so did the rates of large profits reported by the survey respondents. We found that 54.3% of the combined small, medium, and large enterprises were more likely to report using electronic record-keeping than micro-enterprises, of which just 15.8% use electronic record-keeping (significant at the $p < .01$ level, using a Pearson's Chi-Square test). Thus, the low rate of use of an electronic platform for record-keeping by micro-enterprises, alongside the lower rates of large profits reported by micro-enterprises, could contribute to the correlation found between large profits and use of electronic records.
- v) ***Enterprises reporting that they relied on external financing were significantly more likely to see large profits.*** Eighteen percent of enterprises using external financing had large profits compared to 4% without external financing, at the $p < .05$ level. Those enterprises utilizing external financing, however, were less likely (79.1%) to report *overall* profits (reports of small and large profits combined) from the past three years than those that were not using external financing (92.7%), and they were, conversely, more likely to report overall losses; this finding was statistically significant at the $p < .10$ level, using the Pearson Chi-Square test.

It is worth noting that there were no statistically significant correlations between profits (either overall or just large profits) and either gender of ownership or age of ownership.

Program Implications: It is a very positive sign that 65% of enterprises reported changing an aspect of their business within the last year. This indicates a high number of businesses with willingness to adapt to opportunities and risks. Being able to share that our research showed that agribusinesses who changed an aspect of their business were more likely to report larger profits is helpful for making the business case when negotiating with partners. The other specific business behaviors that are correlated to profitability will also help facilitate greater participation in businesses associations, use of market information and electronic record keeping and accessing external financing.

RESILIENCE

Situational Analysis

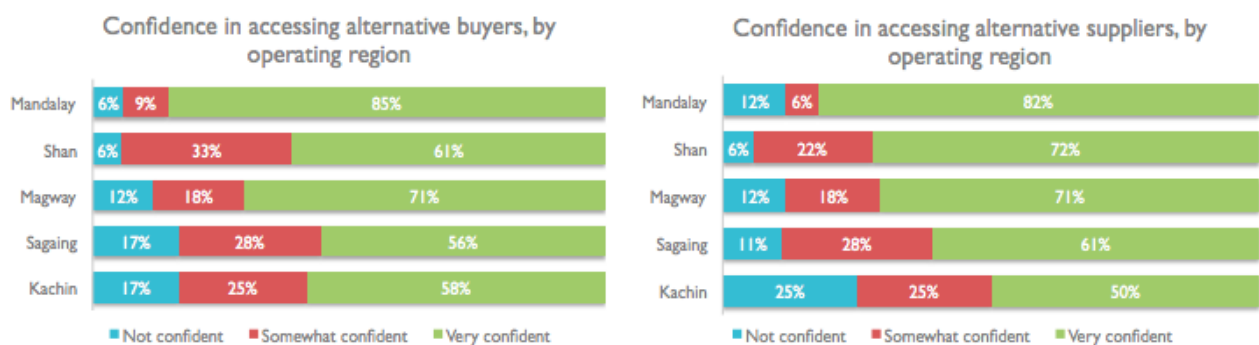
Just over **two-thirds of all respondents reported that they were very confident in their abilities to overcome both supply-side and demand-side shocks (68% and 69%, respectively)**. Another 20% and 21% of respondents said they were somewhat confident in overcoming supply-side shocks and demand-side shocks, respectively.

Market systems resilience (MSR) is the ability of a market system to respond to disturbance (shocks and stresses) in a way that allows consistency and sustainability in the market system’s functioning, or that leads to improvement in its functioning. – USAID Guidance on Assessing Market Systems Resilience

Demographics: Majority-female run businesses were more likely to rate themselves “very confident” in overcoming supply-side shocks as compared to joint or majority-male owned enterprises (79% compared to 65%). These differences were not statistically significant, however, and the responses of “not confident” were roughly similar between majority-female and non-majority-female led enterprises (11% compared to 12%, respectively). The comparison of ownership by gender to levels of confidence in overcoming demand-side shocks was similar, with 79% of female-led enterprises saying they were “very confident,” compared to 69% of jointly-run or male-run enterprises. As well, 11% of female-run enterprises reported being “not confident” in overcoming shocks to the market and 10% of non-female-majority enterprises reported this.

The differences in levels of confidence between youth ownership (defined as at least one person under the age of 35 is an owner) were also not significant. For enterprises with at least one youth owner, 65% reported being “very confident” in overcoming supply-side shocks, compared to 69% of enterprises where there was no owner under the age of 35. This was reversed for resilience in the market, where 71% of enterprises with representation of youth ownership said they were “very confident” in overcoming demand-side shocks, while 69% of enterprises with no youth owners were “very confident.”

Program Implications: AFDA may want to consider studying why female enterprise owners were slightly more confident in overcoming both supply and demand-side shocks to create a stronger business case for women entrepreneurship. Some of this though could be explained by other factors such as geography, sector or enterprise.

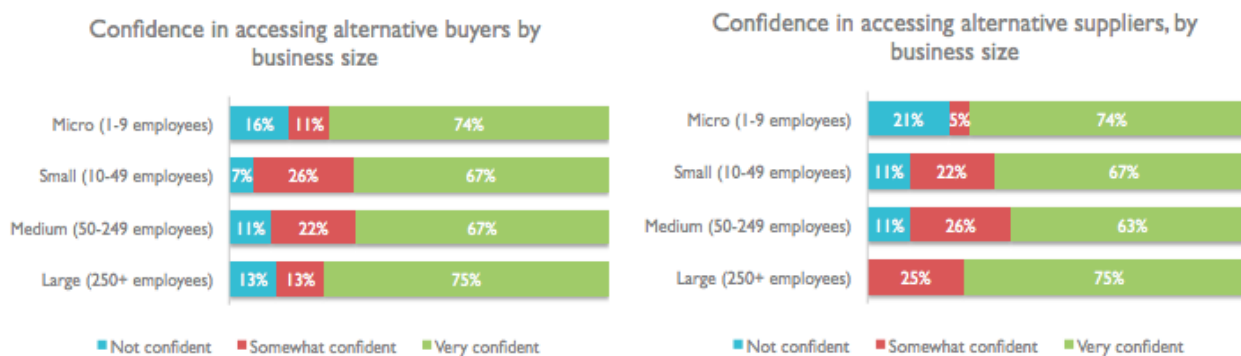


Geography: Enterprises operating in Mandalay had the highest rates of “very confident” responses in overcoming supply-side shocks (82.4%) out of all the regions, and these were much higher than the reported rates of “somewhat confident” (5.9%) and “not confident” (11.8%) reported there. In contrast, 60.6% of enterprises that did not operate in Mandalay were “very confident” in their ability to overcome supply-side shocks, and 27.3% were “somewhat confident.” The **Kachin state had the lowest rates of “very confident” responses (50.0%) and highest rates of “not confident” responses (25.0%)**, though there were just 12 businesses operating in Kachin, and this finding was not statistically significant. All other regions had breakdowns in response rates similar to the overall trends for confidence levels in overcoming supply-side shocks.

These results could be explained by the fact that Mandalay has the largest number of agri-enterprises (48%) operating in the ZOI according to AFDA’s recent Agriculture Infrastructure Inventory Study, supporting greater diversity and redundancy of market actors need to cope with shocks. Additionally, Kachin State and Northern Shan are constrained by on-going active conflicts and legacy of underinvestment and marginalization as compared to ethnic majority regions.

Program Implications: AFDA should look at the market system structures carefully in the ethnic minority regions of northern Shan and Kachin to determine what types of market functions and enterprises might be most vulnerable to shocks and look to facilitate greater investment or innovation in those areas.

Business Size: Micro and large sized businesses reported the highest levels of confidence overcoming both supply and demand side shocks (74% of micro enterprises and 75% of large ones were “very confident” for both types of shocks). Fewer small and medium sized enterprises – but not statistically significantly fewer – were “very confident” in their abilities to overcome supply or demand side shocks, as seen in the charts below. The primary difference in resilience in supply-side shocks was in different reported rates of total lack of confidence for micro enterprises, of whom 21% were “not confident” in overcoming supply-side shocks, and large enterprises, where there were no responses of “not confident,” and this was not statistically significant. Micro enterprises were also more likely to report being “not confident” in overcoming demand-side shocks (16%) than large enterprises (13%).



Program Implications: While the majority of enterprises feel very confident in overcoming both supply-side and demand-side shocks, AFDA could consider studying further resilience capacities for firms of all sizes, as well as develop strategies for strengthening resilience both in general and across different types of enterprises, considering that firms of different sizes may have different needs.

