



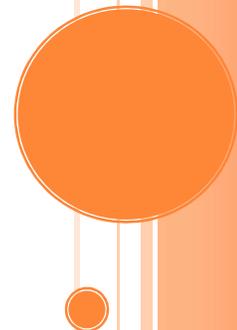
WHOLESALE MARKET MANAGEMENT PLAN

*Recommended management practices for the new
fresh produce wholesale markets in Myanmar*

Report prepared for the Vegetable Sector Acceleration Taskforce on the management of two new fruit and vegetable wholesale markets in Yangon and Mandalay. The assignment is commissioned by the Making Vegetable Markets Work Program.

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This consultancy report is prepared by Advance Consulting BV in association with Fresh Studio for the “Making Vegetable Markets Work” Program (MVMW), which is implemented by Mercy Corps and Swisscontact and is financially supported through the Livelihoods and Food Security Trust Fund (LIFT). The development of a wholesale market development plan is done on request by the Vegetable Sector Acceleration Taskforce (VSAT), which is one of the public-private working groups under the Myanmar Agricultural Network (MAN). The three consultants – Frank Joosten, Sigrid Wertheim Heck and Thi Mar Win – collected and studied the available documentation, visited different sites in Yangon and Mandalay, interviewed a broad range of public and private stakeholders in the sector and collected data on the basis of a census and market survey. The consultants wish to thank all VSAT members, MVMW colleagues, companies and all other stakeholders who participated during the process.

The views and opinions expressed in this report are those of the consultants and do not necessarily reflect those of VSAT, MVMW or any other stakeholder involved in the horticultural vegetable sector in Myanmar.

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Executive Summary

Background

Two new wholesale markets for fresh horticultural produce (fruits and vegetables) are under construction in Yangon (80-85 acre) and Mandalay (100 acre), the two main marketing hubs for fresh produce in Myanmar. Both new markets are constructed with private funding and will be run under private management. This is a major departure from the current practice where markets are managed under the cities' public development committees. The two new wholesale markets will start their operations towards the end of 2016 or early 2017, but a detailed wholesale market management plan is lacking. The Vegetable Sector Acceleration Taskforce (VSAT) commissioned a study with the objective to develop guidelines for the wholesale market management. When properly managed the new wholesale markets can contribute to the development and innovation in the sector by introducing new trade standards, facilitating value-adding activities and creating more transparency and efficiency in trade and supply arrangements.

Starting point for wholesale market management planning

The existing situation at the wholesale markets in the two cities is used as the starting point for the formulation of the market management recommendations. The wholesale market in Yangon functions mostly as a 'terminal wholesale market', where produce is channelled to consumers through trade between wholesalers and retailers, caterers, etc. Research shows that the current wholesale markets in Yangon comprise both large and medium/small scale wholesale trade and even retail trade practices. The volumes sold per trader differ considerably (ranging from 25,000-244 kg/day), but overall remain fairly limited, with more than 60% of the sampled traders selling less than 2 MT per day, and 22% even less than 0.5 MT per day. Research at the current Yangon wholesale markets also shows that there are several other practices hampering the introduction of more value-adding and efficiency-driven market operations.

The wholesale market in Mandalay is different in that it clearly serves as a trade hub for inter-regional and export trade of fruits and vegetables. Volumes traded are considerably larger than in Yangon. Current wholesale markets are congested and there is an interest among wholesale fruit traders in particular to move their business to the new premises out of town. However, the new wholesale market is situated in a rather remote area. In order to allow the new market in Mandalay to function attention should be paid to the enabling environment of the market, including roads, electricity, hotels, restaurants, shops, banks, schools, etc.

General market management principles and practices

Whilst the new wholesale markets in Yangon and Mandalay will be significantly different in terms of function and organisation, the management of both wholesale markets should be based on the following main principles (a) financial, economic and operational viability; (b) efficient operations and (c) meeting the needs of the main market users. The management of both markets will have to develop private market regulations that will be guided by these principles. The private market regulations will cover several additional matters beyond the normal contractual issues between market owners and wholesalers renting facilities at the market. This will include the following:

- Market trading days and market hours
- Registration & market access for buyers and sellers
- No permanent dwellings and underage youngsters
- Unloading, handling & loading

- Traffic control and parking
- Personal safety
- Cleanliness and hygiene regulations
- Produce handling and quality standards
- Collection and dissemination of market information (product prices in particular)

The wholesale market management should develop a business plan and an annual work plan with a cost estimate. The cost estimate will form the basis for the annual budget which needs the approval of the Board of Directors. The annual income that will be generated by the market should be adequate to cover the annual cost estimate for operational costs and provide funds (reservations) for long-term maintenance, capital costs and reserves for staff benefits and other future expenses. There will be three main sources of income: (a) rental fees; (b) market entrance and parking fees; and (c) fees for different value adding services.

Market-specific recommendations and recommendations

Both new markets provide opportunities to introduce new marketing practices and value adding operations. This may include services such as cold storage, cleaning, sorting and grading of produce, processing and packing, etc. The uptake of these new value-adding market services will only be successful at the new Yangon wholesale market in case the management will succeed in attracting in new and larger scale wholesale trade, rather than moving existing wholesale and retail trade practices to the new wholesale market. This can be pursued by introducing minimum volumes of business for the main horticultural products and not allowing any retail trade within the new market premises. Another strategy to ensure that only larger scale wholesale trade will be attracted to the new market is by making the areas offered under rental contracts larger.

The operational and business success of the new international assembly market in the Mandalay region will require a strategy through which the management and operation new wholesale market will be embedded in a wider urban planning and infrastructural development. Attention should be paid to the enabling environment of the market, including road connection and waterways, electricity, banking services, services for overnight stay (hotels, restaurants), shops, etc. The uptake of new value-adding market services will only be achieved in case the new Mandalay wholesale market management will be able to address the development of these enabling conditions with relevant stakeholders in urban planning and national infrastructural development.

The Vegetable Sector Acceleration Taskforce) can be the platform for mobilising the necessary public and private support for the new wholesale market operations. VSAT can create the awareness and bring together the necessary expertise and leadership from government, the private sector, civil society, and international development/resource partners. International development partners can provide technical assistance and capacity building support for the development of value adding services and market innovations. In addition there is also a great need for public infrastructure development around the wholesale market, particularly in the Mandalay region. Currently ADB is a major development partner in this field.

