REPUBLIC OF THE UNION OF MYANMAR

NATIONAL EXPORT STRATEGY

BEANS, PULSES AND OILSEEDS

SECTOR STRATEGY 2015-2019

Myanmar Ministry of Commerce

International Trade Centre

The National Export Strategy (NES) of Myanmar is an official document of the Government of the Republic of the Union of Myanmar.

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ACRONYMS

AEC	ASEAN Economic Community
ASEAN	Association of Southeast Asian Nations
CEXC	Crop Exchange Centre
DAR	Department of Agricultural Research
DICA	Directorate of Investment and Company Administration
DOA	Department of Agriculture
FAO	Food and Agriculture Organization of the United Nations
FDA	Food and Drug Administration
GAP	Good Agricultural Practices
GDP	Gross Domestic Product
GMP	Good Management Practices
HACCP	Hazard Analysis and Critical Control Points
HS	Harmonized System
IFAD	International Fund for Agriculture and Development
IMF	International Monetary Fund
ISO	International Organization for Standardization
ITC	International Trade Centre
LIFT	Livelihood and Food Security Trust Fund
MIC	Myanmar Investment Commission
MNPED	Ministry of National Planning and Economic Development
MOAG	Myanmar Organic Agriculture Group
MoAI	Ministry of Agriculture and Irrigation
MoC	Ministry of Commerce
MoH	Ministry of Health
MPBSMA	Myanmar Pulses, Beans and Sesame Seeds Merchants Association
MSTRD	Myanmar Scientific and Technological Research Department
MTDC	Myanmar Trade Development Commitee
NES	National Export Strategy
OECD	Organisation for Economic Cooperation and Development
PoA	Plan of Action
PPD	Plant Protection Division
R&D	Research & Development
RUMFCCI	Republic of the Union of Myanmar Federation of Chambers of Commerce and Industry
SEZ	Special Economic Zone
THC	Terminal Handling Charges
TSI	Trade Support Institution
TT	Telegraphic Transfers
UAE	United Arab Emirates

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EXECUTIVE SUMMARY

Myanmar's pulses, beans and oilseeds sector is important because of its employment generation, contribution to gross domestic product (GDP), and export potential. It has long played a key role in both the national food chain and international trade, accounting for a large portion of household expenditure as well as over 10% of Myanmar's total exports.

CURRENT CONTEXT

Sector enterprises rely upon smallholder landowners as the main source of labour. While this has provided the sector with an abundant labour supply, it has perpetuated a reliance upon labour-intensive farming and hindered the development of more mechanized processes. As a result, traditional cropping methods persist and there has been little uptake of the modern techniques and equipment required for enhanced export competitiveness.

Sector production has experienced significant growth since the turn of the century thanks to increased yields as well as an expansion of agricultural land dedicated to pulses, beans and oilseeds. It is important to note, however, that the persistence of government controls in the oilseeds sector has diminished the incentive for farmers to enhance capacities. Accordingly, both the output and yield of beans and pulses has far exceeded that of oilseeds.

EXPORT PERFORMANCE

Global pulses and oilseeds imports are valued at US$9.6 billion and US$3.4 billion respectively, having experienced steady growth of 8% and 4% per annum from 2008 to 2012. While the biggest importers of pulses are India (which accounts for 23% of total imports), China and the United States of America, exports are dominated by Canada, Australia and China. The largest markets for oilseed imports are China (19% of total imports), Japan and the United States of America, and the most important exporters are India, Ethiopia and Australia.

In 2012 Myanmar exported US$804 million of pulses and US$54 million of oilseeds, making it the fifth largest exporter of pulses and representing 8.9% and 1.4% of world exports respectively. Pulse exports rely heavily upon black gram and green gram and are destined largely for neighbouring markets. Exports are extremely concentrated, with over 74% of pulse exports being sold to India. While less concentrated than pulses, oilseeds exports are still reliant upon a few key markets including Japan, China and Chinese Taipei. Over 91% of total oilseeds exports are destined for these three markets. The most important product in the subsector is sesame seeds, which accounts for roughly 94% of Myanmar's oilseeds exports.

Despite the healthy growth experienced globally by the sector over recent years, Myanmar's exports of pulses have stagnated and its exports of oilseeds have declined dramatically. Of particular note has been Myanmar's inability to further penetrate the growing Indian market for pulses, in conjunction with its loss of market share in China for both pulses and oilseeds. Nevertheless, Myanmar enjoys a strategic geographical position in the heart of emerging Asia, bordering on some of the largest target markets in the sector. There are thus a number of opportunities to diversify into emerging import markets such as the Philippines, Indonesia, Malaysia, Thailand, Japan and Chinese Taipei by increasing the quality and processing content of exported goods.

KEY COMPETITIVENESS ISSUES AFFECTING THE SECTOR'S EXPORT VALUE CHAIN

The following challenges have been identified for the pulses, beans and oilseeds sector's export value chains:

- **Supply-side challenges:** lack of quality seed supply; scarce finance mechanisms; limited production planning and support; low uptake of modern cultivation techniques; inadequate harvest and post-harvest techniques; and low value addition.
- **Business environment challenges:** high and volatile transport costs; poor management of container depots; limited contractual knowledge; inconsistent procedures; limited resources and competencies at support institutions; and inadequate sector organization.
- **Market entry challenges:** inadequate export finance mechanisms; inefficient promotion; lack of trade information; and limited structured investment promotion.
- **Development-based challenges:** limited decentralization of services; and heightened risk of product-borne illness.

OPTIONS FOR FUTURE DEVELOPMENT

The following vision has been developed to guide the sector and export development efforts of the pulses, beans and oilseeds sector.

> "Contribute to the socioeconomic development of Myanmar by being a global provider of environmentally sustainable and value added products based on modern farming and trading techniques."

To achieve this vision, the strategy will reduce binding constraints on trade competitiveness and capitalize on strategic options identified for the sector. The strategic orientations for the next five years aim at developing key markets in the short and medium terms for Myanmar's exporters and facilitating structural changes in the value chain to increase its efficiency and value generation.

The sector strategy vision will be achieved through the implementation of the Plan of Action (PoA) for the sector. This PoA revolves around the following five strategic objectives, each spelling out specific sets of activities intended to address both challenges and opportunities facing the pulses, beans and oilseeds sector in Myanmar:

- Increase the sector's production and productivity through enhanced farming techniques, upgrading of farmers' capacities, improved infrastructure and a reliable supply of quality inputs;
- Enable compliance to international standards by modernizing and developing quality management systems;
- Strengthen cooperation and efficiency by enhancing inter-institutional collaboration and private–public partnerships;
- Strengthen the sector's ability to add value to its product through enhancing business management capacities and modernizing processing facilities and techniques;
- Ensure continuous growth and global reach of the sector through reliable market information, efficient export procedures, targeted branding and improved promotion efforts.

ROADMAP FOR SECTOR EXPORT DEVELOPMENT

The market opportunities identified in this strategy reflect areas in which Myanmar exporters can build the strengths and capacities needed to achieve broader market development of the sector. Exposure to world markets will play a critical role in ensuring greater efficiency, competitiveness and innovation among domestic firms. Targeted improvements to the pulses, beans and oilseeds sector will thus play a key role in facilitating improvements to overall sector capacity, triggering a cascade of improvements throughout the country's agri-food sector and the broader economy.

To achieve efficiency gains in the sector, key structural changes to the value chain will include the following:

- Increase organic and non-organic fertilizer production and imports in order to boost yields;
- Increase quality and quantity of production through the implementation of Association of Southeast Asian Nations Good Agricultural Practices (ASEAN GAP);
- Improve quality management of processing through certification (Hazard Analysis and Critical Control Points (HACCP), International Organization for Standardization (ISO), Good Management Practices (GMP));
- Promote the development of organic production for accessing niche target markets;
- Set up alternative energy production such as agricultural waste gasifiers at field level for irrigation, or at processing cluster level for electricity production;
- Obtain import authorizations for oilseeds and enriched flours (with a focus on organics) to increase the production of edible oil, oilseed cake and animal feed;
- Increase coordination with other value chains (rice, livestock, fisheries) to build synergies and collaboration for sector development.

IMPLEMENTATION MANAGEMENT

The achievement of these ambitious targets will require continuous and coordinated efforts from all relevant private and public stakeholders as well as support from key financial and technical partners, donors and investors. Several institutions are designated to play a leading role in the implementation of the sector PoA and bear the overall responsibility for successful execution of the strategy. They will be assisted by a range of support institutions which are active in the sector. Each institution mandated to support the export development of the sector is clearly identified in the strategy PoA.

Moreover, the proposed Myanmar Trade Development Committee (MTDC) and its Executive Secretariat will play a coordinating and monitoring role in the implementation of the strategy in the overall framework of the NES. In particular, the MTDC will be tasked with coordinating the implementation of activities in order to optimize the allocation of both resources and efforts across the wide spectrum of stakeholders.

Box 1: Methodological note

The approach used by ITC in the strategy design process relies on a number of analytical elements such as value chain analysis, trade support network (TSN) analysis, problem tree and strategic options selection, all of which form major building blocks of this sector export strategy document.

Value chain analysis: A comprehensive analysis of the sector's value chain is an integral part of the strategy development process. This analysis results in the identification of all players, processes and linkages within the sector. The process served as the basis for analysing the current performance of the value chain and for deliberating on options for the future development of the sector.

TSN analysis: The TSN comprises the support services available to the primary value chain players discussed above. It is constituted of policy institutions, trade support organizations, business services providers and civil society. An analysis of the quality of service delivery and constraints affecting the constituent trade support institutions (TSIs) is an important input to highlight gaps in service delivery relative to specific sector needs. A second analysis of TSIs assessed their level of influence (i.e. their ability to influence public policy and other development drivers in the country and therefore make things happen or change) and their level of capacity to respond to the sector's needs.

Problem tree analysis: The problem tree analysis used is based on the principles of root causes analysis. The problem tree provides a deeper understanding of what is causing the sector's constraints and where solution-seeking activities should be directed. As a critical step in the analytical phase of the sector's performance, the problem tree guides the design of realistic activities in the strategy's PoA.

Strategic orientations: The strategic options for the development of the sector are reflected in the future value chain, which is the result of consultations, surveys and analysis conducted as part of the sector strategy design process. The future perspective has two components:

- A market-related component involving identification of key markets in the short and medium-to-long terms for Myanmar exporters;
- Structural changes to the value chain that result in either strengthening of linkages or introduction of new linkages.

Realistic and measurable PoA: The definition of recommendations and strategic directions for the development of the sector is essential to guide its development, but is not enough. It is important to clearly define the actions to be implemented to stimulate growth. The development of a detailed action plan, defining which activities need to be undertaken by sector stakeholders, is necessary to the effective implementation of the strategy. An action plan, developed with the support of ITC, includes performance indicators to ensure effective monitoring and evaluation of the strategy's implementation.

INTRODUCTION

HISTORICAL OVERVIEW

Myanmar has long relied upon agricultural activity as a key component of its economy. With the exception of rice, pulses, beans and oilseeds have been the most important crops. These commodities have traditionally played a significant role in foreign trade while at the same time serving as a staple in domestic dietary habits.

PULSES AND BEANS

Pulses and beans have historically been one of Myanmar's most important export products, playing a key role in trade throughout centuries past. The production and trading of pulses and beans has its roots in the early periods of British rule, which catalysed the migration of Indian growers to Burma. These farmers brought with them not only the tradition of pulse and bean production but also a connection to the Indian market, where these products were widely used in traditional cuisine. Myanmar was thus able to engage in direct trade with India. Although Myanmar's independence in 1948 and the eventual coup d'état of 1962 forced many Indians to leave, the tradition of pulse and bean production continued.[1]

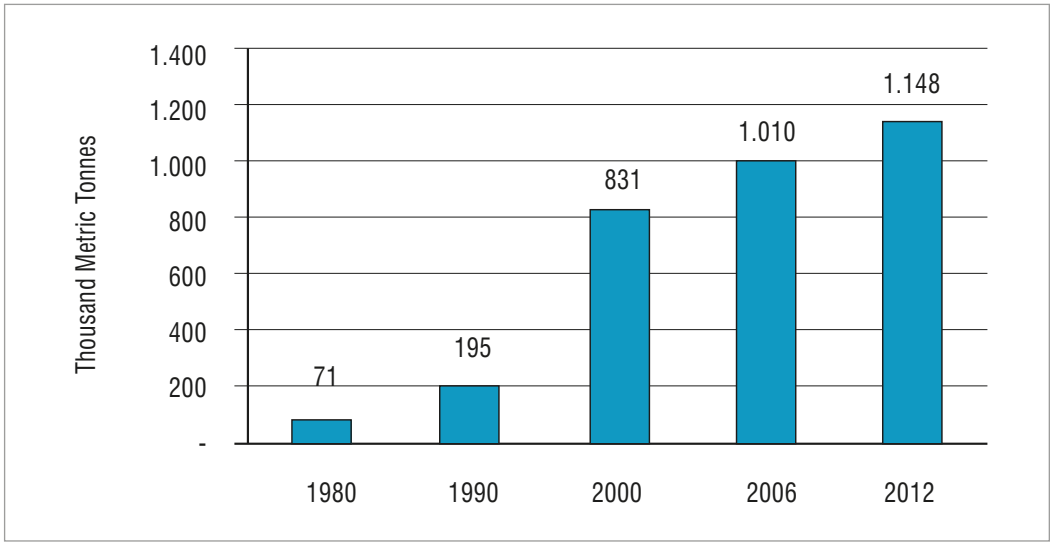
The socialist period that lasted from 1962 to 1987 saw the implementation of planned economic policies geared at self-sufficiency.[2] These were characterized by strict trade restrictions and controls on foreign exchange. Within this framework the state-controlled agricultural marketing system governed crop production and trade. The government's trading corporations procured all major crops at fixed prices and were the sole entities authorized to engage in import and export operations.[3] Violations of state

restrictions were severe and private traders of black gram (matpe), for example, could receive the death penalty.[4]

With the introduction of market-oriented policies the trading of pulses and beans was gradually liberalized. Although the government's Myanmar Agricultural Produce Trading organization continued to be involved, private sector traders began to take on more important roles. A number of developments – including the foundation of the Myanmar Pulses, Beans, and Sesame Seeds Merchants Association (MPBSMA) in 1992 and the 1990 establishment of Bayinnaung Market, the only legal wholesale centre for beans and pulses – contributed to the advancement of private sector participation.[5] As illustrated in figure 1, the liberalization of the market has resulted in impressive gains in yields, sown area, production and exports, thereby solidifying the subsector's importance to Myanmar's economic development.[6]

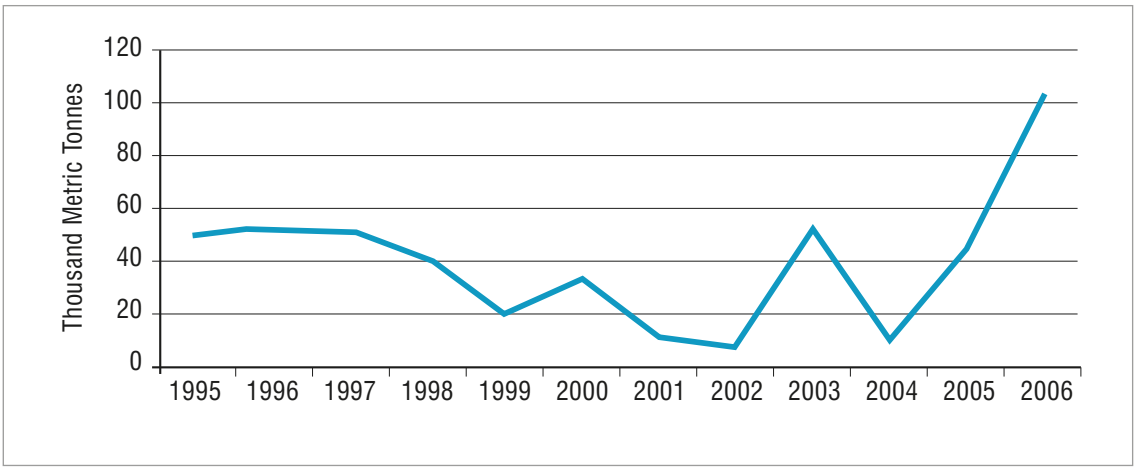
1. Thura Swiss (August 2013). *Myanmar's Beans and Pulses Trade: Risks and Prospects,* p. 1.
2. FAO/WFP (January 2009). *Special Report: FAO/WFP Crop and Food Security Assessment Mission to Myanmar,* p. 10.
3. *Ibid.:* pp. 9-10.
4. Thura Swiss (August 2013). *Myanmar's Beans and Pulses Trade: Risks and Prospects,* p. 1.
5. Myanmar Pulses, Beans and Sesame Seeds Merchants Association (2013). Website Available from http://www.mpbsma.org/.
6. FAO (2009).*An Analysis of the Myanmar Edible Oil Crops Sub-Sector,* p.13.

Figure 1: *Myanmar pulses exports since 1980*



Source: [Data Points 1980 – 2000] FAO (2009). *An Analysis of the Myanmar Edible Oil Crops Sub-Sector,* p.13.
Source: [Data Points 2006 – 2012] ITC calculations based on UN Comtrade statistics.

Figure 2: *Myanjmar exports of sesame between 1995 and 2006*



Source: FAO (2009). *An Analysis of the Myanmar Edible Oil Crops Sub-Sector*, p.14.

OILSEEDS

Edible oil has long been a staple of the local diet in Myanmar, so oilseeds play an integral role in the national food chain. The oil is used for a variety of purposes, including frying and mixing with foods such as rice, curries, fermented tea and fried pulses among others.[7] The Food and Agriculture Organization of the United Nations (FAO) estimates that, after rice, oil crops represent the second largest expenditure on crops in the average household.[8] As with other subsectors, regulations in the second half of the twentieth century governed which crops were to be sown and often called for the obligatory sale of production at prices set below market value.

Contrary to the experience of pulses and beans, however, the oilseed market was not liberalized in the early

7. *Ibid.:* p. 41.

8. *Ibid.:* p. 16.

1990s.[9] As the reason for continued regulation was that edible oil is a key component of the domestic diet, the government's two policy objectives for the sector were to (i) achieve self-sufficiency in edible oil, and (ii) avoid price fluctuations through price controls.[10] Through its free market restrictions, the government sought to ensure that the local population could access adequate supply at stable prices. The cornerstone of this edible oil self-sufficiency strategy was a ban on oilseed exports, which could only be lifted once domestic demand had been met. In its attempt to stimulate a low and stable price on the domestic market, however, the government allowed for the import of inexpensive palm oil. This resulted in artificially low prices that discouraged expansions in domestic production.

Developments in the subsector over the last 20 years have therefore been complicated. Sesame exports, for example, were initially liberalized but then subjected to a new export ban from 1998 to 2006.[11]

Other restrictions included volume and price controls for palm oil (lifted);a ban on the import of oilseeds (lifted); control of oilcake imports and exports (import restrictions lifted); the prohibition on crude oil imports such as crude palm oil (remains in force); and a ban on groundnut and oilcake exports.

The edible oil self-sufficiency policy remains in place and its overall effect has been to restrict the growth of capacities in the subsector. The controls and attempts to maintain stable prices have resulted in depressed returns for domestic producers. This in turn has caused those producers to reduce the amount of inputs they dedicate to the subsector, there by resulting in reduced crop intensity, stagnant yields and low uptake of capacity-enhancing technologies.[12]

9. *Ibid.:* p. 13.
10. *Ibid.:* p. 14.
11. *Ibid.:* p. 14.
12. *Ibid.:* p. 15.

WHERE WE ARE NOW

CURRENT CONTEXT

Myanmar boasts an area of 676,577 square kilometres of diverse topography that shares borders with some of Asia's fastest growing economies.[13] Its 2,832 kilometres of coastline taper into roughly 500,000 hectares of coastal mangrove swamps, and the Ayeyarwady and Sittoung rivers support a vast delta region.[14] While parts of Myanmar's southern tip are characterized by an equatorial climate, the centre of the country is comprised largely of alluvial lowlands interspersed with forested hills. Reaching an altitude of over 1,000 metres, this area is known as the 'dry zone' for its semi-arid climate and protracted dry season, making it one of the more favourable areas for agricultural production. Stretching north of the delta region for roughly 800 kilometres, the dry zone is contained by highlands in the north, east, and west.

As of 2010, agriculture contributed to 32% of GDP and 17.5% of export earnings.[15] According to the FAO, Myanmar had roughly 12,560,000 hectares (ha) of agricultural land and 10,790,000ha of arable land in 2011.16 With the exception of cereals, pulse and oilseed cultivation accounts for the most significant portion of agricultural activity in Myanmar today. Approximately 4,030,000 and 3,570,000ha of land were sown with pulses and oilseeds respectively in 2012, representing 32% and 28% of total agricultural land.

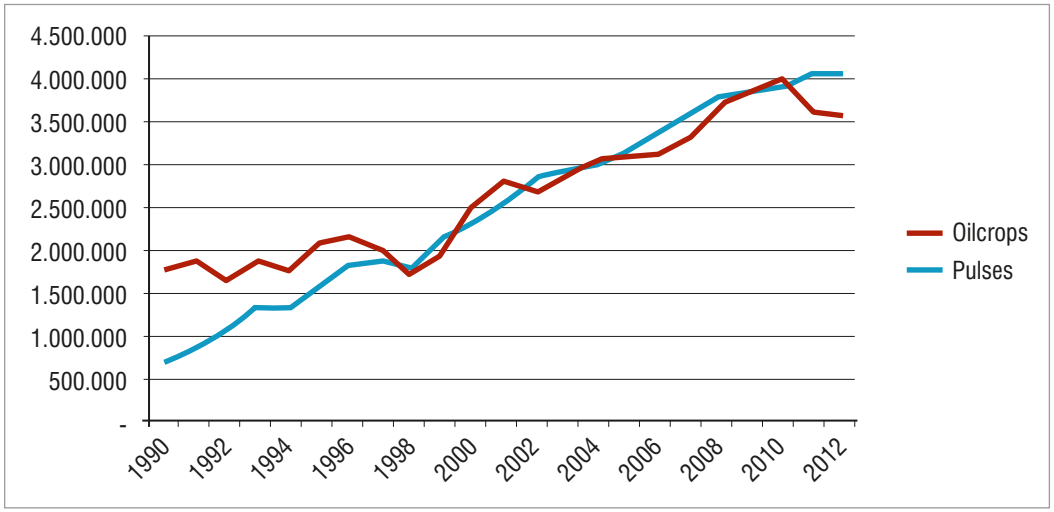
13. Republic of the Union of Myanmar Ministry of Hotels and Tourism (June 2013). *Myanmar: Tourism Master Plan 2013-2020. Final Draft Report,* p. 3.

14. FAO (2009). *An Analysis of the Myanmar Edible Oil Crops Sub-Sector,* p. 11.

15. FAO (2013). Country Profile Myanmar. Available from: http://coin.fao.org/cms/world/myanmar/CountryInformation.html

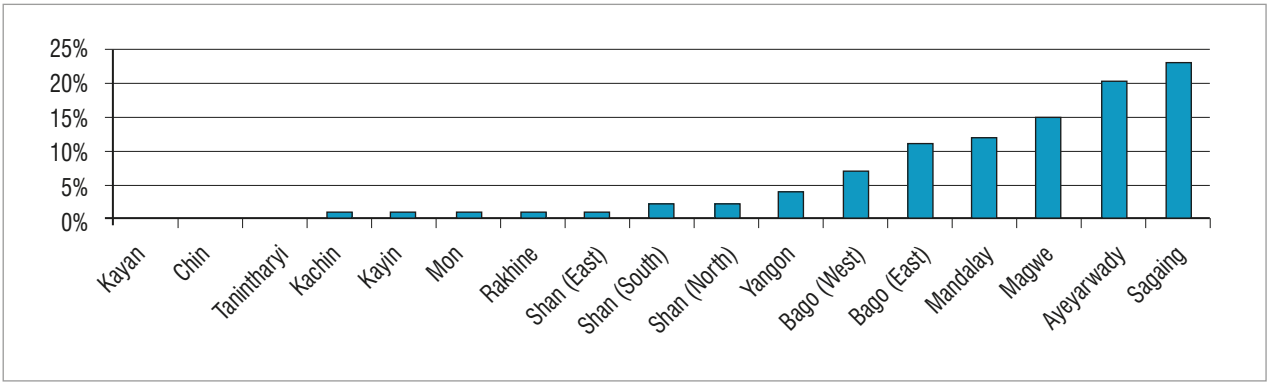
16. FAOSTAT.

Figure 3: *Myanmar's pulse and oilseed production areas (ha), 1990–2012*



Source: FAOSTAT.

Figure 4: *Pulses produced by state/region (2008/2009)*



Source: FAO/WFP (January 2009). *Special Report: FAO/WFP Crop and Food Security Assessment Mission to Myanmar*, p. 16.

Due to the greater degree of liberalization experienced by pulses in the 1990's, their production has overtaken that of oilseeds.[17] Myanmar produces over 20 varieties of pulses and beans that include black-eyed peas, black gram, lab lab bean, lima bean, bamboo bean, garden pea, lima beans, butter beans, chick peas, green gram, cow pea, lentils, red kidney beans, soya beans, sultani beans and pigeon peas.[18] Important oilseed crops include sesame, groundnut, mustard, sunflower and niger. Other essential crops for the edible oil sector include soya beans and oil palm.

GEOGRAPHY AND CROP PATTERNS

The three principal agro-climatic zones of Myanmar are leveraged for pulse and bean cultivation.[19] Paddy-pulses-paddy patterns dominate the irrigated areas; the intercropping of pigeon peas with sesame, groundnutor other pulse patterns are practised in the dry zone; and pulses are also grown in the mountain areas. The most important areas for pulse cultivation are Sagaing, Ayeyarwady, and Magway, which together account for over 58% of total production.[20]

The vast majority of oilseeds are grown in the lowland and dry zone region.[21] An estimated 82% of production occurs in these areas, where sesame and groundnut are the dominant crops. Another 15% of oilseeds, including soya bean, groundnut, niger, and mustard, are grown in the hills. The remaining 3.5% are grown in the coastal region.

STRUCTURE AND CAPACITIES

According to the FAO, landless households that have less than one acre of land account for 20% to 50% of total households.22 The availability of a large labour source in these smallholders has perpetuated a reliance upon labour-intensive farming and hindered the development of more mechanized processes. Production relies on traditional equipment, manpower and draught animals. As a result, land preparations remain time-consuming and irrigation techniques are poor. Enhanced sector competitiveness will require the introduction of modern farming techniques and machinery. Efforts must therefore be made not only to facilitate access to mechanized farm equipment but also to diffuse knowledge regarding its use and best farming practices among sector stakeholders.

17. FAO (2009). *An Analysis of the Myanmar Edible Oil Crops Sub-Sector,* p. 13.

18. Myanmar Pulses, Beans and Sesame Seeds Merchants Association (2013).Website.Available from http://www.mpbsma.org/.

19. FAO/WFP (January 2009). *Special Report: FAO/WFP Crop and Food Security Assessment Mission to Myanmar,* p. 9.

20. *Ibid*.:p. 16.

21. FAO (2009).*An Analysis of the Myanmar Edible Oil Crops Sub-Sector,* p. 68.

22. FAO (2009).An Analysis of the Myanmar Edible Oil Crops Sub-Sector,p. 76.

Box 2: Agricultural land and cropping patterns in Myanmar[23]

YarMye	Crops in the lowlands rely upon monsoon rains, late rainfall, and residual moisture in the cold season. Risks are considerable due to the varying degree and distribution of rainfall, leading to a focus on low cost and low yield crops. Cropping patterns are varied according to the three main soil types: (i) light texture white soil: generally cultivates one crop of monsoon sesame per year, although 30% can be used for a second crop (green or black gram); (ii) medium texture yellow/red soil: two crops per year, such as monsoon sesame followed by groundnut or groundnut followed by black gram or sesame, (iii) heavier texture dark/black soil: similar to medium soil cropping patterns, but greater yields. The Shan hills benefit from greater and more regular rainfall. Although practices are still sub-optimal, better land preparation and fertilizer use have led to increasing yields. Much of the land, however, remains fallow. Two crop patterns dominate this area: (i) three year rotational cultivation followed by 3 to 5 years fallow (year 1: monsoon groundnut followed by cool season niger; year 2: monsoon corn followed by fallow period; year 3: monsoon groundnut)I (ii) continuous cultivation (monsoon groundnut followed by wheat or niger during the cool season, or maize or potato followed by a fallow period).
Le Mye	This is an area of level plain that includes both irrigated and non-irrigated areas. The irrigated areas (25% of agricultural land is irrigated in Myanmar) can be cultivated all year, and although the land's high clay content makes it unsuitable for some crops, those that are grown there (such as sesame) have produced some of the best margins. Farmers in the non-irrigated area decide what crops to plant late in the season after observing the monsoon rainfall. As a result, this land is generally cultivated only once a year. With adequate rainfall paddy is the preferred crop, while more disappointing monsoon seasons will see farmers switch to pulses such as green gram. In the delta region, paddy is the main crop, and more than half of the land remains fallow in the cold season. Some areas, however, have attractive soil for cool season pulse and oilseed cultivation. Recent years have seen an increase in bean and pulse cultivation at the expense of oilseed cultivation, as farmers seek to capitalize upon opportunities in international markets.
KaingMye	Flood recession farming is practiced in the lowlands surrounding the Irrawaddy and Sittoung rivers. High value crops are sewn during the post-monsoon season on the fertile lands. Although groundnut has been a staple of farming in this region, it has been losing ground to the more profitable pulses and beans farmed for export and tobacco and vegetables for the domestic market.

Box 3: Research and development in Myanmar

The Department of Agricultural Research (DAR) under the Ministry of Agriculture and Irrigation (MoAI) is the focal point of research and development (R&D) for Myanmar's agricultural sector. DAR's six divisions engage in research aimed at improving crop production through the enhancement of seed quality, crop management capacities, and crop protection techniques, while at the same time diffusing best practices among producers so that they may optimize farming according to their respective agro-ecological zones. Employing 40% of Myanmar's agricultural research staff, DAR accounts for 30% of research expenditure.

Expenditures on agricultural research have nonetheless been stagnant: inflation-adjusted spending on R&D has declined despite an increase in staff through the turn of the century. Moreover, Myanmar's R&D staff have only a small percentage of postgraduate degree holders. The low salaries associated with the civil service support sector have been insufficient to attract large numbers of qualified researchers. Compounding the issues, the private sector has yet to engage R&D in a meaningful way.

Source: Stads,G.,andKam, P.S.(2007). Myanmar: Agricultural Science and Technology Indicators. *ASTI Country Brief No. 38*, June.

23. *Ibid.*: pp. 69-76.

Box 4: Crop Exchange Centres

Crop Exchange Centres (CEXCs) are voluntary membership associations whose role is to facilitate business transactions, mainly for pulses, beans and oil crops.* While members display samples of their products, buyers negotiate and transaction prices are displayed publicly in order to stimulate a more open and efficient market. Up to 400 copies of price records are sold daily within the premises, information is distributed to marketing centres throughout the country, and traders communicate market information via cell phone and e-trade services. Although the CEXC in Mandalay is the most important, and therefore the price setter, other centres exist in Yangon, Pathein, Monywa, Pakokku, Magway, Myingyan, Pyi, Hinthada, Aunglan, and Taunggyi.

These centres also offer dispute resolution services for on-premises transactions. Resolutions are facilitated by a working group investigation, whose analysis may be confirmed or amended by the executive committee. Non-compliance with decisions results in a member's removal from the association. Despite CEXC involvement in arbitration, as well as Republic of Union of Myanmar Federation of Chambers of Commerce and Industry (RUMFCCI) intervention, both the limited knowledge of contractual arrangements and the frequent use of informal agreements make fair conflict resolution difficult to attain.

***** *Ibid.:* pp. 121–122.

Seed production in Myanmar is carried out by DAR at 32 seed farms.[24] DAR produces breeder seeds, while both DAR and the Department of Agriculture (DoA) Seed Division produce foundation seed. The DoA-Seed Division then multiplies seed from the foundation seeds, while the DoA-Extension Division distributes these seeds to farmers. Stakeholders note that the quality controls currently in place are insufficient, as seeds are not cleaned, sorted or labelled. Moreover, seed breeding and multiplication capacities remain largely insufficient to satisfy the national demand for seeds. Although there is some informal importation of seed supplies, most farmers maintain a low seed replacement rate and mix varieties, which has had a negative impact on yields. Upgrading of seed provision capacities is necessary in order to guarantee an adequate supply of certified seeds, minimize farmer reliance upon farm-saved seeds, and improve production yield and quality.

MARKET INFORMATION

In addition to the CEXCs, the pulses & beans and oilseeds subsectors rely on other sources of market information. With the support of the FAO, the government Market Information System collects prices on various crops on a daily or weekly basis depending on location.[25] Weekly prices are then distributed to the private sector through local Myanmar Agricultural Services offices and the Agriculture Business News journal. It should be noted, however, that the delays in releasing this price information diminishes its usefulness to the private sector.

The gaps in these services have been partially filled by the private sector, which has been engaging in e-trade since 2003.[26] Customers of these services are provided with regular updates of CEXC prices through instant messages to their mobile phones. Information may also be accessed via the e-trade website, http://www.etrademyanmar.com.mm/. In addition to price information and trends, the service's roughly 2,000 customers gain access to intelligence on important markets such as the pulse market in Mumbai. Prices for this service vary depending on the level of information desired by a customer, and the instant messaging service is priced between 5,000 and 25,000 kyats per month.

STANDARDS AND QUALITY MANAGEMENT

Myanmar has been slow to adopt an adequate level of weight and measurement standards, and the markets are flush with a wide assortment of measurement systems that vary depending on the commodity type, geography, and stage of the value chain.[27] Some CEXCs have introduced standards, including limits on the amount of foreign matter as well as standards relating to physical characteristics, variety, and origin. Nevertheless, important factors such as moisture content, protein content, and contamination are not considered. The absence of nationally agreed upon standards diminishes the usefulness of CEXCs specific standards.

24. *Ibid.:* pp. 85-86.
25. *Ibid*.:p. 125.
26. *Ibid*.: p. 125.
27. FAO. *An Analysis of the Myanmar Edible Oil Crops Sub-Sector.* 2009. Pgs. 137-138.

Quality standards and food safety control mechanisms are also lacking.[28] Those standards that do exist are largely voluntary, linked to individual associations, and based on physically observable characteristics. Most processors do not have in-house laboratories to facilitate regular quality controls, and judgments are made based on estimates or varying clients requirements. Exporters whom are therefore responsible for assuring their products conform with clients requirements, may be assisted by private certification enterprises such as SGS46 who help a client conform a product to the specifications of a contract.

The responsibility of food quality and safety is delegated to the Food and Drug Administration (FDA) under the Ministry of Health (MoH), who's Food Quality Control Laboratory (FQCL) is able to perform micro and chemical analysis. The FDA uses the FAO/WHO codex as a reference for standards and guidelines, and tests are performed every three to six months in the Yangon wholesale markets. It should be noted however that tests are not performed in other cities.[29] The FDA performs identification (iodine value, fatty acid, saponisation value), quality (FFA, peroxide value), and safety (moisture, soap content, mineral oils, gas chromatography) tests.[30] Nevertheless, the lack of systematically implemented control systems means that product adulteration is widespread.

The Ministry of Commerce is also involved in quality management, as its Commodity Testing and Quality Management (CTQM) laboratory is tasked with testing grains and pulses for chemical composition, pesticides and mycotoxins. Nonetheless, capacities at PTAC are limited, and inadequate equipment is currently reflected in its inability to perform pesticide analyses.[31] Under the MOC, the MITS is accredited to ISO 9001-2008 quality management systems, and it is charged with providing certificates and verifying the quality of imported and exported agricultural products through a series of pre-export and import inspections, sampling, testing, and agro-product fumigation services.[32] It should be noted that MITS does not operate its own laboratory, but instead leverages those of other agencies. MITS inspection parameters are based on international standards, commercial trading requirements and specifications, and Myanmar Agricultural Produce

Trading/MOC specifications.[33] UNIDO was unable to determine if MITS certificates are truly required for exported goods or if they are only used as a commercial service by exporters wishing to obtain certification.[34]

Other government bodies involved in quality management involve the MOAI, which operates a laboratory capable of analyzing pesticides and mycotoxins and providing fumigation certificates.[35] The MOAI is also responsible for issuing Phytosanitary certificates. The Myanmar Scientific and Technological Research Department (MSTRD) meanwhile maintains a newly renovated laboratory (National Analytical Laboratory) with the capacity to test for additives, macro, and micro nutrients in food.[36] Government laboratories are further supported by the private Food Industries Development Supporting Laboratory (FIDSL), which conducts quality and safety tests on food and water under the auspices of the Myanmar Food Processors and Exporters Association (MFPEA).[37]

28. FAO. *An Analysis of the Myanmar Edible Oil Crops Sub-Sector.* 2009. Pg. 138.
29. FAO. *An Analysis of the Myanmar Edible Oil Crops Sub-Sector.* 2009. Pg. 139.
30. FAO. *An Analysis of the Myanmar Edible Oil Crops Sub-Sector.* 2009. Pg. 139.
31. UNIDO (Myanmar Standards Department). *Myanmar: Strengthening the National Quality Infrastructure for Trade (Mission Report)*. January, 2013. Pg. 14.
32. UNIDO (Myanmar Standards Department). *Myanmar: Strengthening the National Quality Infrastructure for Trade (Mission Report)*. January, 2013. Pgs. 16-17.
33. UNIDO (Myanmar Standards Department). *Myanmar: Strengthening the National Quality Infrastructure for Trade (Mission Report)*. January, 2013. Pgs. 16-17.
34. UNIDO (Myanmar Standards Department). *Myanmar: Strengthening the National Quality Infrastructure for Trade (Mission Report)*. January, 2013. Pgs. 16-17.
35. UNIDO (Myanmar Standards Department). *Myanmar: Strengthening the National Quality Infrastructure for Trade (Mission Report)*. January, 2013.
36. UNIDO (Myanmar Standards Department). *Myanmar: Strengthening the National Quality Infrastructure for Trade (Mission Report)*. January, 2013. Pgs. 11-12.
37. UNIDO (Myanmar Standards Department). *Myanmar: Strengthening the National Quality Infrastructure for Trade (Mission Report).* January, 2013. Pgs. 10-11.