Type of Enterprise: Enterprises engaging in trading and in plant protection/fertilizer had the highest rates of “very confident” responses in regards to dealing with supply-side shocks, with 81.8% and 80% of responses, respectively, though the overall breakdowns in confidence levels amongst these enterprises were not statistically significant. Enterprises that engage in farming (potentially alongside other business activities) were more likely to have slightly lower levels of confidence in their ability to overcome supply-side shocks. Farms had the lowest rates of being “very confident” (57.8%) and the highest rates of being “somewhat confident” (28.9%) in overcoming supply-side shocks. While these differences in supply-side resilience rates amongst all farming enterprises were not statistically significant, there was a significant difference in the ranked means for the percentages of enterprises that were solely farms (i.e. they did not engage in any other business activities). Enterprises that were only farms were more likely to have lower levels of confidence in their ability to overcome supply-side shocks, at the $p < .05$ level using the Wilcoxon-Mann Whitney test.

For ability to overcome demand-side shocks, the range in rates of “very confident” responses did not differ as much between type of enterprise, although businesses engaged with plant protection/fertilizer still had the highest rates (80.0%) and farming had the lowest (66.7%). Traders were more likely to reply being “not confident” they could overcome demand-side shocks (18.2%) than the other types of enterprise (farming had the next highest rate of 11.1% of respondents saying they were “not confident”), but this was also not statistically significant.

Program Implications: The lower-levels of confidence in overcoming supply-side shocks for on-farm producers may assume a dependency on a few sources of inputs, which if often disrupted, would warrant looking at building greater redundancy into the supply chain as a potential strategy to foster resilience. Further, analysis would be needed to determine the risks faced by farmers, either from supply chain disruptions or climate change stresses and shocks.

Sector: For enterprises in the pulse, oilseed, or tea sectors, rates of “very confident” responses to overcoming demand-side shocks were all on the lower side (45.5%, 50.0%, and 53.3%, respectively), while enterprises engaging in horticulture had the highest rates of “very confident” responses (73.5%). This could be explained by the fact that horticulture covers a greater number of products than pulses or oilseeds and depending on production methods could be less vulnerable to climatic shocks.

Program Implications: A redundancy and diversity of market channels and products is important to market resilience. AFDA should analyze further whether there are greater vulnerabilities within oil seeds, pulses, and tea versus other priority sectors.

Inferential Analysis

The following were the most relevant relationships found from the statistical analyses conducted – primarily these were Spearman rank correlations between resilience to supply and demand side shocks and other ordinal or non-normally distributed variables, and for categorical variables we looked at the difference in mean ranks using the Wilcoxon-Mann Whitney test. In summary, enterprises with greater profitability, productivity, business partnerships, and pricing power seem to be more confident in weathering shocks. Given the limitations of the small sample size, further analysis with a larger number of enterprises could help support these findings.

- i) **Levels of confidence in overcoming demand-side shocks are significantly, positively correlated with those for overcoming supply-side shocks** ($p < .001$, according to the test for non-parametric Spearman correlations).
- ii) **As confidence in an enterprise’s ability to overcome any supply or demand side shocks increased, they were more likely to have reported higher overall profits over the past three years.** The variables for confidence in overcoming shocks and degree of profit/loss performance are both on an ordinal scale, so the non-parametric Spearman test of correlation was used, and statistical significance was found at the $p < .05$ level for both supply and demand resilience variables. Additionally, greater levels of confidence in overcoming supply-side shocks were correlated with higher levels of annual sales turnover at the $p < .10$ level of significance. This will require further analyses by type and or size of business to understand how profitability is leading to greater confidence levels in overcoming shocks.
- iii) **As the number of types of shocks experienced increased, enterprises’ degree of confidence in overcoming demand-side shocks decreased.** This was significant at the $p < .10$ level using the test for

Spearman rank-order correlations. This is consistent with resilience literature, in which shocks compound and have a more significant impact on a business overtime. Interestingly, this relationship was only significant here for the demand variable for resilience and not for the supply variable.

- iv) **Enterprises utilizing a greater portion of its production capacity were more likely to have higher levels of confidence in overcoming both supply and demand side shocks.** For supply-side shocks, the Spearman rank-order correlation with capacity utilization was significant at the $p < .05$ level, and for demand-side shocks it was significant at the $p < .10$ level.
- v) **Enterprises that were part of a business partnership or alliance (technical assistance, machinery, or logistics, etc.) were more likely to have a greater level of confidence in overcoming shocks or interruptions to the market.** The Wilcoxon-Mann Whitney test was used to determine this was significant at the $p < .10$ level. This may imply that greater cooperation amongst enterprises could lead to greater market resilience. There was not enough consistency in the types of partnerships reported to show any pattern in confidence to overcome shocks.
- vi) **Enterprises with greater pricing power were more confident in their ability to weather demand-side shocks, as a greater degree of pricing power could imply greater customer loyalty or perhaps a monopoly position in the market.** Enterprises that said they would expect to lose fewer than a quarter of their customers if they were to raise prices by 10% (indicating a relatively high degree of pricing power) were significantly more likely to have higher degrees of confidence in dealing with shocks to the market, at the $p < .10$ level according to the Wilcoxon-Mann Whitney test. Conversely, enterprises with lower-levels of pricing power were less confident in overcoming demand-side shocks.

Program Implications: Not surprisingly, stronger performing businesses were more capable of weathering shocks. AFDA could look to promote increased risk mitigation mechanisms within the ag system, particularly for businesses that were less resilient to shocks, such as insurance products and improved supply chain and business relationships.

INCLUSION

Situational Analysis

Ownership: The ag market system *is comprised of mostly masculine, mature ownership, as a large majority of respondents to the survey were men between the age of 30 to 49.* There is likely room for improvement in increasing female ownership of agricultural enterprises, though this should be confirmed with a larger data set. **On average, just over a quarter (26%) of owners of the enterprises sampled in the diagnostic are female, and over half of all enterprises (56%) had no female ownership whatsoever.** There was some differentiation in female ownership amongst enterprises' geographical breakdown, sector, and type of business activity, though these were mostly not statistically significant. Magway was the region with the lowest rates of female-majority ownership (6%), for example. Businesses engaged with plant protection/fertilizer were also low (7%) and there was no majority-female ownership for ag research and extension enterprises (though there were only 5 enterprises doing this, total), meanwhile those that do value-added processing had high rates of female ownership (26%). There was, however, a statistically significant finding that enterprises operating in **Mandalay had higher rates of majority-female ownership (29%) than all other regions combined (14%),** at the $p < .10$ level using a Pearson Chi-Square statistic. As well, it was statistically significant at the $p < .10$ level, again using the Pearson Chi-Square, that enterprises in the horticulture sector had lower rates of majority-female ownership (9%) than enterprises in all other sectors (24%).

Youth Ownership: Youth comprised on average just 6.75% of ownership of the enterprises surveyed. The vast majority (83%) of enterprises had no one under 30 that was considered an owner. *In Kachin,*

youth ownership was at its highest amongst the regions surveyed, with a third of all enterprises owned by at least one youth representative, while in Magway it was at its lowest, with just 6% of enterprises having at least one owner under 30. At the high end, **seed enterprises had youth ownership rates of 25% (meaning, at least one owner was under 30), and at the low end, plant protection and fertilizer enterprises only had 7% youth ownership**. Twenty-seven percent of enterprises in the pulse sector had at least one youth owner, and 13% of enterprises in the tea sector did. None of these comparisons were found to be statistically significant. There was, however, **a statistically significant correlation (using Spearman rank-order, at the $p < .10$ level), between enterprises with greater percentages of female owners and those with greater percentages of owners under the age of 30, showing that inclusiveness through female ownership may be linked to inclusiveness through youth ownership**.

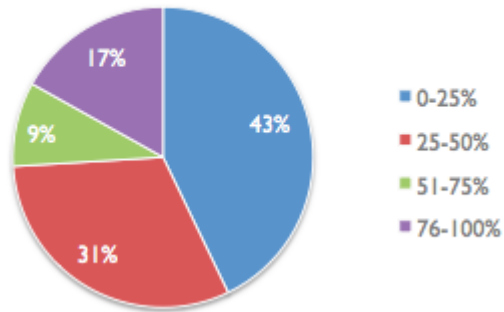
Enterprise Size and Demographics of Ownership: Though the size of the business has been found to be significant in regard to many business attributes or market system outcomes, there was no statistically significant difference (or, any notable material differences, for that matter) in rates of female or youth ownership between micro, small, medium, or large sized enterprises. Finally, the survey did not ask about owners' ethnic identities, though this would be a helpful measure of inclusion in further studies.