Abbreviations

ADB	Asian Development Bank
B2B	Business-to-Business
CRM	Customer Relationship Management
FAO	Food and Agriculture Organisation
LIFT	Livelihoods and Food Security Trust Fund
MAEX	Myanmar Agro Exchange Public Limited
MAN	Myanmar Agricultural Network
MCDC	Mandalay City Development Committee
MIS	Market Information Service
MFVP	Myanmar Fruit, Flower and Vegetable Producer and Exporter Association
MoALI	Ministry of Agriculture, Livestock & Irrigation
MoC	Ministry of Commerce
MRL	Maximum Residue Level
MT	Metric Ton
ToR	Terms of Reference
VSAT	Vegetable Sector Acceleration Network
YCDC	Yangon City Development Committee

PART A: THE STARTING POINT IN WHOLESALE TRADE OF
FRUITS AND VEGETABLES

1. Why a wholesale market management plan?

1.1 The need for fresh produce wholesale market improvements

Two new wholesale markets for fresh horticultural produce (fruits and vegetables) are under construction in Yangon and Mandalay. Yangon and Mandalay are the main wholesale market hubs for fresh fruits and vegetables in Myanmar. The existing wholesale markets are congested and do not deliver added value services to preserve the quality of the produce. The way that business is conducted at the current wholesale markets has a large impact on the overall performance and development potential of the horticultural fresh produce sector. The new wholesale markets are expected to alleviate the congestion at the existing wholesale markets and may provide new facilities and opportunities for trade and supply developments and market innovations.

Several million people in Myanmar are involved in the cultivation, handling and trading of horticultural produce. The climatic conditions and the abundant availability of land and water make the year-round production and (export) supply of vegetables from Myanmar possible. The sector has the potential to become one of the



Figure 1: Watermelon trade at Thirimingalar wholesale market in Yangon

most important agricultural sub-sectors in terms of economic growth, rural employment and income generation. The domestic demand for fresh produce is growing and there is ample scope for yield and quality improvements. Increasing exports of horticultural produce to Southwest China and parts of Southeast Asia is another potential growth path.

However, the development of the Myanmar vegetable sector is hampered by several interrelated factors and involves many actors, most of which are smallholder growers and small-scale businesses. Some of the constraints are related to primary production and other set of factors are linked to marketing and supply conditions. Volatile market prices make smallholder vegetable growers and other small-scale businesses reluctant to invest in production and marketing improvements. Price fluctuations stem largely from lack of market transparency and inefficient and long supply chain arrangements. Associated barriers are lack of cold storage, high transport costs and an almost absence of farmer organisation. Due to this fragmented market structure there is also little incentive for sorting, grading, packaging and other post-harvest activities that will add value to the produce. Therefore both vegetable growers and traders have a risk adverse attitude towards investing in production and supply improvements.

The new wholesale markets cannot resolve all these constraints and problems. However, improved wholesale management practices can contribute to the development and innovation in the sector by introducing new trade standards, facilitating value-adding activities and creating more transparency and efficiency in trade and supply arrangements.

The Vegetable Sector Acceleration Taskforce (VSAT) is a public-private platform under the umbrella of the Myanmar Agricultural Network (MAN). VSAT guides and champions

the development of the vegetable sector into a key pillar of Myanmar's agricultural economy and contributor to improved rural farm incomes, employment and improved nutrition of the larger population. VSAT formulated a consultancy assignment to develop wholesale market management guidelines for the two new markets in Yangon and Mandalay. The Terms of Reference (ToR) of this consultancy assignment was approved at the VSAT meeting in November 2015 and Mercy Corps, on behalf of the VSAT, commissioned a consultancy team to implement the assignment and develop the management plan. This activity is supported by the "Making Vegetable Markets Work" Program, which is implemented by Mercy Corps in partnership with Swisscontact and is financially supported through the Livelihoods and Food Security Trust Fund (LIFT).

1.2 Summary outline of the new market facilities under construction

1.2.1 The new Danyingone wholesale market in Yangon

The new wholesale market facilities in Yangon are developed by Myanmar Agro Exchange Public Limited, a private company that is currently fully owned and managed by Dagon International Ltd. The new wholesale market is an 80 acre project located adjacent to the existing Danyingone fruit and vegetable market at the corner of Shwe Pyi Htar Bridge



Figure 2: New Danyingone market under construction (03/ 2016)

Road and Palae Road in Insein Township, Yangon. The new Danyingone wholesale market is located along the Yangon circle road and the Yangon circular rail network.

Dagon International Ltd was issued the contract for the construction and management of the new Danyingone wholesale market on the basis of a tender issued by Yangon Regional Government and Yangon City Development

Committee in 31 March 2015. One of the tender conditions and commitments given by Dagon International Ltd was that the project will be carried out through a project company which is a public limited company in nature (MAEX) and that Dagon International will hold 45% interest in the Public company as the founder and manager of the new market. Dagon is best known for its real estate and property development in Myanmar.

The new market will comprise facilities for wholesale trade of fruit, vegetables and flowers as well as a section for other fresh produce such as meat and fish. In addition shop houses for the trade of dry goods (onions, dried chillies, dried pulses, etc.) are included in the plan. The market design also includes parking, garbage collection, a petrol station, hotel and amenities for market users such as toilets and showers. Other facilities planned include infrastructure for washing, cleaning, cooling for the different wholesale products. The construction is planned in phases whereby the first phase includes amongst others the building of first 48 shop houses and wholesale market facilities for fruit, vegetables, flowers and meat and fish. Annex A includes a diagram with the new Danyingone



Figure 3: existing infrastructure at old Danyingone market

wholesale market design and the phase-by-phase construction. The Thaladthai market outside Bangkok has served as an important reference for the new Danyingone market.

The first phase of the wholesale market should be completed by the end of 2016. As per the contractual agreement between Dagon International and YCDC there is a plan to incorporate the wholesale trade activities market at the old Danyingone market in the new market.

1.2.2 The new Mandalay Wholesale market

The construction planning of the new market in Mandalay has followed a similar pattern as in Yangon. The local authorities issued a tender for the construction of the new wholesale market, which was won by the Mandalay Green City Public Company Limited (MGCPCL). The MGCPCL is a joint venture company of Mandalay based construction companies who take the shared responsibility for the construction and market



Figure 4: First construction at Mandalay wholesale market (03/2016)

management process. The new wholesale market is located outside the city near the Mandalay airport (see for details chapter 3).

The construction of the new wholesale market started in November 2015 and building completion is scheduled for 2020. The overall complex covers an area of 100 acre. A management company is under registration to take on the role of market exploitation. The new wholesale market in Mandalay is expected to attract in particular wholesale fruit and export-oriented

business. The design of the new Mandalay market is made by an architect from Singapore and the Garak market in South Korea was used as a source of inspiration. The design comprises facilities for the trade of fresh produce and dried goods and the first phase of construction includes a central office building and a series of shop houses.

1.3 Scope of the wholesale market management guidelines

The guidelines for the management of fresh produce wholesale markets in Myanmar will focus on the two new market facilities under construction in Yangon and Mandalay. Both new markets do not have a market management plan. The use and commercial exploitation of the new facilities under construction is not yet described in detail and needs further specification.

The existing situation at the wholesale markets in the two cities is used as the starting point for the formulation of the market management recommendations. The current practices, some trends and trade flows and the main needs among existing market users

were mapped in March and April 2016. This was done on the basis of interviews with traders and other stakeholders at the cities' main wholesale markets and a census and survey at the main wholesale market in Yangon (Thirimingalar). These findings and the main conclusions are presented in the next three chapters. A summary description of the data collection and survey design is presented in Annex B.