Box 5: Certifying Laboratories in Myanmar

Sr. No.	LABORATORY	CERTIFICATE
1	Food and Drug Administration (FDA) (MoH) (Food Quality Control Laboratory)	Fit for Human Consumption
2	Plant Protection Lab (DOA) (Ministry of Agriculture and Irrigation)	Free from Aflatoxin& RAC Certificate Phytosanitary Certificate
3	Postharvest Technology Application Centre (PTAC), (Ministry of Commerce)	RAC Certificate, HCN certificate, Chemical Properties of food grains
4	Central Lab (MSTRD)	Chemical Properties Certificate
5	Plant Bio Technology Lab (Ministry of Agriculture and Irrigation)	Phytosanitary Certificate
6	Co-operative Lab (Ministry of Co-operatives)	Chemical Properties Certificate on foods
7	Dept. Development Centre for pharmaceutical and foodstuff Lab (Ministry of Industries)	Chemical Properties Certificate on foods and pharmaceutical
8	Food Industries Development Supporting Lab (FIDSL)	Test Result on Foods

Source: Quality management strategy team

Box 6: Note on reliability of official statistics

In a report prepared for the United States Agency for International Development, Michigan State University found that most stakeholders agreed that data relating to agricultural production in Myanmar is generally of poor quality. Statistics provided by the government can diverge greatly from estimates performed by other organizations such as the United States Agency for International Development. Michigan State University notes that such discrepancies arise not only from limited data collection capacities but also from manipulation intended to align data with ministerial targets. While most figures presented in this strategy rely upon FAO statistics, it should be noted that these numbers represent un-amended data as officially communicated by the government. While such data can provide insights into sectoral activity and are supplemented with data from other sources where possible, stakeholders should be aware of possible inaccuracies when formulating policy decisions.

Source: Michigan State University (MSU) and the Myanmar Development Resource Institute's Center for Economic and Social Development (MDRI/CESD) (2013). *A Strategic Agricultural Sector and Food Security Diagnostic for Myanmar.* USAID.

Despite the presence of such testing capabilities, improved export competitiveness will require enhanced laboratory capacities, especially with regards to food processing. Although the current level of standards and controls has been adequately able to facilitate the domestic market, it has certainly diminished the sector's ability to expand exports in line with its full potential.

PRODUCTION

BEANS AND PULSES

Cultivation of beans and pulses is seasonal and generally concentrated in the winter months.[38] By beginning in November, growers can make use of the residual moisture left in the ground following the sowing of rice crops. The three to four month cultivation period for these crops is short when compared with that of others such as rice. As a result, winter crops planted in November can be harvested in January, while later batches are generally harvested in February and March.

As one of the largest cultivators of beans and pulses in the world, Myanmar harvested roughly 5.3 million tons of crops in 2012.[39] This represents a staggering 221% increase with respect to the production values at the turn of the millennium. Of note is the fact that this growth is the result of both significant gains in yield as well as an expanded portion of arable land that is dedicated to beans and pulses.

Yields increased by 87% during this period, reaching 13,237 hectograms/hectare, while the area of land cultivated with beans and pulses increased by 72%, reaching 4,030,000ha. Both of these developments, together with the eventual expansion of the sector, were stimulated by the liberalization of the market. As more resources were dedicated to the subsector farmers were able to increase yields. The heightened yields would have provided even more incentive to dedicate further land to bean and pulse cultivation.

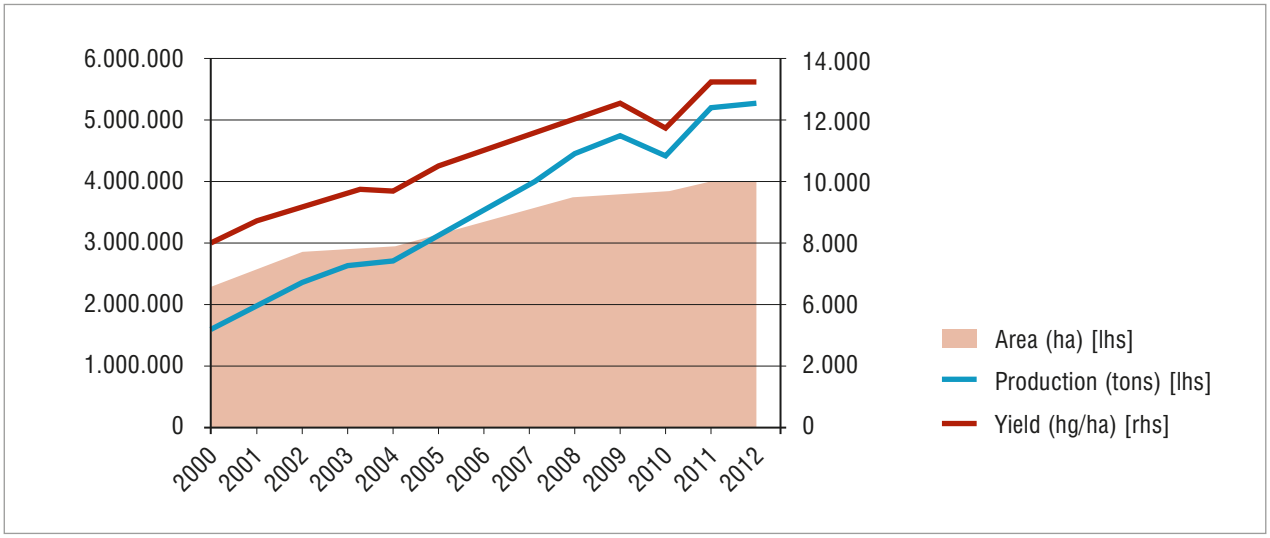
With respect to capacities, it should be noted that the yield of 13,237 hg/ha achieved by the subsector in Myanmar is significantly above the world average (9,077 hg/ha). Moreover, it remains higher than the average realized by Southeastern Asia (12,469 hg/ha). As illustrated in figure 6, Myanmar's dramatic improvement is not simply a matter of catching up. Although average yields were significantly below world levels in 2000, Myanmar's farmers have succeeded in continuously improving results while world yields have remained relatively flat.

Sectoral production over the last five years has been led by dry beans (black gram and green gram) and pigeon peas.

As detailed in table 1, Myanmar enjoys a comparatively attractive yield for all of its most important varieties of pulses, including dry beans and pigeon peas.

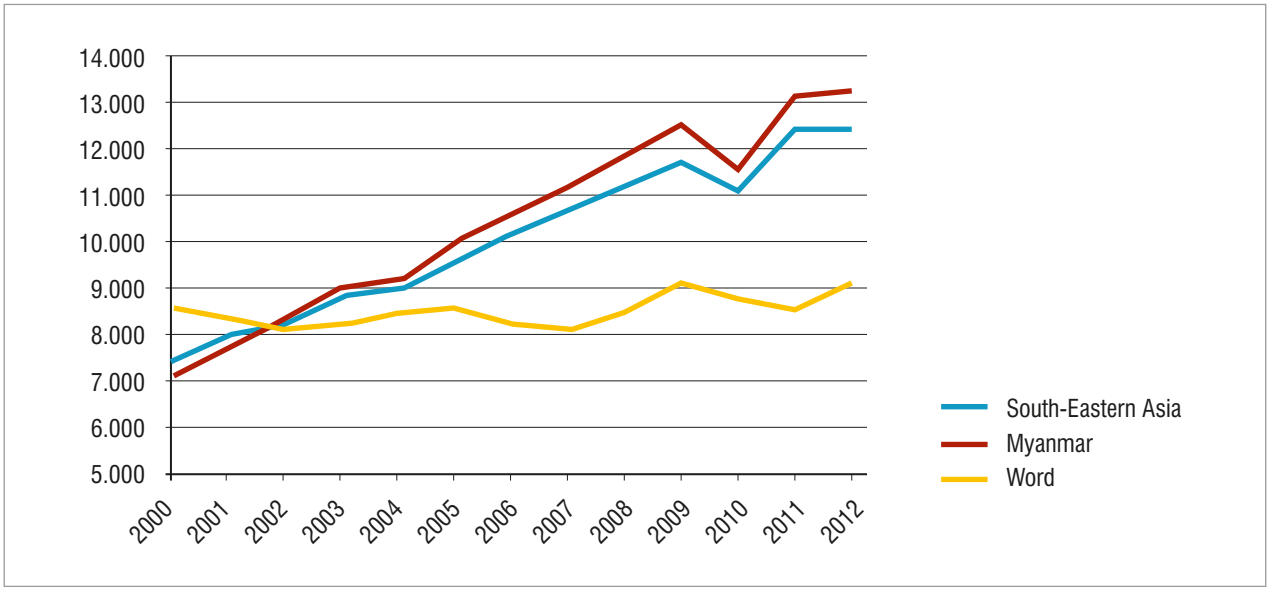
38. Thura Swiss (August 2013). *Myanmar's Beans and Pulses Trade: Risks and Prospects*, p. 2.
39. FAOSTAT.

Figure 5: *Production trends for beans and pulses in Myanmar 2000-2012*



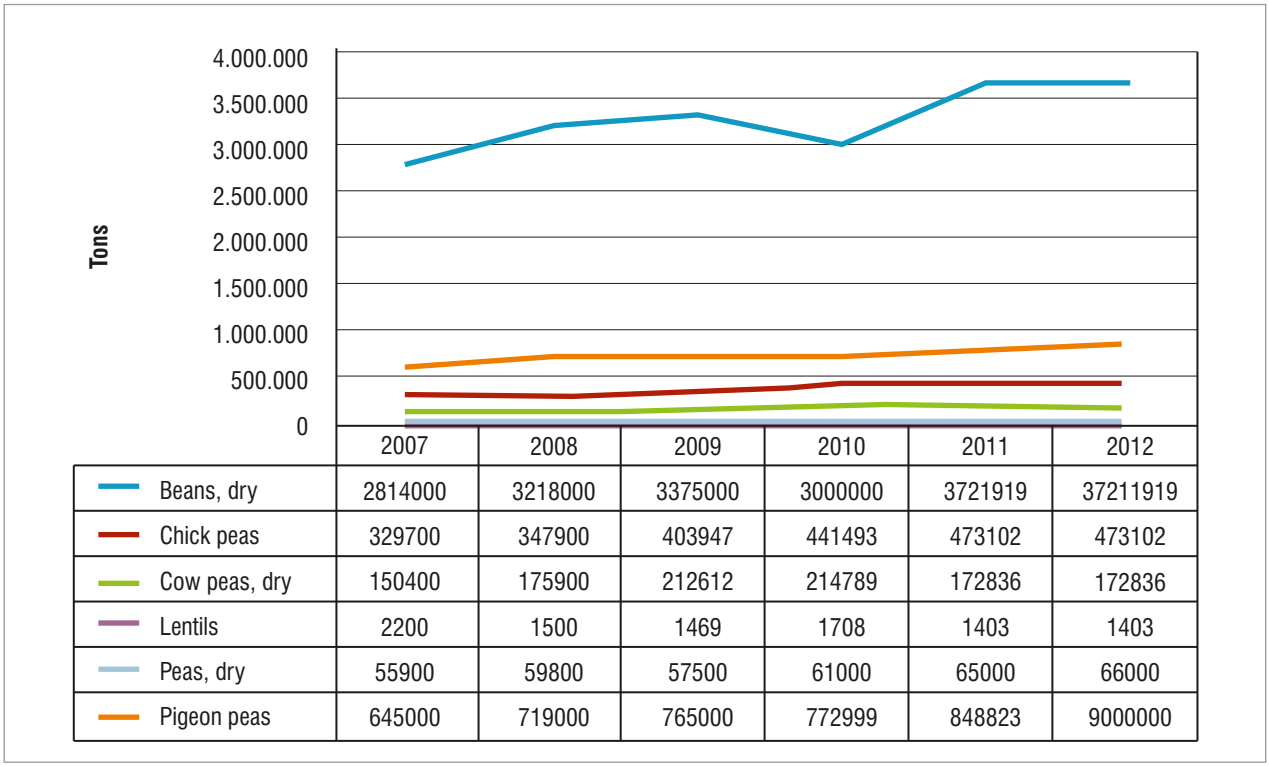
Source: FAOSTAT.

Figure 6: *Trends in yield of beans and pulses production(hg/ha), 2000-2012*



Source: FAOSTAT.

Figure 7: *Production of pulses in Myanmar (tons), 2007-2012*



	2007	2008	2009	2010	2011	2012
Beans, dry	2814000	3218000	3375000	3000000	3721919	37211919
Chick peas	329700	347900	403947	441493	473102	473102
Cow peas, dry	150400	175900	212612	214789	172836	172836
Lentils	2200	1500	1469	1708	1403	1403
Peas, dry	55900	59800	57500	61000	65000	66000
Pigeon peas	645000	719000	765000	772999	848823	9000000

Source: FAOSTAT.

Table 1: *Comparative yields (hg/ha) (2012)*

	Myanmar	Southeast Asia	Yield relative to Southeast Asia	World	Yield relative to the world	Organisation for Economic Cooperation and Development (OECD)	Yield relative to OECD
Beans,dry	13079.38	12355.30	5.9%	8040.30	63.0%	12452.11	5.0%
Chick peas	14205.05	14205.05	0.0%	9311.67	53.0%	14528.67	-2.2%
Cow peas,dry	11718.49	11752.06	-0.3%	5368.16	118.0%	18657.53	-37.2%
Lentils	7985.20	7985.20	0.0%	10707.42	-25.0%	16056.25	-50.3%
Peas, dry	12571.43	12571.38	0.0%	15586.78	-19.0%	23262.30	-46.0%
Pigeon peas	13846.15	13848.22	0.0%	8132.16	70.0%	n.a.	n.a.
Pulsesn.e.s.	13237.42	9576.40	38.2%	8553.96	55.0%	18120.68	-26.9%

Source: FAOSTAT.
* OECD yields calculated by ITC from FAOSTAT data.

Much of the demand in this subsector is domestic, as pulses are consumed almost daily in most areas of Myanmar. Although in general this has led to a much larger portion of production being sold locally rather than exported (roughly 1 million tons exported out of 5.5 million tons produced), certain varieties of pulses are cultivated almost exclusively for export.[40, 41]

Pulses in Myanmar are produced in three quality grades: first quality, special quality, and fair average quality.[42] While most fair average quality exports are destined for India, the higher quality production is sent to more demanding markets such as China, the Republic of Korea and Japan.

BEAN AND PULSE PROCESSING

The processing of beans and pulses requires two steps.[43] The first is to receive, clean and sort the quality of seeds. Only then can processors continue with secondary processing. This involves preparing the goods for consumption and may consist of dry packaging, canning, soup production, powder production, and flour production. Myanmar's domestic processing capacities are limited, however, and beans and pulses generally only undergo primary processing and perhaps dry packaging. In fact, only 5% to 10% of beans and pulses are subject to any processing whatsoever.[44]

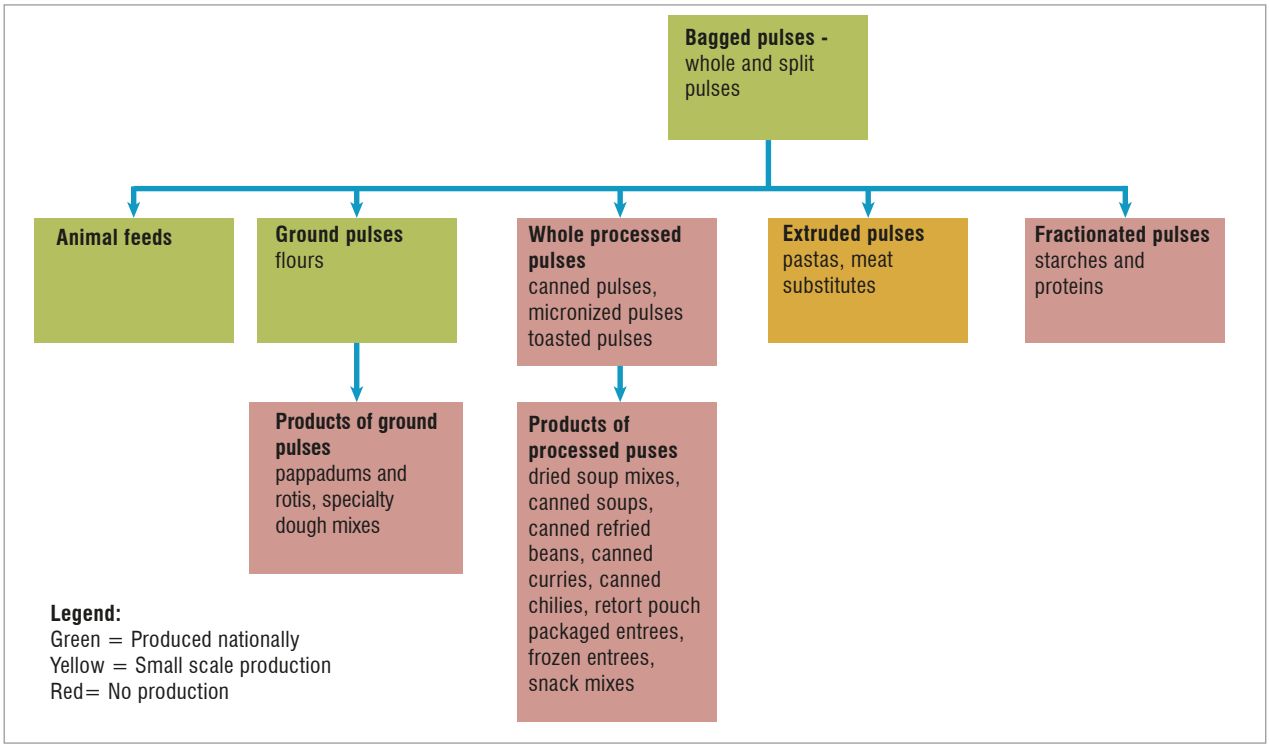
Processing companies and large wholesalers have been eager to implement technological upgrades that reduce labour costs. As a result, these enterprises have access to modern sorting machinery and factories. Nevertheless, a lack of capacities in identifying appropriate markets has resulted in an underutilization of this equipment.[45] Cleaning and sorting is also sometimes performed directly by farmers. However, the lack of assistance and funds to farmers means that they rely upon inadequate equipment and have been slow to upgrade their capacities. As a result, raw crops are often sold directly to the traders without undergoing any type of processing, leading to a lower onward selling price.

PULSES PRODUCT MAP

Myanmar's enterprises are currently engaged in selling bagged whole and split pulses and producing animal feeds and ground pulse flours. They are also partially involved in prepared extruded pulses such as pastas and meat substitutes. Nevertheless, a number of product developments remain unexploited. They are not involved in the further processing of ground pulses to create specialty dough mixes, nor do they process fractionated pulses into starches and proteins. Another overlooked product category is that of whole processed pulses. These include canned, micronized and toasted pulses, and they may be processed even further into a wide variety of products including dried soup mixes, canned soups, canned refried beans, canned curries, canned chilies, retort pouch packaged entrees, frozen entrées and snack mixes. As a result, a multitude of opportunities exist for enterprises to grow the sector through product development and value addition.

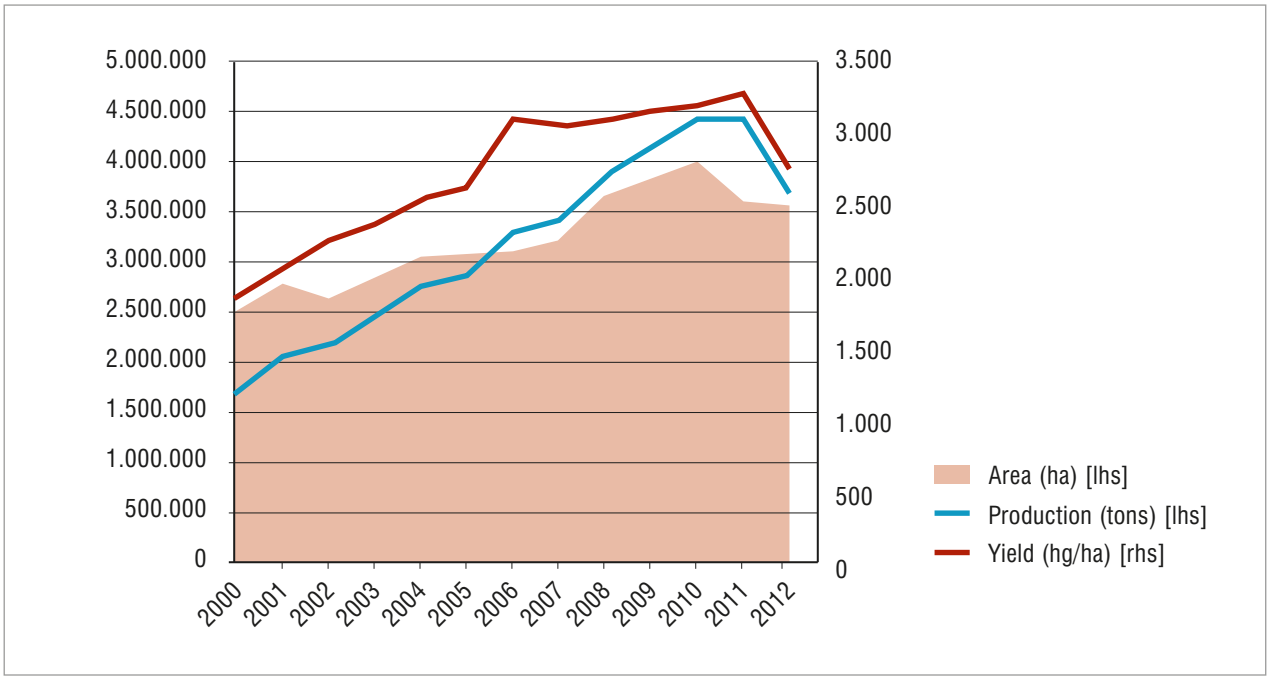
40. FAO/WFP (January 2009). *Special Report: FAO/WFP Crop and Food Security Assessment Mission to Myanmar,* p. 18.
41. Thura Swiss (August 2013). *Myanmar's Beans and Pulses Trade: Risks and Prospects,* p. 1.
42. *Ibid.:* pp. 1–2.
43. *Ibid.:* p. 5.
44. *Ibid.:* p. 5.
45. NES second consultation.

Figure 8: *Pulses and beans product map*



Source: MPBSMA, NES consultation.

Figure 9: *Trends in Myanmar oilseed production 2000–2012*



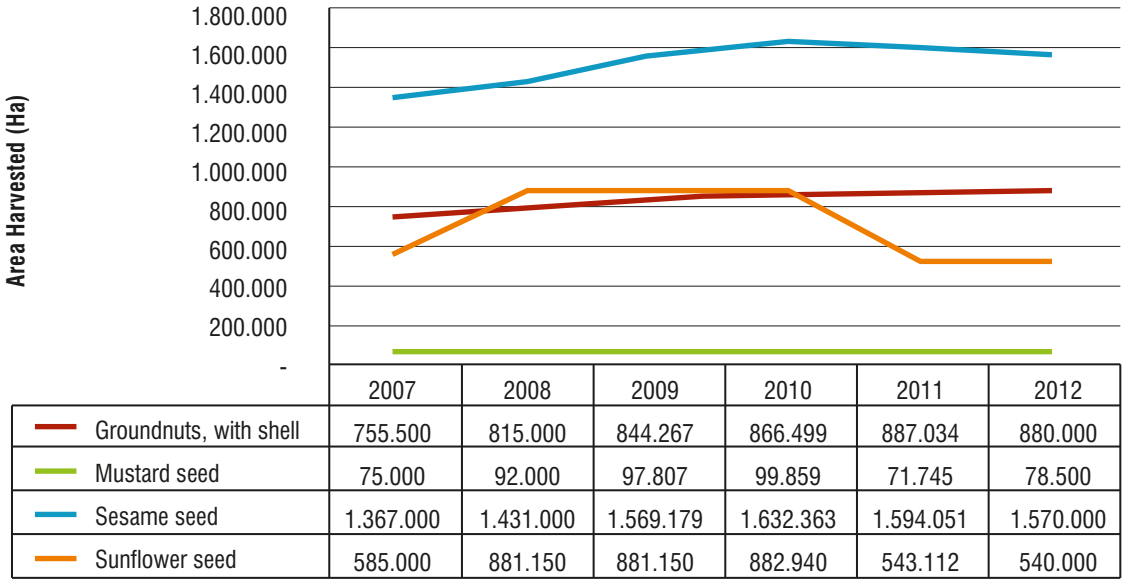
Source: FAOSTAT.

Table 2: *Comparative yields of oilseeds(hg/ha) (2012)*

	Myanmar	Southeast Asia	Yield relative to Southeast Asia	World	Yield relative to the world	OECD	Yield relative to OECD
Coconuts	101176.47	52372.16	93%	49976.16	102%	63253.01	60%
Groundnuts, with shell	15585.23	15333.87	2%	16758.98	-7%	43512.70	-64%
Mustard seed	8662.42	8662.42	0%	8150.36	6%	9424.27	-8%
Seed cotton	13500.00	13082.17	3%	22318.28	-40%	29306.73	-54%
Sesame seed	3949.04	4248.08	-7%	5175.55	-24%	6148.00	-36%
Soya beans	12275.45	14870.73	-17%	23740.82	-48%	26656.83	-54%
Sunflower seed	6481.48	6572.44	-1%	14823.15	-56%	18000.38	-64%
Oilcrops,primary + (total)	2743.29	23637.68	-88%	6385.26	-57%	5779.34	-53%

Source: FAOSTAT.
* OECD yields calculated by ITC from FAOSTATdata.

Figure 10: *Area harvested, select oilseeds in Myanmar, 2007–2012*



	2007	2008	2009	2010	2011	2012
Groundnuts, with shell	755.500	815.000	844.267	866.499	887.034	880.000
Mustard seed	75.000	92.000	97.807	99.859	71.745	78.500
Sesame seed	1.367.000	1.431.000	1.569.179	1.632.363	1.594.051	1.570.000
Sunflower seed	585.000	881.150	881.150	882.940	543.112	540.000

Source: FAOSTAT.

OILSEEDS [46]

As with pulses and beans, Myanmar is one of the world's largest producers of oilseeds. In 2011 it was the largest producer of sesame seeds, the third largest producer of mustard seeds, the fifth largest producer of groundnuts and the fifteenth largest producer of sunflower seeds.[47] The most important oilseed crops are sesame, groundnut and sunflower seeds. Other products, including mustard and niger, account for a relatively small proportion of subsector production. These oilseeds are grown mainly during the monsoon and cool seasons in the country's dry zone, which include the Mandalay, Sagaing, and Magway regions.[48]

Total subsector production grew by 115% between 2000 and 2012, reaching 3.7 million tons. This can be attributed to both a 49.56% increase in yield to 2,743 hg/ha as well as to a 44.32% increase in land dedicated to oilseeds (3,578,000hain 2012). Despite such impressive results, it is interesting to note that the increases in production, yield and area are only about half of the increases experienced by the more liberalized beans and pulses subsector.

Although efficiency has improved, the legacy of heavy regulation in the oilseed sector is evidenced by the fact that yields are significantly below those of the world, the OECD and the region. This is especially so for Myanmar's most important oilseed crops.

Sesame seeds are one of the Myanmar subsector's most important products. As they are reportedly native to Myanmar, local farmers have access to a plethora of variety.[49] Sesame is the oilseed that is planted over the largest area of land in Myanmar, or about 1,570,000 hectares. Production reached 900,000 tons in 2011 and 898,000 tons in 2012.[50]

Groundnut is the second most sown oilseed crop in Myanmar, having been cultivated in roughly 880,000 ha in 2012. As the yield per hectare of groundnut is greater than that of sesame, the total production for 2012 was an impressive 1,370,000 tons. The attractive yield that can be obtained from this product makes it the most important seed for edible oil production in Myanmar. It is estimated that 33% of edible oils produced in Myanmar originate from groundnuts.[51]

The third most planted oilseed crop is sunflower, having been harvested from 540,000 ha of land. Farmers indicated, however, that areas dedicated to sunflowers have decreased significantly, as two-thirds of the cultivated sunflower area is intercropped with chickpeas and sunflower rows are planted anywhere from five to ten metres apart.[52] As such, sunflower output is slightly above that of other minor oilseed crops and its contribution to indigenous oil production is estimated at less than 10%.

Other crops include niger (Guizotiaabyssinica, cultivated on 320,000ha), and mustard seed (Brassica juncea, cultivated on 78,500 ha).[53] Although these crops are important to local populations in the Shan states and eastern Myanmar, their contribution to total output is small at around 4% each. In addition, a limited amount of edible oil is produced from rice bran and cottonseed (1,120 tons and 20 tons respectively).

46. All aggregate numbers originating from FAOSTAT and referring to oilseeds include soya beans.

47. FAOSTAT.

48. U KyawMyint (2012). Sesame, the ideal crop for upper Myanmar. *Myanmar Times,* 10 December. Available from www.mmtimes.com/index.php/business/3509-sesame-the-ideal-crop-for-upper-myanmar.html?limitstart=0.

49. United Nations Development Programme, Asian Development Bank & Ministry of Cooperatives (1984). *Oilseeds Production and Processing Project. Feasibility Report. Volume I: Main Report.* UGL Consultants Ltd.

50. Data provided by Department of Agriculture

51. FAO (2009). *An Analysis of the Myanmar Edible Oil Crops Sub-Sector,* p. 67.

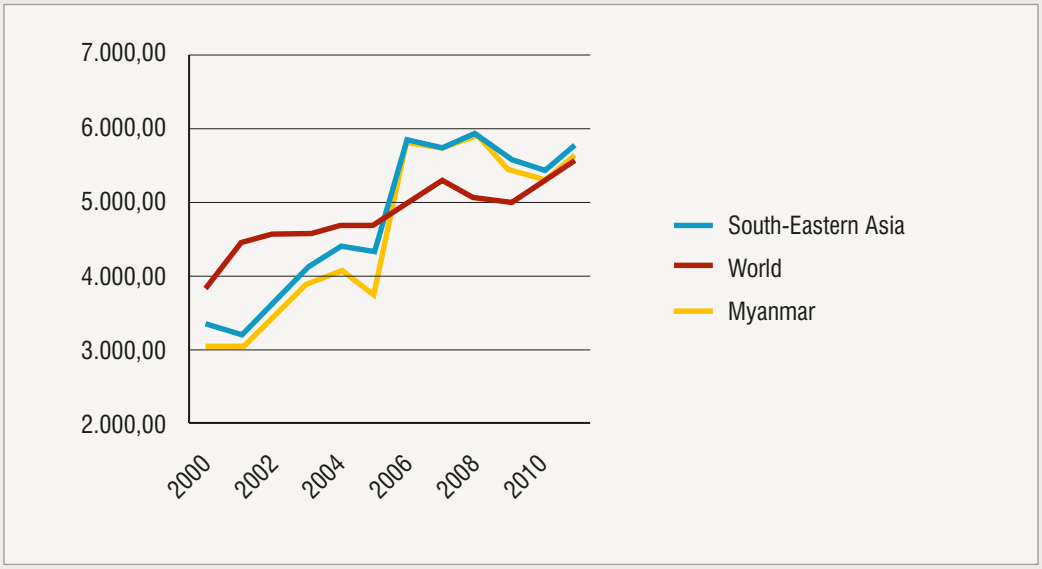
52. FAO (2009). *An Analysis of the Myanmar Edible Oil Crops Sub-Sector,* p. 67.

53. *Ibid.*:p. 67.

Box 7: Trends in sesame and groundnut yields

Despite remaining below both world and regional levels the yields for the two most important products in Myanmar's oilseed sector, sesame and groundnuts, have seen impressive improvement since the turn of the century. Between 2000 and 2011 farmers in Myanmar increased sesame seed yields by 84%, compared with regional and world increases of 72% and 45% respectively. As a result, yields in Myanmar went from being significantly below those of its competitors to being on par with both the world and regional neighbours. Of particular note is the jump in efficiency that followed the liberalization of the sesame export market in 2006.

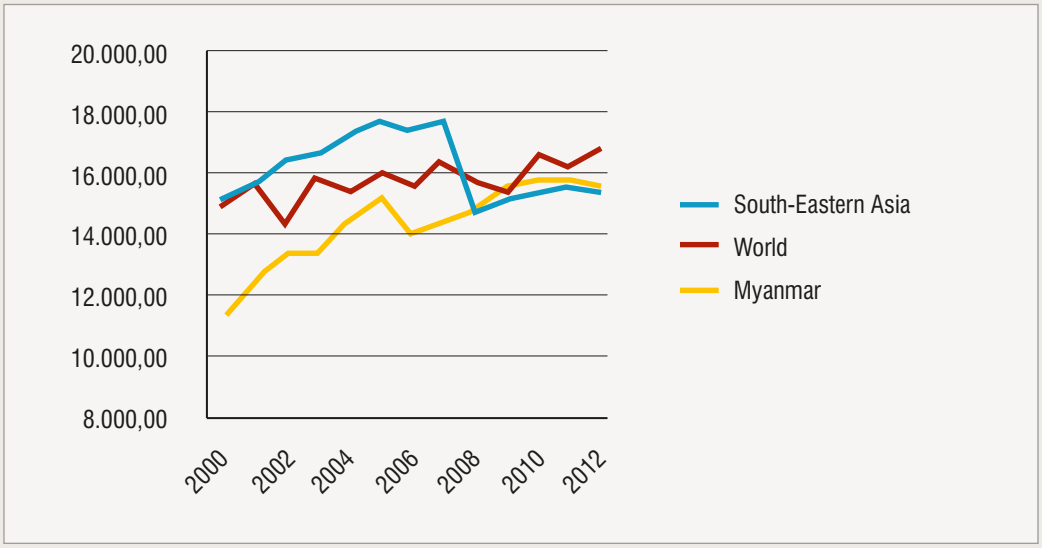
Figure 11: *Trends in sesame seed yields (hg/ha) 2000–2011*



Source: FAOSTAT.

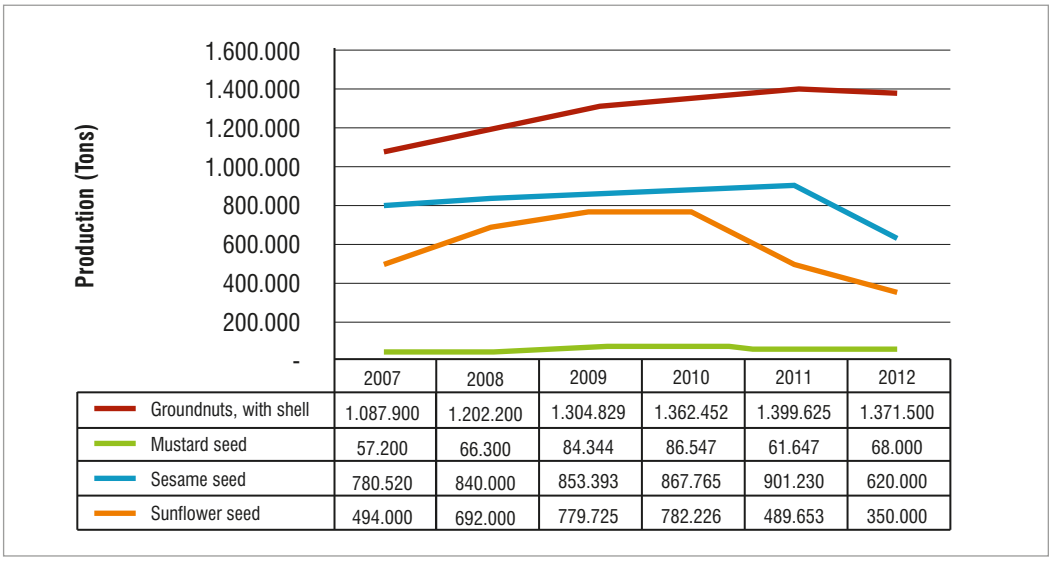
Advancements in groundnut yields were equally impressive. While global yields remained relatively flat, Myanmar's farmers succeeded in increasing groundnut yields by nearly 38% between 2000 and 2013. Yields in Myanmar are currently higher than the regional average and only slightly below the world average.

Figure 12: *Trends in groundnut yields (hg/ha) 2000–2012*



Source: FAOSTAT.

Figure 13: *Oilseed production in Myanmar 2007–2012*



	2007	2008	2009	2010	2011	2012
Groundnuts, with shell	1.087.900	1.202.200	1.304.829	1.362.452	1.399.625	1.371.500
Mustard seed	57.200	66.300	84.344	86.547	61.647	68.000
Sesame seed	780.520	840.000	853.393	867.765	901.230	620.000
Sunflower seed	494.000	692.000	779.725	782.226	489.653	350.000

Source: FAOSTAT.