Program Implications: AFDA could consider promoting more female agriculture entrepreneurs through accelerator programs and encouraging larger enterprises to hire more female owned suppliers to decrease the gender gap in agricultural enterprise ownership.

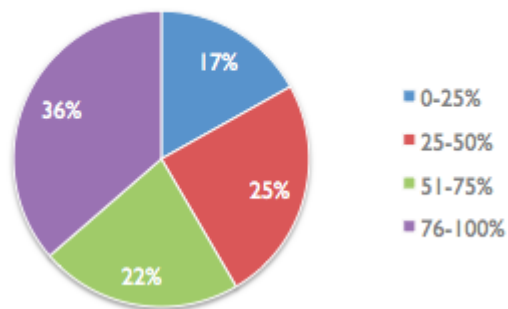
Employment: Women comprise 42% of full-time employees in the enterprises surveyed, while men comprise 58% of full-time employees. One-fifth (21.7%) of all enterprises had only male full-time employees. **Women, however, seem to be employed more on a part-time basis than men**, as indicated in the below pie charts. **Employment of ethnic minorities was not as common.** On average, 7.4% of full-time employees were comprised of people from the regions' smallest ethnic groups, and 62.5% of enterprises surveyed reported they did not employ anyone from the region's smallest ethnic groups full-time. There was a statistically significant correlation, at the $p < .01$ level using the Spearman rank-order test, between the percent of full-time employees that are female and the percent that are comprised of the region's smallest ethnic groups, **demonstrating that inclusive hiring practices for enterprises in the surveyed regions may be considerate of both women and ethnic minorities**. Interestingly, there was **no significant difference in inclusive hiring rates between majority-female enterprises and non-majority-female enterprises**, although female-led enterprises were slightly more likely to hire women and youths full-time, and slightly less likely to hire ethnic minorities.

Program Implications: Further research is needed to determine whether women and ethnic minority employees are receiving equal pay as men from ethnic majority groups, as this is a well-documented gender inequality gap in Myanmar. If so, AFDA should look for opportunities and incentives to promote decent work conditions and terms through improved brand image, fair wage labor certifications or evidence that can support a business case.

For enterprises with part-time employees, proportion that are male (n=77)



For enterprises with part-time employees, proportion that are female (n=77)



Suppliers: On average, 27.8% of enterprises' suppliers were women, and **62.0% of all enterprises utilized at least one female supplier for their business. Younger businesses, those that were five years old or less, had much higher average rates of using female supply firms**, at 36.9%, compared to 23.7% for businesses that were six years or older. This was significant at the $p < .05$ level according to the Wilcoxon-Mann Whitney test, and could suggest a greater trend in inclusivity, in terms of sourcing supplies from female run-enterprises, amongst newer businesses.

Unsurprisingly, **enterprises that have more females in ownership positions, or that tend to hire more women or ethnic minorities as full-time employees, are more likely to have relationships with female suppliers.** As the percent of owners that are female increased, and as the percent of full-time employees increased, the rate of using women-based suppliers also increased, significant at the $p < .05$ level, using the Spearman rank-order correlation test. The positive correlation between full-time employment of ethnic minorities was significant at the $p < .001$ level.

Youth ownership was not statistically significantly correlated with using female suppliers, though the relationship was still a positive one, albeit small; enterprises with at least one owner under the age of 30 utilized an average of 30% female suppliers, while enterprises with no youth owners utilized an average 27% female-run supply firms.

Inferential Analysis

The following were the most relevant findings from the statistical analyses conducted that considered different relationships between metrics of inclusion and enterprise attributes and behaviors.

- i) **Enterprises reporting large overall profits from the past three years had higher rates of full-time employees that are female than enterprises reporting large overall losses** (58.3%).³ This was found to be significant at the $p < .10$ level, using the Wilcoxon-Mann Whitney test. When looking at reports of large profits as compared to any other response to the question of overall performance, there was no statistically significant difference in rates of female employment, though the average was still higher for enterprises with large profits. Such data provides evidence for the business case for inclusive hiring practices. Analysis to see if there was a correlation between profitability and/or sales and female suppliers showed no significant correlation.
- ii) **Enterprises reporting higher levels of sales turnover also had higher rates of full-time employees from their region's smallest ethnic group(s)**. This finding, significant at the $p < .10$ level using the test for Spearman rank-order correlations, indicates a relationship between greater inclusion and greater competitiveness for enterprises in Myanmar's agricultural sector. In contrast, the companies who reported larger percentages of employees from the smallest ethnic groups in their region were more likely to have reported overall losses than overall profits over the past three years.
- iii) **The largest enterprises employed the highest rates of female employees**. The larger the business, the more likely they were to have hired greater numbers of women employees; this was significant at the $p < .001$ level according to Spearman rank-order correlations. This may be due to the fact that the largest enterprises tended to be on-farm production and processing enterprises which generate higher levels of employment. At the same time, **the largest enterprises had the lowest rates of female ownership**: 13% of large enterprises were comprised of female-majority ownership, while 21% of micro-enterprises had majority-female ownership, but this was not a statistically significant difference. **This points to the common dynamic that women occupy less profitable market actor roles**.
- iv) **Enterprises providing trainings or other support services to their suppliers were more likely to have greater ratios of women in ownership positions, have greater rates of full-time female and ethnic minority employment, and report using a great percentage of female-run suppliers**. Significant at the $p < .10$ level, using the Wilcoxon-Mann Whitney test, enterprises that provided support to their suppliers were comprised of 33% female ownership, compared to 21% of owners that are female amongst enterprises that did not provide support to their suppliers. Significant at the $p < .05$ level, enterprises supporting their suppliers had 52% female employment, while those not supporting their suppliers had 35% female employment. Significant at the $p < .05$ level, enterprises supporting their suppliers had 11% ethnic minority employment, while those not supporting their suppliers had 5% ethnic minority employment. Finally, significant at the $p < .01$ level, enterprises supporting their suppliers reported an average of 38% of their suppliers were female, while those not supporting their suppliers had 20% female suppliers. The relationship between an agricultural enterprise and its suppliers is an important one, and this finding could imply that women-run enterprises were more likely to foster that relationship through trainings and other types of support, or perhaps that enterprises with inclusive hiring practices may also place emphasis on supporting their suppliers. There is also likely a connection between greater rates of female-run businesses, greater levels of female suppliers, and the likelihood of supporting those suppliers if both parties are largely female.

³ 11 out of the 12 businesses operating in Kachin state were also based in Kachin State.

Program Implications: Additional research is needed to uncover any deeper connection between enterprise profitability and employment practices in order to strengthen the business case for inclusive hiring and sourcing practices.

BEHAVIORAL DETERMINANTS OF MARKET HEALTH

COMPETITION

The survey results indicate a general perception that the agricultural market system has a healthy level of competition with the majority of enterprises responding that “there is a balance of small and large firms competing against each other” at the regional (38%) and township (43%) levels, however, about one-third of respondents reported that “the market was dominated by one or a few large firms” at the regional level (35%) and township level (29%).

Broken down by geographic region, enterprises operating in Sagaing had some of the highest response rates for finding there to be a monopolistic environment in the market at the regional (56%) and township (44%) levels, and Kachin had similarly high rates of enterprises facing competition from one or a few large firms in their region (50%) or township (60%). It should be noted, however, that these were not statistically significant findings.

“Competition is defined as rivalry between two or more entities. Like cooperation, competition can be negative or positive. Its contribution to system resilience capacities depends on how and why the entities are competing. When market-system firms compete for the purposes of capturing margins or resources and do so by focusing on hurting their competitors, the market system becomes increasingly extractive. The more extractive a market system is, the greater the concentration of firm-level resources employed to hurt competitors and ultimately weaken the market system. When—on the other hand—firms compete based on value delivered to customers and focus their efforts on improving their internal capacity, the more likely the market system will evolve toward generating value for firms, customers” – USAID Market Systems Resilience Measurement Framework

A further indicator of healthy competition is that **there seems to be a healthy balance between companies that have been operating for a long period of time (28%) (>31 years), which likely means multi-generational businesses, and companies established more recently (31%) (<5 years).** Despite the higher number of newly established enterprises, the Asia Foundation’s Myanmar Business Environment Index, a much broader survey found that **firms in the agricultural and natural resources sector face greater perceived entry costs than firms in others sectors as well as land access and security**, particularly in areas affected by conflict.