Part B of this report comprises three chapters dealing with the basic principles and guidelines which are recommended for adoption by the management of the new wholesale markets in Myanmar. These recommendations follow on from the findings on the current wholesale market situation and are also based on common practices as developed in other fresh produce wholesale markets. The recommended management principles and practices in this section of the report can be adopted by the respective owners and management teams and do not require the involvement of other stakeholders.

The final section C of the report provides guidelines and suggestions for value-adding services that could be taken up as part of the wholesale market management plans at the two new markets. Given the distinctively different nature and purpose of the wholesale markets, the recommendations for Yangon and Mandalay are covered in separate chapters. The successful adoption of value adding activities and wholesale market innovation will depend on a number of preconditions and involvement of other public and private stakeholders in the sector. These are listed as well. Furthermore development support agencies and public-private platforms such as VSAT can play a role in facilitating some of the innovations and market developments. Some comments and suggestions are made on the promotion and facilitation of wholesale market developments in the concluding chapter of this report.

2. Yangon – supplying the metropolis with fresh produce

2.1 Type and scope of wholesale activities

The function of wholesale markets in Yangon is to provide a developing and expanding metropolis with daily fresh produce. Yangon is rapidly transforming into a modern city in which mounting concerns about food safety (excessive pesticide residues), an increasing demand for a more versatile and higher quality offer and growing awareness about hygiene and environmental conditions are driving the development of new (wholesale) market concepts. The high rate of urban growth creates a need for both expanded and new wholesale markets.

Currently the main wholesale market in Yangon is Thirimingalar, situated within the city and close to the downtown city center. This market functions mostly as a ‘terminal wholesale market’, where produce is channelled to consumers through trade between wholesalers and retailers, caterers, etc. In order to obtain an understanding on the established organisation and product flows in wholesaling in Yangon, a research was conducted at this main wholesale market, which included a census of all fresh produce traders (N=388), followed by a survey (N=60). The outcomes of the census and survey at Thirimingalar will be used to inform the development of a new wholesale market. See for full research overview Annex B.

Table 1: Overview of census and survey inclusion; Thirimingalar, February 2016

	Census count	Survey sample*	Survey sample as % of total
Total	388		
Wholesale	299	60	20%
Large	109	22	20%
Fruit	79	16	20%
Vegetable	29	6	21%
Kitchen crop	1	0	
Regular	190	38	20%
Fruit	90	20	22%
Vegetable	100	18	18%
Kitchen crop	0	0	
Retail	89	0	
Fruit	47	0	
Vegetable	41	0	
Kitchen crop	1	0	

* The survey included only traders in fruit and vegetables, thus excluded traders in kitchen crops and retailers

Typology of wholesalers

Based on the map of the market committee of Thirimingalar and directly observable criteria three types of business were identified to exist at Thirimingalar:

- 1) Large wholesale:
 - Formal spacing within the market
 - Trade area: OR in the designated larger trade sections OR >3 smaller trade sections
- 2) Regular (small and medium) wholesale:
 - Formal spacing within the market
 - Trade area: <3 smaller trade sections
- 3) Retail: No formal spacing within the market
 - Informal stalls in the alleys inside the building
 - Informal stalls outside in front of the market structure



Figure 5: Division of market sections at Thirimingalar Market

Large wholesale



Regular wholesale



Retail inside



Retail outside



Figure 6: Examples of different wholesale and retail practices at Thirimingalar

The census indicated that 20% of the businesses operating within Thirimingalar consists of 'informal retail'. About 80% of the businesses at Thirimingalar are formal wholesaling of which only 36% can be considered large wholesale and 64% is regular sized wholesale (see figure 1). Most of the larger wholesalers trade fruits (>70%). The regular sized wholesale trade has a more equal division between fruit (47%) and vegetables (53%).

The volumes sold per trader differ considerably (ranging from 25,000-244 kg/day), but overall remain fairly limited, with >60% of the interviewed traders selling less than 2000 kg/day, and 22% less than 500 kg/day. The largest trade volume of 25T/trader/day is much lower than the average trade volume reported by traders in Mandalay of >120T/trader/day (see below chapter 3). Also the volumes sold per customer per day differ considerably with a reported maximum volume of 4,000 kg sold to traders to a minimum of 1kg to retailers and end-consumers. Figure 2 provides an estimation of the total volumes traded within Thirimingalar in kg/day; calculation based on survey (average volume per category) and census data (count of outlets per category).

Table 2: Overview of max-min volume sold per customer per day

	Large wholesalers	Regular sides wholesalers
Maximum volume range (in kg/customer/day)	4000-80	300-5
Minimum volume range (in kg/customer/day)	30-1	30-1

* The range is based on the maximum and the minimum volume sold to one customer the day before the survey was conducted.