Box 8: Important oilseed crops

Sesame	Sesame seeds are generally either pressed for oil or else eaten whole.* Their distinctive flavour has made them a staple ingredient in Eastern cooking and their popularity has been further boosted by their perceived health benefits in conjunction with an increased awareness of healthy habits. They are also used as key components of livestock and fish feed.**
Groundnut	Groundnut can be used as seed, as a prepared food (flavoured, etc.), to produce peanut butter and pastes, snacks and sweets, or crushed for oil and meal.*** Recent years, however, have seen a decrease in the share of groundnut that is crushed for oil and meal. This development is a result of increasingly available and lower fat vegetable oil alternatives such as soya bean and palm oil. Although groundnut oil is also facing increased competition from cereal-based products, groundnuts have found a resurgence in popularity as either a prepared food or as an ingredient in snacks. This is especially so in developed countries and emerging Asian economies.
Sunflower	Sunflower products have become increasingly popular in recent years. As with other seeds, they may be eaten directly or else processed for oil. Their perceived relative health benefits, and the light taste of sunflower seed oil, have contributed to their growing popularity among consumers. The leftover oilcake is also a popular livestock feed and the shells can be used for biofuel.
Mustard	Mustard seeds are a popular component of food worldwide, being used as ingredients in meats, condiments, and sausages.° The seeds are also ground into oil. The strong taste of mustard seed oil and concerns over health effects have hampered the growth of edible mustard oil in relation to other alternatives.
Niger	Niger seeds produce an edible oil that has a wide range of uses.°° It is used in foods, for frying, in soaps, and in paints. Moreover, it is a component of livestock feed and one of the most popular ingredients in bird feed.
Soya beans	Soya beans are used for a variety of commercial purposes. Aside from being the main ingredient in food products such as soy sauce, miso, soy milk and bean sprouts, soya bean products are also one of the primary ingredients in livestock feed. The growing popularity of Eastern cuisine in Western nations has only increased demand for soy products in recent years. Although originally used mainly for food, advances in oil extraction technologies spurred demand for soya bean oil that has been growing rapidly ever since.

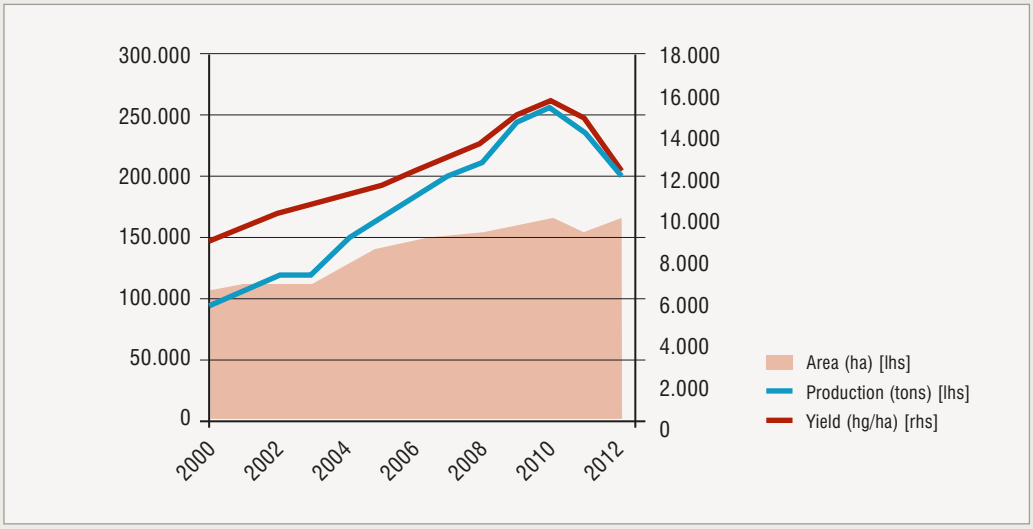
*Ibid.: pp. 30-32. **U Kyaw Myint (2012). Sesame, the ideal crop for upper Myanmar. Myanmar Times, 10 December. Available from: www.mmtimes.com/index.php/business/3509-sesame-the-ideal-crop-for-upper-myanmar.html?limitstart=0. ***FAO (2009).An Analysis of the Myanmar Edible Oil Crops Sub-Sector, pp. 26-27.

° Simon, J. E., Chadwick, A.F. and Craker, L.E. (1984). Herbs: An Indexed Bibliography. 1971-1980. The Scientific Literature on Selected Herbs, and Aromatic and Medicinal Plants of the Temperate Zone. Archon Books, Hamden, CT. Available from: www.hort.purdue.edu/newcrop/med-aro/factsheets/MUSTARD.html. °° Duke, J. A. (1983). Handbook of Energy Crops(unpublished). Available from: www.hort.purdue.edu/newcrop/duke_energy/Guizotia_abyssinica.html.

Box 9: Soya beans

Myanmar's soya bean production reached 205,000 tons in 2012, having grown over 111% from 2000. As with pulses and beans, this increase can be attributed to both increased yield, which grew 36% reaching 12,275 hg/ha, and the increase in land area dedicated to soya beans, which grew 54% reaching 167,000 ha.

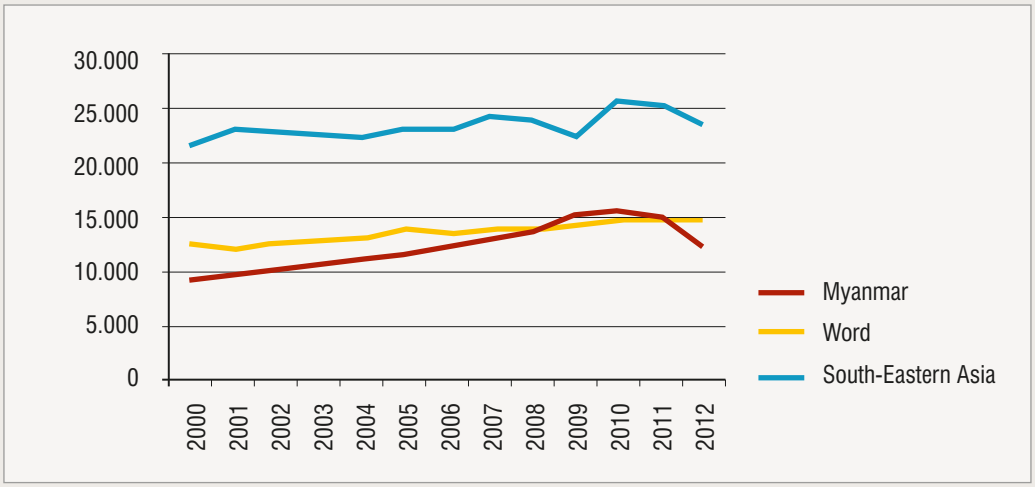
Figure 14: *Trends in soya bean production in Myanmar 2000–2012*



Source: FAOSTAT.

With regards to yield improvements, however, Myanmar continues to struggle. Although over the course of the decade farmers did succeed in improving yields from baseline levels so that they were in line with the regional average, declines in 2011 and 2012 erased a significant portion of those gains. Moreover, both Myanmar as well as the region achieve significantly lower yields than the world average.

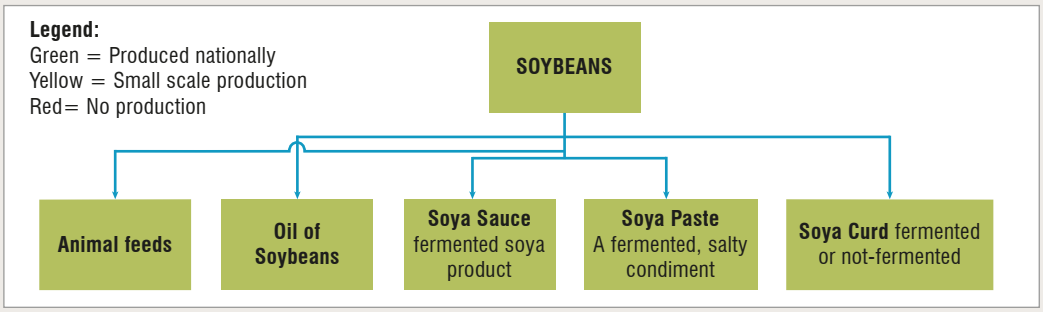
Figure 15: *Trends in soya bean yields (hg/ha) 2000–2012*



Source: FAOSTAT.

There are currently 20 varieties of soya bean being cultivated in Myanmar, of which eight have been released by DoA. DoA estimates that approximately 70% of total soya bean areas are cultivated with local varieties, while the remaining 30% make use of improved varieties.

Figure 16: *Soya beanproduct map*



Enterprises in Myanmar currently exploit a wide range of products within the soya bean subsector. As such, they engage in the production of animal feeds, soya bean oil, soy sauce, soy paste, and soy curd.

Box 10: Palm oil

Palm oil is the most used edible oil in Myanmar, accounting for nearly 60% of oil consumption.* Nevertheless, the population relies on imports for an estimated 90% of supply: 80% is officially imported and 20% is unofficially imported from Thailand and China. It should be noted that reliance upon informal imports increases drastically in certain regions. In the Thai border region, for example, informally imported oil accounts for nearly 80% of consumption.

The remaining 10% of palm oil consumption is produced locally. Cultivation is centred in Tanintharyi region and Mon state. 50,000 acres of an eventual 200,000 acre area were cultivated in 2006/2007.** Domestic palm oil production at that time accounted for 7.5% of edible oil consumption, and this share is expected to reach nearly 30% once the planted 200,000 acres are put to use by 2015/2016.

* FAO (2009). *An Analysis of the Myanmar Edible Oil Crops Sub-Sector,* p. 50.
** *Ibid.:* p. 67.

OIL PROCESSING

Based on average crushing capacities, the FAO calculates that the total milling capacity for edible oilseed crops is 1.7 million tons.[54] This is more than twice the amount of domestic oilseed crops used for crushing (766,500 tons). As existing capacity exceeds the availability of seeds, many mills have stopped operations altogether. Moreover, those that are still online only operate from five to six months out of the year, and even then only when grid electricity is available. The latest information received from MPBSMA indicates that actual edible oil production in 2012 was approximately 300,000 tons.

It is estimated that only 20% of the 3,600 registered oil mills in Myanmar are operational.[55] These include small and medium –and large– scale millers. The greatest concentrations of mills can be found in the central and south-central regions of the country. The large availability of existing oil mills with processing capacity could be used to increase production of edible oil for national consumption and exports if imports of oilseeds were increased.

It should be noted that technological sophistication and hygienic standards in oil milling tend to be low, although some mills contain modern imported equipment. Millers of edible oil have been relatively uninterested in quality improvements. Because price is the main concern they have been content to use poor quality seeds and contaminated materials such as recycled containers.

The growing demand for livestock feed, however, has begun to put pressure on millers to produce higher quality oilcake. Millers are therefore beginning to implement greater quality controls, and analyses are performed by the Ministry of Livestock, Fisheries and Rural Development on demand from the private sector.[56] While some feed millers are also equipped with testing equipment, expanded use of these tests is constrained by the high costs associated with imported lab chemicals. More frequent tests for moisture, oil, protein and fibre content would help facilitate negotiations between oil and feed millers.

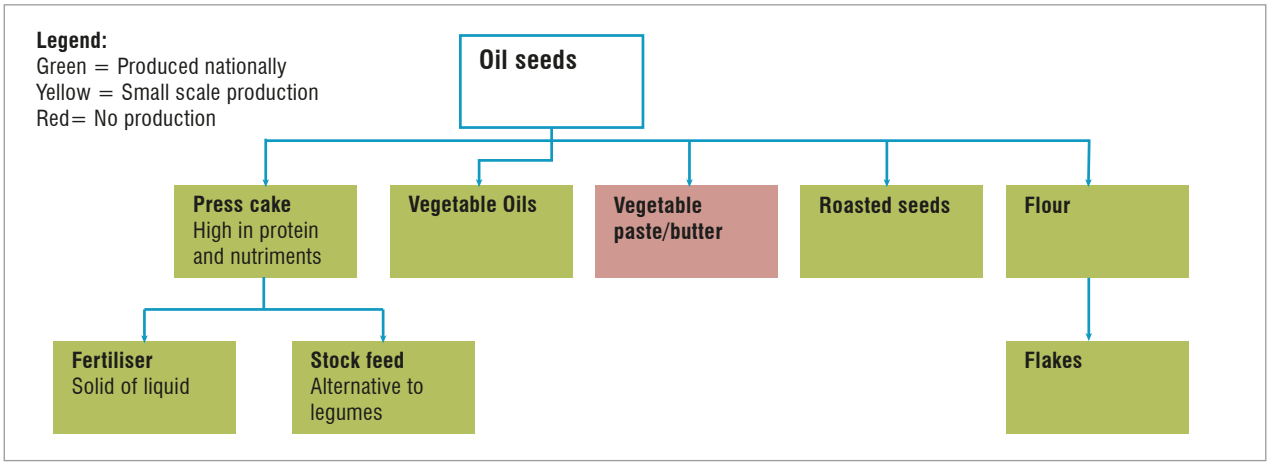
The demand for oilcake has been increasing in tandem with the growing livestock and fishery sectors, which rely upon oilcake as a key ingredient for feed. A number of marketing and distribution dynamics exist according to the type of mill at which the cake is produced. At the local level, small-scale mills and farmers using traditional *hsi-zone* mills will produce cake either for their own use or to sell to nearby farmers. Medium-scale mills will sell the cake directly to local wholesale markets or else to a CEXC in Mandalay or Yangon. Although large-scale mills sell the majority of their oilcake to feed mills, they will also sell it to wholesale markets or CEXCs. The development of the oilseed sector can be achieved through the development of the oilcake market since this product is in high demand from the livestock and fisheries sector.

PRODUCT MAP

Enterprises operating in Myanmar's oilseed subsector are engaged in the majority of sector products. They are involved in the production of roasted seeds, vegetable oils, flour, and flour-derived flakes. They also produce press cakes that are high in protein and nutrients, which they then process into both solid and liquid fertilizer as well as stock feed. Nonetheless, opportunities still exist for further product development. Specifically, enterprises are currently not engaged in the production of vegetable paste and butter.

54. *Ibid.:* p. 102.
55. *Ibid.:* p. 101.
56. *Ibid.:* p. 142.

Figure 17: *Oilseed product map*



SOCIAL IMPACT

According to the World Bank, 67% of Myanmar's population lives in rural areas.[57] Although specific figures for subsectors are difficult to come by, the agricultural sector as a whole accounts for 61.2% of the total labour force.[58] Extrapolation of the pulse, bean, and oilseed subsector's share of employment based on land area dedicated to these crops would imply that they could account for nearly 37% of national employment.[59]

Due to the rural nature of the sector, increased competitiveness would have a substantial effect on remote and vulnerable communities, thereby guaranteeing that the benefits of socioeconomic development are shared by all segments of society. Sector expansion would stimulate better employment opportunities for large swathes of the rural population, providing much-needed income that could be used to meet basic needs and invest in capacity upgrading.

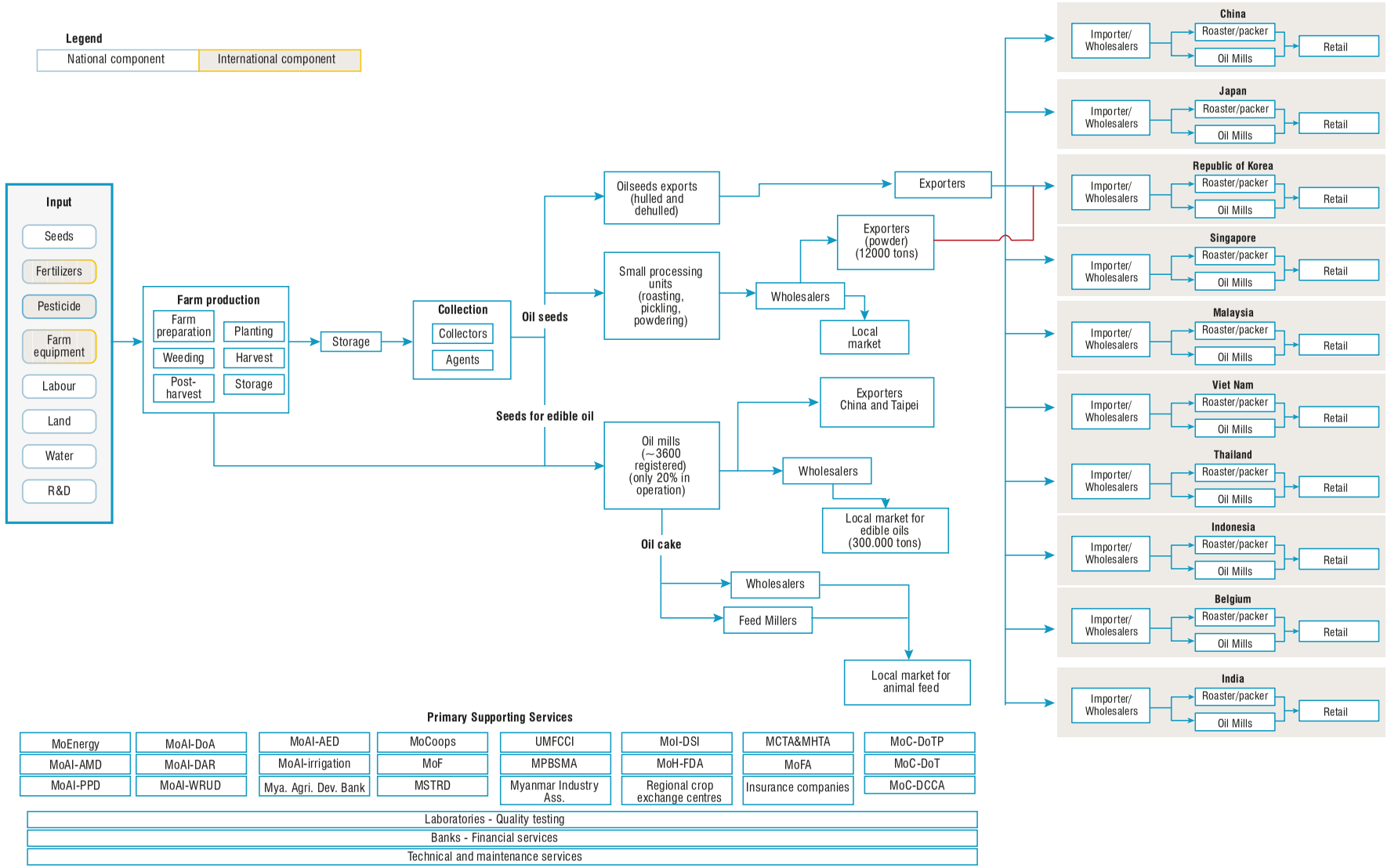
Myanmar's reliance on these subsectors for both income and food makes the population especially vulnerable to unexpected negative events. From an economic standpoint, increased capacities would permit the sector to cope better with unforeseen developments, whether they are economic or environmental. This should mitigate the risk of losing large portions of both national income and food supply in the event that the risks are realized. From a health perspective, these two subsectors comprise a large portion of the national diet. Increased quality management capacities for these staple foods would improve health and decrease risks of illness.

VALUE CHAIN OPERATIONS

The pulses &beans and oilseeds value chains involve the participation of a wide range of both national and international agents. Production, collection, processing, marketing, and distribution are carried out by an array of stakeholders that range from individual entrepreneurs to large wholesalers and exporters. These stakeholders are then aided by both private and public sector support institutions. While the value chain survey seeks to illustrate the role of each of these participants in producing and bringing sector products to the market, the analysis is further detailed in the trade support network analysis and four gears sections of this strategy document.

57. World Bank DataBank (2012). Available from: http://databank.worldbank.org/data/home.aspx.
58. FAO (2013). Country Profile Myanmar.Available from: http://coin.fao.org/cms/world/myanmar/CountryInformation.html.
59. ITC calculations.

Figure 18: *Current oilseeds value chain*



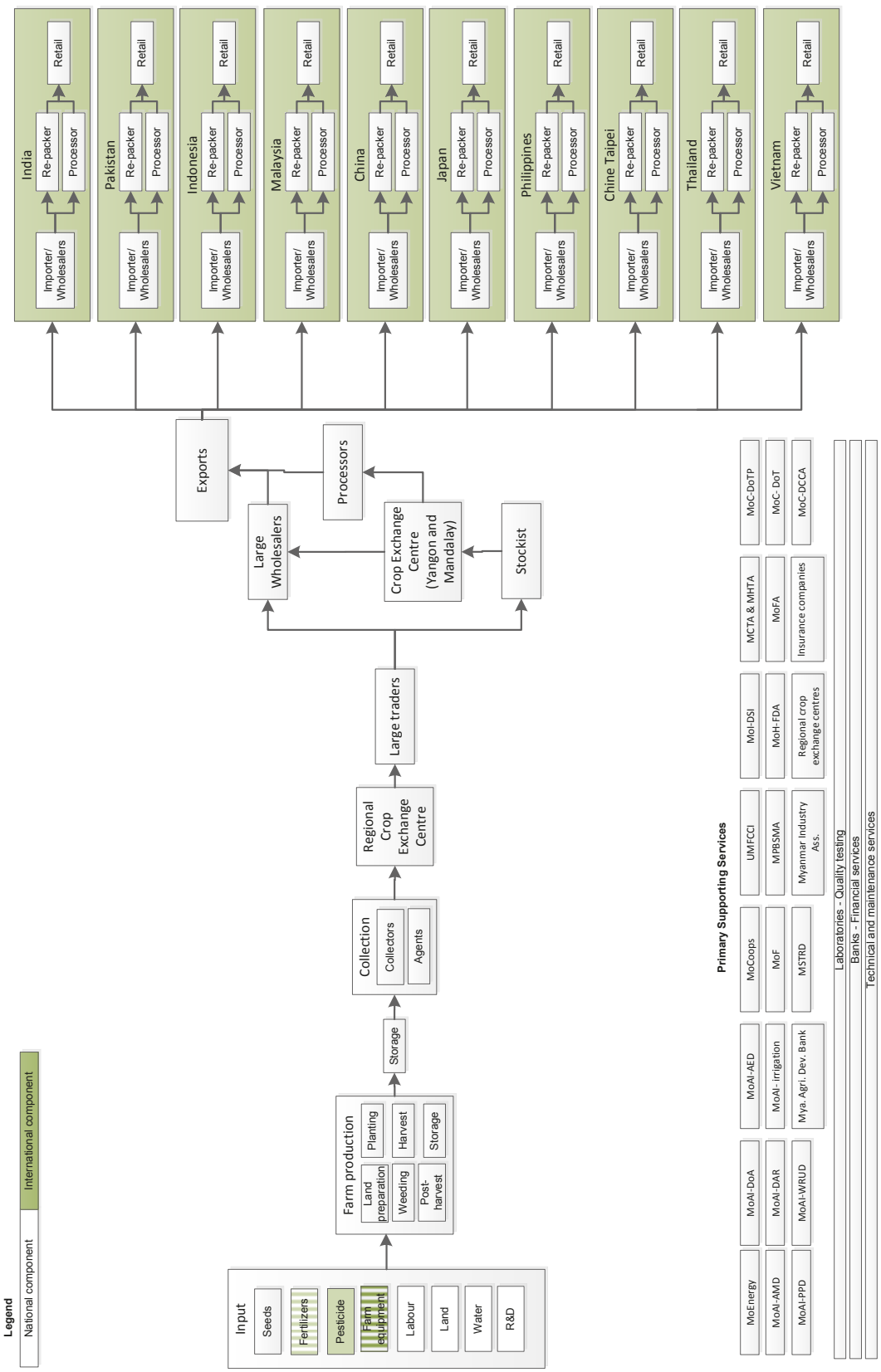


Figure 19: *Current pulses value chain*

BEANS AND PULSES

A number of enterprises and agents participate in the beans and pulses value chain, facilitating the cultivation and sale of local products.[60] Among these participants are the farmers themselves, local traders, larger traders, wholesalers, exporters and agents. It should be noted that the heavy reliance upon middle men can often leave farmers disconnected from customers and direct negotiations, thereby exposing them to exploitation.

The first step of the value chain is production. This requires farmers to manage both the land and the crop cycle. Land is prepared and then sown with seeds depending on the soil, irrigation and crop type. Following the harvest, farmers keep production in storage until it moves to the next step of the value chain. A number of inputs are required in the production stage, not the least of which are seeds, farm equipment, land, labour, and water. Other inputs such as R&D, pesticides and fertilizers allow farmers to optimize their capacities and minimize risks.

The next step in the value chain is collection, in which harvested products are usually purchased by local traders or agents. The dynamic of this stage of the value chain is often governed by the complex relationships between farmers and traders, as many farmers rely upon these same traders for financial and technical assistance. Farmers are often subject to informal agreements which see them sell their products to traders without being able to negotiate prices. Not only does this impede farmers' ability to search for attractive deals, but the rush to settle accounts leaves them unable to leave products in storage while waiting for the arrival of more favourable market conditions.

Having purchased the crops from farmers, local traders will then sell the goods to larger regional companies through regional exchange centres, which eventually sell them to traders in Yangon. As Yangon is the hub for the bean and pulse trade, large wholesalers and exporters purchase goods from the Yangon traders either directly or through commodity exchange centres.

Once purchased, some wholesalers will process the products themselves and others will send them to processing companies before continuing with distribution. Processors meanwhile will purchase beans and pulses directly from the commodity exchange centres.

After the products have been processed, wholesalers will sell them directly abroad, distribute them to the retail network, or else sell them to warehouses in Yangon. These warehouses fulfil a key role in the value chain as they store and sell the products throughout the year in accordance with market conditions. This guarantees a stable supply of pulses and beans.

The key international destinations are India, Pakistan, Indonesia, Malaysia, China, Japan, the Philippines, Chinese Taipei and Thailand. Exporters sell beans and pulses in various stages of processing to importers and wholesalers. Having arrived in their respective market the products are then further processed by re-packers or processors, until they are finally distributed at the retail level.

OILSEEDS

As with pulses and beans, the first step in the oilseed value chain is that of production.61Inputs at this stage include land, water, seeds, labour, R&D, farm equipment, fertilizer and pesticides. Farmers prepare their land for sowing, plant the fields, weed and maintain the fields during cultivation, and harvest their product. The land will be tended post-harvest and the crops will be stored until they are distributed along the value chain.

The collection process involves a variety of participants, first of which are the primary village collectors. These collectors obtain oilseeds directly from the farmers in situ and the farmers are usually paid following the delivery and sale of the crops to the collectors' clients. The collectors handle all marketing procedures and costs and will at times provide farmers with credit. The primary collector will sell to millers/processors directly or else to other agents. They are generally paid between 5% and 7% of the oilseed value for their services.

The town wholesalers obtain oilseeds from primary collectors. They generally hire their own agents and brokers for collection, and their role as a facilitator along the value chain is quite varied. They may handle oilcake from millers; transport goods from local markets to larger, urban wholesale markets; and buy crops for exporters, often on commission. In fact, the commission agent plays an important role in the vale chain. These traders buy and sell oilseeds on an agreed commission that is usually valued at 1% to 2% of the crop. They will facilitate transactions between farmers and markets (costs charged to the former) and between markets and millers/processors (costs charged to the latter). Commission agents usually work closely with and for larger traders and millers with whom they have a relationship, sharing price information and arranging financial logistics of the deals. Millers, traders, wholesalers, and exporters at times recruit brokers to help them purchase oilseeds. The incidence of brokerage is becoming more common as the sector becomes more competitive and enterprises compete to obtain sufficient seed stocks.

60. Thura Swiss (August 2013). *Myanmar's Beans and Pulses Trade: Risks and Prospects,* pp. 2-4.

61. FAO (2009). *An Analysis of the Myanmar Edible Oil Crops Sub-Sector*, pp. 61-66.

Box 11: Oil mills

The processing of edible oil in Myanmar is carried out by a diverse range of small and medium – and large-scale oil mills.

Small-scale millers are usually located near villages. They produce oil on demand for local clients, who either use the oil product or else sell it to other families in the village. Roughly 20% (25% for groundnuts) of production is held for the miller's own private consumption. The fee charged varies depending on the exact location and level of technological sophistication, and the use of a generator can double the cost to the customer. These mills will at times keep the oilcake by-product in lieu of charging a fee.

Medium-scale millers are more involved in distributing the product at retail level, often marketing production to local wholesale markets and maintaining retail capacities at the mill. Some mills even maintain a retail point in the local urban centre where they sell their own production as well as other goods.

Large-scale millers produce and supply oil to larger urban wholesalers, with whom they usually have a long-term relationship. They increasingly supply their product on credit and are paid upon delivery and sale of the goods on the part of the wholesaler (generally 2-4 weeks from delivery). Some of these millers have developed their own brands, especially for groundnut oil, and sell their products at supermarkets, door-to-door and in company show rooms.

Source: FAO (2009). An Analysis of the Myanmar Edible Oil Crops Sub-Sector,p. 64.

After collection the oilseeds are distributed through the above-mentioned participants until they arrive at one of three places: oil mills, processing units or oilseed exporters. Seeds destined for edible oil will be sold to oil mills. After these mills process the seeds the products and by-products are destined for a variety of markets. The vast majority of edible oil makes its way to wholesalers who then supply the domestic market. A small portion of the excess, however, is exported, mainly to China and Chinese Taipei. The oilcake meanwhile is sold to wholesalers and feed mills, eventually becoming ingredients in the local market for animal feed.

Oilseeds not destined for edible oil may be either processed for consumption or else directly exported. Those that are processed will arrive at processing units, which are generally small-scale operations. Here they may be roasted, pickled, powdered and otherwise altered and prepared. The products are then sold to wholesalers who distribute them to local retail markets. Some of these products are exported. For example, 120,000 tons of powder is exported to wholesalers/importers in the Republic of Korea.

The remainder of the oilseeds will be hulled before being sold to wholesalers/importers abroad. The main destinations are China, Japan, the Republic of Korea, Singapore, Malaysia, Viet Nam, Thailand, Indonesia, Belgium and India. Having arrived, the seeds will be sold to oil mills or else processors such as roasters and packers before making their way to local retail markets.

IMPORTS

The value chains of both the pulses& beans and oilseeds subsectors would be less robust if they were not supported by a variety of imported inputs.[62] The lack of capacities in the formal seed supply market has been met by the small-scale importation of certain seeds from Thailand and China. Another imported input is fertilizer. The official supply of fertilizers has declined dramatically, due in part to restrictive import laws. The gap has been filled by informal imports, which account for at least 1 million tons per year: the vast majority of Myanmar's supply.[63] Fertilizers are imported across neighbouring borders from Bangladesh, India, Thailand, and China.

All pesticides are currently imported by the private sector because the agency responsible for pesticide oversight, the Plant Protection Division (PPD), stopped producing pesticides in 2000.[64] PPD does maintain regulations on this trade. However, there are many informal imports that are not subject to PPD controls, meaning that dangerous and banned substances find their way into the market. A key recommendation for export development is to explore opportunities for national level fertilizer production, possibly urea.

62. *Ibid.*: p. 93.
63. *Ibid.*: p. 93.
64. *Ibid.*: p. 95.

GLOBAL PERSPECTIVE

PULSES AND BEANS

The global market for pulses and beans was valued at US$9.6 billion of imports in 2012. The biggest market by far was India, which purchased 23.6% of world imports. Other important markets include China, the United States, Egypt and Pakistan. Annual growth of imports between 2008 and 2012 has been a healthy 8%. While India's growth in demand is in line with the world average, a number of countries experienced extraordinary expansions as target markets. China's imports, for example, grew at an annual rate of 43%, while those of the United States, Pakistan and Mexico were also especially significant.

The largest supplier of pulses and beans is Canada, which accounted for nearly 21% of global exports. Australia and China also achieved market share in the double digits, while the United States and Myanmar each supplied roughly 9% of the market. The most interesting growth in exports was achieved by the Russian Federation. Their US$303 million of bean and pulse exports is the result of an 82% p.a. growth between 2008 and 2012. Australia's 34% growth in the same timeframe has helped solidify it as a leader in the sector.

Table 3: *Pulses and beans imports 2012*

	0713 – Dried vegetables, shelled				
	Importers	Trade indicators			
		Value imported in 2012 (US$ thousands)	Quantity imported in 2012	Annual growth in value 2008–2012 (%)	Share in world imports (%)
	World	**9628066**	**12312258**	**8**	**100**
1	India	2272319	3815735	8	23.6
2	China	582000	742251	43	6
3	United States	496135	332466	16	5.2
4	Egypt	426790	408499	12	4.4
5	Pakistan	407292	591992	21	4.2
6	Mexico	328705	294188	17	3.4
7	Spain	315580	406092	9	3.3
8	Brazil	293853	370036	11	3.1
9	Italy	260752	276405	3	2.7
10	Bangladesh	256565	486002	13	2.7
11	United Kingdom	228953	225208	0	2.4
12	Algeria	217485	176487	9	2.3
13	Turkey	215283	272186	-5	2.2
14	Japan	202076	150905	12	2.1
15	United Arab Emirates (UAE)	166059	239009	2	1.7

Source: ITC calculations based on UN Comtrade statistics.

Table 4: *Pulses and beans exports 2012*

	0713 – Dried vegetables, shelled				
	Exporters	Trade indicators			
		Value exported in 2012 (US$ thousands)	Quantity exported in 2012	Annual growth in value 2008–2012 (%)	Share in world exports (%)
	World	**9000931**	**13179556**	**8**	**100**
1	Canada	1872535	3367773	2	20.8
2	Australia	1124265	1907339	34	12.5
3	China	1015039	984336	6	11.3
4	United States	844844	1164841	3	9.4
5	Myanmar	804083	1147661	2	8.9
6	Argentina	499165	570147	18	5.5
7	Russian Federation	303345	773823	82	3.4
8	Mexico	298158	230133	11	3.3
9	France	254910	564692	6	2.8
10	Ethiopia	215355	303626	16	2.4
11	Turkey	209412	248546	2	2.3
12	India	190819	150268	26	2.1
13	United Kingdom	131908	235049	5	1.5
14	Egypt	120208	119051	-1	1.3
15	United Republic of Tanzania	100095	146494	9	1.1

Source: ITC calculations based on UN Comtrade statistics

OILSEEDS

The most important products in the edible oilseed sector are soya beans and palm oil, which account for over 50% of global supply.[65] Demand for soya beans stems from its dual use as a material to make both cake and oil. Palm oil has gained in popularity due to the large amount of oil that it produces per area of crop. As a result, other crops such as sesame and groundnut have become less competitive. However, the market is shifting towards greater demand for higher value products such as edible snacks and high quality processed sesame oils. Recent concerns regarding the health effects of palm oil and unsustainable farming practices have also led to some consumer backlash.[66] In response to the destruction of wildlife habitats that often occurs during production, the EU has recently passed a labelling law intended to curb palm oil consumption. The consequence will be increased demand for other oil products, including sesame and groundnut oils.

The global oilseed market was valued at US$67.6 billion of imports in 2012. Soya beans were the product most in demand, as they accounted for roughly 85% of this value. Market growth has been healthy, and various oilseeds (sesame seeds, oilseeds and oleaginous fruits – n.e.s., poppy seeds and cotton seeds), groundnuts, soya beans and sunflower seeds grew at an annual rate of 4%, 15%, 9% and 13% respectively between 2008 and 2012. China is an increasingly important target market, having imported nearly 19% of various oilseeds and 61% of all soya beans. Other key markets include the Netherlands and Viet Nam for groundnuts (17% and 11% respectively), and Turkey and Spain for sunflower seeds (12% and 10%). Growth has been led by China, whose demand for various oilseeds and soya beans increased dramatically, and by increased groundnut demand from Viet Nam and Indonesia. Other interesting trends include a growing demand from Turkey, Spain and the Russian Federation for sunflower seeds.

65. *Ibid.,* p. 52

66. IvanaSekularac (2013). Palm oil labelling will slash EU consumption – Dutch agency. *Reuters*, 5 March. Available from: www.reuters.com/article/2013/03/05/palmoil-labelling-idUSL6N0BWI7W20130305.

Table 5: *Oilseed imports 2012*

Importers		Trade indicators			
		Value imported in 2012 (US$ thousands)	Quantity imported in 2012	Annual growth in value 2008–2012 (%)	Share in world imports (%)
1207 – Oilseeds					
Total	**World**	**3460601**		**4**	**100**
1	China	653169	813387	27	18.9
2	Japan	289312		-6	8.4
3	United States	276243	272825	1	8
4	Republic of Korea	214874		5	6.2
5	Germany	176497	107874	-3	5.1
1202 – Groundnuts (not roasted)					
Total	**World**	**3209216**	**1944052**	**15**	**100**
1	Netherlands	555200	277958	9	17.3
2	Viet Nam	362095	284667	311	11.3
3	Indonesia	218286	185828	21	6.8
4	Germany	200553	102041	8	6.2
5	United Kingdom	162606	85568	11	5.1
1201 – Soya beans, whether or not broken					
Total	**World**	**57343426**	**95882417**	**9**	**100**
1	China	34941724	58380934	15	60.9
2	Spain	1908531	3312424	5	3.3
3	Germany	1876754	3266439	2	3.3
4	Japan	1810802	2727400	-5	3.2
5	Chinese Taipei	1461980	2349450	7	2.5
1206 – Sunflower seeds, whether or not broken					
Total	**World**	**3583326**	**4166005**	**13**	**100**
1	Turkey	443959	754162	14	12.4
2	Spain	360237	476416	15	10.1
3	Germany	331717	468333	2	9.3
4	Netherlands	299296	462692	7	8.4
5	Russian Federation	182083	28568	26	5.1

Source: ITC calculations based on UN Comtrade statistics

The most important exporters were the United States and Brazil, whose shipments of soya beans were responsible for 39% and 27% of total exports. With regards to various oilseeds and groundnuts, India was the top exporter, responsible for 16% and 33% of those export markets. Sunflower seed exports were dominated by Hungary and Bulgaria. Significant growth was realized by most of the top exporters, but Australia's annual growth of 92% between 2008 and 2012 in various oilseeds was extraordinary. Export growth for groundnuts was led by India, the Netherlands, and Argentina, while Canada, Brazil, and the United States recorded impressive export expansion in soya beans. Eastern European countries were joined by France and China in achieving healthy growth in sunflower exports.

