

## PULSE & OILSEED TRADERS IN CENTRAL MYANMAR: VALUE CHAIN STRUCTURE AND CONDUCT

By

Ben Belton and David Mather



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## EXECUTIVE SUMMARY

Pulses are some of Myanmar's most important agricultural exports, while oilseeds are among its most important domestically consumed crops. Traders play a crucial role as intermediaries linking producers to exporters and consumers. Few empirical studies of pulse and oilseed supply chains have been conducted in Myanmar, particularly for the trader segment. This report presents findings from the largest survey of pulse and oilseed traders in Myanmar to date, covering 347 enterprises from the five main pulse and oilseed commodity exchange centers in the Central Dry Zone – one of the country's major agro-ecological zones for pulse and oilseed production. Key results are as follows:

**Trading businesses are well established.** The majority of pulse/oilseed trading businesses were established between 1993 and 2007. This timing corresponds with the expansion of pulses cultivation for export following the relaxation of socialist-era crop production planning rules.

**Costs of market entry and participation are high.** Pulse/oilseed trading requires substantial fixed assets and working capital. The value of fixed assets owned by traders varies widely with scale of operations, but averaged \$25,457. The size of weekly working capital averaged \$32,561.

**One-third of traders have access to formal sources of credit.** Thirty-one percent reported having borrowed money from a bank for use as working capital at some time.

**The distribution of volumes traded is very concentrated.** The smallest 40% of traders account for just 4% of total volumes traded, whereas the largest 20% of traders account for 73% of all trade. The average quantity of pulse/oilseeds traded annually by the largest 20% of traders is 106 times greater than the mean quantity the smallest 20%. The top 20% of traders surveyed comprised 69 different enterprises, however, making it unlikely that they are able to engage in non-competitive behaviors such as price manipulation. There has been little change in concentration of sales among traders over the past 5 years.

**Most pulse/oilseed traders specialize in trading only.** There is little vertical integration with related activities up- or downstream. For example, only 3% of traders source pulse/oilseeds from own farms, and only 6% of traders operate oil mills.

**Most traders are brokers.** Seventy-one percent of traders earn commissions from brokering transactions between buyers and sellers. Around one-quarter of traders act as wholesalers who buy and sell grain for profit.

**Most traders trade multiple crops.** A total of 20 crops were traded by traders in our sample in 2017. Among these, four pulses (pigeon pea, chick pea, green gram and black gram) accounted for 54% of the total quantity traded, while the two oilseeds (peanut and sesame) accounted for 34%. Most traders (80% in 2017) traded both pulses and oilseeds.

**There has been some diversification in the crops traded in the past 5 years.** From 2012 to 2017, traders diversified their portfolio of traded crops from a median of four to five. The average

volume of each crop traded fell slightly per trader, but the total volume of crops traded by all traders changed little. Several minor pulses recorded large (in percentage terms) increases in traded volume, notably kidney bean, garden pea, rice bean and lablab bean. It is possible that this trend is indicative of some incipient diversification of agricultural production away from bulk pulses for export toward niche pulses for domestic consumption. Trade in wheat declined sharply.

**Traders are not a major source of rural credit.** Only 30% of all traders extended credit to any of their suppliers, and traders reported providing credit directly to only 14% of farmers who supplied them. Few traders received advances from other traders. This runs counter to the common perception that traders play an important role in supplying rural finance, often on exploitative terms.

**Traders provide little of their own transport.** Suppliers and buyers provided most of the transport (and incurred the transport costs) for delivering crops to and from traders. This again reflects traders' primary role as brokers. Among traders who provided their own transport, the majority used transportation services supplied by third parties.

The following implications for policy and programming can be drawn from these results.

- Pulse/oilseed traders trade a wide variety of crops, both as individuals and in aggregate, and appear highly adaptable in adjusting to shifting conditions of supply. Trade in several minor pulses increased from 2012 to 2017, while average traded volumes of several major crops declined. This suggests that some incipient diversification may be taking place among Dry Zone farmers, toward 'niche' products for the domestic market, as an alternative to bulk commodities for export.
- The limited role played by rural traders in collecting crops from farmers shows that farmers are not dependent on rural traders for crop collection, or the potential for exploitative relations that might entail. The low incidence of credit provision by traders to farmers and other traders indicates that "output-tied" credit arrangements are uncommon.
- Efforts by traders to increase the value of products traded by grading, cleaning, labelling or branding are rather limited. This reflects the predominance of brokerage as the main mode of trade, with the majority of traders earning a fee for coordinating transactions between buyers and sellers. This means that there is little incentive for most traders to engage in any form of value addition. Any efforts to support upgrading should therefore differentiate between wholesalers and brokers and initially target the former, while recognizing that scope for value addition may be limited by the nature of demand from terminal markets.
- Pulse and oilseed traders form a vital link in the value chain, connecting tens of thousands of farmers to domestic consumers and exporters. As substantial SMEs, they have high capital requirements. Consistent with expectations, a minority of traders access bank loans on occasion for use as working capital, with larger traders more likely to obtain bank loans.

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## 1. Introduction

Pulses are among Myanmar's most important exports (valued at around one billion USD annually). Oilseeds are among the most important domestically consumed crops after rice. However, only a handful of studies have addressed pulse/oilseed producers or value chains in Myanmar (e.g. Okamoto, 2008; Favre & Myint, 2009, Boughton et al. 2018). Moreover, there has never been a rigorous representative survey-based study of the structure and conduct of the trader segment of the pulse/oilseed value chain in Myanmar. Given the importance of traders in linking agricultural producers to exporters, retailers, and (ultimately), consumers, we considered it imperative to understand the characteristics of the trader segment of the value chain and the nature of recent changes within it. To do so, we conducted, to our knowledge, the largest ever survey of Myanmar pulse and oilseed traders.