For enterprise activity, the only notable difference in regards to perception of competition was that traders reported a relatively equal playing field for competitors in their township, with 82% of trading enterprises reporting that there were an equal number of large and small firms competing in their township and zero trading enterprises saying that one or a few large firms dominated; this was statistically significant at the $p < .01$ level using the Fisher’s Exact test. At the regional level, 64% of trading enterprises found there to be an equal amount of small and large firms competing and just 18% said there were monopolies, but this was not a significant difference.

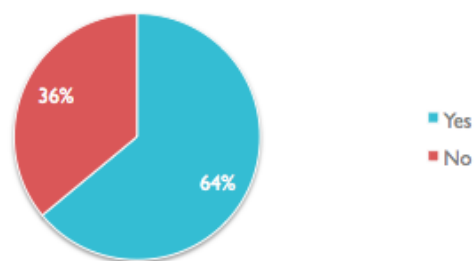
In the **maize sector, there were relatively high rates of enterprises reporting the domination of one or a few large firms (57% said this for both the regional and township level), while enterprises in the spice sector reported low rates of monopolies (17% for both the region and township),** and enterprises

in the tea sector had a particularly low percentage of respondents say there was monopolistic competition in their township (7%), though none of these relationships between agricultural sector and perception of competition were statistically significant.

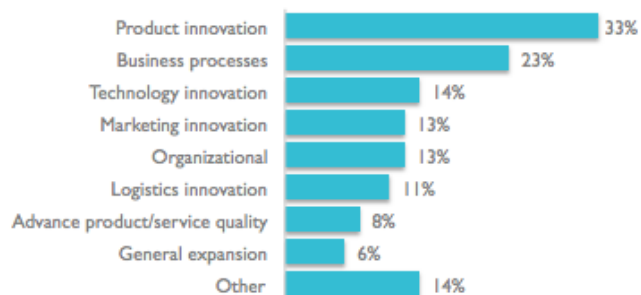
Additionally, there were differences in perception of competition based on the gender of ownership of enterprises, though these were not statistically significant results. Women-led enterprises were more likely to report monopolistic competition, with 58% saying that one or a few large firms dominated competition at the regional level and 47% saying this for the township level, compared to 30% of non-majority-female owned businesses thinking one or a few enterprises ran the competition at the regional level and 25% at the township level.

Fifty-nine percent of respondents felt that there was not significant competition for their products internationally, while 41% said that they do face a lot of international competition, particularly on price. The study also looked at pricing power, by asking whether firms could keep their customer base if prices rose by 10%. Answers were mixed, with **40% of enterprises reporting a potential loss of 25% or fewer customers, 24% of firms reporting a 26%-50% potential loss, and 29% reporting at least a 76% loss in customers.** These ratios were similar across most geographic regions, save for **Kachin, where just 18% of respondents claimed they would lose less than a quarter of their customers, and 55% said they would lose more than a quarter of their customers. This indicates potentially lower levels of pricing power for enterprises operating in Kachin,** though this was not a statistically significant finding. Amongst different enterprise activities, **value-added processors had the greatest degree of pricing power as indicated** by the 56% of respondents anticipating losing less than a quarter of their customers if they raised prices, and just 13% saying they would lose more than half their customer base. Conversely, 27% of enterprises engaged in trade anticipated losing less than 25% of their customers, while 55% thought they would lose more than 75% of their customers, indicating low pricing power. Enterprises in the spices and tea sectors showed the highest degree of pricing power, with 54% and 67%, respectively, predicting losses of less than 25% of their customers. For enterprises in the maize sector, on the other hand, 83% expected to lose over three-quarters of their customers if they raised prices by just 10%. There were no noticeable differences in the percentages of customers that female-majority owned enterprises thought would be lost if they raised prices as compared to enterprises owned mostly by men or jointly men and women.

Changed key aspect of business in past year



Aspects of business changed in past year



The survey also analyzed levels and type of innovation, as a determinant of competition – the more investment in innovation and internal improvement suggesting healthier levels of competition. There was a strong inclination among firms to invest in innovation and business improvement. **Over half of the enterprises surveyed (59%) reported launching a new product or service within the last year and 64% reported changing one or more key aspects of their business, of which the vast majority (92%) said increased profits or other aspects of their business.** The primary aspects that enterprises changed are shown in the

chart above, led by innovations in products (33%) and business processes (23%). Furthermore, 70% reported seeing businesses in their industry investing in new technologies or adopting new business practices or behaviors and an even greater percentage (86%) of enterprises plan to invest in new products/services or technologies or business practices in the future.

Program Implications: There appear to be strong incentives to competing through improving business performance by innovating and expanding operations. AFDA should consider how best to harness such behavior, by helping accelerate growth of innovation and value-added products and services, without disrupting the healthy competition that currently seems to exist across most of the ZOI. In support of promoting innovation and growth, AFDA should focus on increasing investment and adoption in professional business development services sector in order to expand the needed technical, logistical, and administrative services enterprises need to compete effectively.

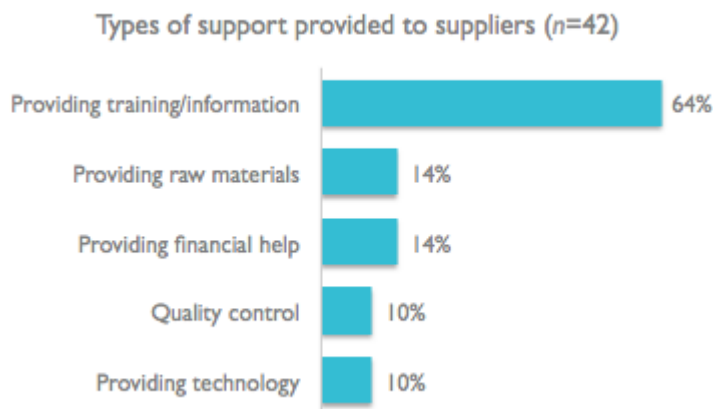
COOPERATION

The study looked at relationships with suppliers as well as business partnerships to assess levels and types of cooperation in the market system.

Just under half (42%) of the surveyed enterprises reported that they provide additional services, trainings or other support to their suppliers. Among them, the most popular forms of support are training/information (64%) and providing agri-inputs and financing (28%). Half (50%) of those enterprises that report providing services to their suppliers say that their family or themselves directly provide the services,

Cooperation refers to market actors collaborating to achieve a common purpose or function. From a systems perspective, cooperation is neither good nor bad in-and-of-itself. Rather its contribution to system resilience capacities depends on the motivation for cooperation. Cooperation for the purpose of extracting “rent” from other actors tends to be destructive to market system performance. On the other hand, cooperation to add value contributes positively to market system performance. - USAID Market Systems Resilience Framework

while 43% come from third party organizations or experts.



As discussed previously, there was a **significant relationship between providing supports to suppliers and higher levels of female-owned enterprises**. There were other significant relationships between attributes of enterprises and whether they provided support to suppliers, as well. **Enterprises operating in Sagaing were significantly less likely, at the $p < .10$ level for the Pearson Chi-Square test, to provide their suppliers with support (22%) than enterprises across the other regions (46%), and enterprises operating in the Shan state were significantly more likely (56%) to support their suppliers with trainings and other services than other regions (34%), at the $p < .05$ level. Enterprises in the oilseed sector were less likely (17%) to support their suppliers than enterprises in all other sectors (46%), at the $p < .10$ level, and enterprises in the coffee sector were more likely (78%) to support their suppliers than those across all other sectors (39%), at the $p < .05$ level.** This finding supports the trend that more higher value commodities require greater oversight of their supply chain to ensure supply is meeting more specialized end

users. This finding supports the trend that more higher value commodities require greater oversight of their supply chain to ensure supply is meeting more specialized end

market demand, such as in coffee. There were no statistically significant differences in rates of enterprises providing additional support to their suppliers based on type of business activity.