Table 6: *Oilseed exports 2012*

Exporters		Trade indicators			
		Value exported in 2012 (US$ thousands)	Quantity exported in 2012	Annual growth in value 2008–2012 (%)	Share in world exports (%)
1207 – Oilseeds					
Total	**World**	**3493749**	**-**	**7**	**100**
1	India	558849	376073	10	16
2	Ethiopia	497069	376025	14	14.2
3	Australia	239854	783212	92	6.9
4	China	215657	110700	11	6.2
5	Nigeria	184096	-	18	5.3
1202 – Groundnuts (not roasted)					
Total	**World**	**2707398**	**1753527**	**20**	**100**
1	India	896812	655690	47	33.1
2	Argentina	372529	222433	25	13.8
3	Netherlands	311973	141931	27	11.5
4	China	272359	146059	-1	10.1
5	United States	261501	189552	3	9.7
1201 – Soya beans, whether or not broken					
Total	**World**	**53213002**	**96533638**	**12**	**100**
1	United States	24741578	43513364	10	46.5
2	Brazil	17248319	32468026	13	32.4
3	Argentina	3191609	6158407	5	6
4	Canada	2170776	3607878	25	4.1
5	Paraguay	1576649	3160191	13	3
1206 – Sunflower seeds, whether or not broken					
Total	**World**	**3594455**	**4414448**	**14**	**100**
1	Hungary	514463	688054	9	14.3
2	Bulgaria	507281	753821	17	14.1
3	Romania	432274	652464	24	12
4	France	401969	445617	15	11.2
5	China	273252	184223	16	7.6

Source: ITC calculations based on UN Comtrade statistics

EXPORT PERFORMANCE

BEANS AND PULSES

Myanmar exported 1,140,000 tons of beans and pulses in 2012, or roughly one-fifth of its total subsector production. These sales were valued at US$804 million and represented 9.6% of Myanmar's total exports in 2012.[67] Exports of beans and pulses are highly concentrated, with more than 74% of shipments going to India and the top five countries accounting for over 90% of subsector exports.

The overall growth of exports in this subsector has been subdued at roughly 2% per annum. This is largely due to stagnant export growth to India. While worldwide imports to India are in fact increasing in line with growing global demand, Myanmar has not benefited from this expansion. A further worrisome trend is the declining value of exports to China. Despite the stagnant and declining growth of exports to two important markets, Myanmar has had much success in continuing to penetrate regional neighbours. More specifically, exports to the Philippines, Indonesia, Malaysia, and Thailand have grown at extraordinary rates. Exports to other important markets in Asia and the Pacific, including Japan and Chinese Taipei, have increased by double digits.

These fast emerging import markets represent a new opportunity for growth and diversification. For certain markets like Japan, Chinese Taipei and Thailand, key success criteria will be the ability of exporters to increase the quality of exported pulses.

67. ITC calculation.

Table 7: *Myanmar's pulses and beans exports (2012)*

0713 – Dried vegetables, shelled									
Importers		Trade indicators							Tariff (estimated) faced by Myanmar (%)
		Exported value 2012 (US$) thousands)	Share in Myanmar's exports (%)	Exported quantity 2012	Exported growth in value 2008-2012 (%, p.a.)	Ranking of partner countries in world imports	Share of partner countries in world imports (%)	Total import growth in value of partner countries 2008-2012 (%, p.a.)	
	Total	**804083**	**100**	**1147661**	**2**		**100**	**8**	
1	India	596172	74.1	887362	0	1	23.6	8	19.1
2	Pakistan	45367	5.6	63422	10	5	4.2	21	0
3	Indonesia	37628	4.7	46793	32	27	0.8	37	0
4	Malaysia	28209	3.5	33623	16	26	0.8	17	0
5	China	20569	2.6	25650	-11	2	6	43	0
6	Japan	14025	1.7	15974	14	14	2.1	12	0
7	Philippines	10117	1.3	12132	47	42	0.4	8	2.2
8	Chinese Taipei	9927	1.2	14686	19	43	0.4	11	11
9	Thailand	9502	1.2	13369	15	51	0.2	17	
10	Singapore	6938	0.9	7331	6	57	0.2	9	0
11	Republic of Korea	6664	0.8	9556	15	38	0.5	16	85.6
12	United Kingdom	5946	0.7	5520	13	11	2.4	0	0.3
13	Sri Lanka	3207	0.4	3524	21	17	1.3	-3	16.7
14	Australia	1774	0.2	1508	37	61	0.2	4	0
15	Russian Federation	1460	0.2	1295	28	47	0.3	6	0

Source: ITC calculations based on UN Comtrade statistics.

OILSEEDS

Sesame accounts for approximately 94% of Myanmar's oilseeds exports in the Harmonized System (HS) 1207 oilseeds category. Of the 898,000 tons of oilseeds produced in Myanmar in 2012, 43,994 tons were exported at a value of US$54 million. Although less than 1% of Myanmar's total exports, Myanmar is the sixteenth largest exporter of sesame and this represents 1.55% of world exports for this product.

Japan, China and Chinese Taipei are the main destination markets for this category of oilseeds and they absorb 46%, 27%, and 17% of Myanmar's exports respectively. Taken together, these top three destinations account for more than 91% of Myanmar's exports in this category. This is not surprising as China and Japan are the two largest sesame importers, receiving 40% of global imports. It is important to note that Myanmar's exports of HS1207 oilseeds declined by 14% per annum between 2008 and 2012. This is mainly due to a significant decrease in exports to China. Imports by Chinese Taipei, Japan, and Singapore meanwhile have experienced healthy growth.

Table 8: *Myanmar's oilseeds exports (2012)*

	1207 – Oilseeds								
	Importers	Trade indicators							Tariff (estimated) faced by Myanmar (%)
		Exported value 2012 (US$ thousands)	Share in Myanmar's exports (%)	Exported quantity 2012	Exported growth in value 2008-2012 (%, p.a.)	Ranking of partner countries in world imports	Share of partner countries in world imports (%)	Total import growth in value of partner countries 2008-2012 (%, p.a.)	
	Total	**54194**	**100**	**43994**	**-14**		**100**	**4**	
1	Japan	25137	46.4	12833	9	2	8.4	-6	0
2	China	14720	27.2	20074	-34	1	18.9	27	0
3	Chinese Taipei	9454	17.4	7855	13	20	1.3	6	9.1
4	Thailand	2884	5.3	1734	-7	33	0.5	22	
5	Singapore	1087	2	772	29	47	0.3	4	0
6	Republic of Korea	535	1	303	12	4	6.2	5	893.7
7	Malaysia	180	0.3	136	32	25	1	20	0
8	India	158	0.3	210		13	1.8	-3	11.4
9	Indonesia	36	0.1	76		38	0.4	4	0
10	Australia	3	0	1		31	0.6	3	0

Source: ITC calculations based on UN Comtrade statistics

As indicated earlier, Myanmar produced approximately 1.3 million tons of groundnuts in 2012 and only 5,205 tons were actually exported at a value of US$6.8 million. While the sector is mainly oriented to supplying local demand, the vast majority of groundnuts exports in 2012 were destined for Thailand. Despite the small volumes, impressive export growth has nevertheless been recorded towards Thailand between 2008 and 2012. The lifting of sanctions on groundnuts exports in 2012 will most probably result in a significant jump in exports in 2013.

Table 9: *Myanmar's groundnut exports (2012)*

	Importers	1202 – Groundnuts (not roasted)							
		Trade indicators							Tariff (estimated) faced by Myanmar (%)
		Exported value 2012 (US$ thousands)	Share in Myanmar's exports (%)	Exported quantity 2012 (tons)	Exported growth in value 2008-2012 (%, p.a.)	Ranking of partner countries in world imports	Share of partner countries in world imports (%)	Total import growth in value of partner countries 2008-2012 (%, p.a.)	
	Total	**6810**	**100**	**5205**	**76**		**100**	**15**	
1	Thailand	6652	97.7	5101	77	15	1.7	30	
2	Malaysia	84	1.2	41		20	1	10	0
3	Indonesia	74	1.1	63		3	6.8	21	0

Source: ITC calculations based on UN Comtrade statistics

Myanmar produced 205,000 tons of soya bean in 2012 and exported 244 tons for a value of US$ 154,000. The vast majority of exports went to Chinese Taipei.

Table 10: *Myanmar's soya bean exports (2012)*

	Importers	1201 – Soya beans, whether or not broken							
		Trade indicators							Tariff (estimated) faced by Myanmar (%)
		Exported value 2012 (US$ thousands)	Share in Myanmar's exports (%)	Exported quantity 2012	Exported growth in value 2008-2012 (%, p.a.)	Ranking of partner countries in world imports	Share of partner countries in world imports (%)	Total import growth in value of partner countries 2008-2012 (%, p.a.)	
	Total	**154**	**100**	**244**	**-34**		**100**	**9**	
1	Chinese Taipei	108	70.1	154	46	5	2.5	7	0
2	Thailand	24	15.6	72	62	7	2.2	11	
3	Spain	21	13.6	17	-27	2	3.3	5	0
4	Germany	1	0.6	1		3	3.3	2	0
5	China					1	60.9	15	0

Source: ITC calculations based on UN Comtrade statistics.

Lastly, Myanmar produced approximately 350,000 tons of sunflower seeds in 2012 and only exported 11 tons of seeds to Malaysia. This product export is marginally developed in Myanmar even though the global trade for sunflower seeds exceeds US$ 3.5 billion dollars.

Taken together, exports of pulses, beans and oilseeds account for roughly 10.3% of Myanmar's total exports and 8.9% and 1.4% of world exports in their respective product categories (6.7% total). It is therefore clear that these sectors form an integral part of Myanmar's economy and that Myanmar has thus far enjoyed relatively successful market penetration. Nevertheless, while world imports of these products have grown at a healthy annual rate of 8% and 4% respectively between 2008 and 2012, exports of beans and pulses from Myanmar have stagnated while those of oilseeds have declined significantly, due largely to losses in historically traditional markets such as China.

Although past success has been admirable, especially in light of the sector's relatively low level of sophistication, stakeholders must take action to modernize and enhance capacities in order to stem the loss of market share that has occurred over recent years. While efforts are required to bolster penetration in traditional markets, enterprises must also be equipped with the tools that will allow them to capitalize upon emerging opportunities and diversify into new markets through enhanced crop quality, improved standards and quality management systems and compliance, improved market identification capacities, and upgraded marketing capacities.

THE INSTITUTIONAL PERSPECTIVE

Trade support institutions (TSIs) have an interest in, and bearing on, the sector's export development. Broadly, the TSIs providing important services to Myanmar's pulses, beans and oilseeds sector can be categorized in the following support areas:

- Policy support network
- Trade services network
- Business services network
- Civil society network.

Tables 11 to 14 identify the main TSIs whose service delivery affects the pulses, beans and oilseeds sector in Myanmar. An assessment of the TSIs along four key dimensions – coordination,[68] human capital,[69] financial sustainability,[70] and lobbying/communication[71] – is provided. The ranking (high/medium/low) for each TSI was defined in the context of service delivery to the pulses, beans and oilseeds sector stakeholders. In other words, the assessment was conducted based on the evaluation by stakeholders of the TSIs from the perspective of how well they serve the pulses, beans and oilseeds sector.

POLICY SUPPORT NETWORK

These institutions represent ministries and competent authorities responsible for influencing or implementing policies at the national level.

68. Coordination: measures the strength of this institution's linkages with other institutions as well as the beneficiaries of their services in terms of collaboration and information sharing.

69. Human capital: assesses the general level of capability of the institution's staff in terms of their training and responsiveness to sector stakeholders.

70. Financial resources: assesses the financial resources/capacity available to the institution to provide service delivery in an efficient manner

71. Lobbying/communication: evaluates the efficacy of this institution's advocacy mechanisms, and how well/frequently this institution disseminates important information to the sector.

Table 11: *Policy support network for the Myanmar pulses, beans and oilseeds sector*

Name of institution	Description of TSI in line with sector	Activities	Coordination	Human capital	Financial resources	Lobbying/ communication
Ministry of Commerce	Department of Trade Promotion (previously MAPT)	• Market information, trade promotion, business-to-business meetings, trade fairs, export training, commodity prices	H	H	L	L
	Commodity Testing and Quality Management (CTQM) (previously PTAC)	• Disseminates post-harvest technology • Post-harvest, quality control, cleaning and storage techniques	L	L	L	L
	Directorate of Trade	• Trade facilitation, trade liberalization, trade negotiation, policy and regulation, regional cooperation, rules of origin, trade registration, trade statistics, weekly commerce journal	H	H	L	M
	Department of Commerce and Consumer Affairs	• Issuance of export and import license, border trade (check points, license), consumer protection, competition	H	H	L	L
Ministry of Industry	Department of Supervision and Inspection	• Licensing and registration of industrial operators	L	L	L	L
Ministry of Health	FDA	• Quality controls • Lab services • HACCP certificates	L	L	L	L
Ministry of Agriculture and Irrigation	DoA-Seed Division	• Multiply quality seeds • Demonstration farms (groundnuts, pigeon peas and chick peas)	L	M	L	L
	DAR	• Improved varieties • Breeder &foundation seeds • Research farms	L	M	L	L
	DoA-Land Use Division	• Quality control of fertilizers • Fertilizer testing lab	L	L	L	L
	DoA-Agricultural Extension Division	• Model farms • Farmer seed banks • Seed farms and seed multiplication (not for oilseeds) • Some farmer field schools • Training of farmer associations	L	L	L	L
	Irrigation Department	• Building of dams and facilities, reservoirs and canals • Collaboration with water management groups	M	M	H	L
	Water Resources Utilization Department	• Managing of pumping of ground water and river water	M	L	L	L
	Land Records and Settlement Department	• Data on production • Enforces land law • Land registry	L	M	L	L

Name of institution	Description of TSI in line with sector	Activities	Coordination	Human capital	Financial resources	Lobbying/ communication
Ministry of Agriculture and Irrigation	Agricultural Mechanization Department	• Rents machinery • Promotes mechanization • Trains farmers	L	L	L	L
	DoA-Plant Protection Division	• Laboratory testing (pesticide residues)	M	M	L	M
	DoA –Plant Protection Division	• Phytosanitary certificates	L	L	L	L
Ministry of Cooperatives	Microfinance t o farmers (not yet operational)	• Microloans	L	L	L	L
Ministry of National Planning & Economic Development	Directorate of Investment and Company Administration	• Company registration • Joint venture services • Investment promotion	M	M	M	M
Ministry of Energy	Myanmar Petrochemical Enterprise	• Fertilizer Production (Urea, Nitrogen)	L	L	L	L
Ministry of Finance	Department of Internal Revenues	• Commercial taxes	L	M	H	L
	Customs Authority	• Customs duties • Export documentation	L	L	M	L
Ministry of Science and Technology	Myanmar Scientific & Technological Research Department	• Establishes standards	L	M	L	L

TRADE SERVICES NETWORK

These institutions or agencies provide a wide range of trade-related services to both government and enterprises. They support and promote sectors as well as deliver trade and export solutions.

Table 12: *Trade services network for the Myanmar pulses, beans and oilseeds sector*

Name of institution	Description of TSI in line with sector	Activities	Coordination	Human capital	Financial resources	Lobbying/ communication
Myanmar Agricultural Development Bank	Finance services to agriculture stakeholders (banking)	• Annual loans • Term loans • Rural saving	M	L	L	M
The Republic of the Union of Myanmar Federation of Chambers of Commerce & Industry	Represents and promotes private sector interests (service)	• Certificates of origin • Business to business meetings • Trade missions, fairs	M	M	H	M
Myanmar Organic Agriculture Group (MOAG)	Private sector association that supports organic agriculture development (service)	• Traceability • Standard setting • Testing	L	L	L	L
Myanmar Pulses, Beans & Sesame Seeds Merchants Association (MPBSMA)	Association of producers and traders in the pulses, beans, and sesame seed sector (service)	• Testify for Country of Origin (before UMFCCI) • Lobbies and advocates in favour of the sector • Defends the interests of its members • Organizes trade fairs • Arbitration • Code of conduct • Monitoring	M	L	L	L
Yangon Region Chambers of Commerce & Industry	Quality and local trade	• Arbitration • Business to business meetings • Market information	M	L	L	L
Regional CEXCs	Quality and local trade	• Price information • Facilitates trade	M	L	L	-
Myanmar Industry Association	Myanmar Food Processors and Exporters Association	• Laboratory testing (for food testing) • Packaging	M	L	L	M
Government Insurance Service	Insurance	• Fire, flood and transport insurance • Theft insurance	M	M	H	L

BUSINESS SERVICES NETWORK

These are associations, or major representatives, of commercial services providers used by exporters to effect international trade transactions.

Table 13: *Business services network for the Myanmar pulses, beans and oilseeds sector*

Name of institution	Description of TSI in line with sector	Activities	Coordination	Human capital	Financial resources	Lobbying/ communication
Association of Bankers	Banking	• Loans to large processors and exporters	L	M	M	L
Private insurance companies	Insurance	• Insurance for processors and exporters	L	L	L	L
Inspection agencies	SGS, OMIC, Myanmar Pest Control Services, Myanmar Overseas Commodity Inspection Co., Ltd, Myanmar Inspection and Testing Service	• Inspection, weight, quantity, quality, packing, fumigation, marking, testing	L	L	M	L
Myanmar Container Trucks Association	Service	• Transportation	L	L	L	L
Myanmar Customs Brokers Association	Service	• Export /import procedures • Clearing agents	L	L	L	M
Myanmar Highway Freight Transportation Services Association	Service	• Transportation	L	L	L	L
Myanmar Plastic Industries Association	Service	• Bags (polypropylene bags)	L	L	M	L

CIVIL SOCIETY NETWORK

ANALYSIS OF THE TRADE SUPPORT NETWORK

These institutions are not explicitly engaged in the sector's trade-related activities. However, they are opinion leaders representing specific interests that have a bearing on the sector's export potential and socioeconomic development.

Table 14: *Civil society network for the pulses, beans and oilseeds sectors*

Name of institution	Description of TSI in line with sector	Activities	Coordination	Human capital	Financial resources	Lobbying/ communication
Commerce Journal	Media	• Market and price information	M	M	L	M
e-trade Myanmar	Media	• Trade information	M	M	L	M
Universities	Education	• Specialized research	L	L	L	L

While the sustainable development of the pulses, beans and oilseeds sector requires the participation and support of a wide-ranging TSI network, the analysis above illustrates that the human and financial capacities of institutions supporting the sector need to be upgraded. While there is a fair amount of coordination on behalf of the trade services network and civil society network, coordination among policy support and business services networks is lacking. Especially concerning is the lack of coordination by a number of ministries including MoAI, which plays a key role in sectoral development. Moreover, both the Commerce Journal and e-trade Myanmar must increase their levels of coordination with enterprises, thereby guaranteeing an optimized flow of trade information to sector participants.

Another important issue is the lack of human resources capacities at the majority of TSIs, with the exception of the Ministry of Commerce (MoC). The availability of adequately trained staff at these institutions is indispensable to guide sector development. As focal points for sector knowledge they are critical in disseminating information among, and providing services to, sector stakeholders. Their ability to fulfil this role hinges upon the qualifications of their staff.

Equally worrisome is the insufficient access to financial resources, especially for MoAI, MoC, and MPBSMA. The development of the sector depends to a large extent upon the ability of these key institutions to act as anchors for sectoral growth and focal points of sectoral initiatives. Sustainable export development will only be possible if these institutions have access to an adequate and stable supply of financial resources.

TSIs must also increase their lobbying and communication on behalf of and to sector stakeholders. It is important that enterprises can rely upon key coordinating institutions to advocate policy on their behalf in response to a changing global trade environment.

Lastly, it is important to give special attention to universities, whose capacities are lacking across all categories. It will be important for Myanmar's higher education infrastructure to increase their coordination, human resources, financial capacities and advocacy in order to participate in developing and diffusing best agricultural practices.

DEVELOPMENT INITIATIVES

Having recognized the importance of agriculture to Myanmar's economy and socioeconomic welfare, the government has committed to increasing sector capacities. Moreover, following the political reforms of 2011 a number of donors have begun engaging in development initiatives. One of these donors is the International Fund for Agriculture and Development (IFAD), which is funding a US$ 300,000 project from October 2013 through March 2015.[72] Executed in three villages of the central Magway area, the initiative will focus on building capacities in rural development and the agricultural and livestock sectors.

Another IFAD initiative is the Fostering Agricultural Revitalization in Myanmar project, which is currently being designed.[73] It will seek to provide aid to poor rural populations by increasing the incomes of employees and smallholders. Particular focus will be placed on women-headed households, landless households and ethnic minorities. The project will participate in both land development and capacity-building through the foundation of 55 knowledge centres that will serve to empower communities and improve local skills and institutions.

IFAD is also in various stages of investigating and negotiating a number of other initiatives. These include a US$ 500,000 grant for capacity-building of MoAI and the Country Strategic Opportunities Programme, which will work towards facilitating access to agricultural resources, technologies, services and markets.[74]

72. Xinhua (2013).Myanmar sees encouraging foreign engagement in agricultural sector, 4 October. Available from: http://news.xinhuanet .com/english/business/2013-10/04/c_132771836.htm.

73. IFAD (August, 2013). *Fostering Agricultural Revitalization in Myanmar Project Design Mission.*

74. IFAD (2013). *Republic of the Union of Myanmar IFAD Mission September 2013 Aide-Mémoire.*

An important source of donor activity is the Livelihood and Food Security Trust Fund (LIFT), which has been active in Myanmar since 2009.[75] LIFT is a multi-donor fund managed by the United Nations Office for Project Services that counts Australia, Denmark, the European Union, France, the Netherlands, New Zealand, Sweden, Switzerland, the United States and the United Kingdom of Great Britain and Northern Ireland among its supporters. Its goal is to channel aid to implementing partners in order to improve food and livelihood security of vulnerable populations in Myanmar. LIFT is currently assisting the agricultural sector to develop capacities through dozens of projects.

FAO is also implementing a number of projects that will affect the pulses, beans and oilseeds sector. By addressing a wide variety of issues, regional projects seek to build capacities for the implementation of international food safety standards and develop plant pest surveillance and information management systems. Further aid is provided through two country-specific projects. The Food Security through Strengthening of Institutional Capacity for Seed Production project seeks to:

> Establish a modern framework for sustainable seed delivery system(s) by strengthening the capacity of the institutions responsible for crop varietal improvement, seed production, quality control; and developing an appropriate national seed policy and regulatory framework for seed programmes/industry with an appropriate oversight arrangement.[76]

The Sustainable Cropland and Forest Management in Priority Agro-Ecosystems of Myanmar project seeks to enable agricultural stakeholders to improve land condition and mitigate climate change through the spread of sustainable resource management policies and practices.[77]

Despite positive signs with regards to aid activity, it is only within the last two years that political changes have catalysed a greater willingness on the part of donors to engage more actively in Myanmar. While the number of projects being implemented is limited, there have been generic commitments by the international community. The European Union, for example, has committed €100 million, of which €5.5 million will be dedicated to capacity-building.[78] They are currently preparing a €50 million long-term programme that will engage in trade assistance.

LEGAL AND LEGISLATIVE FRAMEWORK

A number of agricultural and food product laws govern the pulses, beans and oilseeds sector. First among these is the National Food Law, which was passed in 1997 in line with the World Health Organization Model Food Law.[79] This legislation laid the groundwork for Myanmar's food regulation policy and its stated goals are to:

> (i) enable the public to consume food of genuine quality, free from danger, (ii) prevent the public from consuming food that may cause danger or (that are) injurious to health, (iii) supervise production of controlled food systematically, and (iv) control and regulate the production, import, export, storage, distribution and sale of food systematically.[80]

Among other things the law empowers the FDA to establish and implement policy relating to production, storage, distribution, labelling, and sale of food. Although effective implementation has been elusive, this law also lays the groundwork for the oversight of food quality and standards.

With regards more specifically to agriculture, the Pesticide Law of 1990 empowers MoAI to regulate the registration and use of pesticides in Myanmar.[81] The Pesticide Registration Board was established as a result of this law, constituting ten authorities from various ministries. The Pesticide Analytical Laboratory was tasked with product testing and quality control.

The Fertilizer Law of 2002 established the Fertilizer Committee, which was tasked with developing and implementing policy related to the oversight of fertilizer use.[82] The aim of the law was to support the development of agriculture in Myanmar by enabling the control and oversight of fertilizers, supporting environmentally sound development through the use of suitable fertilizers, and enabling research into better agricultural practices and fertilization systems.

75. Livelihoods and Food Security Trust Fund (LIFT) (2013). Website. Available from: http://lift-fund.org/

76. FAO–MoAI. *Food Security through Strengthening of Institutional Capacity for Seed Production.* Available from: http://coin.fao.org/coin-static/cms/media/6/13244522724000/food_security_seed_production.pdf.

77. GEF Trust Fund (2013). Project Identification Form: Sustainable cropland and forest management in priority agro-ecosystems of Myanmar.

78. European Commission (2014). Development and Cooperation – Europeaid: Myanmar/Burma. Available from http://ec.europa.eu/europeaid/where/asia/country-cooperation/myanmar/myanmar_en.htm.

79. Htwe, Dr. Yi Yi (n.d.). FDA, *Myanmar Department of Health.* PowerPoint presentation available from ftp://ftp.fao.org/docrep/fao/meeting/008/ad813e.pdf.

80. Republic of the Union of Myanmar, State Law and Order Restoration Council (3 March 1997). *The National Food Law (Law No. 5/97).*

81. U Myo Myint (Plant Protection Division, Myanmar Agriculture Service). Myanmar Country Report.

82. Republic of the Union of Myanmar, State Peace and Development Council (October, 2002). *The Fertilizer Law (Law No. 7/2002).*

Another important piece of legislation is the Plant Pest Quarantine Law of 1993.83 Its objectives were to (i) prevent quarantine pests from entering Myanmar, (ii) stop the spread of quarantine pests, and (iii) if necessary, to enable the disinfestation or disinfection of plants or plant products destined for export while issuing phytosanitary certificates.

An important development in the regulatory framework occurred in 2011 with the passing of The Seed Law.[84] Its objective is to stimulate the development of the agricultural sector by encouraging participation in seed research and facilitating cooperation in the development of seed businesses. Lastly, the government is currently drafting a law on bio-safety in order to regulate genetically modified organisms.

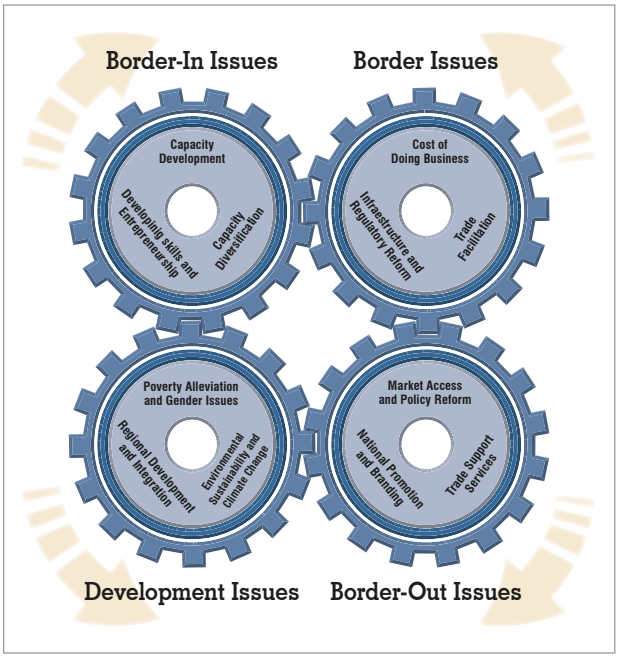
EXPORT COMPETITIVENESS ISSUES

The export constraints analysis uses a four gears framework presented below to determine the major concerns to export development.

- **Supply-side issues** impact production capacity and include challenges in areas such as availability of appropriate skills and competencies; diversification capacity; technology; and low value addition in the sector's products.
- **The quality of the business environment** are constraints that influence transaction costs, such as regulatory environment; administrative procedures and documentation; infrastructure bottlenecks; certification costs; Internet access; and cost of support services.
- **Market entry issues** are essentially external to the country (but may also be manifested internally), such as market access, market development, market diversification and export promotion.

The analysis presents those constraints that are currently the main export competitiveness bottlenecks for the pulses, beans and oilseeds sector in Myanmar. However, the assessment also explores issues limiting socioeconomic spillovers of exports to the society at large:

Social and economic concerns include poverty reduction, gender equity, youth development, environmental sustainability and regional integration.



83. Republic of the Union of Myanmar, State Law and Order Restoration Council (June, 1993). *The Plant Pest Quarantine Law (Law No. 8/1993).*

84. Lwin, T., Myint, Z.H. and Mya, M. (n.d.) Plant Variety Protection in Myanmar. PowerPoint presentation. Available from: http://eapvp.org/report/items/docs/PVP%20in%20Myanmar.pdf.

Box 12: Overview of supply-side issues related to the pulses, beans and oilseeds sector

- Insufficient availability of quality seeds to satisfy national demand leads to lower volume and quality of production.
- Scarce rural, commercial and agricultural finance mechanisms lead to low productivity and production volumes.
- Limited production planning and support in line with market trends causes diminishing returns for certain crops.
- Low use of modern cultivation techniques limits capacity to increase production.
- Inadequate harvest and post-harvest techniques reduce quality and quantity of production.
- It is difficult to add value to products because of limited knowledge of client needs, absence of support mechanisms and challenging production infrastructures.

THE BORDER-IN GEAR (SUPPLY-SIDE)

INSUFFICIENT AVAILABILITY OF QUALITY SEEDS TO SATISFY NATIONAL DEMAND LEADS TO LOWER VOLUME AND QUALITY OF PRODUCTION

As indicated above, the national production of quality seeds is largely insufficient to cover the needs of farmers. According to FAO, national seed multiplication only covers on average 1% of seed requirements for oilseeds (sesame, groundnuts, sunflower, soya bean, etc.). MPBSMA indicates that this situation is also applicable for pulses and beans seed multiplication.

The absence of adequate technologies and the limited human capacity at DAR and at DoA-Seed Division hampers the development of an efficient seed multiplication infrastructure. According to Agricultural Science and Technology Indicators,[85] average spending per agricultural scientist and research intensity ratio are among the lowest in the world, which implies a need to increase agricultural research investments by sevenfold for Myanmar to be on par with the average for the Asia-Pacific region.

In addition to the insufficiency of R&D resources for the agriculture sector there is a challenge of coordination and cooperation between the relevant institutions for seed multiplication. There is currently limited dialogue or partnerships between government agriculture research bodies (DAR, DoA-Seed Division) and private seed multiplication companies. Efforts to organize public–public and public–private dialogue on seed multiplication and distribution would contribute to defining opportunities for improving yields in the pulses and oilseeds sector.

It is important to note that, according to FAO,[86] the existing seed market in Myanmar is small and unorganized. A key reason for this situation is the limited financial capacity of farmers to purchase large volumes of seeds annually; instead farmers buy small amounts and multiply them for many years, which leads to decreasing yields due to mixing of varieties. At the moment it is not commercially viable for the private sector to invest in seed multiplication except for a limited number of crops, such as sesame.[87] Efforts to sensitize farmers on the benefits of using quality seeds could support the initial development of a commercial seed sector. These efforts will need to be accompanied with increased access to finance for farmers to purchase the seeds.

85. Stads, G., and Kam, P.S. (2007). Myanmar: Agricultural Science and Technology Indicators. *ASTI Country Brief No. 38*, June, p.8

86. FAO (2009). *An Analysis of the Myanmar Edible Oil Crops Sub-Sector,* p.86.

87. *Ibid.:* p. 88.

SCARCE RURAL, COMMERCIAL AND AGRICULTURAL FINANCE MECHANISMS LEAD TO DIFFICULT DEVELOPMENT OF THE SECTOR

Access to finance is considered a key challenge to all sectors in Myanmar, including in the pulses, beans and oilseeds sector. The availability of adequate finance for agricultural development is very low. Agriculture engages 56.6%[88] of the population and produces approximately 48%of GDP[89] but it only receives 1% to 3% of formal bank credit.[90] There are no agricultural financial mechanisms such as crop loans or agriculture credit lines that could support agricultural development. Reform of the financial sector in Myanmar will need to take into account the development of agricultural finance as a means to boost productivity and production of both domestic and export crops such as pulses, beans and oilseeds.

There is very low financial intermediation in Myanmar with only 1.69 commercial bank branches per 100,000 residents, while there are 4.33 in Cambodia, 8.07 in the Philippines, 11.29 in Thailand, and 3.63 in Viet Nam.[91] In addition to low intermediation, most commercial banks are located in urban areas with very limited outreach to rural regions. This situation makes it almost impossible for rural farmers and processors to access the financial resources required to increase production.

There is also limited availability of microfinance services. The International Monetary Fund (IMF) estimates the total demand for microcredit at close to US$1 billion while, based on the limited data available, the total portfolio of microloans is estimated at US$283 million.[92] The development of microfinance and innovative finance mechanisms for rural regions would contribute to building up the production capacity of the pulses, beans and oilseeds sector. The recent development to support approximately 2.2 million people with 'microsavings' such as income-generating loans, agricultural loans, consumer loans, healthcare loans, education loans, client welfare schemes and voluntary savings,[93] needs to be recognized even if additional efforts are required to reach a greater number of rural populations. According to certain banks and microfinance institutions, the limited development of finance and microfinance also aims to limit potential for over-indebtedness of farmers facing factors such as the decline of the price of beans.[94]

88. Department of Labour (1990).*1990 Labour Force Survey.*

89. 2004 data, World Bank national accounts data, and OECD National Accounts data files.

90. FAO (2009). *An Analysis of the Myanmar Edible Oil Crops Sub-Sector,* p. 88.

91. IMF (2011). *Financial Access Survey.*

92. IFC Advisory Services in East Asia and the Pacific (2013). *Microfinance in Myanmar Sector Assessment*.

93. *Ibid.:* p.19.

94. *Ibid.:* p.17.

Over-indebtedness of pulse farmers and traders occurred in 2008 and 2011 when a few large traders defaulted due to price falls caused by bad weather and lack of regulation regarding payment policies. The absence of price support systems95 for the pulses, beans and oilseeds sector limits the ability of farmers and traders to develop financial planning for their operations. Efforts to establish a price support system for the pulses, beans and oilseeds sector, in addition to rice, would benefit its long-term development.

LIMITED PRODUCTION PLANNING AND SUPPORT IN LINE WITH MARKET TRENDS CAUSES DIMINISHING RETURNS FOR CERTAIN CROPS

As indicated above, the socialist management system of agriculture until 1990 organized production according to the government's priorities. The gradual liberalization of the agricultural production system, with the maintaining of certain regulations, permitted the development of a market-based agricultural system.

However, there is still difficulty in Myanmar to manage agricultural production efficiently through rigorous data collection, analysis and planning, thanks to an outdated and inaccurate data management system. According to some analyses, there was before 1988 an understandable motivation of data recorders to publish data supporting official state goals, while farmers had incentives to understate production because of sales quotas imposed by the state. Moreover, even after governmental controls on agriculture were relaxed, starting in 1988 for pulses, statistical officers inherited a database filled with inflated data on production and productivity which will remain mostly inaccurate until there is a thorough revamping of the agricultural data collection and analysis system.[96]

Additionally, crop plantation and management is rarely based on solid market trends analysis. At the moment, farmers are mostly encouraged to grow certain crops based on assessments from government, sector associations and traders, all of whom have limited access to reliable market data and reports. For certain crops, such as black gram, this situation is leading to diminishing returns since the Indian market – the main buyer – is currently reducing its imports.

Sector associations are only partially involved in planning planting cycles for the pulses, beans and oilseeds sector. According to members of MPBSMA, there is a need to increase its involvement is conducting market trending in order to better inform relevant institutions and farmers about planting cycles.

LOW USE OF MODERN CULTIVATION TECHNIQUES LIMITS CAPACITY TO INCREASE PRODUCTION

The development of modern agricultural production techniques has increased the total productivity of agriculture at the global level. As indicated above, Myanmar has been under investing in agricultural R&D for many years. On average, Myanmar spends only US$0.06 of every US$100 in agricultural output on agricultural research, compared withUS$0.41 by its Asian neighbours, which represents expenditures averaging less than 20% of its peers and competitors.[97] This low investment in agriculture development, and more precisely the pulses, beans and oilseeds sector, leads to low human, institutional and technical capacities to modernize agricultural production.

The modernization of agricultural production techniques is also hampered by the limited capacity and resources available to extension services. The current ratio of one extension worker to 1,700 farmers[98] would put Myanmar in line with the average ratio of extension services in developing countries but far off from more advanced or developed countries in Europe, North America or Asia with a ratio averaging 1:40.[99] In fact, some analyses[100] indicate that the low level of outreach to farmers is caused by low salaries and benefits, lack of mobility and inadequate operational budgets that lower the morale of an otherwise sufficient number of extension staff. For this reason, extension of agricultural advice is virtually non-existent, with farmers depending heavily on each other, private suppliers of inputs and wholesale purchasers.[101] The low presence of extension workers limits the transmission capacity of modern production techniques to farmers.

95. Price support systems provide a benefit to all producers by establishing a price floor. The benefit is roughly equal to the difference between the internal price and the world price. Note: If the level of support is less than the de minimis threshold – i.e., 5% of the value of production in the case of developed countries and 10% in the case of developing – the support is excluded from the Aggregate Measure of Support (AMS) calculation under the World Trade Organization. (DTB Associates (2011). *Domestic Support and World Trade Organization Obligations in Key Developing Countries)*.

96. Michigan State University (MSU) and the Myanmar Development Resource Institute's Center for Economic and Social Development (MDRI/CESD) (2013). *A Strategic Agricultural Sector and Food Security Diagnostic for Myanmar*.USAID,p.18.

97. *Ibid.* :p.44.