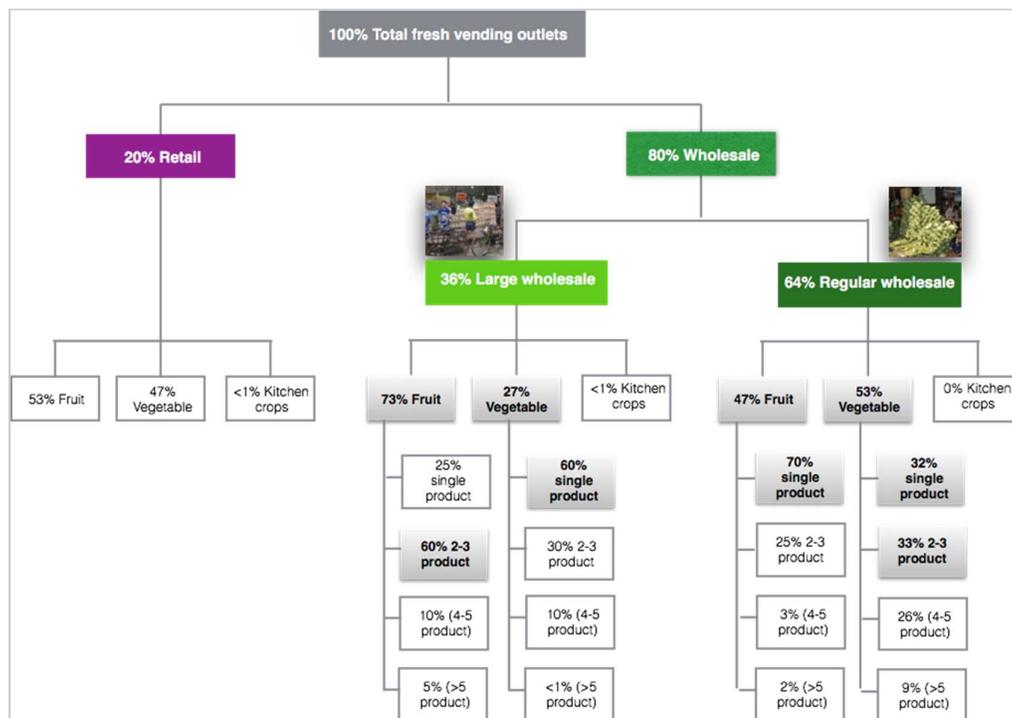


Figure 7: Census overview

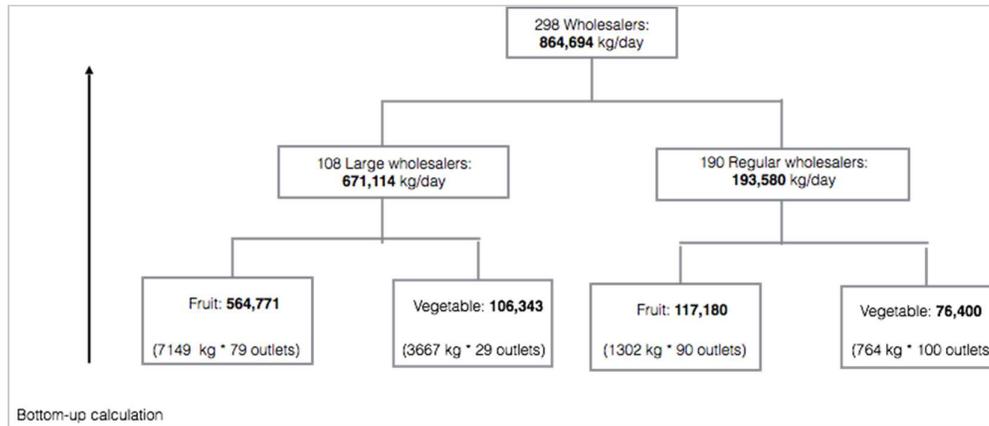


Figure 8: Total wholesale volume (fruit and vegetables) trade per day (kg/day)

2.2 Trade flows

The function of the market is mainly to supply Yangon city. Yangon is the final destination of 80% of the produce traded (both fruits and vegetables) at Thirimingalar. Only 20% is traded to other regions or exported to neighboring countries. Most produce traded within Thirimingalar originates from areas outside Yangon township: 96% of the fruit and 79% of the vegetables traded at Thirimingalar come from afar. Most products are produced in other Myanmar townships/regions or originate from other countries; the latter consist mostly of fruits from China and increasingly from Thailand.

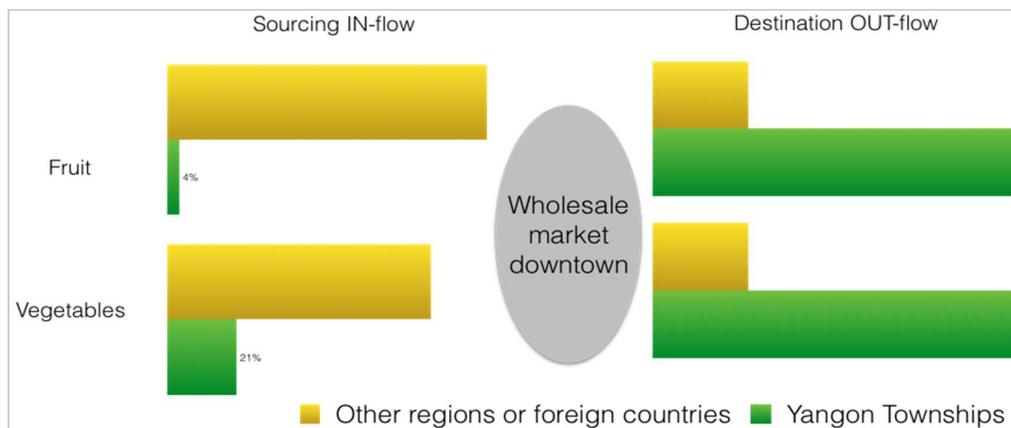


Figure 9: Overview of measured product flows into Yangon

Trader to trader business is important at Thirimingalar and especially the larger traders reported that their main and biggest customers are traders. However, only 3/4 of all 60 traders surveyed reported to trade to traders (with no difference between fruit and vegetable traders). All traders interviewed reported to sell to retailers. Most notable is that 96% of the vegetable traders interviewed reported to trade to HoReCa (Hotel/Restaurants/Catering) customers. Thirimingalar is thus important in supplying daily vegetables to the retail and HoReCa of rapidly developing Yangon. Further, although selling to end-consumers is not the main business for the traders at Thirimingalar, 58% of the traders reported to sell to end-consumers. End-consumer sales,

which is actually retailing, is an important aspect of the business of many traders at Thirimingalar.

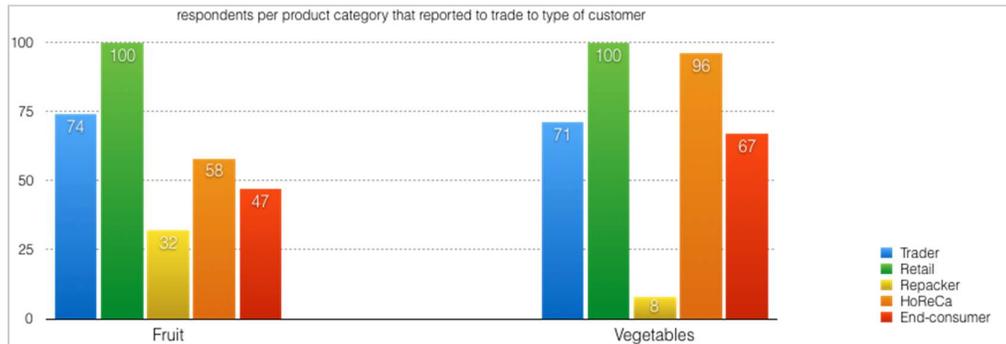


Figure 10: Thirimingalar customer overview

On an average day around 14,000 people frequent the market, of which 12,000 are customers (see figure 5). Although the market is operational around the clock, most business activities are concentrated at night time and in the early morning hours. The afternoon and the evening are relatively quiet (table 3). These quieter hours are used for additional activities like sorting and grading, and treating the produce before storage.