While there is a lot cooperation within supply chains, there was a lot less cooperation across enterprises within the broader market system. Only one-fifth (20%) of enterprises reported having any kind of partnerships or alliance with other businesses. As mentioned above, there was a statistically significant correlation between business partnerships and confidence to overcome supply-side shocks, however, there was no correlation with profits or sales turnover. Enterprises operating in Kachin were more likely to have partnerships or alliances (25% reported this), and enterprises in Sagaing were the least likely to (just 11%), though neither of these trends were statistically significant. **Seed enterprises were more likely to engage in partnerships/alliances (42%) than enterprises engaged in other activities (17%), significant at the $p < .10$ level using Fisher's Exact test, and farms were more likely to engage in partnerships/alliances (29%) than non-farms (13%),** with a Pearson Chi-Square statistic significant at the $p < .05$ level. Value-added processors were less likely to be part of partnerships/alliances (9%) than other types of enterprises (26%), significant using the Pearson Chi-Square test at the $p < .05$ level. **Enterprises in the horticulture sector (29%) were significantly more likely, at the $p < .10$ level (Pearson Chi-Square) to be part of a partnership/alliance than those across other sectors (15%), as were those in the coffee sector, of whom 44% were part of a partnership/alliance, compared to just 18% across non-coffee sectors** (significant at the $p < .10$ level using the Fisher's Exact test). There was no notable difference between female-run and male or jointly-run enterprises and membership in a business alliance or partnership.

The types of alliances varied across a range of business and technical support needs. As seen in the chart, the most common type of support offered was technical (15%), followed by mechanical (10%), provision of inputs and raw materials (10%), logistical improvement (10%), and access to warehouses (10%). Membership in business associations, distinguished from partnerships or alliances, was very high, with 70% of enterprises reporting that they were members of a business association, of which 83% claimed to be actively involved. Business associations (53%), along with social media (44%) are considered the major sources of business and industry related information.

Reasons for establishing a partnership or alliance (n=20)



Program Implications: The strong levels of cooperation that exist within supply chains should make facilitating new technologies and business models through lead firms easier. At the same time, provision of embedded services does not appear to be a new practice (unless it is new to a particular sector), therefore, AFDA should consider the additionality of such support, if this is already a common practice in the agricultural market system. The lack of connectivity outside of supply chains does appear to be an area of improvement that AFDA could focus on to increase greater connectivity in the market system. AFDA is in a unique

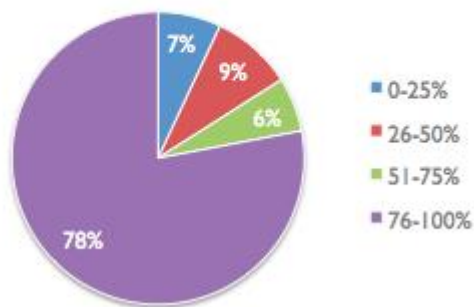
position to help broker such partnerships, be they on an individual basis, or through establishment of platforms that help firms market to and find each other more easily.

BUSINESS STRATEGY

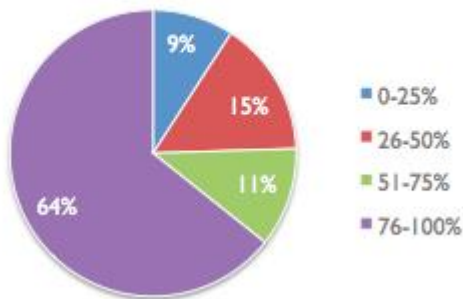
The study considered relationships with customers and suppliers, innovation, investments in business development services, and access to finance to assess business strategy. **Enterprises seemed to indicate a high level of customer loyalty, with 64% percent of firms reporting that 76% - 100% of their customers were repeat from the previous year. Similarly, there seems to be high levels of supplier loyalty in the market system, with the vast majority of respondents (78%), having changed less than 25% of their suppliers in the past 3 years.**

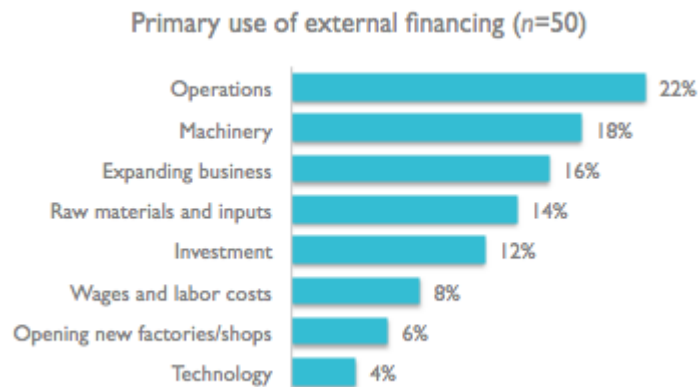
Business norms or strategy relate to the adoption of growth-oriented behaviors by enterprises to innovate and pursue value-addition business strategies that generate value for customers, rather than pursuing short-term zero-sum transactions that emphasize winning by ensuring others lose.

Percentage of repeat suppliers from previous year
(n=100)



Percentage of repeat customers from previous year
(n=98)





As previously discussed, **there was a high-level of investment in innovation among firms** (64% of surveyed participants changed one or more key aspect of their business in the last year), indicating that enterprises were incentivized to provide more value to their customers in order to increase sales and profits and expand their business. This is further backed up by the **high levels of capital expenditures as a percentage of external finance**. Of the 50% of enterprises accessing external finance, the majority (56%) is allocated for capital expenditures (machinery, investment, technology, etc) while 44% was allocated for operational capital (raw materials, labor, transport, etc). Additionally, of the 79% of enterprises that reported wanting to access additional external finance, the primary reasons were for investing in capital expenditures.

While there was strong desire to expand and innovate, it is noteworthy that **only 36% of respondents reported paying for external business development services (BDS)**. Many of these enterprises paid for multiple types of services, for a total of 60 services used across the 36 enterprises, including but not limited to accounting (utilized by 33% of enterprises paying for BDS), logistics (33%), agricultural extension and research (31%), and agricultural machinery services (25%). Of the 64 enterprises saying they have not paid for external business development services, 44% simply stated they have not had use for them. Overall, enterprises reported being satisfied with the BDS acquired, though enterprises said they were not satisfied with 20% of the 60 total services provided. **An interesting and statistically significant finding, shown at the $p < .05$ level using the Fisher's Exact test, was that when enterprises were satisfied with most or all of the BDS services they paid for, they were more likely to report seeing profits (combined rates of large and small profits) than not (combined rates of breaking even or seeing losses)**. Seventy-nine percent of enterprises satisfied with the BDS they acquired reported overall profits, compared to 39% of enterprises that were not satisfied with the BDS they received who reported seeing profits. When comparing profitability rates between whether an enterprise used BDS at all, regardless of its effectiveness, there was no notable difference, statistical or otherwise. These findings are helpful in making a business case for supporting effective business development services that may bolster an enterprise's profitability.

Other business behaviors that were tracked included keeping track of suppliers and customers for which **78% of surveyed participants still use paper or a mix of paper and 47% use an electronic platform or software**. While there was no significant difference between enterprises using electronic platforms for their record-keeping and those that do not in terms of reported rates of profit (when large and small profits were combined and contrasted against losing money or just breaking even), there was when comparing specifically large profits to anything less than large profits. Significant at the $p < .10$ level using the Pearson's Chi-Square test, **17% of enterprises keeping records electronically had large profits over the past three years, compared to just 6% of those using either paper record systems only, or not keeping records of their business activities at all**.

More than half of the respondents (51%) do not use any marketing strategies or advertising methods. Of those that do, Facebook and social media are the most popular mediums for advertising. **Facebook was the most popular marketing strategy for enterprises, used by 35 of the 49 enterprises engaged in marketing and advertising.** It would be worthwhile to conduct further research, with a large sample size, into the types of marketing strategies that are most successful for agri-enterprises in Myanmar and to identify any potential barriers to adopting such marketing strategies.

Though there were no strong differences in profits whether advertising was utilized, there were differences based on the specific type of marketing tool used. The one instance where there was a statistically significant difference for overall performance was whether enterprises were able to incorporate television ads into their marketing strategies. **Forty percent of enterprises using TV ads reported seeing large profits, compared to 10% of all other enterprises,** significant at the $p < .10$ level using the Fisher's Exact test. There were just 5 enterprises that used TV to market their business, but they all reported experiencing profits over the past three years, compared to 71% of all other enterprises not using TV (though this was not quite statistically significant).

Program Implications: Further research is warranted to understand the reasons behind low use of external BDS services despite enterprises being motivated to grow and expand their businesses. As well, more research is warranted that will help determine the types of external BDS that could be most beneficial to different types of enterprises.