98. Ratio provided by DoA during NES consultations.

99. Feder, G., Willett, A. and Zijp, W. (1999).*Agricultural Extension – Generic Challenges and Some Ingredients for Solutions*, p.5.World Bank Policy Research Working Papers.

100. Global Forum for Rural Advisory Services (2013). Worldwide extension study: Myanmar. Available from: www.g-fras.org/en/world-wide-extension-study/94-world-wide-extension-study/asia/south-eastern-asia/313-myammar.html.

101. Anderson Irrigation (2012), p.14, cited inMichigan State University (MSU) and the Myanmar Development Resource Institute's Center for Economic and Social Development (MDRI/CESD) (2013). *A Strategic Agricultural Sector and Food Security Diagnostic for Myanmar.* USAID,p. 45.

In addition to limited extension services from government, the efficient dissemination of modern agricultural techniques is inhibited due a low use of information and communications technology. Numerous non-governmental organizations and institutions are implementing farmer field schools[102] in Myanmar; however, their number remains insufficient to reach most farmers. It is still considered that agricultural extension services are a prerogative of the government, with little involvement of farmers.[103] For this reason there is very limited outsourcing of extension services to private sector operators. Investment in developing new models for delivering extension services through greater involvement of farmers could contribute to increasing the dissemination of new and modern agricultural technologies

INADEQUATE HARVEST AND POST-HARVEST TECHNIQUES REDUCE QUALITY AND QUANTITY OF PRODUCTION

It is estimated that harvest and post-harvest losses for pulses and beans are approximately 8%-10%, and up to 25% for oilseeds (mainly sesame).[104] There are a number of factors contributing to harvest and post-harvest losses, ranging from improper harvesting to inadequate handling, inefficient threshing, poor transport conditions, outdated primary processing equipment and bad storage conditions.

Improper harvesting is caused by the insufficient extension services that limit knowledge transfer to farmers concerning adequate harvesting periods and techniques. The low mechanization of harvesting is also a key cause of losses, primarily due to the limited capacity of small farmers to invest in modern agricultural equipment such as harvesting machines and dryers.[105] Inefficient handling and threshing is caused by similar reasons of limited knowledge and outdated machinery.

The poor transport conditions leading to contamination and loss of product can be attributed to many decades of underinvestment, heavy regulation and limited structures linking water, road and rail transportation.[106] The trucks used for the transport of pulses, beans and oilseeds are not always dedicated to the transport of dry legumes and seeds, which can also lead to contamination of products.

As indicated earlier, there is limited primary processing (cleaning, sorting, splitting, de-husking) in Myanmar due to a main focus on export of bulk commodities. Primary processing is often inadequate because of limited knowledge and inadequate machinery. For instance, sesame bags sometimes contain a high content of sand caused by poor cleaning.[107]

Limited storage capacities also affect the post-harvest losses of pulses, beans and oilseeds. Issues with storage affect multiple levels of the sector value chain. At the farm and community level bags of pulses, beans and oilseeds are mixed with other products, which can lead to contamination. There is limited availability of silos at the community level and on shipment routes to protect the produce from pest and rodent infestations.

IT IS DIFFICULT TO ADD VALUE TO PRODUCTS BECAUSE OF LIMITED KNOWLEDGE OF CLIENT NEEDS, ABSENCE OF SUPPORT MECHANISMS AND CHALLENGING PRODUCTION INFRASTRUCTURES

Myanmar only processes between 5% and 10% of the approximately 1 million tons of beans and pulses it exports annually.[108] There is additional processing capacity but exporters and importers are accustomed to unclean and unsorted pulses.

The estimated edible oil demand in Myanmar of 825,000 tons by 2015 exceeds the total production of approximately 300,000 tons.[109] As indicated earlier, many mills are currently closed or partially operational because of insufficient seed availability.[110] Furthermore, the quality of edible oil production is not standardized, leading to a high occurrence of oil contamination and adulteration.

The development of the pulses, beans and oilseeds sector is partly limited by its own capacity to add value to its production. Globally, the market has evolved towards higher value products such as edible/snack groundnuts, processed white and black sesame, or gluten-free products.[111] It is therefore critical for the sector to move beyond bulk commodity exporting towards the development of various types of processing through renewed transfor-

102. See Metta, AVSI, etc.

103. Global Forum for Rural Advisory Services (2013). Worldwide extension study: Myanmar. Available from: www.g-fras.org/en/world-wide-extension-study/94-world-wide-extension-study/asia/south-eastern-asia/313-myammar.html.

104. Information provided by MPBSMA during NES consultations, does not include the milling stage.

105. Myanmar Farmer Association (n.d.). Proposal for the investment of establishing FARMER services centre. Available from: http://myanmarfarmer.org/?q=node/48.

106. Michigan State University (MSU) and the Myanmar Development Resource Institute's Center for Economic and Social Development (MDRI/CESD) (2013). *A Strategic Agricultural Sector and Food Security Diagnostic for Myanmar.* USAID, p. 43.

107. FAO (2009). *An Analysis of the Myanmar Edible Oil Crops Sub-Sector,* p. 142.

108. Thura Swiss (August 2013). *Myanmar's Beans and Pulses Trade: Risks and Prospects,* p.5.

109. According to information received from MPBSMA during NES consultations.

110. FAO (2009). *An Analysis of the Myanmar Edible Oil Crops Sub-Sector,* p. 102.

111. *Ibid.*:p. 177.

mation capacities, increased market knowledge and food products development.

A key constraint limiting value addition and product development is the limited knowledge of market dynamics and requirements by producers, processors and exporters. The absence of a national trade promotion organization to collect and disseminate product trends and international market information, as well as the absence of a developed network of commercial attachés, limits the market adaptation capacity of sector stakeholders. Furthermore, the nascent structure of trade promotion efforts in Myanmar leads to the absence of a market intervention scheme to support exporters' costs of participating in trade fairs and market research. Increased knowledge of markets trends and dynamics would facilitate the development and adaptation of pulses, beans and oilseeds products towards higher value goods.

The absence of a food technology institute, or university department, limits the capacity of the sector to design and test new products in line with market requirements. Food product development is thus based either on replicating existing products identified in target markets, or trial and error development. The high costs and failure risk linked with new product development are limiting processors' and exporters' interest in conducting R&D. Additionally, it has been indicated that there are no dedicated funds or incentives to encourage product development at enterprise level.

The production of value added products in Myanmar is also limited by the capacity of processors to use modern production techniques. Similarly to other sectors in Myanmar, enterprises in the sector have inadequate access to clean water, leading to difficult quality management in agro-processing; insufficient provision of reliable electricity which requires the use of costly generators; and challenging access to business management utilities such as telephone and high speed Internet. The newly established special economic zones (SEZs) are also not yet equipped with these essential services. Private sector operators across multiple sectors in Myanmar consider that moving to the SEZs would not be advantageous since it makes it easier for utility companies to cut off electricity or water if there are needs elsewhere, and there are no financial incentives to move established processing plants.

Box 13: Overview of business environment issues related to the pulses, beans and oilseeds sector

- High and fluctuating transport costs from warehouse to destination country increase costs of doing business.
- Challenging management of container depots leads to delays in the export of pulses, beans and oilseeds.
- Limited knowledge of contractual agreements, inadequate commodity trading schemes and outdated arbitration frameworks lead to difficult national and international commercial arbitration.
- Inconsistent procedures, inadequacies and lack of standards limit exporters' capacity to provide adequate certificates to relevant authorities.
- Limited resources and competencies in key support institutions lead to overall performance issues.
- Inadequate organization of the sector and its associations impedes structured value chain development.

THE BORDER GEAR (BUSINESS ENVIRONMENT)

HIGH AND FLUCTUATING TRANSPORT COSTS FROM WAREHOUSE TO DESTINATION COUNTRY INCREASE COSTS OF DOING BUSINESS

The pulses, beans and oilseeds sector exports approximately 40,000 containers annually to destination markets such as India, Pakistan, Indonesia, Malaysia and China. The export of such large numbers of containers creates a number of issues for exporters.

Myanmar exports more containers than it imports, obliging shipping lines to carry empty containers. This leads exporters to report a number of surcharges imposed by shipping lines. This situation is unlikely to resolve itself because of an expected increase in export volumes concurrent with an increase in imports. Similarly to actions undertaken in Viet Nam,[112] sector associations should hold official meetings with respective importers, shipping lines and terminal authorities of destination countries to analyse the structure of these surcharges.

Loading and unloading terminal handling charges (THC) are important cost factors of transporting pulses, beans and oilseeds. In Myanmar, exporters are not always fully aware of the principles governing unloading THC. Unless stated otherwise in the contract, under a 'free on board' contract the shipper is liable for THC at origin and the receiver is liable at destination.[113] Inadequate warehousing and cargo management capacities in Myanmar often lead to unexpected storage surcharges that must be met by the exporter. Moreover, the limited knowledge and support provided to exporters for managing shipping documentation leads to cases where unloading THC are charged to the seller, thereby increasing costs of exports. Compounding the issue is an absence of proper documentation, which leads to difficult arbitration between buyers and sellers.

In addition to international transport charges, exporters are faced with high transport costs inside Myanmar. The cost of shipping a container from the warehouse in the Yangon region to the port is higher (approximately US$ 12 per ton) than from port to destination (approximatelyUS$ 2-4 per ton)[114]. These high transport costs are caused by a variety of administrative and logistics delays that restrict the ability of transport companies to build up efficiencies.

A primary administrative issue related to inefficient customs procedures is limited opening hours and weekend closure, which often leads to additional days of surcharge at port. There are also expensive toll charges on roads and bridges which increase the transport cost from warehouse to port. An important share of the transport costs are linked to traffic jams which require trucks to be on the road for up to four hours to complete a journey that would normally take one hour. The truck fleets, which rely largely

112. Vietmaz (2012). Vietnam to prevent unfair surcharges imposed by foreign shipping lines, October 23. Available from: www.vietmaz.com/2012/10/vietnam-to-prevent-unfair-surcharges-imposed-by-foreign-shipping-lines/.

113. ITC (n.d.) The Coffee Guide: Terminal handling charges (THC). Available from: www.thecoffeeguide.org/coffee-guide/logistics-and-insurance/terminal-handling-charges-THC/.

114. Information collected during the NES consultation.

on second-hand vehicles, are subject to frequent repairs, while both fuel and labour costs are significant. As such, any delays can result in significant variable cost increases for the transport companies, which are then transferred to the pulses, beans and oilseeds exporters, thereby increasing their cost of doing business.

CHALLENGING MANAGEMENT OF CONTAINER DEPOTS LEADS TO DELAYS IN THE EXPORT OF PULSES, BEANS AND OILSEEDS

The high volume of containers exported by the sector requires efficient management of container depots.[115] The absence of Radio Frequency Identification and Electronic Data Interchange systems in container yards has been identified as a challenge causing significant delays for exports. The absence of these key storage management systems creates frequent container congestion. The lack of automated scheduling for container clearance further complicates time-consuming handling and collection procedures. The result is an inefficient system with complicated queuing that operates on a first come, first served basis. Not only do the delays that result from this system hinder the ability of enterprises to respond efficiently to dynamic markets, but the prevalence of 'free on board' shipping means that unexpected storage surcharges must be met by the exporter.

LIMITED KNOWLEDGE OF CONTRACTUAL AGREEMENTS, INADEQUATE COMMODITY TRADING SCHEMES AND OUTDATED ARBITRATION FRAMEWORKS LEAD TO DIFFICULT NATIONAL AND INTERNATIONAL COMMERCIAL ARBITRATION

Disputes between stakeholders in the sector occur due to a high default risk and informal agreements between sellers and buyers. At the moment, some disputes between the contracting parties in Myanmar are settled by UMFCCI, when both parties of the dispute are members of it.[116] Problems occur when buyers pledge to pay the sellers at a predicted high price but prices fall. The difficulty of establishing contractual agreements is confirmed by the World Bank Doing Business survey, which ranks Myanmar as the second worst country in the world for enforcement of contracts.[117] In addition to the frequent informal arrangements between buyers and sellers, an outdated Myanmar Companies Act (1914) and Myanmar Arbitration Act (1944),[118] combined with widespread informal agreements between sellers and buyers, complicate the absence of clear payment policies between buyers and sellers.

According to Thura Swiss, in 2010 MPBSMA banned the use of verbal agreements for transactions in the sector with the objective of encouraging formal commercial arrangements. This initiative has been difficult to implement because of the ingrained practices of stakeholders, limited knowledge on use of contractual agreements, and the absence of efficient commercial courts or arbitration tribunals to solve disputes. There is a need to promote the use of contractual agreements and provide training of contract drafting to ensure the cessation of verbal agreements in the sector.

Based on the Myanmar Export/Import Rules and Regulations issued by MoC, international trade disputes must be resolved in accordance with the Arbitration Act.[119] However, there is no public record of any international commercial arbitration cases conducted under it.[120] This confirms the low utilization of the court system to conduct international arbitration awards. In addition to Myanmar becoming, on 15 July 2013, a signatory of the New York Convention on the Recognition and Enforcement of Foreign Arbitral Awards,[121] it is important to ensure the country rapidly revises and implements the newly completed Arbitration Act. This will facilitate arbitration cases between exporters of pulses, beans and oilseeds and their buyers and will also provide a renewed framework to guide national arbitration cases.

In addition to the limited capacities and outdated legislative framework for commercial arbitration, there is weak management of future trading in the sector. Future trading in the beans and pulses market was banned for a time at the Yangon Commodity Exchange[122] because of difficulty enforcing regulations confirming the actual existence of the goods. Even with such bans, future trading remained rampant. The problem is the lack of control to ensure minimum stock requirements in future trading. The lax implementation of such regulations and oversight by Yangon Region Chamber of Commerce and Industry has led to a trading system based on the absence of guarantees in commodity trading. This situation has been the cause of some of the largest defaults in the sector.

115. According to MPBSMA, pulses, beans and oilseeds are exported from three main container yards.

116. Myanmar Legal Services Ltd (2013). *Doing Business in Myanmar.*

117. World Bank (2013). Doing Business in Myanmar: Enforcing Contracts. Available from: www.doingbusiness.org/data/exploreeconomies/myanmar#enforcing-contracts.

118. Myanmar Legal Services Ltd (2013). *Doing Business in Myanmar.*

119. PricewaterhouseCoopers (2012). *Myanmar Business Guide.*

120. Myanmar Legal Services Ltd (2013). *Doing Business in Myanmar.*

121. Clifford Chance (July 2013). *Myanmar Update: New York Convention Enters Into Force.* Available from: www.cliffordchance.com/publicationviews/publications/2013/07/myanmar_update_newyorkconventionentersint.html.

122. Thura Swiss (August 2013). *Myanmar's Beans and Pulses Trade: Risks and Prospects,* p. 5.

In addition to changes in oversight to the sector, there is a need to ensure better organization of the Commodity Exchange through enhanced quality control of the beans and pulses sold. Also, there is a need for a new electronic commodity trading centre in order for buyers and sellers to have real time access to market prices.[123] Hence, it will be important to ensure the new Myanmar Trade and Commodity Exchange Centre[124] is set up rapidly and linked to regional centres.

INCONSISTENT PROCEDURES, INADEQUACIES AND LACK OF STANDARDS LIMIT EXPORTERS' CAPACITY TO PROVIDE ADEQUATE CERTIFICATES TO RELEVANT AUTHORITIES

Exports of pulses, beans and oilseeds to target markets require exporters to provide buyers and customs authorities with a number of certificates confirming compliance of the product with applicable regulations. The absence of streamlined processes and weak capacities of certain institutions to issue required certificates makes it difficult for pulses, beans and oilseeds exporters to comply with this important buyer requirement.

The absence of national standards to guide the production and processing of pulses, beans and oilseeds makes it difficult for the sector to comply with international quality management regulations. National standards were last published in Myanmar in 1970 by the Standards Division of the Myanmar Scientific and Technological Research Department (MSTRD). Of the 65 national standards developed, there was only one for agricultural and food products. This standard has not been reviewed or updated since its definition. In the absence of a national reference system, exporters prefer to use the regulations and standards of target markets. This leads to large discrepancies in quality management between the various producers, processors and exporters of pulses, beans and oilseeds in Myanmar. It is imperative to update the standards applicable to pulses, beans and oilseeds through shortening the process for development, dissemination and application of standards relevant the sector.

The provision of a phytosanitary certificate is required to demonstrate compliance of goods with import regulations aiming to diminish the risks associated with the entry, establishment or spread of plant pests and noxious weeds. In Myanmar, phytosanitary certificates are issued by MoAI-PPD. This department is considered to have acceptable levels of human resources but lacks financial resources to effectively complete its mandate. However, the department is perceived as having weak procedures to issue the certificate, leading to longer than usual issuance timelines.

It has been identified that the absence of a streamlined process to receive all required authorization and certificates greatly affects the time and costs of doing business for pulses, beans and oilseeds exporters. The gradual development of the Myanmar Automated Cargo and Port Consolidated System[125] will greatly improve the efficiency of administrative and customs procedures for exporters. This is particularly important since Myanmar requires many more documents and procedures to export than the regional ASEAN average.[126] It is important to include private sector operators in discussions on and implementation activities for the Myanmar Automated Cargo and Port Consolidated System, to ensure coherence with the needs of importers and exporters.

LIMITED RESOURCES AND COMPETENCIES IN KEY SUPPORT INSTITUTIONS LEAD TO OVERALL PERFORMANCE ISSUES

The above analysis of the sector's TSIs provides an overview of the institutional support provided to the sector. Most importantly, it illustrates that human and financial capacities of institutions need to be upgraded to build the sector's export performance. The following institutions are deemed the most in need of additional support to perform their duties effectively for the sector's development: MoAI (PPD, DAR), MoC (trade promotion), MPBSMA, Customs, Myanmar Foreign Trade Bank and Myanmar Investment and Commercial Bank, MoH (FDA), inspection agencies, MSTRD and the Road Transport Authority.

The analysis recommends developing targeted support plans to ensure these institutions have sufficient and adequately trained staff, a stable supply of financial resources, and increased motivation and support to build up inter-institutional coordination. The support needs to encourage the development of sustainable resource mobilization to ensure continuity.

INADEQUATE ORGANIZATION OF THE SECTOR AND ITS ASSOCIATIONS IMPEDES STRUCTURED VALUE CHAIN DEVELOPMENT

MPBSMA represents a large array of stakeholders from the sector and serves as a key focal point for the organization of sector development efforts. The inclusion of other associations in MPBSMA is critical to ensure effective dialogues between different private operators. However,

123. *Ibid.*: p.10.

124. Myanmar Business Network (2013). http://www.myanmar-business.org/2013/02/international-commodity-centre-to-be.html.

125. This system is an adaptation of the Nippon Automated Cargo and Port Consolidated System. It is a first step towards the creation of a single window system for Myanmar.

126. World Bank (2013). *Doing Business 2014.*

there is still insufficient dialogue between the different associations that represent the sector. There is limited integration of farmers in MPBSMA at the regional and national levels. It is important to expand the membership of MPBSMA, which is currently comprised of pulses, beans and oilseeds associations of mainly traders/exporters. This confirms that the sector is missing an apex body to represent the diverse private sector interests across the value chain from production to export. The creation of an apex body for the sector might require a revision of MPBSMA's mandate and statutes.

There are few farmer associations in Myanmar and those that exist are often disorganized and not always capable of organizing farmers. As indicated in certain reports,[127] previous regimes' legislations specifically banned unauthorized gatherings of more than five individuals and the formation of and membership in labour organizations was also previously illegal under various laws passed by successive Myanmar governments. Furthermore, farmers did not organize outside of government-sponsored cooperatives, which were established to ensure commodity distribution and to regulate and supervise collective activities.[128] This difficult context, combined with the end of the socialist era in Myanmar, has led to a drastic disorganization of farmer-led associations. The organization and inclusion of farmers in the sector is a critical milestone to ensure farm production is aligned to the requirements of traders, exporters and, ultimately, international markets.

Box 14: Overview of market entry issues related to the pulses, beans and oilseeds sector

- Inadequate export finance mechanisms limit global market expansion of the sector.
- Structured export promotion efforts in international markets and fairs are inefficient.
- There is an absence of relevant and timely trade information (requirements, market trends, etc.)
- Investment promotion efforts are improperly structured.

THE BORDER-OUT GEAR (MARKET ENTRY)

INADEQUATE EXPORT FINANCE MECHANISMS LIMIT GLOBAL MARKET EXPANSION OF THE SECTOR

The pulses, beans and oilseeds sector, similarly to all other export sectors in Myanmar, is currently constrained in its export development due to outdated trade regulations and inadequate export finance mechanisms. National regulations on exports are applied by customs authorities before allowing exports. Exporters need to demonstrate to Customs that payment for the goods has been received in full before the export clearance is given, so enterprises must receive full payment before the shipment leaves port. This system uses telegraphic transfers (TT) to ensure payments are received. The TT system contrasts with the letter of credit system, which is a conditional guarantee of payment in which an overseas bank takes responsibility for paying you after you ship your goods, provided you present all the required documents (such as documents of title, insurance policies, commercial invoices and regulatory documents).[129]

The TT system, which aims to protect exporters by ensuring they are paid for their goods, was useful during the sanctions period. This system now needs to be revised and new directives issued since the TT system actually causes exporters to lose contracts since international buyers prefer to use the letter of credit system. Furthermore, the TT system is most often circumvented by exporters through depositing the payment in an account themselves to demonstrate compliance to Customs. This ensures shipment of the goods and provides time for the buyer to actually pay upon receipt of the goods. This practice is actually risky for exporters and confirms that the regulation requiring advance payment of goods should be abolished.

In addition to the establishment of a letter of credit system, it is important for Myanmar to develop its export finance mechanisms as a mean to increase the ease of exporters to conduct their business. A positive change is that private banks have been authorized to establish international banking businesses and 11 private banks are in the process of installing SWIFT to begin international remittance operations.[130] Nevertheless, export finance products are mostly absent from the financial system in Myanmar. There is a lack of direction and expertise among both financial institutions that could potentially

127. Michigan State University (MSU) and the Myanmar Development Resource Institute's Center for Economic and Social Development (MDRI/CESD) (2013). *A Strategic Agricultural Sector and Food Security Diagnostic for Myanmar*. USAID, p. 48.

128. *Ibid.*

129. Export Finance Navigator (2013). Documentary credit. Available from: www.exportfinance.gov.au/Pages/Documentarycredit.aspx#content.

130. IFC Advisory Services in East Asia and the Pacific (2013). *Microfinance in Myanmar Sector Assessment*.

provide trade finance and the Central Bank of Myanmar, which regulates them. There is a need to develop export finance instruments such as documentary collections, open accounts, export insurance, etc. at the national level.

Export finance is critical to all sectors in Myanmar but it is particularly important to the pulses, beans and oilseeds sector as the second largest export after petroleum and gas products. Discussions to develop export finance instruments should include representatives from this important export sector.

STRUCTURED EXPORT PROMOTION EFFORTS IN INTERNATIONAL MARKETS AND FAIRS ARE INEFFICIENT

The lack of export promotion activities in international markets is considered a primary cause explaining the high concentration of pulses, beans and oilseeds exports to traditional markets (India, China, Japan, Pakistan, Thailand, etc.).Trade promotion efforts are relatively new to Myanmar and numerous challenges will need to be overcome to have an efficient promotion system for the sector. At the moment, the newly established commercial attachés in selected embassies lack adequate knowledge of products offered by the sector. Hence, there will be a need to increase dialogue between MoC, the Ministry of Foreign Affairs (MoFA) and exporters of pulses, beans and oilseeds to ensure effective promotion efforts.

As mentioned above, the limited participation of pulses, beans and oilseeds exporters in trade fairs limits their capacity to promote their products and to adapt to the latest market trends. There is currently no market intervention scheme (cost sharing, group travel, promotion guidance, etc.) to support exporters' participation in trade fairs. Furthermore, the limited knowledge of exporters concerning branding and promotion techniques limits their capacity to project a positive and dynamic image

of the sector's products. Hence, the development and promotion of a Myanmar brand of pulses, beans and oilseeds would have important bearing on export value and competitiveness.

The newly established Department of Trade Promotion at MoC is initiating trade promotion efforts for priority export sectors, including the pulses, beans and oilseeds sector. There is a need for the Department of Trade Promotion to join forces with the private sector to build promotion efforts. It has been proposed to develop an international trade fair in Myanmar where exporters from multiple sectors, including pulses, beans and oilseeds, could present their products to international buyers.

The absence of a trade promotion agency to assist Myanmar exporters and potential exporters with information on market trends, market entry requirements, opportunities, procedures and regulations has been recognized as a key requirement to boost the export sector.

THERE IS AN ABSENCE OF RELEVANT, RELIABLE AND TIMELY TRADE INFORMATION (REQUIREMENTS, MARKET TRENDS, ETC.)

As was indicated earlier, the capacity of exporters to access relevant trade information is a key success factor for exporters to adapt their products to market requirements and tap into emerging global trends. Access to reliable data in Myanmar has been considered a primary challenge for exporters to understand the dynamics of production, processing and exports at national and global levels. Current reports produced on the pulses, beans and oilseeds sector provide partial information and should be supplemented with more detailed market reports and analyses. It also appears that information collected by various trade information institutions of Myanmar (MoC, UMFCCI and MoFA) do not reach exporters efficiently. The absence of a trade information network to gather and centralize information at the national level, and for specific sectors, is perceived as a key requirement for better dissemination of trade information.

Even with access to reliable and relevant trade information, the limited capacity of various sector stakeholders to understand sometimes complex information restricts their ability to make the best use of it. There is a need to organize structured training programmes on gathering and analysis of trade information.

INVESTMENT PROMOTION EFFORTS ARE IMPROPERLY STRUCTURED

The development of the sector – the largest agricultural export sector – requires structured investments in targeted areas to improve its performance. At the moment, sector investment development lacks a structured framework. MPBSMA does not have a detailed list of key priority investment areas, based on the sector's development objectives, as a means to structure investment promotion efforts. A detailed list of priorities could support the work of the Myanmar Investment Commission (MIC) in attracting and authorizing investments. The endorsement on 2 November 2012[131] of the new Foreign Investment Law and its clauses to structure investments in agriculture is aligned to sector stakeholders' objective to be involved and guide investment in the sector. Nevertheless, MIC should increase its efforts to promote national and foreign investment in the sector.

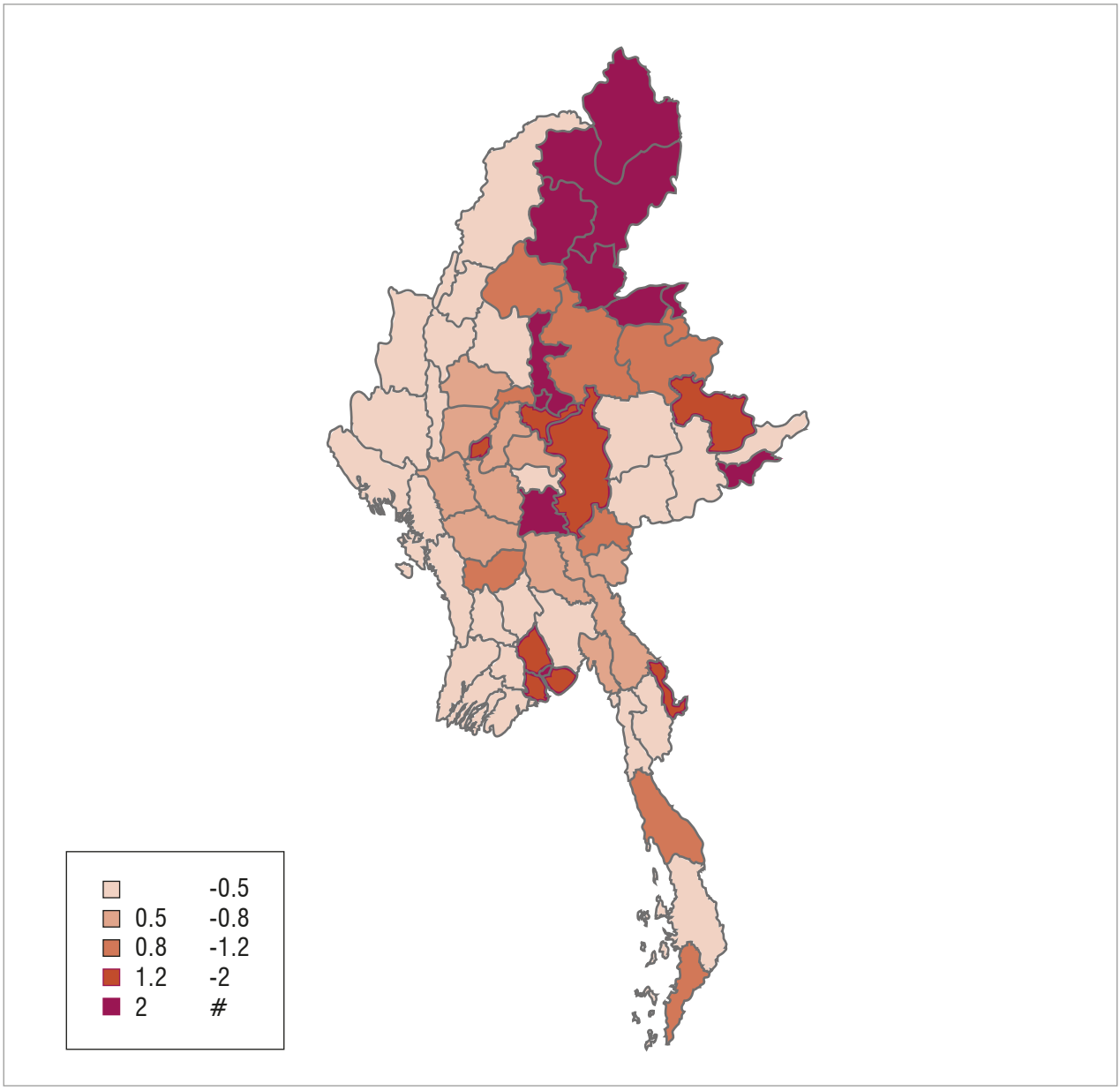
MPBSMA has not been sufficiently active in organizing and participating in business matching meetings organized by UMFCCI. Based on the above-mentioned list of priority investment areas, sector stakeholders will need to take on directly some of the investment promotion efforts of the sector.

131. Republic of the Union of Myanmar (2 November 2012). *The Foreign Investment Law (Law No. 21/2012).* Available from: www.dica.gov.mm/includes/...%2029-1-2013_.pdf

Box 15: Overview of development issues related to the pulses, beans and oilseeds sector

- Difficult socioeconomic development of the sector's rural farmers due to limited access to key services.
- Heightened risk of illness due to unhygienic storage.

Figure 20: *Estimated GDP per capita by district (2009)*



Source: IDE-JETRO (2012). Myanmar economy viewed at night. Policy Review Series on Myanmar Economy, No.05, August.

THE DEVELOPMENT GEAR

Difficult socioeconomic development of the sector's rural farmers due to limited access to key services.

As indicated earlier, there is a low distribution of key services such as finance, electricity, transport, etc., outside the main urban centres of Myanmar – Yangon, Nay Pyi Taw and Mandalay. According to figure 19, there is also an uneven and highly varied concentration of GDP per region in Myanmar.

The pulses, beans and oilseeds sector's performance is largely based on the ability of its agricultural producers in varied rural regions to increase production. The development of the sector is therefore closely linked to better distribution of services and support to producer groups in production areas. The strategic focus of favouring rural and agricultural development as part of sector development is fully aligned to Myanmar's Framework for Economic and Social Reforms, which aims to favour private sector development as well as food security and agricultural growth.

HEIGHTENED RISK OF ILLNESS DUE TO PRODUCT ADULTERATION AND UNHYGIENIC STORAGE

The current method of storing and transporting edible oils in recycled metal drums creates a serious health concern for the local population, as well as for potential foreign consumers. Previously, drums from imported palm oil would be re-used by the local sector. The increased prevalence of bulk palm oil imports however has severely limited the supply of available containers.

As a result, local stakeholders have increased their reliance upon recycled metal drums that had previously been used to carry industrial chemicals and other dangerous substances. Millers generally clean the drums with water and caustic soda, but the small openings in the containers (centimetres wide), make effective cleaning difficult at best. A sampling of such recycled drums has revealed the presence of highly toxic chemicals including irritants and carcinogens. These include trichloroethylene, monoisopropylamine, polyurethane, polyether polyol, styrene monomer, and various engine oil and fuels.

The presence of such toxic substances regularly mixed into one of the most prevalent food products in the national diet creates a clear and present concern for public health. While certain health concerns may be placated through improved quality management practices and controls, diverse efforts must be made to reduce miller reliance upon unsafe containers, especially with regards to local and informal market activity. This could be done through enhancing awareness of both health issues and economic alternatives, while at the same time stressing the importance of increased hygienic standards as it relates to export expansion.

WHERE WE WANT TO GO

VISION

The following vision has been developed to guide the sector and export development efforts of the pulses, beans and oilseeds sector.

> "Contribute to the socioeconomic development of Myanmar by being a global provider of environmentally sustainable and value added products based on modern farming and trading techniques."

The scope for opportunities in the pulses, beans and oilseeds sector is immense and extends along the entire value chain. Enhanced performance of the sector requires either strengthening certain links of the value chain, or making structural modifications to the links. The enhancement of the sector value chain will lead to increased market penetration (increasing exports in existing markets), product development (increasing exports of new products in existing markets), market development (increasing exports of existing products in new markets), and full diversification (increasing exports of new products in new markets). The market development of the sector is a key requisite to achieve the sector's vision of enhanced socioeconomic growth.

This envisaged future state of the pulses, beans and oilseeds sector is discussed in greater detail below.

Figure 21: *Future value chain – pulses and beans subsector*

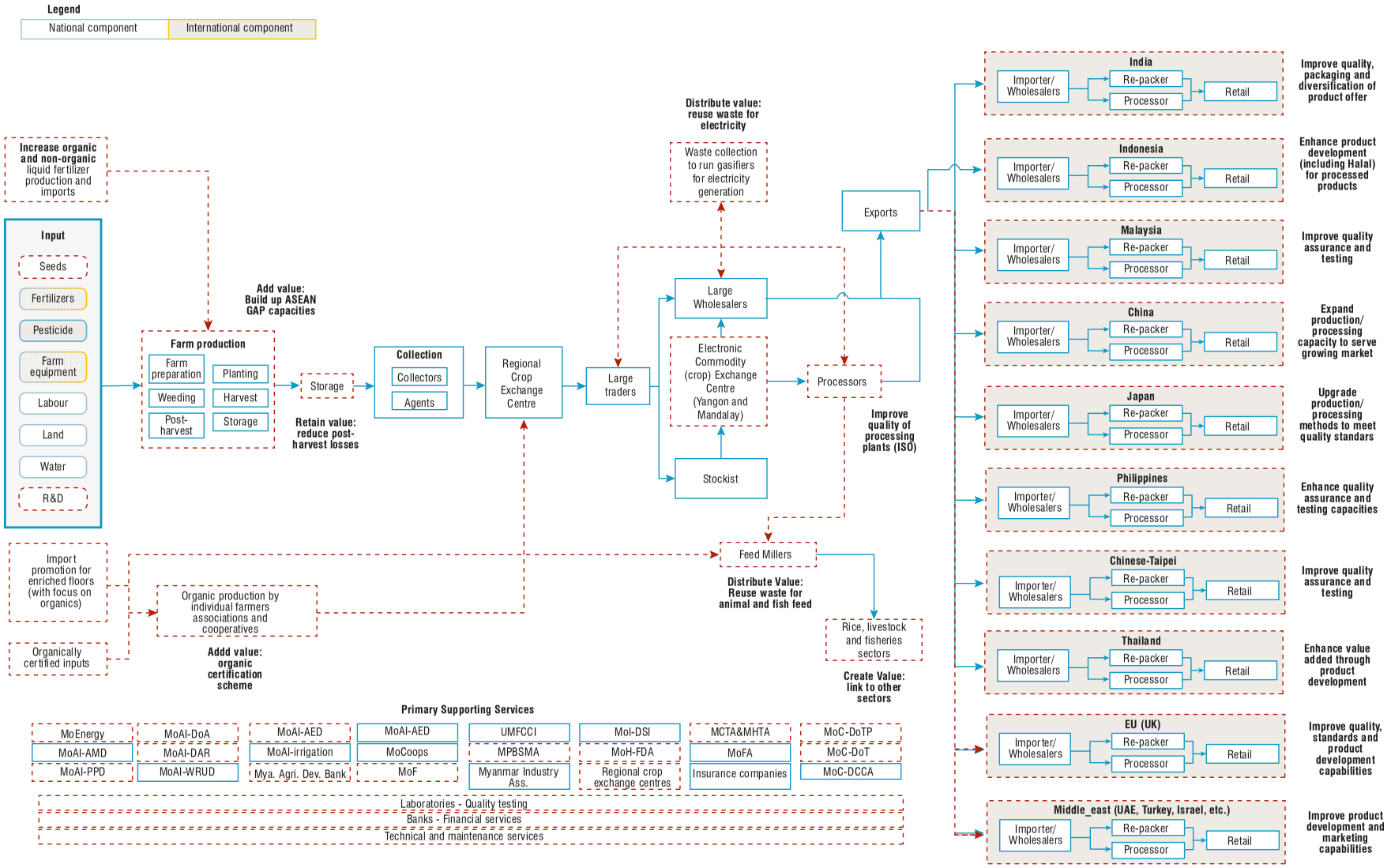
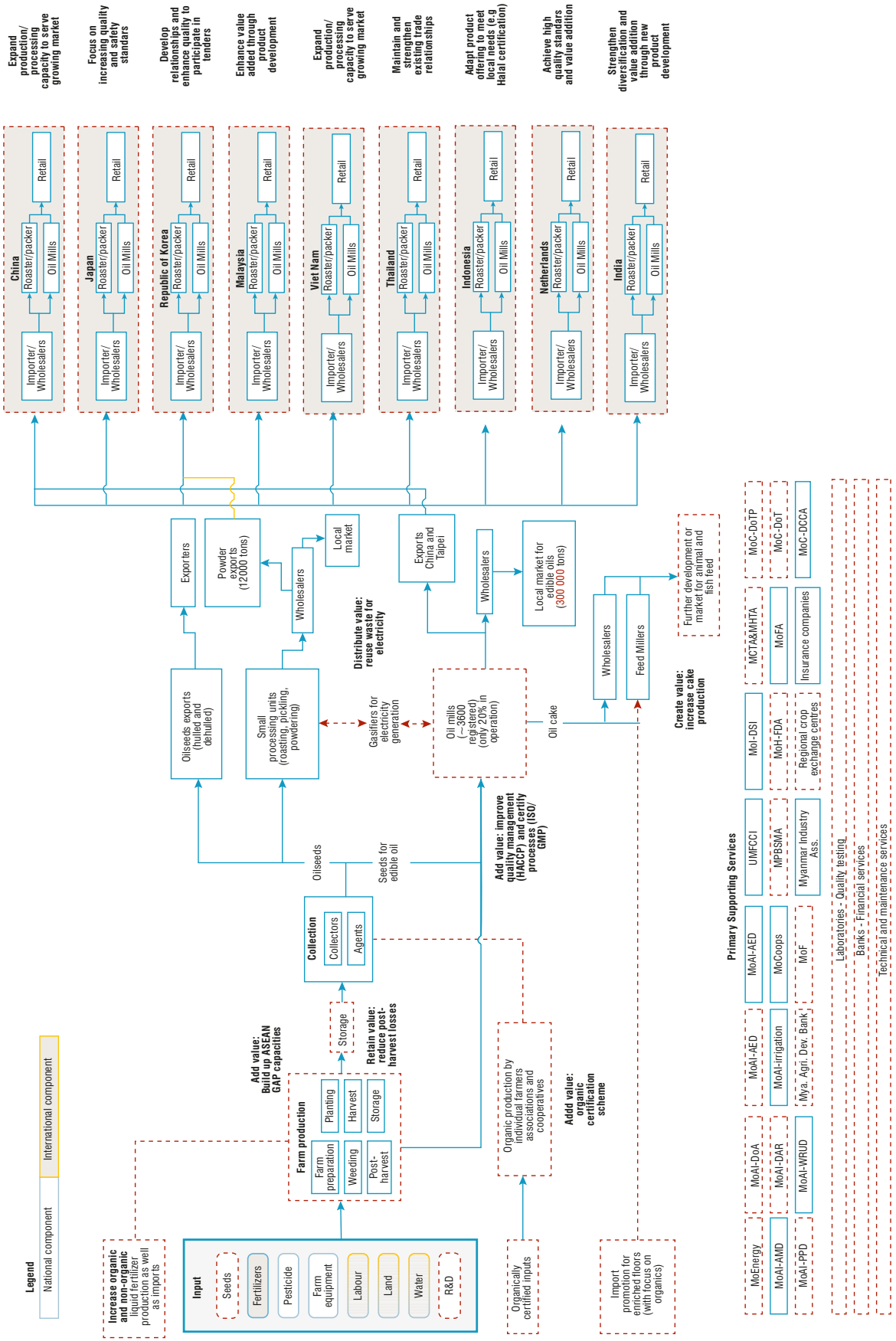


Figure 22: *Future value chain – oilseeds subsector*



MARKET IDENTIFICATION

The following section provides insights into market development opportunities based on quantitative and qualitative research.