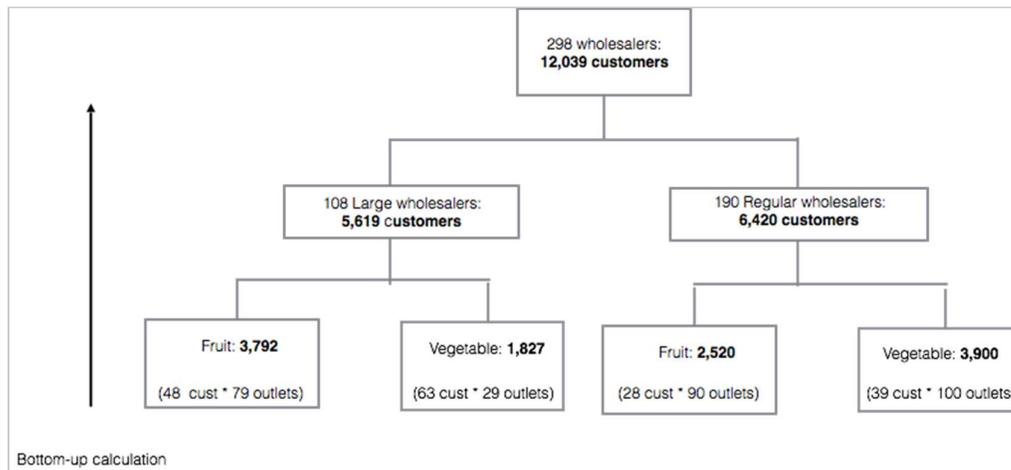


Figure 11: Overview of customers

Table 3: Daily rhythm of business activities

Busiest time RECEIVING		Busiest time SELLING		
6:00-12:00	Morning	37%	37%	Morning
12:00- 17:00	Afternoon	0%	0%	Afternoon
17:00-23:00	Evening	9%	2%	Evening
23:00-06:00	Night	54%	61%	Night

2.3 Use of facilities

Thirimingalar offers traders basic facilities in terms of a designated spot on the market with a covered roof and lighting. Most traders have accommodated themselves with some additional facilities, which most notably include self-constructed storage space; self

constructed living space, office facilities and in some cases also marketing communication means. Below some visual examples of the self created facilities.



Figure 12: self-created facilities

Especially the need for an ‘office’ appeared prominent, especially among the larger sized wholesalers. Further, self accommodated storage space was observed among a large group of traders, mostly fruits, and about 1/3rd of all traders created provisional living spaces (see figures 13 and 14) .

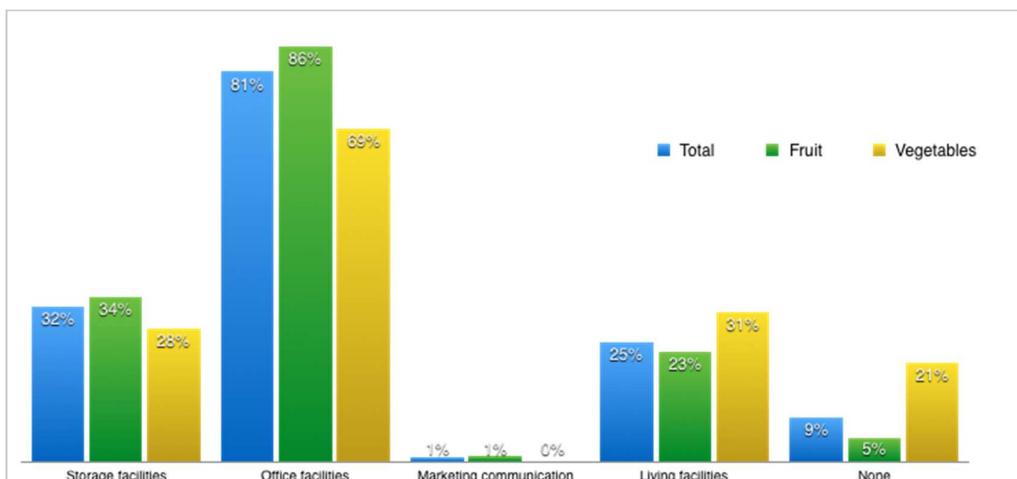


Figure 13: needs for different facilities among large wholesale traders

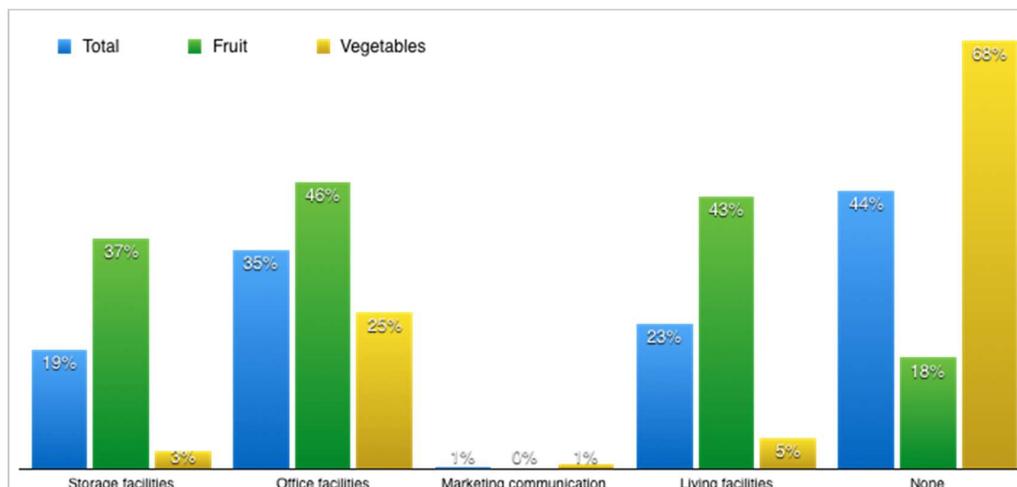


Figure 14: Needs for different facilities among regular wholesale traders

Prevalent among fruit traders was the activity of product treatment and storage of products. 'Washing' fruits with chemicals and wrapping fruits in paper, was observed with products like papaya, mango and watermelon. Without proper facilities in place, these activities remain largely uncontrolled with potential hazardous food safety consequences.



Figure 15: product treatment



Figure 16: Storage

2.4 Needs and constraints

Thirimingalar is a crowded market, leaving little room for business expansion or new wholesale entrants. Most operations are unhygienic and chaotic. Clearly the business development at the current Thirimingalar market has limitations and the main issues/complaints mentioned by traders at Thirimingalar included the following:

- Waste management
- Poor lay-out of the market: Truck (un)loading); not possible next too the stalls; dependence on porter system to deliver the produce to the stall of the trader.
- Lack of adequate shelter from rain and sun, despite recent improvements. Very high temperatures at the market due to low ceiling.
- Insufficient (cold) storage space.

Despite the acknowledged shortcomings of the current Thirimingalar market, the traders appeared not to be interested in moving to the new Danyingone market. The main reason mentioned was that most customers are located in Yangon and that the new market is a

bit further out-of the city. Traders are thus concerned about losing customers, or being affected by increased transportation costs. Also contributing to the negative sentiment towards potential relocation is the fact that Thirimingalar recently (about 4 years ago) moved to the current location and that the traders feel 'pushed around'. Another reason, though less explicitly expressed, is the 'real estate' speculation with market stalls. Traders have made large investments to obtain a spot at the market and are afraid to lose their investment.

The coordinating role of Thirimingalar in fresh produce distribution into Yangon is and might remain different from the role of the new (under construction) Danyingone wholesale market. Thirimingalar is important in local, Yangon township, fresh produce distribution of smaller volumes, while the new market is likely to play a more pivotal role in regional distribution and even export of larger trade volumes. The new market will more likely be additional to the existing Thirimingalar market rather than replacing the Thirimingalar market.