The Central Dry Zone (Magway, Sagaing and Mandalay regions) is one of the most important zones in Myanmar for oilseed and pulse production and trade. The survey was implemented with a total of 347 enterprises from the Dry Zone's five main pulse/oilseed commodity exchange centers, representing approximately one fifth of the total population of pulse/oilseed traders in the Dry Zone. This report presents findings from the survey. It is organized as follows: Section two outlines the sample and survey methodology. Section 3 presents data on the characteristics of trading enterprises. Section 4 presents the main results, organized with reference to the structure of the wholesale trader segment of the pulse/oilseed value chain. Section 5 presents findings on trader conduct. Section 6 concludes.

## 2. Sample and Survey Methodology

This survey took place as part of a larger program of research on agricultural value chains in Myanmar's Dry Zone. This focus defined the survey's geographical scope. The research team visited every pulse/oilseed wholesale market in the Dry Zone as part of scoping research prior to questionnaire design. These wholesale markets are referred to a 'Commodity Exchange Centers' (CEC). There are five CEC in the Central Dry Zone. All are located in urban areas (Mandalay in Mandalay region; Magway and Pakkoku in Magway region; Monywa and Shwe Bo in Sagaing region) – see Figure 1.

CEC offer a space for buyers and sellers to meet, display their wares, interact and agree transactions. Purchased goods are delivered to traders' private premises, located outside the CEC. According to our scoping interviews, any trader who wishes to conduct business at a CEC is required to register as member and pay an annual fee in order to use the center's facilities. The organizing committee of each CEC keeps a record of members, including business addresses and contact details. Each CEC provided us with a list of its members. This became our sample frame, totaling 1743 enterprises.

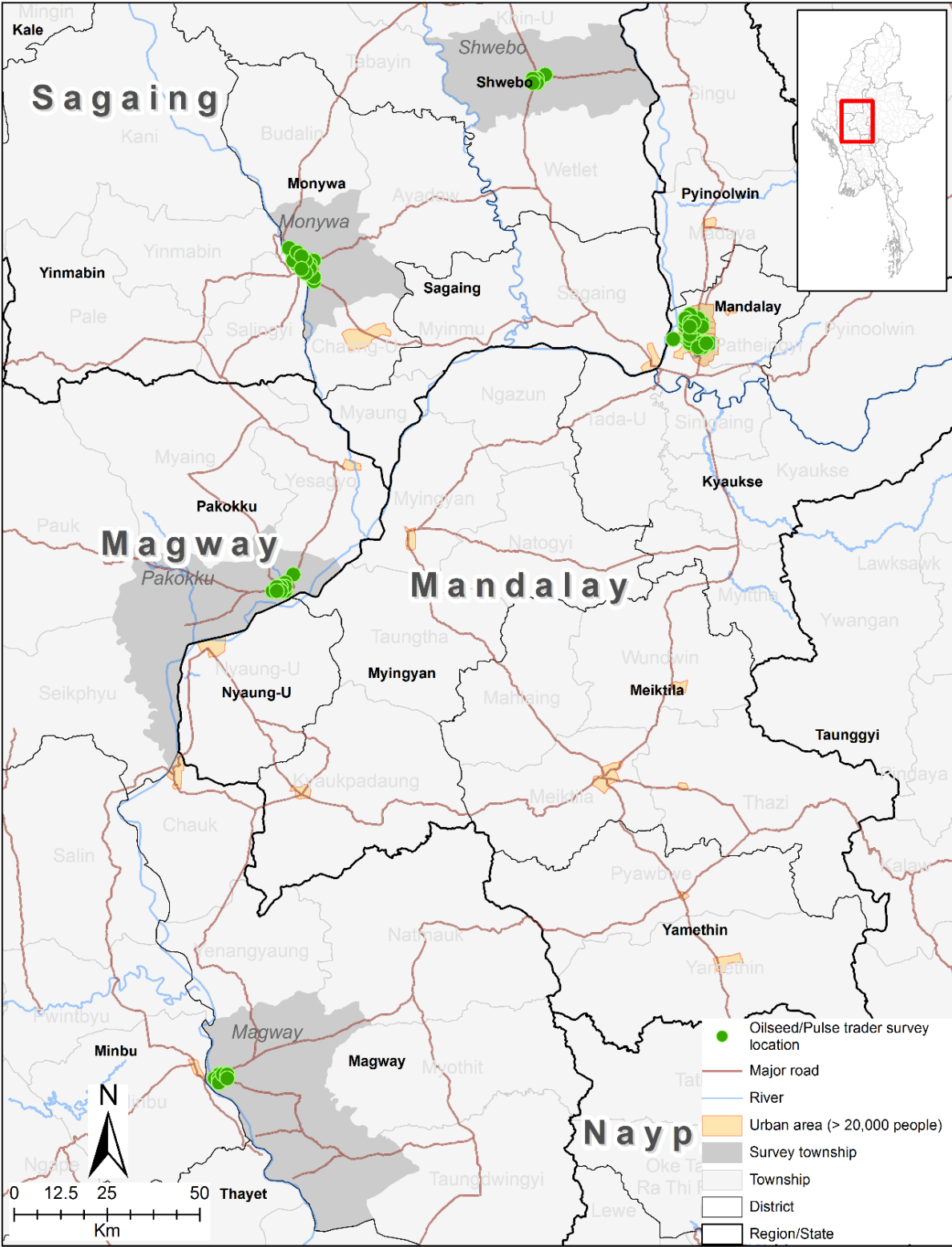
Trading enterprises were selected from the list by systematic random sampling. Every selected enterprise was visited. If it proved impossible to contact or interview a selected enterprise, replacements were drawn at random from the sample frame. A total of 347 traders were interviewed in December 2017 and January 2018. The survey was administered to traders



individually in their business premises, or at CECs. The questionnaire covered traders' assets and investments, their procurement and marketing behavior over the past year, and details of any value-added activities such as oil milling. The questionnaire included recall questions designed to capture changes in value chain structure and actor behavior between the year of the survey (2017) and five years earlier (2012).