Key markets associated with short-term opportunities are selected based on factors such as existing trade relationships, cultural affinity and geographical distances. These factors highlight strong existing market linkages that form the foundation for expanded future growth. Markets representing longer-term opportunities reflect the increasing ability of exporters to move into new and/or higher value markets over time – as envisioned by the NES and its PoA.

Beyond identifying export markets for beans, pulses and oilseeds, the potential to target leading international agricultural commodity exporters should also be noted. Reports suggest that major multinationals such as Cargill[132] and Alliance Grain Traders[133] have been proactively exploring growth opportunities in Myanmar. Facilitating market entry through targeted investment attraction activities could be a way for Myanmar to quickly leverage the capital, global distribution networks, technical capacity and marketing expertise of established industry leaders while boosting the sector's overall competitiveness.

BEANS AND PULSES MARKET OVERVIEW

Myanmar's existing areas of export strength in beans and pulses are largely focused around dry beans – particularly black gram and green gram. Myanmar exports approximately 1 million tons of beans and pulses annually, of which green gram represents roughly 30% of export volume and black gram represents roughly 60%.[134] Although other bean and pulse varieties (such as pigeon peas, cow peas and chickpeas) also play a critical role in agricultural production, green and black gram (dry beans: HS071331) have been prioritized due to their relative importance in the sector's export basket. In 2012 Myanmar's total export value of dry beans (HS 071331) was over US$384 million, while global exports of dry beans were valued at roughly US$790 million. These figures indicate that Myanmar is the world's top exporter of dry beans, accounting for almost 50% of global exports in 2012.[135]

Beans and pulses are staple foods in many markets and consumer preferences for different species vary significantly depending on regional tastes and traditions. The Indian market is particularly important for the bean and pulse sector, as well as other traditional markets such as Japan, Pakistan and Indonesia. Consumption also takes place in 'non-traditional' markets such as the United States and the United Kingdom, where consumers have a growing appetite for ethnic foods and a rising awareness of the nutritional benefits associated with beans and pulses. Beyond traditional foods, beans and pulses are also increasingly recognized as valuable ingredients for processed foods thanks to their potential to improve product positioning with enhanced health and sustainability claims.

A notable trend affecting beans and pulses is the long-term decline in per capita consumption stemming from rising world incomes, increasing urbanization and associated changes to consumer preferences. For instance, India's per capita consumption of beans and pulses decreased by 43% (from 23 to 13 kg) between 1961 and 2007; China's per capita consumption decreased 90% (from 10 to 1 kg) over the same period; and North American per capita consumption has remained steady at roughly 3.5 kg per person.136 Despite this decline in per capita consumption, it is important to note that aggregate world demand for beans and pulses is still expanding due to a rising world population. In fact, the rapidly growing world population (particularly in developing nations) is expected to offset the impact of declining per capita consumption and drive overall growth in global bean and pulse consumption by over 20% in the coming decades, with the largest increases in demand forecast for Asia and Africa.[137]

As indicated earlier, Myanmar's existing exports are highly concentrated within a handful of markets. For instance, in 2012 roughly 71% of dry bean exports were shipped to India and 9% to Indonesia. This reflects geographic proximity and overall import trends, but also highlights opportunities for diversification. Myanmar's currently low level of diversification and limited capacity for value added activity means that the country is a price taker on world markets. Indeed, for dry beans (HS 071331), Myanmar's unit value of exports of 723 (US$/unit) is below the world average

132. Jeremy Grant (2013). Myanmar: will Asia's breadbasket rise again? Financial Times: Beyond BRICS Blog, 25 January. Available from: http://blogs.ft.com/beyond-brics/2013/01/25/myanmar-will-asias-breadbasket-rise-again/.

133. Alliance Grain Traders Inc. (2013). Management's Discussion and Analysis for the Year Ended December 31, 2012, p. 7. Available from: www.alliancegrain.com/download/230.

134. USDA Foreign Agricultural Service (2013). Union of Burma beans and pulses monthly report November 2012. *Global Agricultural Information Network Report No. 1049,* 15 January. USDA Foreign Agricultural Service. Available from: http://gain.fas.usda.gov/Recent%20GAIN%20Publications/Beans%20and%20Pulses%20Monthly%20Report%20November%202012_Rangoon_Burma%20-%20Union%20of_1-15-2013.pdf.

135. ITC calculations based on UN Comtrade statistics

136. Tiwari, B. K., Gowen, A. and McKenna, B., eds (2011). *Pulse Foods: Processing, Quality and Nutraceutical Applications*. London: Elsevier. E-book.

137. Clancey, B. (2009). *World Pulse Outlook: Report to The Saskatchewan Pulse Growers.* Canada: Stat Publishing. Available fromhttp://archive.saskpulse.com/media/pdfs/091005_Final_Brian_Clancey_World_Pulse_Outlook.pdf.

of 847 (US$/unit).[138] Further, it is estimated that only 5% to 10% of Myanmar's beans and pulses go through any processing.[139] This low level of processing is further constrained by the use of relatively old and simple technologies. Given the sector's low levels of processing activity, existing exports consist mainly of bulk shipments of raw seeds, with low volumes of shelling, sorting and splitting.

Increasing the level of processing at the origin of supply can play an important role in enhancing efficiencies of scale and adding value to the sector while building opportunities in rural bean and pulse growing regions. Beyond expanding shelling, sorting and splitting capacities, Myanmar exporters should position themselves for long-term growth with the introduction of new products such as bean flours or other wholesale or consumer packaged goods. Myanmar's large domestic population and geographic proximity to major bean and pulse importers means that the country is well-positioned to expand value added activities.

Nevertheless, it is important to emphasize that as the sector moves up the value chain, market entry decisions will become increasingly predicated by the sector's ability to adapt to different foreign regulatory environments and consumer preferences. Adapting to these variables will require significant institutional and technical capacity upgrading. Moreover, much of the sector's long-term potential will depend on enhanced marketing, food development and agricultural sciences to unlock higher value and improve the sector's overall competitiveness. With strategic investments in technical and capacity upgrading, Myanmar can strengthen market development while building its position as a leading source of beans, pulses and associated value added products.

Short – and mid-to-long-term country-specific market opportunities are identified below.

138. ITC calculations based on UN Comtrade statistics.

139. Thura Swiss (August 2013). *Myanmar's Beans and Pulses Trade: Risks and Prospects.*

Table 15: *Beans and pulses: short-term (1-3 years)*

Target market	Product	Distribution channel	2012 exports to market (US$ thousands)	Exported growth in value(%) (2008–2012)	Average GDP growth 2013–2018 forecast (% change)
India	**Green gram** • Not graded, not sized • Fair average quality **Black gram** • Dehusked • Whole or split	Wholesalers	272180	0	5.84
UAE	**Black gram** • Special quality • Husked or dehusked • Whole or split	Wholesalers	—	—	3.69
Viet Nam	Black gram • Special quality • Husked	Wholesalers	—	—	5.43
Malaysia	**Black gram** • Special quality • Husked	Wholesalers	11627	16	5.07
Indonesia	**Black gram** • Special quality • Husked	Wholesalers	36443	37	5.80
China	**Green gram** • Graded and sized • Not graded, not sized • Husked or dehusked • Fair average quality	Wholesalers	18239	3	7.14
Chinese Taipei	**Green gram** • Graded and sized • Husked or dehusked • Special quality	Wholesalers	7347	17	3.85
Japan	**Green gram** • Graded, sized and sorted • Husked • Special quality	Wholesalers	6282	14	1.29
United Kingdom	**Green gram** • Graded, sized and sorted • Husked • Special quality	Wholesalers	4779	27	1.94

Source: ITC calculations based on UN Comtrade data, growth rates based on IMF estimates (World Economic Outlook database).

INDIA

Products: green gram, black gram

India is the world's most important import market for beans and pulses, with a 47% share of world imports for dry beans (HS071331) in 2012. Both green gram and black gram bean varieties are essential ingredients in a wide range of traditional Indian dishes. As indicated earlier, Myanmar has well established trading relationships with India stemming from close geographic proximity and other historical ties. By building upon existing capacities and leveraging broker networks, Myanmar can expand its exports to India and strengthen the foundations needed to

enter the market with higher value-added products. Further opportunities can be identified through participation in exploratory trade missions as well as enhanced market research (including greater interactions by sector stakeholders with Myanmar's economic attaché in New Delhi).

Myanmar's dry bean exports are currently highly dependent on the Indian market. Given this dependence on the Indian market, it is important to recognize key challenges affecting the prospects for future exports. In particular, growing concerns regarding food security among Indian policymakers are being used as the basis to justify protectionist measures, including an import substitution scheme composed of minimum support prices and possibly import duties ranging from 7.5% to 30%.[140,141] In addition, Myanmar's growth in pulses exports to the Indian market has been stagnant for several years, with no growth in export value recorded between 2008 and 2012. The potential introduction of an import substitution scheme combined with limited growth prospects for exports of bulk dry beans into India highlights the importance of exporters adapting their product offering towards higher value outputs, including retail-ready packaging of dry beans in smaller bags as well as other consumer-ready products

UAE

Product: black gram

The UAE is an important destination for exports of black gram. The country is home to a large Indian diaspora estimated at 1.75 million, or roughly 30% of the total UAE population.[142] The country also represents a hub for further downstream processing and distribution of beans and pulses into Middle Eastern and other global markets. In 2010 the UAE imported dry beans (HS071331) valued at US$6.5 million, or roughly 0.9% of total exports from Myanmar, making it a small market overall, with a 0.7% share of world imports of dry beans in 2012.

VIET NAM

Product: black gram

Myanmar has strong existing trade relationships with Viet Nam for the export of black gram. Viet Nam's significance as an import destination is reflected by a 4.9% share of world imports of dry beans (HS071331) in 2012.Similarly to neighbouring East Asian countries, black gram beans are widely used for sprouting as well as for use in pastes, soups, desserts and other traditional dishes. In order to continue building trading relationships in the Vietnamese market, further opportunities can be explored by liaising with Viet Nam's commercial attaché in Yangon. It is expected that the ASEAN Economic Community (AEC) will offer opportunities for expanded trade with Viet Nam following the full entrance of Myanmar in 2012.

MALAYSIA

Product: black gram

Exports of dry beans (HS071331) from Myanmar to Malaysia have grown by 16% between 2008 and 2012. In 2012 the country represented 3% of Myanmar's dry bean exports and a 2.1% share of global imports. Economic integration between Myanmar and Malaysia will increase as a result of the AEC, offering greater opportunities for trade and investment in the bean and pulse sector. A specific attention to quality has been identified as a key determining factor for exports to this market for special quality husked beans.

INDONESIA

Product: black gram

Indonesia is the fastest growing market for Myanmar's dry bean exports, with a growth in export value of 37% between 2008 and 2012.Indonesia is among the world's top dry bean (HS071331) importing countries, with a 5.9% share of world imports, and a 9.5% share of Myanmar exports in 2012.Opportunities for trade and investment with Indonesia are expected to increase thanks to greater economic integration through the AEC. The development of processed products with halal certification can also offer opportunities for export growth in the medium-to-long term.

CHINA

Product: green gram

Green gram beans are used in Chinese cuisine in a variety of dishes in the form of sprouts, shelled, whole or split beans or pastes, and are an important ingredient across a wide range of dishes. Although China represents a large and important market, growth in exports from Myanmar has been limited in the past few years, estimated at only 3% between 2008 and 2012.In 2012 China represented a 4.7% share of Myanmar's dry bean (HS071331) exports and a 3.2% share of global imports. Despite having a

140. AninditaDey (2013). Agri ministry proposes import duty on pulses. *Business Standard,* 26 October. Available from: www.business-standard.com/article/markets/agri-ministry-proposes-import-duty-on-pulses-113102600363_1.html.

141. Sean Pratt (2013). Rain boosts India's pulse supply outlook. The Western Producer, 23 July. Available from: www.producer.com/2013/07/rain-boosts-indias-pulse-supply-outlook/.

142. Embassy of India, Abu Dhabi, UAE (2013).UAE Indian Community. Available from: http://uaeindians.org/profile.aspx.

shared border with China, a weak border trade system makes the development and enforcement of contracts between Chinese and Myanmar trading partners difficult. These difficulties limit the development of effective trading relationships with Chinese partners and ultimately create obstacles to expansion in the Chinese market. As in India, medium-term opportunities may lie in the provision of higher value outputs, including retail-ready packaging of dry beans in smaller bags as well as other consumer-ready products.

CHINESE TAIPEI

Product: green gram

Chinese Taipei is viewed to be a stable export market for Myanmar's beans and pulses. Green gram beans are commonly used for sprouting and are an essential ingredient in Taiwanese-style mooncake, as well as many other traditional dishes and beverages. In 2012 the Chinese Taipei market encompassed 1.9% of Myanmar dry bean (HS071331) exports and a 2% share of global imports. Exports of dry beans from Myanmar to Chinese Taipei grew by 17% between 2008 and 2012. Exporters can capture value added opportunities through quality assurance systems, including the implementation of physical analyses such as sanitary and phytosanitary certifications, testing germination rates, chemical residues, etc.

JAPAN

Product: green gram

Japan represents the second most important global market for dry beans (HS071331), behind India, with an 11.8% share of world imports. Japanese importers are increasingly seeking alternative sources in order to reduce their current dependence on China. Although Myanmar dry beans offer a price advantage over Chinese and other country imports, market access to Japan is dependent on meeting high quality and food safety standards, including sanitary and phytosanitary requirements, testing of germination rates and chemical residues, etc.

UNITED KINGDOM

Product: green gram

The United Kingdom is a rapidly growing market for Myanmar dry bean exports, with 28% growth in export value recorded between 2008 and 2012.The country represented a 1.2% share of Myanmar's dry bean exports and a 1.7% share of global imports in 2012. The United Kingdom is home to a large and diverse immigrant population, with an estimated 2.8 million people (roughly 5.1% of the total population) from Indian, Pakistani and Bangladeshi ethnic groups.[143]

As this large ethnic population continues to grow and integrate with local communities, it is driving demand for traditional foods made from beans and pulses. This demand has also spilled over into other segments of the population who are increasingly developing an appetite for Indian and Pakistani cuisine. Beyond demand for ethnic foods, consumers and food processors in Western countries are increasingly turning to beans and pulses as a source of gluten-free, high fibre and environmentally sustainable ingredients. Beans and pulses also represent potential ingredients in high-margin pet foods (such as organic or vegetarian pet foods). Significant efforts in market research, food development, and the establishment of collaborative relationships with major food processors can assist in integrating beans and pulses into a greater variety of processed products in the United Kingdom.

143. Office for National Statistics. (2009). Size of ethnic groups: ONS estimates, 2009. Available from: www.ethnicity.ac.uk/population/size.html.

Table 16: *Beans and pulses: medium-to-long term (3+ years)*

Target market	Product	Distribution channel	2012 exports to market (US$ thousands)	Exported growth in value (%) (2008–2012)	Average GDP growth 2013–2018 forecast (% change)
United Kingdom	**Black gram** • Special quality • Husked or dehusked • Whole or split **Black gram flour**	Wholesalers	4779	27	1.94
India	**Green gram** • Graded, sorted, sized • Whole or split • Husked or dehusked **Black gram flour**	Wholesalers	272180	0	5.84
UAE	**Green gram** • Special quality • Graded and sized • Husked or dehusked • Whole or split **Black gram flour**	Wholesalers	—	—	3.69
Japan	**Green gram** • Graded, sized and sorted • Husked • Branded products	Wholesalers	6282	14	1.29

Source: ITC calculations based on UN Comtrade data, growth rates based on IMF estimates (World Economic Outlook database).

UNITED KINGDOM

Products: black gram, black gram flour

Over the medium to long term, the United Kingdom offers important prospects for Myanmar exporters seeking to enter higher value markets. By building on existing relationships and emerging capacities, Myanmar firms will be able to expand their product offering. Initial areas of focus include special quality hulled or dehulled black gram (split or whole), as well as black gram flour. Other longer-term opportunities include the introduction of a greater range of consumer packaged goods targeting the United Kingdom's growing demand for ethnic foods, as well as opportunities for partnerships with food processors in Western countries seeking sources of gluten-free, high fibre or environmentally sustainable ingredients. Significant upgrading of technical and processing capacity as well as improvements to quality certification and traceability will be needed to satisfy the demands of British consumers and regulators. Experiences gained in the United Kingdom market will ultimately help to provide exporters with skills and capacities needed to support entry into other Western markets.

INDIA

Product: black gram flour

India will remain at the heart of Myanmar's bean and pulse export strategy given the country's close proximity and growing demand. Beyond existing exports of black gram and green gram beans, black gram flour has been identified as a potential new product with strong prospects in the Indian market. Black gram flour is a key ingredient in the preparation of Indian-style snack foods – a rapidly growing market segment being driven by the country's growing middle-class. The introduction of new products such as black gram flour will allow exporters to move up the value chain while building capacity for more value added activities.

Over the long term these increasing capacities will strengthen Myanmar's ability to achieve greater levels of diversification and higher value. Despite this potential, an important finding with possible repercussions on market entry of higher value products into India is the apparent consumer preference for products originating from domestic processing facilities rather than foreign.

This preference has been witnessed by Canadian pulse exporters to India.[144] This finding suggests that consumer attitudes could weigh heavily on market entry strategy, and could ultimately affect the sector's ability to successfully locate higher value-added activities in Myanmar when serving the Indian market.

UAE

Product: green gram

The UAE offers important opportunities as a hub for further processing and future access to new and emerging markets. The country is currently a destination for exports of black gram; however, with increased capacity the export of green gram beans will also offer valuable opportunities for exporters. The UAE's large Indian diaspora and relatively high income underscores the country's strong demand for special quality green gram beans. Moreover, despite the UAE's relatively small market size, these factors highlight the country's strategic potential as a location to build on future opportunities for diversification into Middle Eastern or African markets. It is important to note that exporters will need to adapt to the UAE's consumer demands and food safety regulations with enhanced quality and safety testing.

JAPAN

Product: green gram

Exporters can build on existing successes in the Japanese market by achieving a greater level of diversification through expanded product offerings. Beyond existing exports of black gram, the introduction of green gram beans (graded, sized and husked) is a significant opportunity. As Myanmar exporters move into higher value markets in Japan the effective use of branding strategies will play an important role in differentiating exports and capturing new opportunities for consumer packaged goods. Upgrading production and processing methods to meet Japan's strict food safety standards is also a good opportunity for Myanmar exporters to meet (or exceed) the standards of several other markets.

The opportunities identified above for black gram and green gram reflect areas in which Myanmar exporters can build the strengths and capacities needed to achieve broader enhancements in the overall bean and pulse subsector. Enhancements in this subsector can also spill over into other areas, triggering a cascade of improvements throughout the country's agri-food sector and the broader economy. For instance, the lessons learnt as black and green gram exporters implement the production and processing methods needed to satisfy varying food safety regulations among trading partners can be leveraged to support market entry for other agri-food products or commodities. Exposure to world markets can also play a critical role in ensuring greater efficiency, competitiveness and innovation among domestic firms. Targeted improvements to the black gram and green gram subsectors will play a key role in facilitating improvements to overall sector capacity while stimulating development in other areas.

OILSEEDS MARKET OVERVIEW

SESAME SEEDS

Sesame seeds are known for their rich flavour and are used as a condiment or spice, in baked goods, snacks and confections, and as a valuable source of edible oil. The seeds are also key ingredients in many traditional recipes. The seeds can vary in colour depending on the plant variety; however they are generally classified as white or black, with lighter coloured seeds typically being considered of higher quality.[145] However, regional preferences are apparent, with both black and white seeds being popular in Asian markets and white seeds being most popular in Western markets. Less visually appealing (brown or spotted) seeds are typically classified as oil grade, while other physical and chemical properties also influence grading.

Sesame seeds are generally sold either as unroasted or roasted, and hulled or unhulled. Sesame oil also comes in two main varieties –roasted or unroasted. Unroasted oil is light tasting, pale yellow in colour and suitable for frying at high temperatures. Alternatively, roasted sesame oil has a stronger taste, darker colour, and a low smoke point meaning that it is a good seasoning but is unsuitable for cooking at high temperatures.[146] The leftover meal from seed crushing processes has relatively high value in animal feed applications given its strong nutritional profile.[147]

144. Agriculture and Agri-Food Canada (2009). Consumer Trends – Pulses in India. *Market Indicator Report December 2009.* Ottawa: Government of Canada. Available from: www.gov.mb.ca/agriculture/statistics/agri-food/india_pulses_en.pdf.

145. Agricultural Marketing Resource Centre (2011). *Sesame profile.* Available from: www.agmrc.org/commodities__products/grains__oilseeds/sesame_profile.cfm.

146. *Ibid*.

147. Jefferson Agricultural Institute. (2013). *Sesame: a High-Value Oilseed.* Available from www.jeffersoninstitute.org/pubs/sesame.shtml.

Sesame oil also serves niche markets in non-food applications including cosmetic, therapeutic, or bio-industrial uses.[148] The oil is generally regarded as having relatively long shelf-life given high antioxidant levels; however stability levels are highly dependent on extraction methods.[149] Sesame oil is generally sold at a premium relative to other edible vegetable oils, partly thanks to its shelf stability and unique flavour. Branding can also play an important role in achieving price premiums for both oilseeds and oil.

GROUNDNUTS

Although technically a legume, groundnuts (peanuts) are an important source of edible oil and a highly versatile food crop that can also be consumed raw, roasted or cooked. Value added groundnut commodities include peanut butter/paste, peanut flour, roasted peanuts and peanut oil. There are four common market varieties of groundnuts known as Virginia, Spanish, Valencia and Runner. In 2012, global imports of groundnuts (HS 1202) across all trading partners totalled US$3.2 billion. This same year, Myanmar's groundnut exports totalled US$6.8 million, with over 97% of exports shipped to neighbouring Thailand.

Peanut exports, whether for human or animal consumption, face significant restrictions due to strict low level limits of aflatoxins and salmonella contamination (as highlighted in the EU Directive on Contaminants or the Codex Alimentarius). Many potential exporting nations face challenges meeting these standards. As a result international trade in groundnuts is relatively low, with only approximately 5% of global production sold on world markets.

In terms of peanut oil, world imports totalled US$335 million in 2012. Myanmar recently lifted a ban on peanut oil exports, but has not yet broken into the world market. Peanut oil is popular for frying due to its high smoking temperature and limited absorption into foods. The oil also imparts few flavours or odours compared with other cooking oils. Worldwide, roughly 46% of groundnuts are crushed for oil, while the remainder are consumed as nuts. Nevertheless, the use of groundnuts as a source of oil does vary significantly by region, with 75%–80% of groundnuts produced in India crushed for oil, but only 10%–12% crushed for oil in the United States. Groundnut oil accounts for approximately 4% of total world vegetable oil produced.[150] Similarly to other oilseeds, the leftover meal from the groundnut crushing process can be a valuable source of animal feed; however, aflatoxin contamination can limit this usage.

Recent reports suggest that Myanmar's peanut oil subsector faces serious challenges pertaining to quality management and food safety.[151] Deceptive practices among some peanut oil producers (including adulteration and false labelling) must be addressed in order to improve consumer confidence and strengthen the sector's export potential.

148. Morris, J.B. (2002). Food, Industrial, Nutraceutical, and Pharmaceutical Uses of Sesame Genetic Resources, pp. 153-156. In *Trends in New Crops and New Uses*, J. Janick and A. Whipkey, eds. ASHS Press, Alexandria, VA. Available from: www.hort.purdue.edu/newcrop/ncnu02/v5-153.html.

149. Kamal-Eldin, A., & Appelqvist, L. (1995). The effects of extraction methods on sesame oil stability. *Journal of the American Oil Chemists' Society,* August 1995, 72 (8), pp. 967-969.

150. Dean, L. L., Davis, J. P., & Sanders, T. H. (2011).Groundnut (Peanut) Oil. In *Vegetable Oils in Food Technology: Composition, Properties and Uses,* Gunstone, F.D., ed. Oxford: John Wiley & Sons. E-book.

151. San YaminAung (2013). Burma's substandard peanut oils put to the test. *The Irrawaddy,* 4 November. Available from: www.irrawaddy.org/health/burmas-substandard-peanut-oils-put-test.html.

Table 17: *Oilseeds: short-term (1–3 years)*

Target market	Product	Distribution channel	2012 exports to market (US$ thousands)	Exported growth in value(%) (2008–2012)	Average GDP growth 2013-2018 forecast (% change)
China	**Sesame seeds** • White and black • Husked or dehusked	Wholesalers	10459	(38)	7.14
Chinese Taipei	**Sesame seeds** • White, black and brown • Husked or dehusked	Wholesalers	9454	13	3.85
	• Sesame oil For blending	Wholesalers	—	—	
Japan	**Sesame seeds** • White and black • Husked	Wholesalers	25116	9	1.29
Republic of Korea	**Roasted sesame powder** • White and black	Wholesalers	—	—	3.76

Source: ITC calculations based on UN Comtrade data, growth rates based on IMF estimates (World Economic Outlook database).

CHINA

Product: sesame seeds

In 2012 China was the top global importer of sesame seeds (HS 120740), with a 26% share of world imports and a 21% share of Myanmar's sesame seed exports. China's import value for global imports of sesame seeds grew by 16% between 2008 and 2012; however, export value from Myanmar to China declined by 38% during this same period, likely due to irregular supply. White and black sesame seeds are used in a variety of Chinese recipes.

Roasted and unroasted sesame seed oil is also a staple ingredient in many recipes, and is also included in blended vegetable oil products. Sesame seed oil represents 1% of total retail vegetable oil sales in China and mixed oils represent roughly 25%.[152] It should be noted that China is also among the top global exporters of sesame seeds (ranked seventh in 2012), with large volumes of raw sesame seed imports ultimately destined for processing and re-export. To serve the large and fast-growing Chinese market, Myanmar exporters will need to develop capacity to offer consistent volumes and quality.

JAPAN

Product: sesame seeds

Japan is Myanmar's most important export market for sesame seeds. In 2012 Japan had a 12% share of global sesame seed imports and a 50% share of Myanmar sesame exports. Japan's annual growth in export value grew by 9% for Myanmar exporters between 2008 and 2012. Both roasted and unroasted sesame seeds are used as seasonings in a variety of recipes and are also included in popular Japanese spice mixtures and traditional salad dressings. Both roasted and unroasted sesame oils are also staple ingredients in Japanese cuisine, representing 2% of total vegetable oil sales. Sesame oil is also included in several blended vegetable oils, which represent 32% of vegetable oil sales.[153] Japan is the world's leading exporter of sesame oil (HS 151550).

CHINESE TAIPEI

Products: sesame seeds, sesame oil

Chinese Taipei is an important export destination for Myanmar exporters. In 2012, Chinese Taipei held a 2% share of global sesame seed (HS 120740) imports and

152. Agriculture and Agri-Food Canada (2012). Consumer trends: cooking oils in China. *Market Indicator Report,* October. Ottawa: Government of Canada. Available from: www.ats-sea.agr.gc.ca/asi/pdf/6260-eng.pdf.

153. Agriculture and Agri-Food Canada (2012). Consumer trends: cooking oils in Japan. *Market Indicator Report,* May. Ottawa: Government of Canada. Available from: www.ats-sea.agr.gc.ca/asi/pdf/6156-eng.pdf.

a 19% share of Myanmar sesame seed exports. Sesame seeds are used in a variety of Taiwanese recipes and consumers have relatively strong demand for sesame oil, including in blended vegetable oil products. Taiwanese consumers are increasingly moving towards more premium cooking oils, particularly with strong quality and health claims. Consumer sensitivity to branding and quality claims has also increased following a recent highly publicized food safety scandal affecting a local sesame oil producer. Taiwanese food service industry consumers remain highly price sensitive. Sesame oil currently represents 2% of Taiwanese vegetable cooking oil consumption.[154] The country has a growing crushing and oil industry with large volumes of imports destined for further processing, packaging and re-exporting.

154. Agriculture and Agri-Food Canada (2011). Cooking oils in Taiwan. *Market Indicator Report,* June. Ottawa: Government of Canada. Available from: www.ats-sea.agr.gc.ca/asi/pdf/5819-eng.pdf.

REPUBLIC OF KOREA

Product: roasted sesame powder

The Republic of Korea maintains prohibitively high tariffs (over 620%) on sesame seed and sesame oil imports. Market entry is achieved by exporting value added products such as roasted sesame powder, which is not restricted by tariffs. The current volume of Myanmar roasted sesame powder exports to the Republic of Korea is estimated at 12,000 tons and potential exists for additional exports of highest quality powder. Myanmar exporters can build on experiences gained in this market (particularly in terms of quality and food safety standards) to enhance capacity and enter other markets with higher value added products.

Table 18: *Oilseeds: medium-to-long term (3+ years)*

Target market	Product	Distribution channel	2012 exports to market (US$ thousands)	Exported growth in value (%) (2008–2012)	Average GDP growth 2013–2018 forecast (% change)
Republic of Korea	**Sesame seeds** • White and black • Husked or dehusked	Wholesalers	513	14	3.76
China	**Sesame oil**	Wholesalers	—	—	7.14
	Sesame paste	Wholesalers	—	—	
	Groundnut • Kernel	Wholesalers	—	—	
United Kingdom	**Sesame seeds** • White • Dehusked	Wholesalers	—	—	1.94
	Sesame paste	Wholesalers	—	—	
	Groundnut • Kernel	Wholesalers	—	—	
Netherlands	**Sesame seeds** • White • Husked or dehusked	Wholesalers	—	—	1.13
	Groundnut • Kernel	Wholesalers	—	—	
MiddleEast (Turkey, UAE, Israel, Lebanon, Egypt)	**Sesame seeds** • White • Husked or dehusked	Wholesalers	—	—	—
	Sesame paste	Wholesalers	—	—	
United States	**Sesame oil**	Wholesalers	—	—	2.90
Thailand	**Groundnut** • Kernel	Wholesalers	6652	77	4.52

Target market	Product	Distribution channel	2012 exports to market (US$ thousands)	Exported growth in value (%) (2008–2012)	Average GDP growth 2013–2018 forecast (% change)
Viet Nam	**Groundnut** • Kernel	Wholesalers	—	—	5.43
Indonesia	**Groundnut** • Kernel	Wholesalers	74	—	5.80
Japan	**Groundnut** • Kernel	Wholesalers	—	—	1.29

Source: ITC calculations based on UN Comtrade data, growth rates based on IMF estimates (World Economic Outlook database).

REPUBLIC OF KOREA

Product: sesame seeds

The Republic of Korea has prohibitively high tariffs on sesame seed imports; however, there are exceptions for government tenders. Supplying the government of the Republic of Korea with sesame seeds represents an opportunity to break into this market with bulk sales. The ability to participate in government tenders will depend on improved testing and quality management, as well as stronger logistical capabilities to ensure timely delivery. The development of relationships and partnerships with distributors in the Republic of Korea as well as the Republic of Korean Trade Investment Promotion Agency will also be critical to facilitate market entry.

CHINA

Products: sesame oil, sesame paste, groundnut kernels

In 2012, China was the world's leading importer of sesame seeds and the fifth largest importer of sesame oil. In order to serve this large and fast-growing market with new higher value products, Myanmar exporters will need increased capacity, including processing facilities, capital equipment and upgraded technologies and food development/marketing capacities. These new capacities will enable Myanmar exporters to enter the Chinese market with new products such as sesame pastes. In the long-term, with increased capacities Myanmar could introduce branded consumer products. There are also opportunities to expand beyond traditional food markets by targeting industrial purchasers.

Peanut oil is among China's most popular vegetable oils in terms of retail sales (representing roughly 14% of the market), behind canola/rapeseed oil.[155] Raw groundnuts are also imported for use in cooking and incorporated into various recipes or crushed domestically for oil and cake. China is the world's leading importer of peanut oil (HS 1508), with a 33.5% share of the US$444 million global import market and 90% annual growth in value between 2008 and 2012. The Chinese market for peanuts (HS 1202) was valued at over US$25 million in 2012, representing a 0.8% share of the global import market and growing in value by 78% between 2008 and 2012.To build on these opportunities it will be important to invest in agronomic improvements leading to enhanced traits (i.e. oil yield) and new products such as peanut flour demanded by the Chinese market. It is also critical to resolve issues affecting the border trade system, particularly contractual agreements.

UNITED KINGDOM

Products: sesame seeds, sesame paste, groundnut kernels

The United Kingdom represents a leading import market for sesame oil and groundnuts, and an important importer of peanut oil and sesame seeds. In terms of world imports, in 2012 the United Kingdom represented a 5.3% share of sesame oil imports (HS 1515.50), a 5.1% share of peanut imports (HS 1202), a 1.5% share of peanut oil imports (HS 1508) and a 0.7% share of sesame seed imports (HS 120740).

Myanmar exporters can build upon skills and relationships gained in the bean and pulse subsector in order to enter the market with sesame seeds and peanuts. Meeting the United Kingdom's food safety and quality standards will prepare Myanmar exporters for entry into other Western markets. For peanuts, it will be critical to maintain strong aflatoxin management practices in order to sustain market access. The United Kingdom offers opportunities for entry with new products such as sesame pastes or organic certified products. Exporters can also work towards greater value addition and diversification by entering the consumer packaged goods sector with products such as branded sesame oils or tahini. A commercial attaché in

155. Agriculture and Agri-Food Canada (2012). Consumer trends: cooking oils in China. *Market Indicator Report,* October. Ottawa: Government of Canada. Available from: www.ats-sea.agr.gc.ca/asi/pdf/6260-eng.pdf.

the United Kingdom could assist Myanmar exporters to build relationships and identify marketing opportunities.

NETHERLANDS

Products: sesame seeds, groundnut kernels

The Netherlands is recognized as a leader in agri-food innovation and a gateway to European and global markets. In 2012 the country had a 17% share of world peanut imports (HS 1202), or roughly US$555 million. The same year the country held a 1.3% share of world sesame seed imports (HS 120740), or roughly US$27 million. The presence of a commercial attaché in Europe will play an important role in assisting exporters with marketing and business development activities. Entry into the Netherlands will also depend on strengthened food safety and quality standards –particularly with regards to aflatoxin contamination in peanuts. With improved traceability systems, Myanmar exporters can also take advantage of higher-margin opportunities in organic trade.