STRUCTURAL DETERMINANTS OF MARKET HEALTH

DIVERSITY

The study looked at numbers and relationships with suppliers and customers as well as a key resilience indicator of confidence in overcoming supply and demand-side shocks. **In looking at supply chain structures** (albeit from a small amount of data), **their appears to be lack of diversity among individual supply chains.** More than half the respondents (53%) relied on between 1 and 5 suppliers, and over two-thirds (69%) relied on 10 or fewer suppliers. **Supply chains tend to be very static,** with 78% of enterprises changing less than 25% of their suppliers over the past three years, with an average supplier retention rate of 84%. Not surprisingly, **93% of respondents noted that they were satisfied with their relationships with suppliers.** The factors noted as being most important to enterprises were price and quality. Similarly, **enterprises reported relying on a small number of customers to sell their products and services,** with 56% of surveyed firms reporting having between just 1 to 20 customers.

Diversity describes the variety, distribution and composition of features of a market system. Related to diversity is the concept of redundancy, or the need to maintain a diversity of elements that can perform the same function. Diversity can be measured by the variation in terms of products, firm size, channels through which products or commodities are marketed, and/or end markets.

As mentioned in the analysis of market systems resilience above, just over two-thirds of all respondents reported that they were very confident in their abilities to overcome both supply-side and demand-side shocks (68% and 69%, respectively) when asked if they could access alternative suppliers and alternative buyers quickly with minimal disruption. Another 20% and 21% of respondents said they were somewhat confident in overcoming supply-side shocks and demand-side shocks, respectively. This would indicate **that enterprise felt that they could access a diverse set of downstream and upstream actors to create adequate level of redundancy within the market system.** Diversity is also supported by the response that the majority of enterprises (64%) have changed key aspect a of their business within the last year.

Data from AFDA’s agricultural inventory study does indicates a somewhat even spread of the 5,739 enterprises identified across the five regions in the ZOI. Mandalay is the largest outlier, having 48% of the total enterprises despite its population being only slight larger than the

Population by Region/State	% of Market Actors by ZOI
Magway Region = 3.917 million	17%
Sagaing Region = 5.325 million	17%
Mandalay Region = 6.166 million	48%
Shan State = 5,824 million	16%
Kachin State = 1.689 million	2%

other regions and Shan State. Not surprisingly there is a noticeable small percentage (2%) of total enterprises in Kachin. Additionally, the inventory identified a diversity of downstream and upstream businesses from the total population (see table below). Most notable are the large number of processing enterprises (29%) and logistics providers (22%). **The smallest number of market actors was in specialized services such as standards and certification (8 total), marketing services (7 total), and BDS providers (ICT, Market Information, Training and Research (2 total).** Looking at the types of enterprises across the ZOI, one can see that there are higher concentrations of enterprises in some regions or states (see the bolded blue numbers in the below table). In looking at the numbers of enterprises by commodity type, **it is surprising that pulses and oilseeds, Myanmar’s two largest agricultural sectors have a smaller number of enterprises as a percentage of the total than smaller sectors such as tea and horticulture.**

Table 4. Number of Market Actors by ZOI

Market Actors	Mandalay	Magway	Sagaing	Shan	Kachin	Yangon	Total
A. Processing Facilities (including consolidation or aggregation centers)	841	277	231	180	25	1	1555
B. Logistics providers	744	125	87	239	13		1208
C. Machinery service providers	78	59	61	37	14		249
D. Irrigation service provider	190	47	37	35	14		323
E. Financial services	439	115	109	87	39		789
F. Extension services	33	86	107	54	14	1	295
G. Manpower service	4	7		6			17
H. Input suppliers	213	197	253	186	12		861
I. Agriculture & Food products Export & Import companies	49	3	7	5		1	65
J. Other Relevant Market Actors	4	2	3	7		1	17
Total	2595	918	895	836	131	4	5379

Table 16. Commodities by ZOI According to Government Data

Codes	All Commodities	5379	100%
9	General (caters to more than one prioritized commodity)	2613	49%
8	Agricultural Inputs	951	18%
1	Horticulture	496	9%
7	Tea	480	9%
4	Beans & Pulses	445	8%
2	Oilseed	293	5%
6	Spices	46	1%
5	Coffee	19	0.4%
3	Maize	15	0.3%

Program Implications: While positive that enterprises are satisfied with the quality, price and timeliness from their suppliers, it has likely led to some complacency and reliance on a smaller number of trusted suppliers. This can present some risk to supply chain shocks. AFDA could consider raising this issue among medium and larger sized enterprises and help facilitate greater redundancy within their supply chains to source commodities across different regions in the ZOI. The agricultural inventory study and subsequent maps provide very detailed information to determine diversity by geographic region. It would be worth exploring what is behind the lower numbers of enterprises in the oil seeds and pulses sectors, and whether this might be limiting competitiveness or resilience in the market system.

CONNECTIVITY

Connectivity describes the frequency and degree of interactions and the exchange of resources between economic agents in a market system. Connectivity includes not only the extent of connection but also the relationships. Too many or too few connections can hamper the capacity to generate or sustain the growth of the market system - USAID Market Systems Resilience Framework

The study asked questions to assess indicators of connectivity both in terms of type and quality of interactions. As previously mentioned, **enterprises, on the whole, reported having a limited number of supplier and buyer relationships while also indicating high levels of satisfaction and trust within those relationships.** For instance, 57% of enterprises reported having 0% to 50% of their customers that paid after delivery. The majority of delayed payments (43%) were reported as taking between 15-30 days, with some payments (21%) taking between 1.5 to 3.5 months. These delays in payments would indicate higher levels of trust between buyers and suppliers. At the same time, they also pose a potential concern that financial flows could be constraining commodity purchases due to a lack of operating capital. This is a potential area for the AFDA team to investigate further.

Another indicator of strong connectivity is the **reported high-levels (55%) of customer feedback collected by enterprises,** primarily to improve the quality of their products and services. The majority of this feedback is collected in-person (67%) and over the phone (47%).

Embedded services to suppliers, such as extension, training, or input supply is another indicator of strong connectivity in a market systems. Forty-two percent of enterprises reported providing some kind of embedded services.

Business Partnerships: As previously noted, **connectivity with fee-based business development services is limited to only 36% of enterprises, and partnerships with other similar businesses is limited to only 20% of enterprises.** However, **connectivity is represented through the high participation rates of business associations (70%), and through social media** as a major source of market information for 38% of the 86 enterprises that seek out such information for their business strategies. Enterprises rely on these business associations for the majority of their business or industry relevant information, along with social media.

Financial Services: Connectivity with the finance sector is mixed, with half of enterprises reporting no sources of external financing. For those that did rely on external financing, banks accounted for the majority of the funding (60%), followed by relatives or friends (22%) and MFIs (22%). An interesting, statistically significant finding is that **firms that made the decision to use external financing were more likely, at the $p < .05$ level using the Pearson Chi-Square test, to report large profits (18%) as opposed to anything less than large profits (4%) when asked about their overall performance in the past three years.** This trend did not hold true, however, when testing the differences in the average rates of experiencing profits in general (large and small combined) and the rates of either breaking even or experiencing overall losses; rates of overall profit were lower for enterprises that took advantage of external financing, but this was not statistically significant. Many of those who opted to decline external financing simply said they did not need it at the time (28%), though 15% said that interest rates were too high for them, 12% were turned off by the complicated documentation process, 10% cited difficulty in accessing financing in general, and 10% did not have the collateral. Regardless of whether someone had accessed external financing to-date, **79% of firms stated they wished to access additional financing in the future.**

Inclusive Business Practices: Connectivity between enterprises and vulnerable groups varied. For example, **62% of enterprises reported sourcing products from women-owned businesses or households. Additionally, over three-quarters of respondents (77%) reported no problems conducting business with members of ethnic groups outside their own.** A notable difference however, was recorded **in Kachin and Shan states, where 42% and 36% of enterprises reported challenges in doing business with ethnic minority groups.** There was also an interesting, statistically significant relationship ($p < .001$, using the Wilcoxon-Mann Whitney test) between a firm reporting difficulties conducting business with other ethnic groups and hiring ethnic minorities. Firms saying they have problems doing business with people from other ethnic groups had an average of 13.6% of their full-time employees from minority ethnic groups, while firms saying they had no problems had an average of 5.2% of full-time employees from minority ethnic groups. The question did not specify whether “doing business with other ethnic groups” only meant in terms of working with customers or suppliers that were ethnic minorities; it is possible some respondents took this to mean having employees that were in ethnic minority groups.