The rest of this report presents key results in the three following sections, detailing: (1) the characteristics of pulse/oilseed trading enterprises; (2) the structure of the trader segment of the pulse/oilseed value chain and; (3) the conduct of traders within it.

Figure 1: Pulse/Oilseed Trader Survey Locations



### 3. Trading Enterprise Characteristics

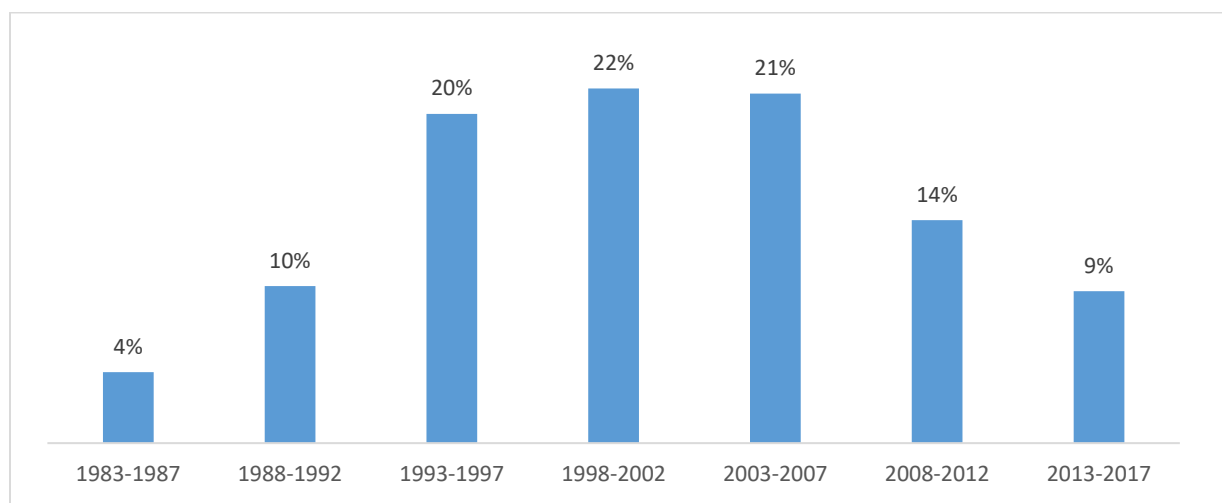
#### 3.1 Traders are highly educated.

Pulse/oilseed trading business owners are extremely highly educated compared to the population average. More than half (57%) are educated to university level, and 23% attended upper secondary school, suggesting that they already had much higher than average socio-economic status and human capital prior to establishing their businesses. This form of trading is male dominated – 85% of trading business owners reported to be men, with a median age of 49.

#### 3.2 Trading businesses are well established.

Pulse/oilseed trading business are mainly formal enterprises – 92% have a trading name. Most trading businesses have been established for at least 10 years. Sixty-three percent were established between 1993 and 2007 (Figure 2). This timing corresponds approximately with the expansion of commercial pulses cultivation for export that followed the relaxation of strict socialist era crop production planning rules (Okamoto, 2008).

**Figure 2: Share of trading businesses established, by time period**



#### 3.3 Trading businesses are substantial SMEs.

Traders used an average of 1.2 premises in the operation of their trading enterprises. Eighteen percent of these premises were rented, 28% were inherited and 54% were purchased. Ninety-one percent of traders have a shopfront, and 39% have a wholesale shop co-located with a warehouse. Just over one-third of traders have a separate warehouse. Very few traders operate premises for retail sales of pulses/oilseeds.

All traders owned at least one phone (90% owning a mobile phone and 37% owning a landline), and at least one set of scales (94% owning electronic scales and 39% owning manual scales). Only

7% reported owning a computer, indicating limited electronic record keeping. Few traders owned machines used for sorting, grading or other value addition: 6% owned a sesame cleaning machine, 4% a peanut threshing machine (for removing shells) and just one trader (representing 0.3% of the entire sample) owned a color sorting machine.

With the exception of motorbikes (owned for business purposes by 75% of traders) motor vehicle ownership is somewhat limited, as only 29% of traders owned motor vehicles other than motorcycles. Eighteen percent of traders own one or more trucks, of which most are four- or six-wheel vehicles. Just 2% own a 12-wheel truck. No trader reported owning an oxcart.

Moderate levels of vehicle ownership reflect the fact that most traders are brokers who do not take possession of the grain they trade, meaning that buyers and sellers supply most of the transport used. They also reflect good levels of access to third party transport services.

### **3.4 The costs of market entry and participation are high.**

Pulse/oilseed trading requires substantial fixed assets and working capital, meaning that entry costs are high. The value of fixed assets owned by traders varies widely with scale of operations. The mean value of fixed assets<sup>1</sup> (excluding business premises) owned by surveyed traders amounted to \$25,457 (median \$9,235) in real 2017 prices. The mean (median) value of fixed assets (excluding property) stands at \$8,618 (\$4,057) for traders in size quintile 1, as compared to \$45,873 (\$24,467) for traders in size quintile 5.