For the new to be established market the main issue for concern remains the incorporation of the current trade at the 'old' Danyingone market. Renewing and professionalizing wholesale markets on the base of existing operations and practices will be difficult. The future role of wholesale markets in Myanmar will to a large extent depend upon the wider development of food provision structures, including supermarket and HoReCa development and the extent to which wholesale markets will prove able to provide for a proactive regulatory environment in terms of food quality, safety and traceability.

Based on the case study of the current Yangon wholesale market, Thirimingalar, the following potential limitations were uncovered for developing a professional and modern wholesale market:

- The discrepancy in trade between the more professional larger wholesalers and the smaller retail traders
- Large wholesale is limited (F=79, V=29)
- Volumes traded are limited
- Customers are mostly in Yangon city
- End-consumers are important customers
- Real large B2B traders do not trade through Thirimingalar wholesale market
- Large number of traders is 'living' at the market
- No new businesses in past year; all respondents in the research had long established business activities

Explicit suggestion for improvement at the current market included:

- Improved shelter from rain and sun
- Creation of storage facilities
- Improved waste management
- More space for sorting and grading of products

The market committee at Thirimingalar made a start with roof improvements, covering the alleys of the trading site with high ceilings. The completion of this upgrade is expected mid 2016. Shortlisted ideas for further improvements include a waste management system and the creation of storage capacity. However, uncertainties about the future of the market, also in the light of past relocations, hinders further investments in the upgrading of the current facilities.

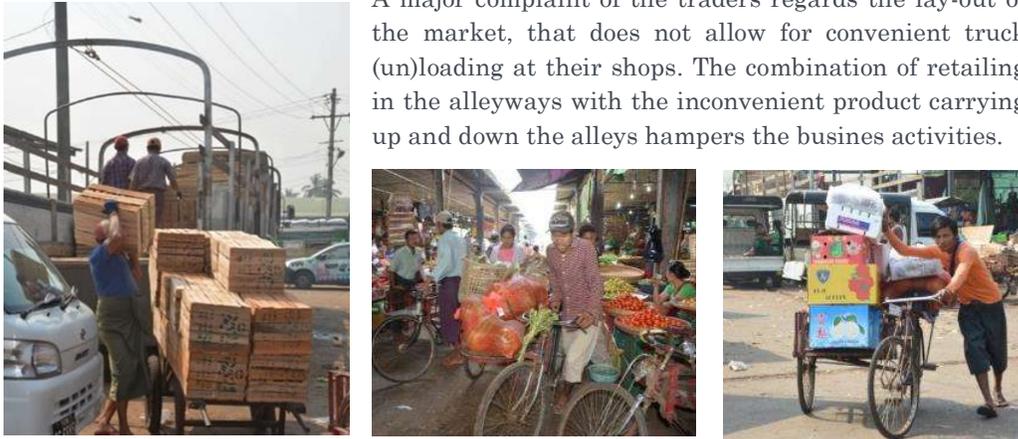


Figure 17: Congestion due to retail trade at the wholesale market

A major complaint of the traders regards the lay-out of the market, that does not allow for convenient truck (un)loading at their shops. The combination of retailing in the alleyways with the inconvenient product carrying up and down the alleys hampers the business activities.

The ambition to professionalise the wholesaling in Myanmar through the creation of a new professional market with the ultimate aim to support sector development requires several issues to be resolved. Modern and professional wholesale markets should:

Refrain from retail activities to end-consumers. Retailing along the alleys is impeding the wholesale business and although retail activities are officially, YCDC regulations, not allowed within a wholesale market, retailing is tolerated on the basis of the national anti-poverty program.



Resolve dirt with proper waste management; the unhygienic conditions at current Thirimingalar and Danyingone market are a threat to human health and food safety. Further, with the expected increase in trade activities, recycling systems would be recommended out of environmental considerations.



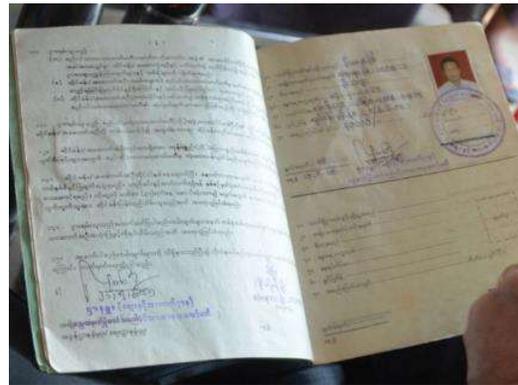
Refrain from allowing children at the trading site. Children should be protected by providing care outside the trade area. Especially in markets where trucks are allowed child safety is at risk. Despite cultural conventions in which it is 'normal' to bring children to the trading floor, new market management is strongly encouraged to find an appropriate childcare resolution.



Regulate transportation means and flows. The transport of goods ranges from large trucks to pedestrian porter systems and covers everything in between. The absence of regulations in transportation means and flows is currently impeding efficient business. Further, with the expected increase in trade activities it will be important to also manage fumigation levels out of human health and broader environmental considerations.



Prevent speculation. A major obstacle in trade business is the informal speculation in market stall ownership. The shortage in market stall has triggered the speculation in ownership and hampers new business development. Lease agreements should be with the market management only to ensure the market management is able to control the business activity within their jurisdiction.



Prohibit living at the market. Although markets are operational 24/7 it is strongly recommended to prohibit permanent dwellings within the trade area even though it is culturally accepted. Proper overnight accommodation should be provided for outside the trading area.



Figure 18: market management recommendations

3. Mandalay – a hub for regional trade

3.1 Type and scope of wholesale activities

The situation in Mandalay is very different when compared to Yangon in both function and organization of the wholesaling activities. Mandalay fruit wholesale has the characteristics of a so called ‘assembly wholesale market’, where food products are gathered in bulk. The function of wholesale markets in Mandalay is mainly to export local fruits to China and other neighbouring markets. The creation of a professional wholesale market is subsequently differently motivated than the market in Yangon; not so much the increase in local township demand is driving the development of the wholesale market in Mandalay, but the increasing (inter)national demand for quality fruits.

Wholesale trade in Mandalay is scattered throughout the city at different locations/markets. The trade is mostly concentrated in the following markets: Kay Tan Zai Cho, Nya Zai and Thirimandalar. In order to obtain an understanding on the established organisation and product flows in wholesaling in Mandalay to inform the development of a new wholesale market, interviews were conducted with both fruit traders (N=5) and fruit producers (N=10) within Mandalay area. See for full research overview Annex B.

3.2 Trade flows

The function of the wholesale market in Mandalay is mainly (inter)national trade. The wholesale in Mandalay mainly serves the distribution of locally grown fruits (mango and watermelon) to China, but is increasingly expanding its function as (inter)national trade hub, both in terms of sourcing and trade destination. Besides produce from Mandalay area produce is increasingly traded from other domestic regions, including fruits and vegetables from Southern Shan State. In terms of destination markets an increase in demand is reported from other neighbouring countries, including, Thailand, Singapore and Malaysia, as well from other domestic regions, including Nay Pyi Taw, Shwebo and Monywa townships.