MIDDLE EAST

Products: sesame seeds, sesame paste

Middle Eastern countries such as Turkey, the UAE, Israel, Lebanon and Egypt share a strong demand for sesame seeds in traditional products such as *tahini*, *halva*, *za'atar or ka'ak*. Of these countries, Turkey represents the largest market, with an 8% share of global sesame seed imports (HS 120740), valued at roughly US$159 million in 2012. Entry into Middle Eastern markets can play an important role in enabling greater diversification for Myanmar exporters. In order to serve these markets, producers will require enhanced food processing and development capacities, including an emphasis on quality and safety. Successful market entry will also depend on the development of stronger marketing and business development capabilities to develop a reputation and brand for Myanmar imports. The adoption of halal and kosher production processes is also critical to serve markets in this region.

UNITED STATES

Product: sesame oil

The United States is the world's largest importer of sesame oil, with a 34% share of global imports (HS 151550), valued at over US$63 million in 2012. With economic sanctions lifting on Myanmar exports, entry into the United States represents a golden opportunity to establish relationships and gain experience operating in this important market.

Similarly to other developed markets, the United States enforces strict food safety and quality standards. Developing the skills and capacities to meet or exceed these standards will play a critical role in strengthening Myanmar's long-term agri-food export potential. Myanmar exporters can also add value by taking advantage the growing demand for organic certified products in the United States. The use of sesame oil in industrial applications also represents opportunities for diversification which can be strengthened through research and marketing. Finally, Myanmar will be able to use the duty free/quota free preferential access once it is recognized by the United States as a least developed country, thereby facilitating the development of this market.

THAILAND

Product: groundnut kernels

Thailand's close geographic proximity and strong established relationships with Myanmar exporters offer opportunities for entry with groundnuts. Peanuts are used in a variety of traditional Thai recipes and incorporated into animal feeds. In 2012 Thailand represented a 1.6% share of global imports. The country offers opportunities for the introduction of consumer packaged goods such as peanut sauces. The ongoing integration enabled by the AEC also offers opportunities for increased exports.

VIET NAM

Product: groundnut kernels

Viet Nam is the second largest global import market for groundnuts, with an 11.7% global import share in 2012, and is a fast-growing market with over 300% growth in import value between 2008 and 2012. Opportunities for trade and investment with Viet Nam are expected to increase thanks to greater economic integration through the AEC. Indeed, Viet Nam applies an estimated average tariff of 9.7% on groundnut imports; however, it is believed that Myanmar will receive a preferential tariff thanks to the AEC. In order to build on these opportunities it is critical to strengthen the sector's marketing and business development capacity while strengthening food safety and quality with enhanced testing, certification and the development of an accredited lab for oversight.

INDONESIA

Product: groundnuts

Indonesia is the third largest global import market for groundnuts with a 6.8% share of world imports in 2012. Indonesia imposes an estimated average tariff of 4.8%

on imports of groundnuts. It is expected that integration through the AEC will relax this tariff. Myanmar exporters have established trade relations with Indonesian importers. Similarly to other markets, growth in Indonesia will require enhanced marketing capacities and improved food safety and quality standards.

JAPAN

Product: groundnut kernels

In 2012 the Japanese market for groundnuts represented a 2% share of total world imports. Myanmar exporters have established strong relationships with several Japanese importers through existing agri-food exports, particularly in the bean and sesame subsectors. By building on these relationships and experiences exporters can diversify into the groundnut sector. In Japan groundnuts are mainly used in the snack foods and confections industry, thereby reflecting opportunities for future value addition in the development of consumer packaged goods. Japanese importers have been heavily dependent on Chinese imports but are looking to increase diversification following recent supply shocks resulting from the identification of pesticide violations in Chinese imports. Japan maintains strict food safety and quality regulations that must be satisfied through the improvement of testing capacities and standards, particularly through the vigilant management of aflatoxin contamination. The development of increased marketing capacities will also be critical to expand into this market

Strengthening the development of the groundnut and sesame seed subsectors can play an important role in laying the groundwork needed to unlock value across the broader oilseeds sector and the general economy. As exporters build know-how and capacity to increase market penetration these skills and resources can be leveraged into new areas for further export growth and development. Overall, given the importance of groundnuts and sesame seeds to Myanmar's oilseed and agri-food sector, efforts directed towards strengthening export development in these crops will facilitate improvements to sector capacity while stimulating modernization and development in other areas.

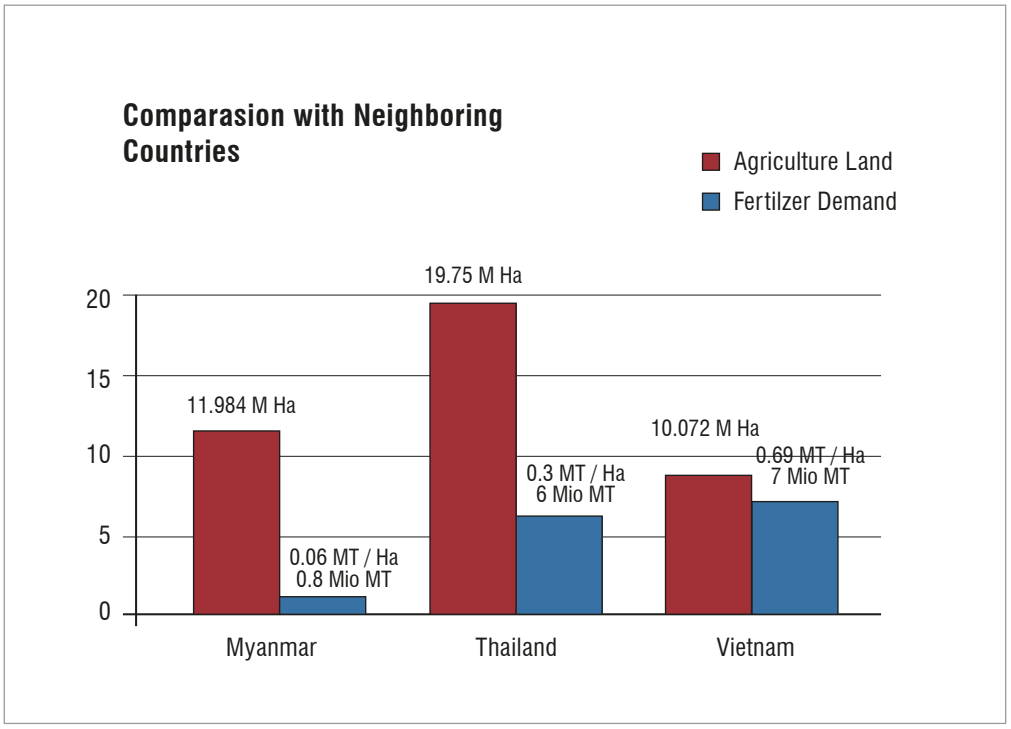
STRUCTURAL IMPROVEMENTS TO THE VALUE CHAIN

As indicated earlier, there are a number of performance issues that need to be addressed for the pulses, beans and oilseeds sector value chain to be effective. In addition, for the long-term strategic development of the sector it is important to explore opportunities for voluntarily improving the value chain in order to increase value addition and environmental and social impact. The following section describes the strategic options that were identified by sector stakeholders as being necessary to enhance the long-term performance of the sector.

Box 16: Overview of structural changes to the pulses, beans and oilseeds sector

- Increase organic and non-organic fertilizer production and imports in order to boost yields.
- Increase quality and quantity of production through the implementation of ASEAN GAP.
- Improve quality management of processing through the certification of processing (HACCP, ISO and GMP).
- Promote the development of organic bean, pulse and oilseed production to access niche target markets.
- Set up alternative energy production such as agricultural waste gasifiers at field level for irrigation, or at processing cluster level for electricity production.
- Obtain import authorizations for oilseeds and enriched flours (with a focus on organics) to increase the production of edible oil, oilseed cake and animal feed.
- Increase coordination with other value chains (rice, livestock and fisheries) to build synergies and collaboration for sector development.

Figure 23: *Fertilizer consumption Myanmar, Viet Nam and Thailand*



Source: Hein, T.(2012). Prospects for agriculture and fertilizer market in Myanmar. PowerPoint presentation at IFA Crossroads Asia-Pacific 2012, Manila, 29–31 October.

INCREASE ORGANIC AND NON-ORGANIC FERTILIZER PRODUCTION AND IMPORTS IN ORDER TO BOOST YIELDS

As indicated earlier, the official supply of fertilizers has declined dramatically in the last decades, due in part to a reduction in subsidies from government and restrictive import laws. Figure 23 confirms the net underuse of fertilizer in Myanmar compared with regional competitors. Based on this data,[156] Myanmar's fertilizer use ratio in tons per hectare would be between 5 and 10 times less that its regional competitors. Based on FAO statistics, Myanmar only produces approximately 100,000 tons of fertilizer and imports approximately 200,000 tons. Informal imports from neighbouring countries Bangladesh, India, Thailand and China would therefore account for approximately 500,000 tons. The largest problem with informal imports is the absence of quality control, possibly leading to fertilizer that has null effects on yield.

It is a strategic necessity to increase organic and non-organic fertilizer production and imports to Myanmar in order to increase overall production. There are a number of avenues required to increase availability of fertilizer. As discussed earlier, a primary requirement for increased fertilizer use in Myanmar is to ensure better access to finance for farmer to enable them to purchase more fertilizer. Secondly, there is a need to allow for imports of greater quantities of fertilizer which will make it easier to ensure quality controls. There is also an opportunity to revisit and possible increase urea production capacity in Myanmar. Finally, a systematic collection and production of oilcake as a nitrogen-rich fertilizer would contribute to increasing the availability of organic fertilizer.

INCREASE QUALITY AND QUANTITY OF PRODUCTION THROUGH THE IMPLEMENTATION OF ASEAN GAP

The lowyields of certain pulses, beans and oilseeds in Myanmar can partly be attributed to a low use of GAP. Pulse, bean and oilseed production requires a number of specific agricultural skills to ensure high productivity and quality. The way the crop is planted, dried and collected plays an important role in the quality of production.

An increasing number of supermarket chains are demanding their suppliers be certified against a private

156. Hein, T.(2012). Prospects for agriculture and fertilizer market in Myanmar. PowerPoint presentation at IFA Crossroads Asia-Pacific 2012, Manila, 29-31 October.

food safety standard such as Global GAP, BRC and IFS.[157] Hence, certain key target markets in Europe, the United States and Asia require producers to gradually comply with GAP. The four modules of the ASEAN GAP on produce quality, food safety, workers' safety and environment are key building blocks in fostering the development of farmers' skills in line with regional and international market requirements. ASEAN GAP, until it is recognized as a global standard, will serve as an initial step for producers wanting to be certified by Global GAP.

As indicated above, many elements such as enhanced seed availability, reinforced extension services, farmer field schools and increased access to financial resources will be required for the pulses, beans and oilseeds sector to move towards the implementation of ASEAN GAP. Nevertheless, certain targeted productions with contract growers could aim to achieve GAP certification in the next few years. For the effective implementation of ASEAN GAP it will be important to increase the monitoring capacities of DoA, MPBSMA and farmers associations to ensure GAP techniques are effectively used by pulse, bean and oilseed farmers.

IMPROVE QUALITY MANAGEMENT OF PROCESSING THROUGH THE CERTIFICATION OF PROCESSING (HACCP, ISO AND GMP)

As indicated earlier, there are few processors and exporters compliant with international best practice in food safety. Only two companies in other subsectors of agribusiness applied for the ISO 22000 international certificate on food safety.

Quality management in Myanmar is underdeveloped for a variety of reasons, such as outdated metrology, absence of up-to-date standards, low capacity of laboratories to complete modern testing, etc. In addition to these challenges, enterprises have been mostly catering to domestic consumers who have less stringent food safety requirements. Therefore few enterprises are aware of the requirements of international markets or have the capacities to apply modern quality management techniques. A key challenge to overcome in order to build up the capacities of enterprises is to train trainers in food safety.

A targeted focus is needed on building up and certifying those enterprises that have the best capacities to apply food safety requirements, such as ISO 22000. Simultaneously, the MPBSMA, in collaboration with the Myanmar Food Processors and Exporters Association and quality management institutions, needs to developed specialized modules to build up quality management in the pulses, beans and oilseeds sector, with the objective of increasing the number of food safety compliant and certified enterprises.

PROMOTE THE DEVELOPMENT OF ORGANIC PULSE, BEAN AND OILSEED PRODUCTION TO ACCESS NICHE TARGET MARKETS

As indicated above, there is currently low use of chemical fertilizers and herbicides in Myanmar due to limited national production and limited imports. Recent efforts by the Myanmar Fruits and Vegetable Producers Association led to the setting up of the Myanmar Organic Agriculture Group (MOAG) to support organic agriculture development in the country. In early 2012 MOAG had around one hundred members and six supported certified organic farms covering 59.89 ha. of crop farmlands, and two fertilizer companies are approved by MOAG for organic inputs. The organic products related to MOAG are sold in domestic markets as conventional products since a real local market for organic produce still needs to be developed.[158] Most importantly, a private organic standard was developed by MOAG in 2010 as well as certification services. Some members of MPBSMA are also members of MOAG, thereby providing an opportunity to initiate the development of organic pulses, beans and oilseeds in Myanmar.

The development of organic production of pulses, beans and oilseeds will require the strengthening of the organic certification scheme in Myanmar. The initial efforts of MOAG are important in building the necessary momentum for organic agriculture development but without a comprehensive organic agricultural development, traceability and certification scheme realizing the important potential of organics in Myanmar in general, and more specifically in the pulses, beans and oilseeds sector, will be difficult. Hence, structured efforts will be needed between MoAI, MOAG and MSTRD to promote the import or production of internationally accredited organic inputs; to promote the building of a traceability system to track organic production from field to plate; and to strengthen the standards and accreditation scheme in Myanmar. It will also be essential to build the knowledge of organic production and processing for extension services, farmer fields schools and key support institutions of the pulses, beans and oilseeds sector.

157. FAO (2007). *A Practical Manual for Producers and Exporters from Asia: Regulations, Standards and Certification for Agricultural Exports*, p.34.

158. Green Net (2011). *Myanmar organic agriculture.* Available from: www.greennet.or.th/en/article/1168.

SET UP ALTERNATIVE ENERGY PRODUCTION SUCH AS AGRICULTURAL WASTE GASIFIERS AT FIELD LEVEL FOR IRRIGATION, OR AT PROCESSING CLUSTER LEVEL FOR ELECTRICITY PRODUCTION

The difficulty of regular access to electricity has been identified as a key challenge by most enterprises consulted for the elaboration of the NES. The pulses, beans and oilseeds sector is no different. According to the Asian Development Bank, Myanmar's average electrification rate was about 26% in 2011 with Yangon City having the highest electrification rate (63%), followed by Nay Pyi Taw (52%), Kayar (37%), Mandalay (29%) and rural areas (16%).[159] The economic development of every sector in Myanmar, including the pulses, beans and oilseeds sector, will require significant quantities of electricity. However, planned investments in electricity production, mainly in hydroelectricity, over the next five years are only 617 megawatts of capacity, a growth rate of less than 5% a year.[160] This increase in production will not be able to satisfy a demand boosted by high growth rates.

The pulses, beans and oilseeds sector can generate some of its required electricity while new national level electricity generation capacity is created. The electricity demand in the sector is mainly for irrigation, threshing, milling and further processing. There are a number of initiatives in Myanmar from the private sector, non-governmental organizations and ministries (MSTRD and Ministry of Energy) to pilot alternative energy production. In addition to the setting up of solar panels, there is an interest in the production of electricity from gasifiers that use agricultural waste.[161] Husks from pulses and sesame or pigeon pea stalks or other waste of the sector could be collected and used in strategically located gasifiers. This is an alternative to the setting up of costly fuel generators and permits the reuse of waste generated by the sector.

OBTAIN IMPORT AUTHORIZATIONS FOR OILSEEDS AND ENRICHED FLOURS (WITH A FOCUS ON ORGANICS) TO INCREASE THE PRODUCTION OF EDIBLE OIL, OILSEED CAKE AND ANIMAL FEED

As indicated earlier, the pulses, beans and oilseeds sector currently has an estimated edible oil processing volume of 300,000 tons. However, the total production capacity far exceeds this volume. An increase in production volume through enhanced GAP and better post-harvest management will increase the edible oil production capacity of the sector. This increase is needed because of the large deficit in edible oil (approximately 550,000 tons in 2015). In addition to intensification in national oilseed production, an increase in production of edible oil can be achieved through the imports of certain oilseeds (soya, sunflower, canola, etc.). Such imports would permit the milling industry to develop and also benefit other sectors in Myanmar through the production of oilcake for feeding livestock and fisheries aquaculture. Imports of specialized enriched flours would also contribute to better linking the sector with animal and aquaculture feed producers.

The proposed import of certain seeds and flours would encourage a building up of processing capacities in Myanmar though increasing the availability of inputs. This model is not opposed to an export model since it would encourage exporters to specialize in the export of higher value products such as premium and organic pulses, oilseeds and edible oils, while at the same time satisfying the local demand for oil, oilcake and animal feed.

INCREASE COORDINATION WITH OTHER VALUE CHAINS (RICE, LIVESTOCK AND FISHERIES) TO BUILD SYNERGIES AND COLLABORATION FOR SECTOR'S DEVELOPMENT

Agricultural sectors in Myanmar face similar challenges in terms of limited access to rural finance, inadequate access to key inputs, low mechanization, challenging institutional organization, etc. For this reason there are opportunities for agricultural sector stakeholders to build synergies and collaborations.

The pulses, beans and oilseeds sector can make an important contribution to socioeconomic development in Myanmar by better integrating with the livestock and fisheries sectors. These important sectors for food security and export also have shortages of key inputs such as feed. As indicated above, an increase in the volume of milling and feed processing conducted by the pulses, beans and oilseeds sector would partly contribute to satisfying some of the demand for oilcake and animal feed. The numerous similarities with the rice sector confirm the need to conduct joint lobbying and advocacy campaigns. Also, the rice sector would be a great contributor to the setting up of gasifiers for electricity generation through waste reuse.

159. Asian Development Bank (10 December 2013). *Project Data Sheet, Off-Grid Renewable Energy Demonstration Project Myanmar.*

160. Dapice, D. (2012). *Electricity in Myanmar: The Missing Prerequisite for Development,* p. 6. Ash Center for Democratic Governance and Innovation at the John F. Kennedy School of Government, Harvard University.

161. East Asia Summit/Energy Cooperation Task Force Bio-fuel Database in East Asia (2013). *Diversity of Potential Biomass in Myanmar.* Available from: http://www.asiabiomass.jp/biofuelDB/myanmar/contents004.htm. Accessed 16 December 2013.

ROLE OF INVESTMENT TO MOVE INTO NEW VALUE CHAINS

Improving the pulse, bean, and oilseed value chains as envisioned by the sector strategy and plan of action will require considerable investment. Public funds and donor aid will be important sources of this investment, particularly for infrastructure, the business environment, government capacity, and guidance to the private sector. However, few factors are as fundamental to the success of a sector as its capital investment, which must be profit-driven to be sustainable in the long term. Therefore, the private sector itself will be the primary source of investment, and a successful sector strategy should mobilize export-oriented private investment as an integral part of and an early driver of improvements to the value chain. In the medium to long term, the combination of concerted public support, motivated private investment, and the general air of hope for Myanmar's future should create enough confidence and momentum to stimulate a virtuous cycle of self-sustaining growth and development.

Myanmar is a least developed country (LDC) and classified as being in a fragile or conflict-affected situation (FCS). It has a transition economy and a very weak financial sector. As such, domestic investment is unlikely to reach transformative levels for the pulse, bean, and oilseed sector in the foreseeable future. A comprehensive private sector development plan is needed for domestic enterprises, but in the short to medium term the role of foreign direct investment (FDI) will be especially important.

FDI can have a transformative effect on a developing country's home-grown, domestically oriented industry, and help it to achieve significant export growth. International investors may be able to introduce a wide range of assets otherwise unavailable to local enterprises, such as large amounts of capital, better inputs (e.g. high-quality seeds), technologies, skills, management practices, operational experience, economies of scale, and international distribution channels, among others.

TYPES OF INVESTMENT NEEDED AND THEIR LIKELY SOURCES

Expanding the sector's production volume, quality, efficiency, value chain operations, and exports will require a proliferation of companies engaged in various aspects of manufacturing, services, and primary production. Major FDI is most viable in the sector's upstream, support services, and trading.

Low transportation costs are important to maintaining profit margins in the export of commodities, such as gram beans, sesame seeds, and peanuts, which are the sector's most important products. With Asia consuming, respectively, 86, 76, and 30 percent of these three products globally, it makes sense for that production to take place within the region. Distance to market is even more important for oils, pastes, flours, snacks, and other processed forms of these commodities. The cost of shipping bottles and cans is prohibitive for export of mass market foods from a small market like Myanmar (by revenue) to a larger market. So, manufacturing and packaging tends to happen close to major markets. This is illustrated by 2012 total global exports of peanut oil, which, at 196,000 tons,[162] represented a mere half percent of total global production.[163] In other words, 99.5 percent of peanut oil sold in 2012 was manufactured in the country where it was sold.

Therefore, any FDI in the production of oils, pastes, flours, canned foods, or other processed forms of gram beans, sesame seeds, and peanuts would need to be targeted at serving the domestic Myanmar market. However, this is unlikely to occur during the timeframe covered by this strategy. Although the world's major food and beverage manufacturers do depend more on developing countries for their growth, these tend to be major emerging markets, such as Brazil, China, and India, and not LDCs or FCS.

Table 19 presents the value chain segments where FDI is both needed and viable, along with leading sources of such FDI and competing locations in the region where investors are active.

Myanmar's pulse, bean, and oilseed sector stakeholders, in particular DICA, MPBSMA, MOAI, and UMFCCI, should work to present proven investors with Myanmar's investment opportunities and, simultaneously, to advocate investment climate reforms that will enhance Myanmar's attractiveness. Table 19 presents the group of companies which collectively control large majorities of the global markets in their given fields. These are not the only potential investors, and smaller regional companies may be better poised to move quickly into Myanmar, given their proximity and knowledge of the country. However, given the immense potential volume of Myanmar's pulse, bean, and oilseed sector, the world's leading players are likely to be involved in a scaling up which fully realizes the sector's potential.

162. ITC calculations based on UN Comtrade statistics

163. United States Department of Agriculture, Foreign Agricultural Service, Table 01: Major Oilseeds: World Supply and Distribution (Commodity View)

Table 19: *Value chain segments needing FDI and likely sources*

Value chain segments where FDI is needed and viable	Leading companies with foreign affiliates in Asia	Source country	Regional locations with an existing presence
Seeds, fertilizers, and pesticides–Sales, distribution, manufacturing, and R&D	Monsanto	U.S.	Bangladesh, China, India, Indonesia, Malaysia, Pakistan, Philippines, Sri Lanka, Thailand, Vietnam
	Dupont (Pioneer)	U.S.	Cambodia, China, India, Indonesia, Pakistan, Philippines, Thailand, Vietnam
	Syngenta	Switzerland	Bangladesh, China, India, Indonesia, Malaysia, Pakistan, Philippines, Thailand, Vietnam
	Bayer Crop Science	Germany	China, India, Indonesia, Pakistan, Thailand
	Dow Agrosciences	U.S.	China, India, Malaysia
	BASF	Germany	Bangladesh, China, India, Indonesia, Malaysia, Pakistan, Philippines, Sri Lanka, Thailand, Vietnam
	KWS (seeds)	Germany	China, Pakistan
Farm machinery and equipment–Sales, distribution, manufacturing, operation, maintenance, and repair	John Deere	U.S.	China, India, Thailand
	CNH	Netherlands	China, India
	AGCO	U.S.	
	CLAAS	Germany	China, India, Thailand
	SAME Deutz-Fahr	Italy	China, India
	Kubota	Japan	China, India, Indonesia, Philippines, Thailand, Vietnam
Animal feed–Manufacturing and R&D	Charoen Pokphand	Thailand	Bangladesh, India, Indonesia, Malaysia, Myanmar, Viet Nam
	Cargill	U.S.	China, India, Indonesia, Malaysia, Pakistan, Philippines, Sri Lanka, Thailand, Viet Nam
	New Hope Group	China	Bangladesh, Indonesia, Philippines, Viet Nam
	Brasil Foods	Brazil	
	Tyson Foods	U.S.	China
	12 other Chinese companies producing 1-10 MMT/year, including Guangdong Wen's Group, Cofco, and East Hope Group		
	7 other Japanese companies producing 1-10 MMT/year, including Zen-noh Cooperative, Marubeni-Nisshin, and Mitsubishi Nossan		
	7 other Asian companies producing 1-10 MMT/year, including Betagro (Thailand), San Miguel (Philippines), Zuellig Gold Coin (Malaysia), Japfa Comfeed (Indonesia), CJ Cheil Jedang (Rep. of Korea), Easy Bio System (Rep. of Korea), and Proconco (Viet Nam)		
Vertically integrated trading, including warehousing, transportation, and risk management (as well as agricultural consulting and manufacturing of biofuels and animal feed in some cases)	Louis Dreyfus Commodities	Netherlands	Bangladesh, China, India, Indonesia, Malaysia, Philippines, Thailand, Viet Nam
	Cargill	U.S.	China, India, Indonesia, Malaysia, Pakistan, Philippines, Sri Lanka, Thailand, Viet Nam
	Archer Daniels Midland	U.S.	China, India, Indonesia
	Bunge	U.S.	China, India, Indonesia, Philippines, Thailand, Viet Nam
Quality testing and certification	SGS	Switzerland	Bangladesh, China, India, Indonesia, Malaysia, Myanmar, Pakistan, Philippines, Sri Lanka, Thailand, Viet Nam
	Cotecna		Bangladesh, China, India, Indonesia, Malaysia, Myanmar, Pakistan, Philippines, Sri Lanka, Thailand, Viet Nam
	Intertek		Bangladesh, China, India, Indonesia, Malaysia, Myanmar, Pakistan, Philippines, Sri Lanka, Thailand, Viet Nam
	NSF		China, India, Malaysia, Thailand, Viet Nam
	SCS		China India, Indonesia, Malaysia

Sources: (Shand, 2012), (Noealt Corporate Services, 2013), (Best & Jennison, 2012), (Murphy, Burch, & Clapp, 2012), and company web sites

Figure 24: *Possible evolution of a foreign investor's activities in a given location*

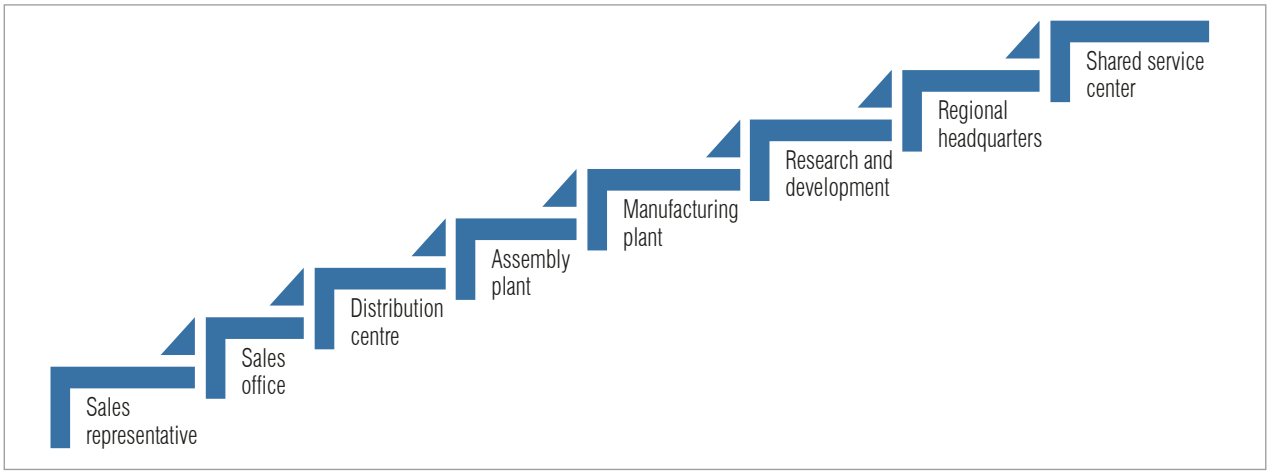


Table 20: *Leading Asian producers and exporters of gram beans, groundnuts, and sesame seeds (production figures in million metric tons)*

	Gram beans	Groundnuts	Sesame seeds
Regional producers (major ones in bold)	**India (1.5)** Thailand	**China (14.3)** **India (6.25)** Indonesia (1.25) Viet Nam (0.5)	**Myanmar (0.72)** **India (0.62)** **China (0.59)**
Regional exporters (major ones in bold)	**Myanmar** **China** Thailand Indonesia (large net importer)	**India** **China**	**India** China (large net importer) Myanmar Pakistan

Sources: ITC calculations based on UN Comtrade statistics; United States Department of Agriculture (sesame data from 2010, peanuts from 2009), (Sharma, et al., 2011)

Furthermore, most of the companies in Table 19 already have extensive presences in the region. Future investments projects in Myanmar might originate with headquarters or with these regional affiliates. For the companies with no presence currently in Myanmar, a first venture would likely take the form of a sales office. Although, this does not create the jobs, technology spillovers, or skill spillovers of a manufacturing project, for example, the possibility of a sales office should not be dismissed by investment promoters as being of low value. A first sales office is an opportunity for a foreign company to make tentative entry into a new market, learning the business landscape and achieving a level of comfort. Of more immediate importance, it can provide Myanmar's pulse, bean, and oilseed sector with valuable access to high-quality inputs, such as seeds, that are essential to the strengthening of the sector.

THE SECTOR'S LEADING COMPETITORS FOR FDI

Myanmar's major competitors for FDI in these value chains are other low-and middle-income countries in Asia with a record of high production, be it for a domestic or export market. Table 20 presents these competitors for FDI.

Myanmar's top competitors for FDI in the sector are India and China, which are the world's leading producers and exporters for the sector's top products. That Myanmar borders both countries is an advantage. It allows Myanmar to present potential investment projects to existing investors in those countries as a slightly more distant extension of their current activities. That China and India are the world's 2nd and 15th largest FDI destinations, respectively, is a net disadvantage, as potential investors are generally more familiar with those markets and have better established public and private support networks.

CRITICAL FACTORS FOR FOREIGN INVESTORS IN MYANMAR'S COMPETITOR LOCATIONS

The World Bank Group's Enterprise Surveys has collected business data from 130,000 firms in 135 countries, from which indicators can be selected to approximate the competitiveness of these countries. Table 21 ranks Myanmar's competitors, from left to right, by importance in Table 20. Below each country, the table presents the results of an enterprise survey, in which foreign investors in that country were asked to pick one of 15 issues as the biggest obstacle to doing business.

Although Enterprise Survey data on the biggest obstacles to doing business are available for Myanmar's major competitors (except Thailand), at the publication of this document, Myanmar's first enterprise surveys remain ongoing. When data becomes available around June 2014,[164] they can be used to compare its relative investment climate strengths and weaknesses, giving sector stakeholders an area on which to focus their investment climate reforms. Even just having such a reform process underway will add to the sector's attractiveness.

When approaching foreign affiliates listed in Table 19, Myanmar's investment promoters will be trying to persuade them to invest in Myanmar based on absolute advantages, such a large market and abundant resources, and relative advantages, such as better tax rates than its competitor countries. Myanmar's investment promoters must distinguish themselves from the other specific locations being considered by the investor. In the absence of detailed, country-by-country cost and risk data, Table 21 provides a rough basis for demonstrating relative advantages. It lists the obstacles to FDI from most-cited, "electricity," to least-cited, "courts" among Myanmar's competitors for FDI. Looking at the group average, there is a clear top tier of four problems among Myanmar's competitors. If Myanmar could perform well in these areas, that would represent a compelling asset for attracting investors. "Tax rates" is the one area in which Myanmar clearly outperforms its competitors. It beats all but Thailand in *Doing Business's* ranking for "paying taxes," and it improved significantly over the last year, offering investment promoters a narrative of continuous enhancement of this existing strength. Most importantly, this issue was cited as the most important by foreign investors in both India and China.

164. (World Bank Group, 2013)

Table 21: *Percent of surveyed foreign investors citing an issue as the "biggest obstacle" to doing business in countries competing with Myanmar for sector-related FDI*

	Strongest competitor ----------> Weakest competitor					
	Group average	India	China	Indonesia	Viet Nam	Pakistan
Electricity	15.7	5.6	2.7	8.9	3.3	57.9
Practices of the informal sector	14.4	8.3	10.1	1.2	51.8	0.5
Tax rates	14.2	27.8	19.9	1.2	2.3	19.6
Access to finance	10.1	13.9	18.5	15.7	2.6	0.0
Inadequately educated workforce	7.4	5.6	14.3	1.9	15.4	0.0
Customs and trade regulations	6.7	8.3	11.5	8.3	5.5	0.0
Political instability	6.6	0.0	1.0	26.4	1.3	4.5
Transportation	5.6	5.6	12.7	3.9	3.9	1.9
Access to land	4.3	5.6	3.8	9.3	2.8	0.0
Corruption	4.0	5.6	1.2	2.7	1.5	9.1
Crime, theft, and disorder	3.8	0.0	0.4	11.7	0.5	6.5
Labour regulations	2.9	8.3	1.5	4.3	0.3	0.0
Tax administration	2.5	5.6	2.2	0.5	4.1	0.0
Business licensing and permits	1.3	0.0	0.2	4.0	2.5	0.0
Courts	0.5	0.0	0.0	0.2	2.2	0.0

Note: Pink shading indicates an obstacle which more than 10 percent of the surveyed foreign investors cited as the biggest obstacle.
Source: World Bank Group Enterprise Surveys, 2006-2012

On the other hand, with respect to the other top-tier obstacles, Myanmar is a notably poor performer. These obstacles are a lack of reliable electricity, unfair competition from the informal sector, and weak access to finance. This reinforces the conclusions of the NES, which found that electricity and finance were particularly problematic for Myanmar. Making relevant reforms will not only strengthen sector; it will give the sector two competitive advantages over its top competitors for FDI. Anticipated aid of $1 billion from the World Bank for rural electrification should aid in this effort, and considerable power to reform the country's financial markets lies in the hands of the Myanma government.

The preceding analysis provides a useful but initial indication of the relative attractiveness of Myanmar's pulse, bean, and oilseed sector and how its standing can be improved. However, MTDC and its stakeholders should commission a study to benchmark the competitiveness of the sector specifically. This study should evaluate specific costs and constraints for each of the investment types to be promoted in Table 19, simulating the cost-benefit and risk analyses of potential investors. Armed with this information, DICA – strengthened in line with NES recommendations and in partnership with MPBSMA, MOAI, UMFCCI, and other sector stakeholders – would be equipped to effectively target investors for the most competitive activities and advocate investment climate reforms to make the others more competitive.

HOW TO GET THERE

The vision of the strategy to "contribute to the socioeconomic development of Myanmar by being a global provider of environmentally sustainable and value added products based on modern farming and trading techniques" responds to the constraints, but equally to the ambitions, identified in the sector strategy. The following section explains the framework that will guide the implementation of the strategy. A detailed action plan setting out what needs to be done, and by whom, is presented at the end of this section.

The pulses, beans and oilseeds sector vision of becoming a global provider of environmentally sustainable and value added products based on modern farming and trading techniques will require the implementation of a realistic and achievable roadmap to develop the sector. The following section explains the framework that will guide the implementation of the strategy. A detailed PoA indicating what needs to be done and by whom is provided at the end of the section.

STRATEGIC OBJECTIVES

There are five strategic objectives considered necessary for realization of the sector vision. These strategic objectives provide a coherent framework to develop the pulses, beans and oilseeds sector for the next five years.

The first strategic objective aims to increase the sector's production and productivity through enhanced farming techniques, upgrading of farmers' capacities, improved infrastructure and a reliable supply of quality inputs.

This will be achieved by building farmers' capacities to produce quality products; ensuring a supply of certified seeds and enhanced use of quality inputs; providing adequate access to financial instruments for production; and improving plantation and post-harvest management.

The second strategic objective will enable compliance of the sector's products to international standards by modernizing and developing quality management systems.

This key objective will be realized though developing and aligning national standards for pulses, beans and oilseeds with international standards; upgrading the national laboratories for pulses, beans and oilseeds exports; developing compliance of the sector with voluntary standards; setting up traceability systems; and training traders and exporters in international quality requirements and procedures.

The third strategic objective is to strengthen cooperation and efficiency in the sector by enhancing inter-institutional collaboration and private–public partnerships.

This objective will be accomplished by encouraging the development of farmer level associations; expanding the mandate of MPBSMA to represent the various stakeholders of the sector; building the organizational and business skills of sector associations; and organizing a private-public committee to coordinate sector development efforts.

The fourth strategic objective is to strengthen the sector's ability to add value to its product through enhancing business management capacities and modernizing processing facilities and techniques.

This goal will be completed by increasing the knowledge of enterprises concerning products available globally; providing adequate financial mechanisms to enterprises for innovation and product development; ensuring proper infrastructure is available for enterprises to be competitive; and organizing structured investment promotion efforts.

The fifth strategic objective aims to ensure continuous growth and global reach of the sector through reliable market information, efficient export procedures, targeted branding, and improved promotion efforts.

This objective will be realized through establishing electronic commodity exchange centres; ensuring structured export development and promotions efforts; improving logistics and trade facilitation; organizing a sector branding initiative; improving commercial arbitration in the sector; and providing timey and relevant trade information, including detailed market reports.

IMPORTANCE OF COORDINATED IMPLEMENTATION

The broad range of activities, together with the complex nature of integrated intervention, requires careful implementation that efficiently directs resources and monitors results at both the micro and macro levels. To this end, a Myanmar Export Council (MEC) will be established in order to facilitate the public-private partnership in elaborating, coordinating and implementing the NES. In particular, MEC will be tasked with coordinating the implementation of activities in order to optimize the allocation of both resources and efforts across the wide spectrum of stakeholders. Within this framework, implementation of the pulses, beans and oilseeds strategy also falls within the purview of MEC, in close collaboration with the sector apex organization.