Traders worked from an average of 1.2 premises, of which 53% were purchased and 28% inherited. The purchasing price of owned premises was substantial, ranging from \$30,598 (median \$15,773) for traders in size quintile 1 (smallest 20% of traders) to \$265,023 (median \$43,490) for those in size quintile 5 (largest 20% of traders), in real 2017 prices. Extremely limited access to mortgage facilities in Myanmar mean that most these properties would have been purchased outright, contributing to high costs of entry. However, once acquired, these properties serve as a source of collateral against which working capital can be borrowed.

Only 20% of traders used rented premises, of which half (10% of the total) worked exclusively from rented property. Rental costs are relatively low, averaging \$1,442/year (median \$467). The limited use of rented properties for trade may suggest that rental markets for commercial property are poorly developed in the towns and cities where the survey was implemented.

The size of weekly working capital averaged \$32,561 (median \$11,664), an increase of 16% from 2012, in real terms. Even businesses trading relatively small volumes require significant working capital. Median working capital ranges from \$4,946 (\$2,333)/week for quintile 1 traders to \$71,946 (\$38,880)/week for those in quintile 5<sup>2</sup>.

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<sup>1</sup> Fixed assets included vehicles (trucks, motorcycles, etc), electronic or manual scales, landline and/or mobile phones, processing machinery (to thresh, clean, sort, or bag), generators, etc.

<sup>2</sup> Traders were ranked from smallest to largest based on the total quantity of pulse/oilseeds they traded within the past year, and divided into 5 groups of equal size, with quintile 1 comprising the 20% of traders with the smallest volume of sales, and quintile 5 the 20% of traders with the largest volume of sales.

### 3.5 One-third of traders are able to access formal sources of credit.

A minority of traders appear to have good access to formal sources of credit, with 31% reporting ever having borrowed money from a bank for use as working capital. The largest traders (those in quintile 5) were 4 times more likely to obtain bank loans than traders in quintile 1, accounting for 28% and 7% of all bank loans taken, respectively. Credit was rarely used to purchase business assets (excluding property), with just 4% of traders reporting borrowing from any source to fund purchases of vehicles and other equipment. This suggests that working capital represents a more substantial and immediate need than assets, which can be purchased using accumulated capital.

### 3.6 Most workers are employed on a casual basis.

Most workers are hired on a temporary basis and paid a piece rate for unloading (paid at the rate of MMK 2.4/kg), bagging (MMK 1.3/kg) and loading (MMK 2.4/kg). In addition, trading businesses employ an average of 1.6 fulltime workers, most of whom are male.

## 4. The Structure of the Trader Segment of the Pulse and Oilseed Value Chain

### 4.1 The trading sector is very concentrated in terms of distribution of sales.

The Gini coefficient of total quantity traded across all traders was 0.70 in 2017. This indicates a very high degree of concentration in sales, similar to that reported among maize traders in Nigeria (0.65) (Liverpool-Tasie et al., 2017). The bottom 40% of traders (quintiles 1 & 2) account for just 4% of the total volume of grain traded, whereas the top 20% of traders (quintile 5) account for 73% of the total. The mean quantity of pulse/oilseeds traded annually by traders in quintile 5 is 106 times higher than the mean quantity traded by those in quintile 1 (5,003 t and 47 t, respectively) (Table 1). This high degree of concentration may reflect the high costs of market entry and participation noted above. That said, because the top 20% of traders interviewed comprise 69 different enterprises, it is unlikely that they are able to engage in non-competitive behavior such as price manipulation. There is no clear pattern of differentiation among traders by size quantile across CECs.

**Table 1. Pulse and oilseed trade volumes, by trader size quintile (2017)**

<b>Quintile</b>	<i>Mean (t)</i>	<i>Median (t)</i>	<i>Total</i>	<i>% of total</i>	<i>Cumulative %</i>
Q1	47	44	3243	1	1
Q2	197	192	13,373	3	4
Q3	511	513	34,778	7	11
Q4	1172	1062	79,715	16	27
Q5	5003	3132	340,234	73	100
Total	1382	511	471,343	100	-

#### **4.2 The degree of concentration in sales among traders has not changed in the past 5 years.**

The concentration of quantity traded among traders in 2012 was nearly the same as in 2017 (Gini coefficient 0.72). The bottom 40% of traders accounted for 3% of total quantity traded in 2012 (the same share as in 2017), while the top 20% of traders accounted for 75% (just 2% more than in 2012). This indicates that the structure of this segment of the value chain is stable, likely reflecting the well-established nature of most businesses, high barriers to entry and high operating costs, as noted above.

#### **4.3 Most traders specialize in pulse/oilseed trading, with little vertical integration.**

Most pulse and oilseed traders specialize in trading and do not integrate vertically through the incorporation of upstream or downstream functions. Only 3% of traders source pulse/oilseeds from own production (upstream), while only 6% of traders operate oil mills (producing edible oil) (downstream). The same share of traders trades in oilcakes (byproducts milling of oil milling). Three percent of traders manufacture dhal from pulses. No traders are involved in other activities related to pulse processing (e.g. milling pulse flour, noodle manufacturing, tofu or bean cake manufacturing, or trading in pulse byproducts). Consequently, trading accounted for the bulk of income generated by pulse and oilseed related businesses owned by survey respondents (94%).

#### **4.4 Occupational specialization occurs at the household level.**

Occupational diversity among the members of pulse and oilseed traders' households is rather limited, with two-thirds of traders (67%) reporting that members of their households have no other occupations. Just over one-quarter (28%) of traders own agricultural land, owing an average of 12 hectares each (around 5 times more than the average for farm households in the Dry Zone). Very few traders were involved in other off-farm businesses with links to agriculture (1% or less of traders engaged in agricultural input supply, transport rentals, rice milling, livestock or poultry rearing, and agricultural machinery sales or rentals), but 4.6% operated a dry goods shop, 8.4% engaged in some other form of off-farm business, and 11.5% performed professional or salaried work.