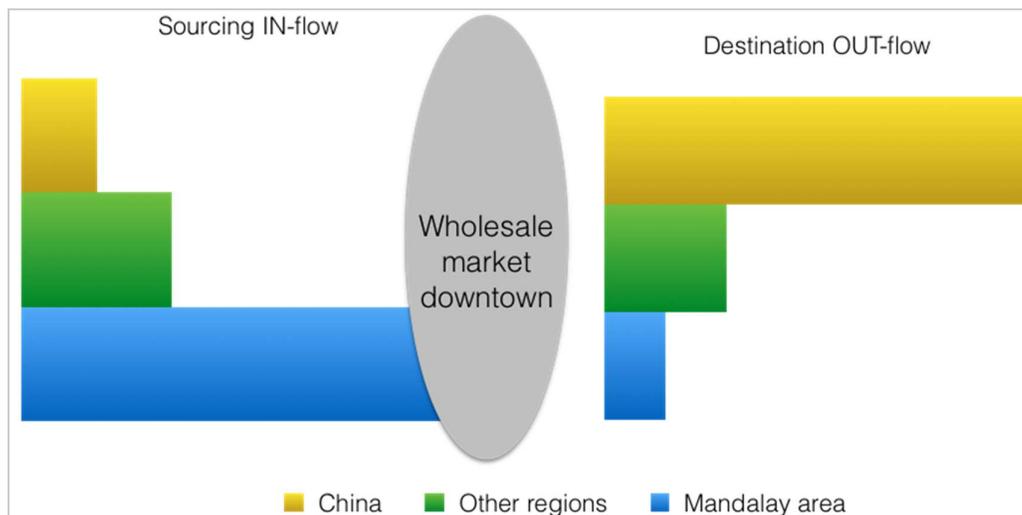


Figure 19: Overview of estimated fruit product flows in Mandalay

The research in Mandalay concentrated on fruit trade. The average volumes traded per wholesaler in Mandalay is 127 MT /day. When compared to the volumes traded at Thirimingalar in Yangon (max 25 MT/trader/day), these volumes/day in Mandalay are much larger.

Box 1: Example of watermelon trade**EXPORT:**

90% of fruit produced in Mandalay area is for export to China

- Example: Watermelon trade Sept-April (8 months) - 1 trader:
 - 5-10 trucks/day to Muse =127 T/day on average
 - 5 trucks/wk to Mawlamyine = 12 T/day on average

IMPORT:

≈100% from China

- Example: 1 trader importing from China year round
 - 82 T/day
 - Wide product range: apple, orange, persimmon, pomelo, kiwi, grape, ...

3.3 Use of facilities

The poor state of the current organisation of wholesaling in Mandalay is a key impediment for seizing the increasing (export and domestic) demand opportunities. Existing facilities at the market are limited and traders were uniform in indicating the main impediments of the expensive and inconvenient down town city centre location with limited space for operations:

- Inconvenient location:
 - Time consuming to travel in and out of the congested city centre; in return also contributing to city congestion and air pollution
 - Limited space for trading activities; hampering truck (un)loading and hampering business expansion
 - No designated market place nearby the port to receive the fruits; also not for temporary stalls.
 - Congested traffic in the trading area due to
 - Many and (increasing numbers of) customers
 - Many roadside retailers
- Expensive rental fees:
 - Current market location in expensive central downtown area.
- Lack of value added services
 - Lack of post-harvest facilities
 - Difficulties to obtain packaging materials; carton boxes
- Financial risks/issues:
 - Fluctuating price levels due to lack of control on supply volumes in peak seasons.
 - Price cuts: pre-agreed price is reduced upon delivery at the border trade zone, when the quality of the produce has deteriorated during truck transportation.
 - Traffic blocks for trucks on the way to Muse; delay might result in produce quantity and quality and thus affects the profit margin.
 - Fluctuating transportation costs based on demand for trucks
 - Financial losses caused by the deferred payment system; leading to increased working capital need and defaults
 - Limited financial investment capacity

- Scarcity of labour:
 - Scarcity of labour at the port of Ayeyawady River in Mandalay; labourers are primarily occupied with carrying construction materials, which means that the fruit traders are depending on the construction trade for the availability of workers. If there are no workers available the produce sometimes needs to remain for up to 4-5 days on the boat.

Clearly, the fruit trade in Mandalay is in urgent need of improvements. This need is not only negatively influenced by the above listed business impediments, but more importantly positively motivated by commonly expressed opportunities for horticultural business expansion. Both farmers and traders mentioned the favourable conditions for increasing both domestic and international trade of (fresh) fruits and vegetables:



Figure 20: Unloading and loading at one of Mandalay markets

- Year round supply
 - Favourable agro-ecological conditions for a versatile year-round supply
 - Better fruit quality than any neighbouring countries, e.g. China and Vietnam
- Increasing demand
 - Export demand due to increasing quality while maintaining price competitiveness
 - China, growing demand of an already large fruit export market for water melon, musk melon and mango (e.g. 300-400 Chinese buyers/day for watermelon at the border trade zone) from China
 - 'New' markets, neighbouring countries (Thailand, Singapore, Malaysia): Sein-ta-lon and Shwe-Hintha mango varieties are highly valued internationally
 - Domestic demand, most notable in the increasing trade to other regions: e.g. Nay Pyi Taw, Shwebo, Monywa townships
 - Growing population
 - Increasing fruit consumption

3.4 Needs and constraints

In seizing the business opportunities, both farmers and traders have a positive attitude towards the new market development. The expectations are that an organised wholesale market at a convenient location outside the city will attract foreign buyers to Mandalay, under the conditions that:

- The market offers cold storage and other post-harvest facilities to maintain produce quality and facilitate a more constant availability of quality produce
- The market offers facilities and operates conform international standards
- The market offers efficient truck to truck trade possibilities with easy and convenient truck (un)loading facilities

- The market offers reduced and more stable rental fees to reduce operational costs
- The market offers room for business expansion; increasing the trade volume as well as providing value added services
- The market is well connected with other areas through highways and waterways
- The market is open to both export and domestic trade
- Farmers can ensure that the fruits produced meet the quality specifications of the international markets (with due attention also to MRLs)
- All the fruit traders move from the current down-town location to the new location, simultaneously.

Besides these pre-conditions, farmers and traders mentioned several other issues which need addressing. Most of these issues directly relate to the location of the new market. The new market is located South of the city and outside the current urban planning of Mandalay. Although the location is close to Mandalay’s international airport and projects have started to facilitate airfreight, the new location (see figure 20) in an isolated rural production area has several disadvantages:

- The new market is far from the river/port; fruits such as watermelon rely on river transport.
- The new market is far from the city and it is considered unsafe and remote
- The existing access road is in bad shape and the new market site is not yet well connected with other areas.
- The area where the new market is located is a rural production area and in the direct vicinity of the new market are no facilities like hotels, restaurants, banks etc. Furthermore, the area is not yet included in urban development plans.
- The area lacks stable electricity supplies to run professional and modern facilities, like cold storage. Plans are under development to realise a power plant on the other side of the river south-west of Mandalay, but these are still only plans in the wider context of Mandalay urban development as indicated in figure 20.