Such efforts will involve directing donor and private and public sector organizations towards the various NES priorities in order to avoid duplication and guarantee maximum impact. Responsibilities will also include monitoring the results of activities and outputs, while at the same time recommending policies that could serve to enhance realization of the strategic objectives. With a 360 degree view of progress the Committee will be best placed to manage funding and provide regular reports to donors and stakeholders. Moreover, MEC will play a key role in recommending revisions and updates to the strategy so that it continues to evolve in alignment with Myanmar's evolving needs.

IMPLEMENTATION PARTNERS – LEADING AND SUPPORTING INSTITUTIONS

A number of institutions will play a key role in the implementation of the PoA for the pulses, beans and oilseeds sector, as illustrated in the TSI section and the PoA. These are institutions that have the overall responsibility for successful execution of the strategy, as well as support institutions that are active partners but not leading institutions. Each institution mandated to support the sector and its export development is clearly identified in the strategy PoA.

THE REPUBLIC OF THE UNION OF MYANMAR
NATIONAL EXPORT STRATEGY
BEANS, PULSES AND OIL SEEDS
SECTOR STRATEGY 2015-2019

PLAN OF ACTION

The following action plan details all the activities to be undertaken over the next five years to achieve the vision of the strategy. The action plan is organized around strategic and operational objectives that respond to the constraints and opportunities identified in the strategy. The action plan provides a clear and detailed framework for the effective implementation of the Pulses, beans and oilseeds strategy.

Strategic objective 1: Increase the sector's production and productivity through enhanced farming techniques, upgrading farmers' capacities, improved infrastructure and a reliable supply of quality inputs.									
Operational objectives	Activitiesv	Priority 1=high 2=med 3=low	Beneficiaries	Target measures	Means of verification	Leading implementing partner	Supporting implementing partners	Existing programmes or potential support	Estimated costs (USD)
1.1 Enhance farming techniques to increase productivity.	1.1.1 Set up harvesting infrastructure (threshing floors, harvesters, etc.)to minimize losses and wastage by providing technical and financial assistance in major producing areas.	2	» Farmers	5 major producing areas have improved infrastructures operational	Records of processing volumes and visual inspection	DoA	MPBSMA	Country Strategic Opportunities Programme	1,000,000
	1.1.2 Establish irrigation facilities such as pump sets, canals and drainage wherever irrigation water is available. Disseminate knowledge of efficient use of irrigation water through water user groups and train farmers on mulching and soil moisture conservation methods.	2	» Farmers	5 major producing areas have improved irrigation facilities	Yields records; visual inspections	Irrigation Department (MOAI)	DoA	LIFT – Pumped Irrigation Projects (PIPs)	500,000
	1.1.3 Encourage farm mechanization by providing special long-term credit, a hire-purchase system, technical assistance, training, spare parts and maintenance services in collaboration with private farm machinery companies and private and public banks.	1	» Farmers » Farm Machinery Co. » Banks	10% increase in farm mechanisation in priority areas;	Credit attribution records, yields record	Agriculture Mechanization Department (MOAI)	MPBSMA, farm machinery companies, private & public banks	IFC Micro-finance	10,000,000 (refundable credit line)
	1.1.4 Enhance financial capacity of national institutions to develop new technologies by allocating higher budgets, depending on the performance in new technologies.	1	» MoAI	5% of total budget for new technology development	Budget for new tech, evaluation of tech. impact	MNPED	MoAI	Existing	1,000,000
1.2 Build farmers' capacities to produce quality products in line with international best practices.	1.2.1 Innovate in extension services and technology transfer by improving capacities of extension workers and employing more of them; taking care of their mobility and welfare; by enhancing use of mass media and mobile communication; and by sharing the workload with private companies engaging in extension.	1	» Farmers » DoA	10% increase in no. of extension workers	No. of extension workers; supervised area; use of mobile phones	DoA	MoAI, private companies.	Existing	1,000,000
	1.2.2 Prepare training manuals on crop production, crop protection and post-harvest technologyand deliver the trainings to farmers and extension workers aiming to produce quality products.	2	» Farmers » DoA	4 manuals for black gram, green gram, pigeon pea and sesame	Prepared training manuals, no. of publication distributed	DoA	MoAI	Existing	50,000
	1.2.3 Conduct training of trainers in public and private sectors by selecting appropriate persons, supporting training facilities and finance, and managing training programmes.	2	» Farmers » DoA	10 training of trainers in priority areas	No. of trainers attended; no. of training	DoA	DAR, MPBSMA	Existing	100,000
	1.2.4 Obtain assistance from countries producing quality products in line with international best practices.	2	» Farmers	5 countries at least to assist	Assistance obtained; Impact analysis	DoA	DAR, MPBSMA, MoC		50,000
1.2 Build farmers' capacities to produce quality products in line with international best practices.	1.2.5 Apply ASEAN GAP by training farmers with the help of development partners; monitoring the adoption of the practices; and evaluation and certification of GAP by DoA and accredited organizations.	2	» Farmers » DoA	10 trainings in priority areas	No. of farmers attended; No. of GAP certificate issued	DoA	DAR, MPBSMA	Existing	100,000
	1.2.6 Monitor the production of quality products along the supply chain by taking samples, testing at labs, hearing feedback from markets, reporting back to farmers and solving problems by forming a special task force.	1	» Farmers	1 Quality control task force; 1000 samples	No. of sample; lab findings; problems found and solved	Sector Quality Control Task Force	DoA, DAR, MPBSMA, MoC		500,000

Strategic objective 1: Increase the sector's production and productivity through enhanced farming techniques, upgrading farmers' capacities, improved infrastructure and a reliable supply of quality inputs.									
Operational objectives	Activitiesv	Priority 1=high 2=med 3=low	Beneficiaries	Target measures	Means of verification	Leading implementing partner	Supporting implementing partners	Existing programmes or potential support	Estimated costs (USD)
1.3 Ensure a reliable and consistent supply of certified seeds.	1.3.1 Acquire modern seed multiplication technologies by inviting foreign seed companies to establish operations in Myanmar(with tax incentives, ensuring land leases and honouring intellectual property rights) and increasing technical cooperation with ASEAN seed industries and institutes.	1	» Farmers » Seed Co.	10 foreign seed companies at least	Production and distribution of seed; tech. cooperation reports	Directorate of Investment and Company Administration (DICA)	DoA, UMFCCI, MoFA, DAR		10,000
	1.3.2 Build the technical capacities of seed technicians at DAR, DoA-Seed Division, universities and private multiplication businesses through the training of trainers and the development of manuals. Seek international trainers.	2	» DAR, DOA	100 technicians to train; 5 manuals to develop	No. of trainings and trainees; no. of manuals	MoAI	DICA, MoFA, MNPED	Existing	100,000
	1.3.3 Train farmers on proper utilization techniques of certified seeds and on the importance of not mixing varieties and types of seeds.	1	» Farmers	1000 farmers at 5 major producing areas	No. of trained farmers; field assessment	DoA	DAR, Farm Crop Producers Association	FAO	50,000
	1.3.4 Establish a medium-term consignment scheme (three years, with eventual phase-out) to loan seeds to farmers (and farmers associations) with an obligation to return at suitable times the amount of seeds loaned by contractual agreement. *This activity is only possible with long-term low interest loans available for agricultural development.*	2	» Farmers	20% of sown areas in 5 major areas	Seeds loaned and returned; adopting rate	MPBSMA	Myanmar Agricultural DevelopmentBank, Myanmar Microfinance Bank, Central Bank of Myanmar, commercial banks	AUZaid	1,000,000
	1.3.5 Increase collaboration and coordination between DAR, DoA and seed multiplication enterprises (Farm Crop Producers Association) through monthly meetings (video conference) organized under the auspices of MoAI and MPBSMA.	1	» MoAI » FCPA	Monthly meeting	Works done; issues; facts of collaboration and coordination	MoAI	MoC, MPBSMA, DAR, DoA		50,000
	1.3.6 Get the private sector (MPBSMA, Myanmar Rice Federation and the Myanmar Rice Industry Association, etc.) to organize a joint lobbying campaign to encourage public sector investment in seed multiplication in order to ensure growth of production and improved quality for export development.	1	» Farmers » Seed Co.	2 campaign per year	Public sector investment in seed multiplication; production growth; quality export	UMFCCI	MPBSMA, Myanmar Rice Federation and the Myanmar Rice Industry Association		10,000
	1.3.7 Establish a long-term contract with trained contract growers with quota requirements, clear multiplication specifications and monitoring every quarter in order to ensure increased certified seed availability.	2	» Contract growers	Quarterly meeting	Seeds availability; Production by contract growers	DoA	DAR, MPBSMA, Farm Crop Producers Association		15,000
1.4 Ensure adequate access to financial instruments for production development.	1.4.1 Establish a rural finance mechanism (agricultural credit, etc.) through rural banks by setting up an integrated network collaborating with public and private banks.	2	» Farmers » MADB	20 major producing townships to cover	Performance of mechanism; no. of rural banks and public and privat banks involved	Myanmar Agricultural DevelopmentBank	Ministry of Finance, Central Bank of Myanmar, public and private banks		1,000,000
	1.4.2 Increase private sector lobbying to the Government of Myanmar in order to develop the agricultural financing instruments (crop loans, development loans, etc.) needed to enhance quality and quantity of production.	3	» Farmers	2 times a year lobbying	Amount of crop loans, development loans; monitoring the development	MPBSMA	MoAI, Ministry of Finance, UMFCCI, public and private banks		50,000

Strategic objective 1: Increase the sector's production and productivity through enhanced farming techniques, upgrading farmers' capacities, improved infrastructure and a reliable supply of quality inputs.

Operational objectives	Activitiesv	Priority 1=high 2=med 3=low	Beneficiaries	Target measures	Means of verification	Leading implementing partner	Supporting implementing partners	Existing programmes or potential support	Estimated costs (USD)
1.4 Ensure adequate access to financial instruments for production development.	1.4.3 Encourage private banks and microfinance banks to develop rural finance through the establishment of a special fund (agriculture credit line) with advantageous interbank lending rates to be carried over to agriculture loans.	1	» Farmers » Banks	50 townships to cover	Planned and actual use of special fund; no. of participating banks	Central Bank of Myanmar	Ministry of Finance, private banks, microfinance institutions		75,000
	1.4.4 Explore setting up a Minimum Support Price for major export items of pulses and sesame, to apply particularly for times of market failure, in accordance with WTO procedures.	2	» Farmers	4 crops (black gram, green gram, pigeon pea, sesame) to apply	Price, market outlook, climate change, production	MoC	MoAI, UMFCCI		1,500,000
1.5 Improve productivity through enhanced use of quality inputs.	1.5.1 Provide information to farmers on the value of buying quality fertilizer, seeds, and other inputs in order to increase quality and quality of production by using mass media (journals, FM radio, television, SMS, etc.).	1	» Farmers	Bi-monthly information provision activities	Use of quality inputs, yield, coverage of mass media	DoA	MoAI, UMFCCI, Myanmar Fertilizers, Seed and PesticidesEntrepreneurs Association, seed companies	Existing	100,000
	1.5.2 Promote R&D for new varieties of higher yield and better quality by strengthening and modernizing R&D centres, capacity-building and monitoring of market demand.	1	» Farmers » DAR	20 R&D Centres to promote	Budget of R&D Centres, capacity building activities; market demand	DAR	DoA, MoAI, MPBSMA, seed companies	Existing	500,000
	1.5.3 Raise the use of chemical and bio fertilizers by supplementing local production through imports. Ensure the quality of inputs by systematic controls of fertilizers and other inputs in line with laws and regulations.	1	» Agro-Chemical Importers	30% of requirements to import	Fertilizer use; local production; application for import license	Myanmar Fertilizers, Seed and Pesticides Entrepreneurs Association	MoAI, MPBSMA, seed companies	Existing	100,000
	1.5.4 Monitor the availability and useof inputs (fertilizers, water, seeds, etc.) by collecting information from major agricultural areas and by building an information system on production, yields, areas planted, etc.	2	» Farmers » MoAI	24/7 available updated info. Sys.	Inputs data, production data	MoAI	Myanmar Fertilizers, Seed and Pesticides Entrepreneurs Association, Farmer Association	Existing	50,000
1.6 Improve crop and plantation management to ensure constant returns.	1.6.1 Improve data collection on production varieties and volumes by ensuring systematic sampling, crop cuttings and adequate use of information technology.	2	» SLRD	50 selected townships to improve	No. of samples, crop cutting; varietal info; use of ICT	Settlement and Land Records Department	MoAI, MNPED	Existing	1,000,000
	1.6.2 Improveanalysis and forecasting of plantation requirements by surveying and by application of remote sensing and Geographic Information System technology (resource sharing with other ministries and technical assistance needed).	2	» SLRD	10% of areas to survey and use RS/GIS	Crop analysis; crop forecast; area survey	Settlement and Land Records Department	MoAI, Ministry of Science and Technology	Existing	20,000,000
1.7 Improve post-harvest management to produce higher quantity and quality.	1.7.1 Build capacities of farmers, traders, millers, warehouse operators and field staff in post-harvest management through training, extension services and demonstrations.	1	» Farmers » Traders » Millers » Warehouse operators » DoA	50 townships for post-harvest management	No. of training, trainees; extension activities; no. of demonstrations	DoA	MoAI, UMFCCI	Existing	750,000

Strategic objective 1: Increase the sector's production and productivity through enhanced farming techniques, upgrading farmers' capacities, improved infrastructure and a reliable supply of quality inputs.									
Operational objectives	Activitiesv	Priority 1=high 2=med 3=low	Beneficiaries	Target measures	Means of verification	Leading implementing partner	Supporting implementing partners	Existing programmes or potential support	Estimated costs (USD)
1.7 Improve post-harvest management to produce higher quantity and quality.	1.7.2 Develop business skills of farmers by setting up farmer business schools in strategic areas to educate farmers in business skills, management, and economic decision-making.	2	» Farmers » MoC	5 business schools in strategic areas	Business schools activities; no. of farmers trained	MoC	UMFCCI		750,000
	1.7.3 Improve community level storage by providing necessary technical know-how, helping with financial accessibility, and building cooperative partnerships.	2	» Farmers	20 coop partnerships to set up	No. of storage facilities and quantity stored; financial assitance	UMFCCI	DoA, MoC	Existing	10,000
	1.7.4 Expand traditional storage facilities of small size, built with locally available materials, by encouraging local knowledge, by forming cooperatives, and by modernizing the facilities.	2	» Farmers » Co-op » MPBSMA	50 traditional storage facilities	No. of facilities and sizes; cost; modernization accomplished	MPBSMA	DoA	Exising	50,000
	1.7.5 Implement a warehouse receipt credit system managed by local MPBSMA member and community to enable farmers to store their products without deteriorating in quality or quantity before selling to traders.	2	» MPBSMA members	10 systems to establish	No. of farmers participate; amount of produce stored; cost of storage	MPBSMA	DoA, Ministry of Cooperatives		150,000

Strategic objective 2: Enablecomplianceto international standards by modernizing and developing quality management systems.									
Operational objectives	Activities	Priority 1=high 2=med 3=low	Beneficiaries	Target measures	Means of verification	Leading implementing partner	Supporting implementing partners	Existing programmes or potential support	Estimated costs
2.1 Develop and align national standards for pulses, beans and oilseeds with international standards.	2.1.1 Old standards to be updated with feedback from major regional markets, aligning with international standards and collaborating with the public sector.	1	» Farmers » Traders	4 crops (black gram, green gram, pigeon pea, sesame) to be updated	Old standard, int'l standard, market acceptance; feedback	Standardization Committee	MoC, MoAI, UMFCCI	Existing	100,000
	2.1.2 Shorten the process for development, dissemination and application of standards through elaborating and endorsing the standards, dissemination of standards, public awareness, and increased cooperation with the Standardization Committee.	1	» Traders » Standardization Committee	6 months for the process	Dissemination; application; survey; processing time	MPBSMA	Standardization Committee		50,000
2.2 Upgrade and ensure accreditation of national laboratories for pulse, bean and oilseed exports.	2.2.1 Upgrade existing laboratories and establish new laboratories to test physical analysis, phytosanitary and fumigation, chemical residues, food quality testing (carbon testing,benzopyrene), etc., by advocating for budget allocation and expanding technical cooperation with regional and international organizations.	1	» Exporters » DoA	3 labs to upgrade and 5 labs to establish	Lab tests done; budget; income & expenditure	DoA	MoAI, MoC, MoH	Existing	2,000,000
	2.2.2 Promote existing laboratories and ensure they are accredited by upgrading laboratories, building capacity, providing financial support and finding technical assistance and international development partners to issue internationally recognized food safety certificates necessary for valueadded exports of foodstuffs, thus terminating the need to send pre-shipment samples because of lack of modern laboratories.	2	» Exporters » FDA	3 labs to be accredited	Budget; Upgrading cost; HRD; certificates issued	FDA	MoAI, MoC, MoH		50,000
2.2 Upgrade and ensure accreditation of national laboratories for pulse, bean and oilseed exports.	2.2.3 Undertake germination rate and other seed tests by upgrading local seed laboratories under MoAI and encouraging seed companies to establish seed testing labs.	2	» Exporters » DoA	2 seed labs to upgrade 3 new labs by private	No. of tests by labs; seed co. registered	DoA	MoAI, DAR, seed companies	Existing	750,000
	2.2.4 Ensure proficiency testing of labs (supervised by a third party and in line with international standards and procedures) to ensure consistency of testing and avoid differences in second tests in destination countries.	2	» Exporters » DoA » FDA	5 labs to be supervised by a third party	Proficiency of labs; report of third party; complaints received	FDA	MoAI, MoH		100,000
	2.2.5 Modernize the laboratories under MoAI and MoH to be capable of HACCP testing by setting up a special fund, collaboration among line ministries, and seeking international technical assistance.	1	» MoAI » MoH	3 labs to modernize for HACCP test	Available fund; cost and return; no. of test done	FDA	MoAI, MoH	Existing	500,000
2.3 Develop a framework to ensure compliance of the sector with voluntary standards.	2.3.1 Develop third party auditing by inviting interested international parties according to market demand.	1	» MoAI » MoH	5 auditings by third party	Profile of auditing parties; cost and benefit	FDA	MoAI, MoH		500,000
	2.3.2 Explore developing halal and kosher certification in-country by encouraging the private sector and working together with countries honouring these certificates.	2	» Certification Co.	3 certification co. to develop	Proposal and reports; no. of certification	FDA	MoAI, MoH		300,000
	2.3.3 Enhance production of organic products by drafting legal frameworks and inspection and traceability systems, and setting up certification bodies.	1	» Farmers » DoA	3 certification bodies to set up	Proposals and reports; certificates issued	DoA	MoAI, UMFCCI		100,000

Strategic objective 2: Enablecomplianceto international standards by modernizing and developing quality management systems.									
Operational objectives	Activities	Priority 1=high 2=med 3=low	Beneficiaries	Target measures	Means of verification	Leading implementing partner	Supporting implementing partners	Existing programmes or potential support	Estimated costs
2.3 Develop a framework to ensure compliance of the sector with voluntary standards.	2.3.4 Raise awareness among producers and consumers of organics and requirements; and build cooperation with regional and international institutions.	2	» Farmers » Consumers	2 times a year awareness campaign	Awareness activities; availability of organic products; reports by institutions	DoA	Organic Team	Existing	50,000
	2.3.5 Organize more businesses to have ISO international standards by promoting awareness, adopting good practices, and improving business management.	2	» Millers » Exporters	10 members to have ISO	Reports by businesses; assessment study	MPBSMA	UMFCCI, MoC	Existing	500,000
	2.3.6 Establish Corporate Social Responsibility by training and education, capacity-building of businesses and government institutions, and conservation of the environment.	2	» Public	50 co. to establish CSR	Reports by public & private; assessment study; SOE reports	UMFCCI	MoC		100,000
	2.3.7 Support fair trade certification of producers associations/co-ops and processorsby training these groups in good governance, labour rights, etc. and providing technical support to adhere to and implement fair trade standards.	2	» Producers » Co-ops » Processors	75% of members to have certification	No. of training; technical support; standards review	UMFCCI	MoC		50,000
2.4 Develop a traceability system for the pulses, beans and oilseeds sector.	2.4.1Undertake a feasibility study to develop a traceability system by surveying throughout the country, constructing a database system and reviewing market requirements.	2	» DoA	5% of production to have traceability system	Production and related data; analysis of database; market feedback	DoA	MoAI, MoH	Existing	100,000
2.4 Develop a traceability system for the pulses, beans and oilseeds sector.	2.4.2 Lobby businesses and government institutions to set up a traceability system by demonstrating current status and the expected benefits of the system, and inviting international institutions well known in this area.	2	» Public » Exporters	5% of production to have traceability system	Feasible study report; analysis of cost & benefit; int'l practises	UMFCCI	MoC		10,000
2.5 Train traders and exporters on international quality requirements and procedures.	2.5.1 Train traders and exporters on international quality requirements and procedures by conducting training and workshops with the help of MoC, MoAI, and internal and external institutions.	1	» Exporters	4 times a year training & workshop	No. of training & workshop; no. of participants; market demand	UMFCCI	MoC, MoAI		40,000
	2.5.2 Collect and distribute information on international quality requirements and procedures by publications, websites and e-mails.	1	» Exporters	Monthly distribution of info.	Quality requirements; procedures; no. of publications; web & mail statistics	Department of Trade Promotion	MoC	Existing	10,000

Strategic objective 3: Strengthen cooperation and efficiency in the sector by enhancing inter-institutional collaboration and private–public partnerships.									
Operational objectives	Activities	Priority 1=high 2=med 3=low	Beneficiaries	Target measures	Means of verification	Leading implementing partner	Supporting implementing partners	Existing programmes or potential support	Estimated costs
3.1 Encourage the development of farmer associations and their integration into the larger sector associations.	3.1.1 Support farmer associations through MPBSMA members by: extending friendly relationships; performing business activities such as contract farming and trading; and participating in social, economic and regional developmentactivities together with these associations.	2	» Farmers, » Farmer Associations	100 members to participate	No. of farmers/ associations; activities status	MPBSMA	Farmer Association, UMFCCI		10,000
	3.1.2 Encourage the development of farmer associations by doing business like farming, input distribution, storage, processing, trading, etc. with the associations rather than individual farmers.	2	» Farmers, Farmer Associations	100 members to participate	No. of farmers/ associations; business performance	MPBSMA	UMFCCI, MoAI, MoC		15,000
	3.1.3 Invite farmer associations regularly to workshops, forums, and trainings held by MPBSMA.	2	» Farmer Associations	3 events per year to held	No. of events; no. of farmers/ associations participated	MPBSMA	UMFCCI, Farmer Association		30,000
3.2 MPBSMA to expand its mandate to represent the various stakeholders of the sector.	3.2.1 Transform MPBSMA to an organization covering not only merchants but also growers and processors (apex body) by drafting a new mandateto represent the various stakeholders of the sector, reforming its organizational structure, and modifying its duties and activities.	1	» Farmers » MPBSMA	1 year program to reorganize	New mandate drafted; composition of association; meeting reports	MPBSMA	UMFCCI, MoC		50,000
	3.2.2 Sustain the new apex body by forming a new management committee, formulating strategic plans, building a strong financial base with the support of the government and member companies, and developing a public company.	2	» MPBSMA	1 year program to launch	Progress report of apex; financial status; achievements	MPBSMA	UMFCCI, MoC		10,000
3.3 Build the organizational and business skills of sector associations.	3.3.1 Launch training programmes in business skills for MPBSMA (as apex) members by inviting local and international trainers on specific topics relevant to the development of the pulses, beans and oilseeds sector through finding financial and technical assistance from public and private sources.	2	» MPBSMA	4 trainings per year to organize	No. of training; members attended; review of impact	MPBSMA	UMFCCI, MoC		40,000
	3.3.2 Participate in human resource development programmes arranged by UMFCCI and other associations by sending trainees.	2	» MPBSMA	100% particpation	No. of programmes; members participated	MPBSMA	UMFCCI, MoC		10,000
3.4 Organize a private–public committee to coordinate sector development efforts.	3.4.1 Coordinate sector development efforts by forming a joint committee under the Agriculture Sub-Committee of the Government and holding private–public dialogue on a regular basis.	1	» Joint Committee	3 dialogues per year to be held	Dialogue reports; sector development indicators	Joint Committee	UMFCCI, MoAI, MoC, MNPED, Farmer Association		10,000
	3.4.2 Monitor sector development progress by: setting up a joint monitoring unit under the above Joint Committee, including both private and public sectors and acquiring technical expertise from the public sector, private sector and academics; establishing monitoring systems; and reporting back to the Joint Committee.	2	» Joint Monitoring Unit	4 regular meetings per year and ad hoc meeting	Meeting reports; Sector development indicators	Joint Monitoring Unit	UMFCCI, MoAI, MoC, MNPED		100,000
	3.4.3 Propose recommendations to key institutions through the Joint Committee members and by official correspondence. Meetings, workshops and seminars are platforms for transmission of recommendations.	2	» Joint Committee	100% (recommend as necessary)	Proposal by member; official letters; meeting minute	Joint Committee	UMFCCI, MoAI, MoC		10,000
	3.4.4 Encourage public–private partnerships by holding dialogues, meetings and forums; by presenting feasibility studies and lessons learnt; and by exploring areas of common interest, exchanging views, and sharing information and social networking.	1	» Public » MoC	5 model PPP to be undertaken	Cases and studies; interests of public & private; information shared	MoC	UMFCCI		500,000

Strategic objective 4: Strengthen the sector's ability to add value to its products through enhancing business management capacities and modernizing processing facilities and techniques.									
Operational objectives	Activities	Priority 1=high 2=med 3=low	Beneficiaries	Target measures	Means of verification	Leading implementing partner	Supporting implementing partners	Existing programmes or potential support	Estimated costs
4.1 Build the knowledge of sector enterprises concerning existing products available at the international level.	4.1.1 Establish a food development technology framework/institute through collaboration and cooperation among stakeholders.	2	Food producers	1 national institute to estblish	Development progress; inputs by stakeholders	MoAI	MoH Myanmar Food Processors and Exporters Association, private universities		1,000,000
	4.1.2 Increase participation in trade fairsby establishing a market intervention scheme to encourage participation and by providing information and necessary support to sector enterprises.	2	UMFCCI	4 trade fairs at least a year to participate	No. of participated enterprise; feedback and reports	UMFCCI	MoC		500,000
	4.1.3 Provide regular market reports on prices, market trends, policy changes, etc. to all MPBSMA members by sending post mails and e-mails and updating the website.	1	MPBSMA	Monthly reports to provide	No. of correspondence; monitoring of website	MPBSMA	UMFCCI, MoC		10,000
4.2 Provide adequate financial mechanisms to stimulate innovation and new product development.	4.2.1 Advocate, making policy proposals and recommendations to provide incentives (tax reduction, duty free-imports, etc.) to sector enterprises aiming to stimulate innovation and new product development.	1	MPBSMA	Advocate as necessary	Policy proposals & recommendation made; achievements	MPBSMA	UMFCCI, MoC		10,000
	4.2.2 Establish a special innovation fund by lobbying, meeting and engaging in discussion with concerned ministries and institutions.	2	MPBSMA	2% of export value for funding	Export value; meeting minutes; accomplishment	MPBSMA	UMFCCI, MoC, MoAI		1,000,000
4.3 Ensure proper infrastructure is available for enterprises to be competitive in their processing operations.	4.3.1 Make utilities and facilities (electricity, water, telephone, etc.) available in SEZs to encourage enterprises to relocate by ensuring the proper services and infrastructure are set up and operational.	2	Co. in SEZ	100% full utilities & facilities	Availability of utilities & facilities; no. of co. in SEZs; SEZs reports	SEZ Committee	Ministry of Electric Power, Ministry of Information, Ministry of Communications and Information Technology	Existing	10,000
	4.3.2 Provide an advantageous framework (incentive package) to encourage relocation of traders and processors to SEZs. Allow the private sector to participate in the modification of frameworks, laws and regulations and SEZ management.	2	Co. in SEZ	50% private in SEZ Committee	Incentives offered; meeting reports	SEZ Committee	Ministry of Information, MoC		8,000
	4.3.3 Ensure the quality of the infrastructure such as road networks, electric supply, water supply, etc. in SEZs by proper maintenance and upgrading by SEZ management.	2	Co. in SEZ	All SEZ to ensure the quality	Quality status; maintenance and upgrading works	SEZ Committee	Ministry of Information, MoC	Existing	5,000
	4.3.4 Strengthen rural/regional storage and processing by encouraging small and medium-sized enterprises to invest in these facilities, building and renovation of rural roads, and implementing rural electrification.	2	SMEs	20% of producing areas to strengthen	Status in storage & processing; investment by enterprises; infrastructure development	UMFCCI	MoAI, MoC		10,000
4.4 Organize structured investment promotion efforts for sector development (processing).	4.4.1 Increase participation of sector enterprises in business matching at UMFCCI by designing a capacity-building programme on how to present their enterprises and products.	2	SMEs	100% participation	No. of programs; participationrate	MPBSMA	UMFCCI	Existing	10,000

Strategic objective 4: Strengthen the sector's ability to add value to its products through enhancing business management capacities and modernizing processing facilities and techniques.									
Operational objectives	Activities	Priority 1=high 2=med 3=low	Beneficiaries	Target measures	Means of verification	Leading implementing partner	Supporting implementing partners	Existing programmes or potential support	Estimated costs
4.4 Organize structured investment promotion efforts for sector development (processing).	4.4.2 Have MPBSMA list investment opportunities (including technology transfer) in the sector by discussion with MIC, DICA, MoC, MoAI, UMFCCI, etc. to promote investment for sector development.	2	MPBSMA	3 months program to list	Opportunities review; discussions with related institutions	MPBSMA	UMFCCI, MIC, MoC		10,000
	4.4.3 Promote investment by inviting investors, explaining the investment opportunities, providing sector information, and matchmaking with member enterprises.	2	Investors	2 times a year promotion	Investment opportunities; sector development; progress in investment	MPBSMA	UMFCCI, MIC, MoAI, MoC		500,000
	4.4.4 Visit foreign countries for investment promotion by finding financial support from government, the private sector, investment partners and own resources to explore new markets, new products, and new business partners; to learn international practices in investment; to disseminate information about investment opportunities in Myanmar; and to learn about modernization of the sector along the supply chain.	2	MPBSMA	3 times a year at least foreign visit	Financial support; achievement; reports on visit	MPBSMA	UMFCCI, MoC		1,000,000

Strategic objective 5: Ensure continuous growth and global reach of the sector through reliable market information, efficient export procedures, targeted branding and improved promotion efforts.									
Operational objectives	Activities	Priority 1=high 2=med 3=low	Beneficiaries	Target measures	Means of verification	Leading implementing partner	Supporting implementing partners	Existing programmes or potential support	Estimated costs
5.1 Establish electronic commodity exchange centres.	5.1.1 Undertake a feasibility study aiming at successful implementation ofelectronic commodity exchange centres by collecting and analysing information on centres' current activities, availability of market information, user needs, applicable technology, budget requirements, and lessons learnt by foreign commodity exchange centres.	2	» MPBSMA	5 feasibility study (Yangon, Mandalay, Pathein, Monywa, Taunggyi)	Reports by CEXCs; volume and value of exchange; cost/benefit	MPBSMA	UMFCCI, MoC	Existing	50,000
	5.1.2 Establish electronic commodity exchange centres in Yangon and Mandalay, then extendto other major markets by transforming and modernizing existing CEXCs.	3	» MPBSMA	15 electronic exchange centres	Progress report; monitoring; trade statistics	MPBSMA	UMFCCI, MoC		750,000
	5.1.3 Ensure effective monitoring and evaluation of the electronic commodity exchange centres by surveying users, doing financial auditing, benchmarking with other centres, etc.	2	» MPBSMA	15 centres to monitor	Users survey; audit report; evaluation	MPBSMA	UMFCCI, MoC		100,000
5.2 Ensure structured export development and promotion efforts.	5.2.1 Build capacities of commercial attachés concerning the pulses, beans and oilseeds sector and its processed products by training, sending related information, and networking with MPBSMA.	1	» Exporters	100% (all attaches) to cover	No. of training; information shared; impact analysis	UMFCCI	MoC		150,000
	5.2.2 Organize more trade missions to selected target markets for business owners from the pulses, beans and oilseeds sector, with the help of UMFCCI and MoFA.	1	» Exporters	4 mssions at least per year	Market research; fund availability; mission report	MoC	MoFA, UMFCCI	Existing	1,000,000
	5.2.3 Organize an annual Myanmar international trade fair by inviting local and international business partners to participate.	2	» Exporters	1 annual international trade fair	No. of participants; attendance; review	UMFCCI	MPBSMA, MoC		750,000
	5.2.4 Leading implementing partner with "UMFCCI" and supporting implementing partner with "MPBSMA, MoC"	1	» Exporters	7 priority markets (India, China, Japan, Korea, EU, US, Middle East)	Market development; market research; monitoring market response	UMFCCI	MPBSMA, MoC, MoFA		25,000
5.3 Improve logistics and trade facilitation.	5.3.1 Hold official meetings with shipping lines, road authorities, customs and port authorities to resolve the problem of fluctuating prices of transport (empty container charges and destination THC). Items to be addressed: » Opening hours at Customs » Delays at port » Tool charges » Alternative routes to reduce traffic.	2	» Exporters » Transporters	100% (all market with the problems)	Data collection; analysis; feedback from exporters & importers; Monitoring progress	UMFCCI	MoC, MoFA		15,000
	5.3.2 Train current and emerging exporters on export documentation, procedures, and requirements to increase effectiveness of export transactions.	3	» Exporters	4 trainings a year	No. of training; trainees; evaluation	UMFCCI	MoC, Customs Department, banks		50,000
5.3 Improve logistics and trade facilitation.	5.3.3 Review tolls and road bridge charges by holding meetings with authorities and private companies concerned.	2	» Exporters	3 meetings per year	Information collection; review; meeting minute	UMFCCI	Ministry of Construction, MoC		10,000
	5.3.4 Hold regular meetings with Customs to discuss issues and challenges concerning Customs Department procedures, in order to establish a simplified procedure with the aim of setting up an efficient single window system.	2	» Exporters	4 meetings per year	Review; comparison with other countries; meeting minute	Customs Department	Ministry of Finance, UMFCCI		15,000

Strategic objective 5: Ensure continuous growth and global reach of the sector through reliable market information, efficient export procedures, targeted branding and improved promotion efforts.									
Operational objectives	Activities	Priority 1=high 2=med 3=low	Beneficiaries	Target measures	Means of verification	Leading implementing partner	Supporting implementing partners	Existing programmes or potential support	Estimated costs
5.3 Improve logistics and trade facilitation.	5.3.5 Ensure that the port and logistics facilities develop and implement tracking and tracing and retrieving systems in their container yards by the operating company improving and modernizing the facilities.	2	» Exporters » Container Co.	100% (all ports to modernize)	Review progress; feedback by exporters	Container companies	Port Authority, UMFCCI		10,000
5.4 Organize a branding initiative for the sector.	5.4.1 Explore new branding of pulse, bean and oilseed products by designing a branding strategy for the sector involving all the members of the revamped MPBSMA (apex body).	1	» MPBSMA	2 branding campaings a year	Monitor branding activities; impact analysis	MPBSMA	MoC, UMFCCI		500,000
	5.4.2 Ensure effective management and quality controls of the brand by settingquality requirements and control systems for users of the brand.	1	» UMFCCI	1 quality control system	Standardization,certificates; monitoring; market complaints	UMFCCI	MoC, Standardization Committee		1,500,000
5.5 Improve national and international commercial arbitration.	5.5.1 Form a special committee on arbitration with the mandate to transform from negotiation-based to legal-based by reviewing arbitration cases in Myanmar, using international procedures and practices, and providing recommendations for revision of the legal framework.	2	» UMFCCI	1 special committee on arbitration	Mandate; legislation; international procedures & practices	UMFCCI, MoC	Attorney General	Existing	200,000
	5.5.2 Promote the use of contracts through organized training and promotion efforts to farmers, traders and exporters.	2	» MPBSMA	2 trainings a year	No. of training; no. of participants; no. of contracts used	MPBSMA	UMFCCI		20,000
	5.5.3 Provide targeted training to sector stakeholders on drafting of contractual agreements and use of the arbitration mechanism.	2	» Farmers » MPBSMA	2 trainings a year	No. of training; no. of participants; no. of contracts & arbitration mechanism used				20,000
	5.5.4 Clarify arbitration roles versus court rulings, as well as definition of arbitration responsibilities between MPBSMA and UMFCCI.	3	» UMFCCI » MPBSMA	2 meetings a year	No. of arbitration cases; court rulings; meeting minute				10,000
5.6 Ensure access to timely and relevant trade information, including detailed market reports.	5.6.1 Set up a network to collect, analyse and disseminate production, market, price and trade information for the pulses, beans and oilseeds sector. Information collection should cover domestic as well as key international target markets and be completed in collaboration with local businesses.	1	» Farmers » Traders » Exporters	1 trade information network to set up	Available information; accessibility; timeliness; reliability	MoC	UMFCCI, MPBSMA	Existing	750,000
	5.6.2 Develop a trade information system by organizing a task force to support data collection, analysis and dissemination.	1	» Traders » Exporters	1 task force to develop	Monitoring and evaluation of information sys	MoC	UMFCCI, MPBSMA		100,000
	5.6.3 Provide regular training to exporters on collection, analysis and utilization techniques of trade information to facilitate market entry.	1	» Exporters	3 trainings a year	No. of trainings; no. of trainee; evaluation of exporters	MoC	UMFCCI, MPBSMA		15,000

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