These findings may suggest that incomes earned from pulse/oilseed trading are sufficiently large that little diversification into other activities is required. They may also imply that capital constraints (financial and/or human) limit scope for investments in operations upstream or downstream of the trader node of the value chain, or in related sectors, creating a tendency toward specialization in trading alone. The high average size of landholdings owned by landowning traders appears to indicate that the origin of some traders is as wealthy farmers in the upper strata of rural society, but could also reflect pathways of asset accumulation made possible by successful trading. However, almost three-quarters of traders own no farm land, and significant shares come from households where members engage in non-farm businesses or salaried employment, suggesting that many traders have stronger urban than rural roots.



Traders discussing their wares at Shwe Bo CEC



Workers unloading green gram in trader's warehouse, Magway



Pulse samples on display at Madalay CEC



Grain retailer's stall, Sagaing

## 5. Pulse and Oilseed Trader Conduct

### 5.1 Most traders are brokers, not wholesalers.

The most common role played by traders of all sizes is that of broker. Brokers earn commissions from organizing transactions between buyers and sellers. These trades usually take the form of spot-market transactions at the local CEC. Seventy one percent of traders reported conducting business in this way. Eight percent of traders also reported acting as agents - that is, earning a commission by sourcing pre-agreed volumes of product for a specific buyer (Table 2). Larger traders were most likely to fulfil this role (performed by 14% of traders in tercile 3, as compared 3% in tercile 1). According to comments made during scoping interviews, traders acting as agents often did so on behalf of exporters.

**Table 2. Percentage of traders by trading type, by terciles of total quantity traded**

<b>% of traders trading as:</b>	<b>Tercile 1</b>	<b>Tercile 2</b>	<b>Tercile 3</b>	<b>Total</b>
Broker	76	65	75	71
Wholesaler	22	31	27	26
Agent	3	9	14	8
Retailer	3	2	1	2
Exporter	0	0	2	1
Importer	0	0	0	0
Other	2	3	0	2

Around one-quarter of traders reported trading as wholesalers (taking possession of grain purchased from sellers for resale to other buyers at a later date). This share varies little with trader size. Very few traders (2%) also operate as retailers. Only 2% of traders in tercile 3 exported crops directly, and none reported trading crops that they had imported. As we shall see below, these roles have important implications for other aspects of trader behavior.

### 5.2 Traders procure mainly from farmers and fellow traders, not from village level collectors.

The majority of traders reported sourcing crops direct from farmers (73%) (Table 3). Smaller traders were most likely to source directly from farmers. Just 4% of traders interviewed reported sourcing from rural traders, while 7% procured crops from traders working as agents on their behalf. This indicates that a high degree of ‘disintermediation’ has taken place. Only a small fraction of pulse/oilseeds traded find their way into the supply chain through small village level traders who serve as collectors from farmers. In other words, the vast majority of farmers ‘bypass the middleman’ to transact directly with traders located at regional commodity centers. Private transport rental services (small truck hire) now available in most Dry Zone villages allow farmers to transact in this way. One-third (34%) of traders reported sourcing crops from other traders at the local CEC. Larger traders were more likely to buy from other traders, especially when traders



were located outside of the local CEC. Although more than one quarter of traders owned agricultural land, very few (3%) reported trading crops they had produced.

Quantity-wise, the share of crops procured by source follows a similar pattern to that just described, but the influence of traders at the upper end of the size distribution means that direct purchases from farmers account for just under half of all crops procured, with the remainder split roughly equally between traders at local CEC and traders from outside (most importantly from other CEC and urban areas).

**Table 3. Share of traders procuring main crop traded by source and trader size tercile (%)**

<b>Source of crops</b>	<b>Quintile 1</b>	<b>Quintile 2</b>	<b>Quintile 3</b>	<b>Quintile 4</b>	<b>Quintile 5</b>	<b>Total</b>
Farmers (directly)	76	84	76	72	62	73
Farmers (through own agent)	4	1	4	10	13	7
Traders at local CEC	26	31	34	35	43	34
Traders at other CEC	0	1	3	3	21	5
Urban traders, non-CEC	0	0	4	6	10	4
Rural traders, non-CEC	0	1	3	10	6	4
Own production	4	4	0	3	4	3
Other	0	0	0	1	1	1

### **5.3 Traders mostly trade with other traders at local commodity exchange centers.**

All but two traders in the sample were members of their local CEC, and no trader was a member of more than one CEC. Traders were asked about the nature of transactions for the main crop they traded. Traders at the local CEC were the main category of buyer for the main crop traded (transactions with these buyers accounted for 55% of total volumes of pulses/oilseeds traded) (Table 4). Enterprises trading large volumes (quintiles 4 and 5) are considerably more likely to sell to traders at other CEC, to exporters and to buyers from overseas. These buyers amount to a combined 38% of total volumes traded. Sales to retailers and traders operating outside of CEC are equally common among traders of all sizes and amount to 5% of traded volumes. Small traders are most likely to sell to consumers and oil mills, but these transactions account for a very small share of total volumes traded.

**Table 4. Share of main commodity sold by buyer type and trader size quintile (%)**

Buyer	Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5	Weighted average
Traders at local CEC	88	82	72	69	49	55
Traders at other CEC	0	1	9	17	27	23
Exporters	0	2	7	5	12	10
Buyers from India or China	0	2	0	0	7	5
Retailers	2	3	4	3	3	3
Other traders, non-CEC	2	2	2	1	2	2
Consumers	3	1	2	0	0	0
Oil mills	4	2	2	0	0	0

Note: Weighted average represents the total volume purchased by each buyer type (aggregated to the sample level) divided by the total sample quantity traded.