Infrastructure as Gap to Connectivity: The Asia Foundation’s recent Myanmar Business Environment Index (MBEI) which surveyed 4,874 enterprises, **highlighted infrastructure as a major impediment to doing business in Myanmar. Enterprises expressed dissatisfaction with road quality and electrical power (only 49% of firms say these features are good or very good). Firms are more positive about the telephone (66% report good or very good) and Internet (54% report good or very good). However, even these infrastructure features have problems.** The median firm experiences 20 hours of lost telephone and Internet coverage, and 20 hours of lost electric power in the past month; and the median firm claimed to

have lost 7 days of business transport activity due to flooded roads. These types of road and power outages can cost firms tremendous amounts of money in lost and spoiled products (see Section 3.5 for details).

Program Implications: AFDA should consider investigating further whether payment delays is limiting purchasing power within supply chains and if so, work with financial institutions to help free up working capital. Given there is already a practice of collecting customer feedback, AFDA could also help introduce customer relationship management systems that would be able to help enterprises manage their relationships and interactions with customers easier, rather than manually over the phone or in person as it is currently being done. AFDA should also look at the effectiveness and quality of embedded ag extension services and see what upgrades could be made, either through mobile extension or introducing more modern farming practices. AFDA's should follow-up with enterprises reporting difficulties working with ethnic minorities and determine if there is a need for community or local systems dialogues such as SCALE+. Finally, AFDA should help businesses and communities lobby and advocate to government for improved infrastructure sa well as link to other donor programs working on electric and road improvements when possible.

POWER

Power was measured by inquiring about levels of pricing power as well as power to influence the business enabling environment.

Pricing Power: As previously mentioned, *pricing power was mixed across enterprises that stated potential losses if they were to raise prices by 10%*. Forty percent of enterprises reported a potential loss of 25% or fewer customers, 24% of firms reported a 26%-50% potential loss, and 29% reported a 76% or greater loss in customers. That nearly one-third of enterprises would lose significant numbers of customers does indicate that monopoly pricing is not prevalent, however, well over a third of enterprises did not report expecting to lose significant amounts of customers a price increase.

Power is the concentration and exercise of influence over business enabling environment established by political, social and market institutions.

Policy Advocacy: While *business reported few types of formal business alliances, for those that did have alliances, no enterprise mentioned forming any alliances to influence government policy*. Further, research is needed to understand the extent to which business associations have the potential to influence policy decisions, given that participation in business associations is very high (70% of respondents).

Business Enabling Environment: The Asia Foundations MBEI report noted *significant issues with government transparency – for example only 3.6% of firms report having access to the state or region budget, and only 4.3% of firms report having access to new investment plans*. It also highlighted that *firms in the agricultural and natural resources sector face greater perceived entry costs than firms in others sectors as well as land access and security*, particularly in areas affected by conflict. At the same time the report highlighted that with the ongoing decentralization reforms, state and region government offices increasingly have the potential to support Myanmar's local business environment, particularly through administrative efficiency. Other positive findings include *a high confidence in Myanmar's judicial and legal aid systems*. Interestingly, firms in agriculture were less concerned about bias toward connected firms (and their ability to access qualified labor than other sectors).

Program Implications: For those enterprises or sectors where price sensitivity among customers is high, AFDA should investigate avenues for product or service differentiation so that they could have stronger position in the market system. For those firms working in commodity markets, a low price strategy maybe more efficient. Further research is needed to understand the extent to which business associations have the potential to influence policy decisions, given that participation in business associations is very high (70% of respondents).

VI. CONCLUSIONS

Despite the limited sample size, the study brings information and insights into the dynamics of the market system that will help inform AFDA's market systems strategy and systemic change measurement efforts. As a next step, AFDA should consider conducting the market systems diagnostic again with a much larger representative sample size. For the next enterprise survey, AFDA should select those indicators that are most relevant to the projects targeted systems changes and areas of interventions in order to track and attribute any changes to AFDA's efforts. AFDA should also consider conducting the next Diagnostic in partnership with a local research or government agency, such as MOALI's newly formed Agribusiness Cell within the Department of Planning. This would lead to possibly institutionalizing the Diagnostic tool within MOALI and providing more dynamic data to support evidenced-based policy decision making.

VII. ANNEX I: MS DIAGNOSTIC SURVEY RESULTS

(Click on below images to see entire survey results)



Market System Diagnostic Study Report

Prepared for ACDI VOCA
June 2nd, 2020

VIII. ANNEX II: MS DIAGNOSTIC ENTERPRISE SURVEY

Myanmar Agricultural Market Systems Diagnostic Tool

Instruction: Explain at the beginning of the interview that this tool is only being piloted and we would like feedback on questions and their wording as you go along.

Write down a) which questions firms have difficulty answering (do we need to give them categorical ranges instead of just asking them the 'percent')

b) note which questions take the longest to answer

c) which questions firms might not feel comfortable answering,

d) which questions you need to explain again/potentially reword because they didn't understand what was being asked.

e) Other feedbacks

Recording the interviews is recommended so you can go back and transcribe the open ended questions appropriately (so you will have to ask permission to record for this rea-

INFORMED CONSENT FORM:

Market Systems Resilience Diagnostic

This consent form is for a survey that we are conducting on behalf of the United States Agency for International Development (USAID) funded AFDA project, based in Yangon. The AFDA project is a five-year project that began at the end of 2019, which aims to advance peace¹ and reduce interethnic tensions by creating bonds of mutual self-interest and urban-rural linkages along production and market value-chains with marginalized ethnic groups in conflict areas. AFDA will facilitate the transformation of agriculture and food systems by increasing productivity, inclusiveness, and competitiveness in Shan, Kachin, Mandalay, Sagaing, and Magway.

The objective of AFDA's market systems enterprise survey is to understand the structural and behavioral characteristics of agricultural market systems by surveying agricultural enterprises within priority AFDA sectors. The survey will include questions around the determinants of market systems resilience such as i) diversity, ii) connectivity, iii) power, iv) business norms/strategies, v) competition, as well as inclusion. This information will assist in informing AFDA's initial market systems strategy. Additionally, the market systems enterprise analysis will serve as a baseline to assess broader market system changes over the life of the project.

All survey data collected is confidential. The AFDA Project agrees not to disclose confidential information about your company to third parties. Your name or businesses name will not be shared outside of the research team. AFDA agrees to use the information only for the purposes of this market system diagnostic study. All external work resulting from the activity of AFDA will be presented in an aggregate with no means of tracking your company. Your participation in this survey is voluntary, you can choose not to participate; If you choose to participate in this survey, you can withdraw at any time. You can choose not to answer a question, or you can skip any section of the survey to the move to the next question.

Consent: By signing this consent form, you agree that you have read and fully understand the contents of this document and are willing to participate in this survey.

_____ Signature

We want to be respectful of your time, so we might ask if we can return to the question at hand or go to the next question if we get off track. Thank you for bearing with us.

Survey date _____, start time of interview _____

- A. Name of company
- B. Company Type (seeds, plant protection & fertilizer, machinery & equipment, irrigation services, mechanization services, agriculture research & extension, transport and logistics, storage, BDS, Standard & Certification, Marketing Services, Value-Added Processing)
- C. Company address, region/state, district, township, village
- D. Full name of interviewer
- E. Full name of interviewee
- F. Sex of the interviewee
- G. Year of birth of the interviewee
- H. Position in the company (owner, board of directors, manager, administrator, other)
- I. Company, or, if not available, personal phone number
- J. Company or, if not available, personal e-mail
- K. Sector(s) of economic activity (maize, horticulture, oilseeds, pulses, coffee, spices, tea)
- L. Firms' main product lines or services:
- M. Year company began operation
- N. Which of the following categories best describe your firm's history? A) self-built, private business, b) multi-shareholder business c) former state-owned enterprise d) family owned business e) former military company f) other
- O. How many persons own the business [characterization]?
 - a. How many are male?
 - b. How many are female?
 - c. How many are under 30?
 - i. How many are male? Female?
- P. How many full-time employees are part of the company?
 - a. How many are male?
 - b. How many are female?
 - c. How many are under 30?
 - i. How many are male? Female?
 - d. What percentage are from the largest ethnic groups in the region?
 - e. What percentage are from the smaller ethnic groups in the region?
- Q. Approximately how many persons does your firm employ part-time in a year?
 - a. What percentage are male?
 - b. What percentage are female?
 - c. What percentage are from the largest ethnic groups in the region?
 - d. What percentage are from the smaller ethnic groups in the region?
 - e. What do most of these part time employees do for you?
- R. Which statement best characterizes your firm's **overall performance over the last three years?**
A) large losses B) Small losses C) Break even D) Small profits E) Large Profits
- S. What is the annual sales turnover of your business?
- T. What percentage of your firms' full production capacity are you able to utilize? For example, given the resources and equipment you currently have, are you generating all of the products you could potentially produce?