These results suggest that much of the crops traded circulate within CEC from smaller to larger traders, before finding an outlet to domestic retail or export markets. It is notable that very few traders also work as pulse/oilseed retailers, reflecting their significant size of operations. The small share of crops sold to oil mills suggests that these businesses source directly from farmers, or from a different set of traders operating outside of CEC.

#### **5.4 Most traders trade a wide variety of crops.**

A total of 20 crops were traded in 2017, including 6 oilseeds (peanut, sesame, sunflower, canola/mustard, niger and soybean), 11 pulses (green gram, black gram, chick pea, pigeon pea, kidney bean, butter bean, rice bean, lablab bean, garden pea, nylon bean, and cowpea), 2 cereals (wheat, maize), and coriander seed. Among these crops, the four main pulses (pigeon pea, chick pea, green and black gram) accounted for 54% of total quantity traded of pulses/oilseeds in 2017, while the two main oilseeds (peanut and sesame) accounted for 34%. Most traders (80% in 2017) traded both pulses and oilseeds; 94% traded oilseeds, 86% traded pulses, and 16% cereals.

#### **5.5 Larger traders trade a greater variety of crops.**

The likelihood of traders trading any given crop tends to increase with size of enterprise. For instance, the largest third of traders (tercile 3) are twice as likely to trade green gram as the smallest third (green gram was traded by 80% of tercile 3 traders and 41% of tercile 1 traders, respectively). Peanut is the only major crop that traders are likely to trade irrespective of enterprise size. This suggests that larger traders opt to diversify their operations across several crops, for reasons of risk-spreading and counter seasonality, in preference to specializing in a smaller number of crops; a strategy which smaller traders may lack sufficient working capital to pursue.

#### **5.6 Total volumes traded have changed little, but some diversification has occurred.**

From 2012 to 2017, traders diversified their portfolio of traded crops, but slightly reduced the average volume of each crop traded. The mean (median) number of crops traded per trader rose from 4.8 (4) in 2012 to 5.3 (5) in 2017. For most major crops, the mean quantity traded by each

trader fell by between 5% and 30% from 2012 to 2017 (Table 5). The total quantity of crops traded per trader fell 13% from an average of 1,589 tons in 2014 to 1,371 tons in 2017, but the median remained almost unchanged. The total volume of reported trade changed little, dropping 4% from 493,000 t to 471,000 t (Table 5).

Pigeon pea was the most traded crop in 2017 (total 114,000 t), followed by sesame (92,000 t), peanut (combined total of 67,000 t for peanut with and without shell), chick pea and green gram (58,000 t and 53,000 t). Total volumes of pigeon pea, sesame, peanut and black gram traded changed little from 2012 to 2017, while the total quantity of chickpea and green gram traded fell by 20% and 17%, respectively (Table 5). Wheat was the only crop for which traded volumes fell dramatically over this period, falling from 17,000 t to 2000 t (a decline of 88%), suggesting that a significant reduction in wheat cultivation occurred over this period. Traders interviewed ascribed this change to the liberalization of wheat imports prior to this time.

Traded volumes of maize rose 51%, reflecting significant expansion of maize production that took place during this period. Several minor pulses also recorded large (in percentage terms) increases in traded volumes, notably kidney bean, garden pea, rice bean and lablab bean, perhaps indicating some incipient diversification of agricultural production away from bulk pulses for export toward niche pulses for domestic consumption. Coriander seed that recorded the largest percentage increase in traded volumes among all crops (13,900%), but remained small in volume terms, with only 28 t traded in 2017 (Table 5).

**Table 5. Total quantity traded by all traders, share of total traded crop volume from each crop, and average quantity traded per trader (2017, 2012)**

Crop	2017				2012			
	Total quantity traded in (t)	% of traders trading	% of total traded crop volume	Average quantity traded per trader (t)	Total quantity traded (t)	% of traders trading	% of total traded crop volume	Average quantity traded per trader (t)
Pigeon pea	114,209	65	24.2	519	122,783	63	24.9	633
Sesame	92,136	79	19.5	341	85,718	77	17.4	360
Peanut (without shell)	42,573	58	9.0	215	42,704	52	8.7	265
Peanut (with shell)	24,792	27	5.3	266	25,453	28	5.2	292
Chickpea	58,080	53	12.3	325	72,419	51	14.7	461
Green gram	53,077	61	11.3	256	64,333	59	13.1	354
Black gram	27,978	47	5.9	176	28,801	37	5.8	250
Lablab bean	12,136	27	2.6	131	8448	22	1.7	126
Rice bean	12,032	20	2.6	180	5047	15	1.0	105
Maize	8564	6	1.8	428	5680	4	1.2	18
Butter bean	7941	25	1.7	92	6033	22	1.2	89
Kidney bean	7317	16	1.6	37	1704	12	0.3	45
Garden pea	3327	4	0.7	256	1383	3	0.3	4
Niger	2596	11	0.6	70	2316	10	0.5	75
Wheat	2033	11	0.4	57	17,199	10	3.5	573
Sunflower	1819	12	0.4	46	1309	11	0.3	39
Soybean	259	1	0.1	86	266	1	0.1	1
Canola/mustard	249	6	0.1	11	198	6	0.0	10
Cowpea	158	1	0.03	32	571	2	0.1	2
Nylon bean	38	1	0.01	19	183	1	0.0	1
Coriander seed	28	1	0.01	7	0.2	0	0.0	0
Total	471,343	-	100	1371	492,547	-	100	1589

### 5.7 There has been a shift from white to black sesame.

There are several colors of sesame produced in the dry zone – white, black, red and brown. Black and White are the most common of these. All can be used to produce oil, but black sesame is more expensive, and tends to be exported as whole grain. The share of black sesame in total sesame traded grew slightly from 2012 to 2017 (from 48% to 59%), while the share of white fell from 36%, to 27%. This trend reflects a shift, reported during our scoping interviews, toward increasing demand for black sesame from markets in East Asia, and declining demand for white sesame from the domestic oil mill sector, in the face of a shift toward consumption of cheap imported palm oil.

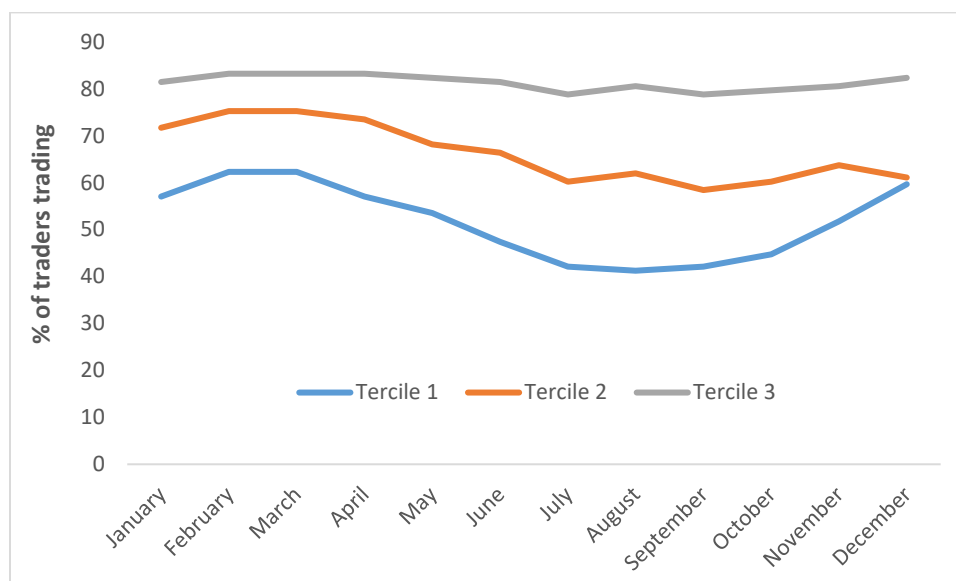
There are two main types of peanut traded – red and white. White peanut has the higher oil content of the two, and is used mainly for oil production, whereas red peanut is used mainly for food. There was no change in the share of red and white peanuts in total sales from 2012 to 2017.

## 5.8 Smaller traders trade for fewer months per year, and fewer days per month.

Pulse/oilseed trading is somewhat seasonal. The lowest levels of activity are during the monsoon months when most rainfed pulse and oilseed crops are grown in the Dry Zone, and highest in the post-monsoon months following the main harvest from November to March. However, smaller traders are much more strongly affected by this seasonality than larger traders, likely because the latter can afford to maintain stocks of grain, procured during peak season for sale at a later date. Figure 3 below illustrates this tendency clearly.

As a result, only one quarter (23%) of traders in tercile 1 trade in the main crop that they work with in every month, as compared to 58% of those in tercile 3. In addition to trading for fewer months each year, smaller traders trade for fewer days each month. This is particularly the case during low season, when those traders from tercile 1 who operated traded for 13 days per month, as compared to traders in tercile 3, who traded for 21 days per month (only slightly less than the 26 days per month worked in high season).

**Figure 3: Share of traders trading main crop sold, by month and size tercile**



## 5.9 Limited grading and cleaning of crops.

Sixty percent of traders reported doing nothing to improve the quality or value of the crops they traded (Table 6). The most common form of grading was to sort crops by quality (practiced by 24% of traders). Seventeen percent of traders reported cleaning grains, and 8% reported grading by color. The share of traders practicing these forms of grading was similar across size tercile and changed little between 2012 and 2017. The limited extent of grading reflects, in part, the predominance of brokerage as the main mode of trade. Brokers act as the conduit for business between two parties, for which they earn a fixed rate of commission. This means they seek to

ensure a high turnover in order to maximize commission earned and face little incentive to attempt to increase the value of the product traded.

**Table 6. Traders' grading and cleaning practices**

<i>% of traders doing:</i>	<b>Tercile 1</b>	<b>Tercile 2</b>	<b>Tercile 3</b>	<b>Total</b>
Nothing	63	59	59	60
Sorting by quality	23	24	27	24
Sorting by color	9	11	5	8
Cleaning	12	21	16	17

The tendency of traders to clean, sort or grade varies by crop, depending on crop characteristics and demand for particular attributes. Green gram is most likely to be graded by quality (as practiced by 39% of green gram traders), followed by sesame and peanut (29% and 27%). Sesame is most likely to be cleaned (31%), and pigeon pea and sesame are most likely to be graded by color (26% and 20%). Black gram, chickpea and pigeon pea are least likely to undergo any form of grading or value addition (75 to 84% reporting doing nothing).

**5.10 Most crops are traded as unbranded bulk commodities.**

Only 11% of crops were sold in traditional loose form. It is much more common for crops to be sold in sacks. Eighty five percent of all crops are sold in unbranded sacks, meaning that there is no traceability back to the trader. Just 3% of crops were sold in branded sacks. These shares remained almost unchanged since 2012. A lack of branding reflects the undifferentiated bulk commodity nature of most of the crops traded.