I. Customer Relationships [Connectivity, Business Strategy, EVDM]

- I.1 Approximately how many buyers/customers do you sell to?

1.2. Approximately what percent of your customers are return buyers from the previous year [connectivity; BS; competition]?

1.3. What approximate percentage of your buyers/customers pay you upon delivery?

1.4 What percentage of your buyers pay you after delivery?

A. [IF >0] On average, how many days after delivery?

1.5 Do you ever collect customer feedback on your products or services [BS, EVDM]?

A) yes b) No

a. [If YES] How do you collect this feedback and what do you collect [BS, EVDM] ?

b. [If YES] What is this data used for [BS & EVDM]?

1.6 What are the different ways in which you market or advertise your enterprises product or services?

Probe on facebook, webpage, radio, tv etc.

1.6.1 [If YES] What marketing strategies do you use to find new buyers in alternative markets for your products?

1.6.2 [If YES] Does your company measure how effective these different marketing strategies are [EBDM]? A) yes b) no

1.7 What percentage of your customers/buyers are from different ethnic groups?

A. All (90%+) B. Most (75%) C. Half (50%) D. Few (25%) E. None (<10%) F. I don't know

1.8 What factor most influences your product or service pricing decisions? A) prices of competitor businesses B) costs of raw materials C) Labor costs D) policy changes E) market research F) consumer demand G) shipping and transportation costs H) other

A. Please explain why.

2. **Supplier Relationships [Connectivity, Business Strategy]**

2.1 Approximately how many suppliers do you buy from?

2.2 What percentage of your current suppliers/farmers are the same as the ones you used over the last three years [connectivity]?

2.3. What were the primary reasons for not buying from the same suppliers/farmers? (probe for quality, timeliness, price, side-selling)

a. Are you satisfied with the quality and timing of the materials you buy from your suppliers?

2.4 Do you ever provide any additional services, trainings or other support to your suppliers [BS, cooperation]?

a. yes b. no

i. [If YES] What types of additional services, trainings or investments did you offer [BS]?

l. Who directly provided this service? (e.g. who gave the training, or investment)

2.5 What percentage of your suppliers are from different ethnic groups? E.g. X% are Shan, X% are X.

2.6 What percentage of your suppliers are from women-owned businesses or households?

3 **Innovation [Diversity, Competition]**

3.1 **In the past year, did you launch any new products and services?**

[If YES] Could you tell us what these were?

[If YES] Do you think this has increased profits or improved your business?

3.2 In the past year, did you change any key aspects of your business? [If yes, probe along the lines of what changed – Product innovation? Business Processes? (storage, transport, packaging etc) Innovation? Marketing Innovation? or Organizational (HR, finance, operations)?].

3.2.1 [If YES] Do you think this has increased profits or improved your business?

- 3.3 Do you have plans to invest in any new products/services, or technologies, or business practices in the future [diversity, competition]? [IF YES] what kind?
 - 3.3.1.1 Why or why not?
- 3.4 Do you see other businesses in your industry investing in new technologies or adopting new business practices or behaviors [competition, diversity]? A) Yes B) No

4 Access to Finance [Business Strategy, Connectivity]

- 4.1 Do you rely on external financing to operate and grow your firm [BS, connectivity]?
 - A) yes B) no
- 4.2 [IF YES] Where do you access this financing?
- 4.3 [IF YES] What do you use the financing for [connectivity]?
- 4.4 [IF NO] Why don't you access financing? [probe on barriers like collateral requirements]
- 4.5 Do you want access to additional financing? A) yes b) no
 - 4.5.1 [IF YES] what would you use it for?
- 4.6 [If Women owned/Youth owned firm] Are there specific barriers to accessing finance as a women- or youth- owned firm [Connectivity]? Probe on what they are and why they exist.

5 Business Partnerships [Connectivity, Power, Cooperation]

- 5.1 Do you have any partnerships or alliances with other similar businesses in your industry [connectivity, cooperation]? For example – aggregation of products for collective bargaining, pricing agreements or joint marketing. [Power Dynamics, Cooperation], probe on business associations.
 - a) yes b) no
- 5.2 [IF YES] What are these alliances for? Probe on if there are other alliances, if only one is mentioned.

6 Business Development Services [Decision-Making, Business Strategy]

- 6.1 Where do you find market information, to help you decide on how to price your product or service [EBDM]?
- 6.2 Have you ever paid for any external business development services? Probe for - A) Accounting B) Market research C) Legal services D) Search for new buyers E) Advertisement or promotion including website assistance F) Certifications and/or certificate audits G) Hiring services H) agricultural extension or research services I) Other [BS]? If Yes – Which ones?
 - a) [If yes to any] Were you satisfied with that service? [If no, why not?][BS]
 - b) [If no, why have you not used such services? (probe for availability or cost)
- 6.3 What types of BDS services would you be most interested in using in the future, if cost and access weren't an issue?
- 6.4 What BDS skills is your company most interested in building or improving, for internal staff? -A) Accounting B) Market research C) Legal services D) Search for new buyers E) Advertisement or promotion including website assistance F) Certifications and/or certificate audits G) Hiring services H) agricultural extension or research services I) Other
- 6.5 How do you hire or find most of your staff?
- 6.6 What type of record-keeping system do you use to keep track of your suppliers and customers [EBDM]? Probe on type of software platform use, if mention electronic platform

7 Competition

- 7.1 How would you characterize your industry's competition in your township?
 - a) A large number of small firms competing against each other

- b) There is a balance of small and large firms competing against each other
- c) Dominated by a small number of larger firms.
- d) A single firm controls the market
- e) Do not know

7.2 How would you characterize your industry's competition in your region?

- f) A large number of small firms competing against each other
- g) There is a balance of small and large firms competing against each other
- h) Dominated by a small number of larger firms.
- i) A single firm controls the market
- j) Do not know

7.3 Does your firms' products or services face a lot of competition from other countries? A) yes B) no
A. [IF YES] Could you tell me about this competition?

7.2 If your firms' prices rise by 10% compared to your competition, approximately what percent of your customers will move to your competitors [Power]?

8 Inclusion – Roles for Women, Youth, & Ethnic Groups

8.1 In your sector, what type of roles do women mostly play, as owners, employees, suppliers or service providers? Probe on each role- why if their roles are limited/high? [connectivity, diversity]

- a. owners
- b. employees
- c. suppliers
- d. service providers

8.2 What about youth, what roles do they play as owners, employees, suppliers or service providers? Probe- why if their roles are limited/high? [connectivity, diversity]

- a. owners
- b. employees
- c. suppliers
- d. service providers

8.4 Do you face challenges doing business with other ethnic groups?

8.5 Are there persistent stereotypes around women, youth, or ethnicities among firms in your sectors? A) yes b) no

8.5.1. [If yes] How does this influence business behaviors and practices [diversity, connectivity] (e.g. employability, including these groups as suppliers or distributors, etc.)?

9 Resilience

9.1 Which of the following events or external situations at a national or international level have significantly influenced your business in the past year (2019): A) Environmental/Climate Change/Disaster – such as Drought, Flood, Earthquake, Pest Infestations, Heavy Rainfall b) Economic volatility in international prices, - such as volatility of Fuel, C) Export or import changes/laws or border closure D) Conflict– armed conflict E) new laws or changes in government F) Drug trade G) Human Health issues H) extortion I) other [write in] [Power Dynamics]

9.1.1 [If yes to any] Please explain how this event influenced the performance of your company?

9.1.2. What have you done to prepare for any similar, future shocks? Probe on insurance, savings, and resource aggregation.

9.2 What sources do you turn to for information on the occurrence of such shocks, and how to deal with them?

9.2 Please rate your confidence in the following statements

9.2.1 In the event of a major economic shock or interruption in my supply chain, I am confident that I could have access to alternative suppliers promptly on time to fulfill my obligations with minimal disruption" a) very confident b) somewhat confident c) not confident

9.2.2 In the event of a major economic shock or interruption in my market I am confident that alternative buyers could be found quickly, in time to fulfill my obligations with minimal disruption. A) very confident b) somewhat confident c) not confident

9.2 How is your business contributing to its surrounding community?