**5.11 Traders provide little credit to suppliers.**

Pulse/oilseed traders are not a major source of rural finance. Only 30% of all traders interviewed reported extending credit to any of their suppliers (Table 7). Traders reported providing credit directly to only 14% of the farmers who supplied them with crops. Small traders (tercile 1) were most likely to provide credit direct to farmers (17%). Credit was provided to 16% of rural traders of traders, again with the highest rates of credit provision by traders in tercile 2. Very few traders at local CEC or in more distant locations were reported to have received credit from the traders interviewed. No data was collected on the conditions of these loans, so their terms are unknown.

**Table 7. Share of traders providing credit to suppliers, by supplier type and trader size (%)**

	Tercile 1	Tercile 2	Tercile 3	All
Traders providing credit to any supplier (%)	31	35	25	30
<i>% of suppliers provided with credit:</i>				
- Rural traders	0	38	10	16
- Farmers (directly)	17	16	10	14
- Traders at local CEC	1	4	1	3
- Traders at other CEC	0	10	2	3
- All others	0	0	0	0

### 5.12 Buyers often delay payment to traders.

In contrast to the rather limited provision of credit by traders to their suppliers, delayed payment to traders is common for nearly all categories of buyer. Just under half of all buyers (45%) are reported to have delayed payment, with larger traders slightly more likely to encounter delayed payment. Delayed payment was reported in 52% of all transactions. However, the average duration of delayed payment is short, at 10 days. Delayed payments therefore function as a form of short term trade credit extended from traders to their customers. No information was collected on whether traders delayed payment to their own suppliers.

### 5.13 Traders provide little transport of their own.

Suppliers provided 83% of inbound transport to traders, while buyers provided 76% of outbound transport (Table 8). This reflects traders' primary role as brokers who organize transactions between buyers and sellers without taking possession of crops themselves. Only 4% (9%) of traders used their own vehicles to collect (send) inbound (outbound) goods. It is more common for traders who wish to transport goods to outsource transportation services to third party providers who supply both vehicles and drivers (used for 16% of inbound and 20% of outbound deliveries).

**Table 8. Ownership of vehicles used for inbound and outbound deliveries**

Ownership of vehicle	Inbound	Outbound
	%	%
Provided by seller	83	n/a
Provided by buyer	n/a	76
Rented in as 3rd party service	16	20
Respondent's own	4	9
Space on vehicle with set route	3	7
Rented in & operated by self	0	0
Rented in cooperation with other traders	0	0

#### **5.14 The characteristics of inbound and outbound transport differ.**

The most common modes of transport are 6-wheel and 4-wheel trucks. No deliveries were reported to be made by oxcart, and very few by public bus. This underlines how common private forms of motorized transport have become in Myanmar, as well as the relatively short distances over which most crops are transported when traded to other local traders. Larger forms of transport tend to be used to make outbound deliveries. For instance, 31% of traders made outbound deliveries by 12 wheel truck, whereas only 13% received them. Conversely, smaller vehicles are more likely to be used for inbound deliveries (e.g. inbound deliveries by tuk tuk were received by 29% of traders but made by 17%). Inbound deliveries are smaller on average than outbound, the former being mainly from individual farmers, while the latter are usually to larger traders following aggregation.

#### **5.15 Labor costs are mostly paid by suppliers and buyers.**

Most of the labor costs associated with loading and unloading incoming deliveries of grain handled by traders are paid by suppliers, while most of these labor costs associated with outgoing deliveries of grain are paid by buyers. This pattern reflects the predominance of brokerage as the main role among traders in the markets surveyed. The main exception to this rule is for transactions made with traders at other commodity centers, for which labor costs are allocated between both parties in roughly equal proportions for both incoming and outgoing deliveries.

## **Conclusions**

This report presents findings from the largest survey of pulse and oilseed traders ever conducted in Myanmar, covering 347 enterprises from the five main pulse and oilseed commodity exchange centers of the Central Dry Zone – one of the Myanmar’s most important agro-ecological zones, where pulses and oilseeds form the mainstay of rainfed agricultural production. The enterprises surveyed account for about 20% of pulse/oilseed traders in the Dry Zone. The following implications for policy and programming can be drawn from the results presented above.

- Pulse/oilseed traders trade a wide variety of crops, both as individuals and in aggregate, and appear highly adaptable in adjusting to shifting conditions of supply. Trade in several minor pulses increased from 2012 to 2017, while average traded volumes of several major crops declined. This suggests that some incipient diversification may be taking place among Dry Zone farmers, toward ‘niche’ products for the domestic market, as an alternative to bulk commodities for export. This finding indicates that traders can serve as an important ‘bellwether’ for changes taking place in agriculture.
- The limited role played by rural traders in collecting crops from farmers suggests that farmers are now highly mobile, freeing them from dependence on rural traders for crop collection, and the potential for exploitative relations that might entail. The low incidence of credit provision by traders to farmers and other traders indicates that “output-tied” credit arrangements are uncommon and that markets are open and competitive.



- Efforts by traders to increase the value of products traded by grading, cleaning, labelling or branding are rather limited. This reflects the predominance of brokerage as the main mode of trade, with the majority of traders earning a fee for coordinating transactions between buyers and sellers. This means that there is little incentive for most traders to engage in any form of value addition. Any efforts to support upgrading should therefore differentiate between wholesalers and brokers and initially target the former, while recognizing that scope for value addition, even among the former group, may be limited by limited demand for quality attributes in terminal markets.
- Pulse and oilseed traders form a vital link in the value chain, connecting tens of thousands of farmers to domestic consumers and exporters. As substantial SMEs, they have high capital requirements. One-third are connected into the formal banking system, and access bank loans on occasion for use as working capital. The likelihood of traders obtaining bank credit increases with business size, with the largest 20% of businesses four times more likely to access bank loans than the smallest 20%.

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