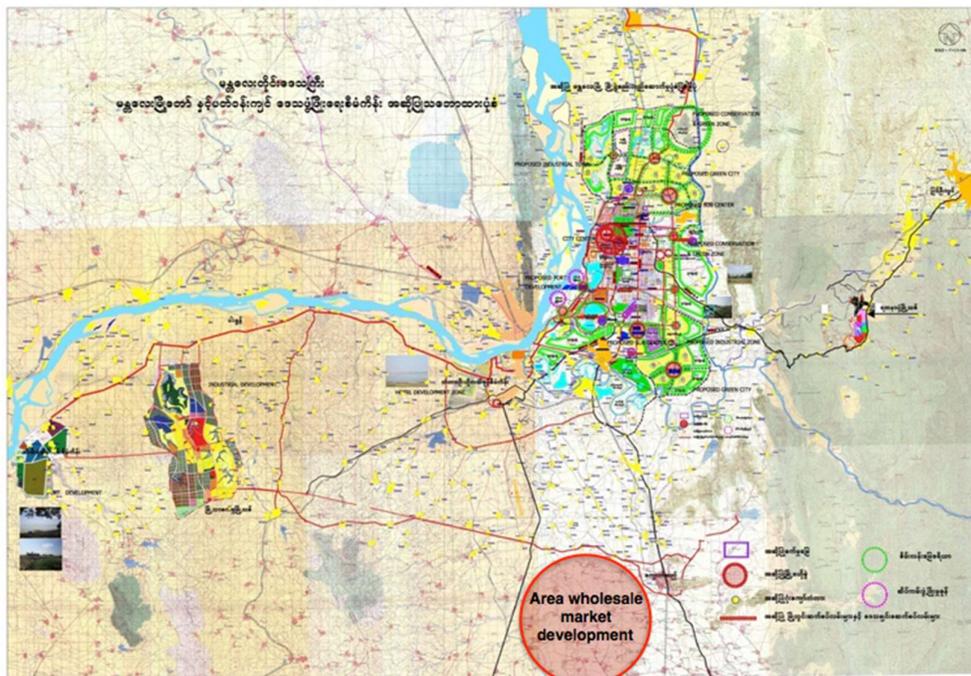


Figure 21: map of Mandalay area development

An illustrative example of how unstable electricity impedes professional business is the post-harvest centre. With the intention to stimulate mango exports a post-harvest centre was established south of Mandalay. However, due to the unreliable electricity supply, the centre has not been commercially operational, and is reportedly now only being used as training facility.

In case the different pre-conditions and needs of Mandalay based traders are not met there is a potential danger that in particular the larger and more professional traders will trade without the need for a wholesale market structure.

4. Implications for the new wholesale markets

The basic issues to be addressed by the management of the two new wholesale markets relate to the tension in matching ambition and opportunities with contemporary practices and realities. There are considerable differences between the situation in Yangon and Mandalay; these are summarised in the table below:

Table 4: Overview of two markets

	Yangon	Mandalay
Type of market	Terminal market: serving the growing urban metropolis Yangon	Assembly market: central collection and distribution point for (inter)national trade
Product flows	From afar into the city	From afar to afar
Attitude of current wholesalers towards new market	Negative: Too far out of the city; unwilling to 'move again'	Positive: More convenient out of the city centre and eager to move to a place where they can expand their business at lower costs
Trade volume per trader (indicative)	25 MT/day max	120 MT/day average
Challenge	Dealing with current trade practices	Location of the new market currently lacks other essential facilities and services
Need	Addressing well-established cultural practices that are not conducive for achieving international trade standards	Integration in urban planning and national infrastructure planning

4.1 Yangon

Ambition: Professional and modern wholesale market conform international standards and with professional value-adding facilities.



Figure 22: artist impressions of the new Danyingone wholesale market

Current state: Under construction and progressing well ; phase I to be completed end 2016.



Figure 23: Danyingone market under construction (May 2016)

Challenge: Professionalising wholesale to international standards, while accommodating the wholesalers of the current Danyingone market.¹



Figure 24: Current Danyingone market; combination of wholesale & retail practices

Cultural conventions may hamper the development towards more professional wholesale market management and value adding innovations. Accommodating all the Danyingone traders of the existing market implies that it will be virtually impossible to operate the new market conform international standards. It will be important to address the current practices when transforming the wholesale trade into a more professional and regulated business. Accommodating some of the existing practices within the new market will jeopardize the realisation of the ambition with the larger aim of stimulating the sector development. Social issues cannot be resolved within a privatised market place only and need the concerted action of many stakeholders.

¹ (Photo: Aung Khant / The Myanmar Times;
<http://www.mmtimes.com/index.php/business/property-news/20523-wholesale-vegetable-market-on-track-for-2018.html>)

4.2 Mandalay

Ambition: Professional and modern wholesale market conform international standards and with professional facilities.



Figure 25: Artist impression of the future Mandalay wholesale market

Current state: Under construction and progressing well. Phase I to be completed end 2016.



Figure 26: Mandalay wholesale market under construction (phase I; March 2016)

Challenge: Isolated location in desolated area. In order to allow the new market in Mandalay to function attention should be paid to the enabling environment of the market, including roads, electricity, hotels, restaurants, shops, banks, schools, etc.



Figure 27: Area surrounding the new wholesale market outside Mandalay (March 2016)

PART B: RECOMMENDED WHOLESALE MARKET MANAGEMENT

5. Ensuring effective and efficient wholesale market management

5.1 Viability, efficiency and needs-based operations

The management of wholesale markets will have to be based on the following main principles:

1. Financial, economic and operational viability
2. Efficient operations
3. Meeting the needs of the main market users

The key aspects determining these three main principles are summarised in the diagram below. Together these form the basis for any wholesale market management plan. How these principles are translated into practice depends on the local needs and conditions. Recommended management practices for the new wholesale markets in Yangon and Mandalay are described in the following chapters.

Viability	Operational efficiency	Meeting sector needs
<ul style="list-style-type: none"> • covering costs of capital investments and operations; • fees and charges for services are competitive for market users; • sound organisational set-up; • meeting legal requirements. 	<ul style="list-style-type: none"> • efficient handling of the arrival, unloading and loading of produce; • enforceable tenancy agreements, and accepted and implemented market regulations or rules; • traffic control and vehicle parking; • personal safety; • produce security; • cleanliness and hygiene; • effective provision of basic services, such as loading and unloading services, electricity supply, garbage collection, telephone and internet. 	<ul style="list-style-type: none"> • improving market transparency – Market Information Services • introduction of (cold) storage services • introduction and enforcement of grades and standards • provision of value adding services, e.g. grading, sorting, cutting & slicing, packaging, etc. • facilitating product innovations and organising promotional activities • trade facilitation, e.g. B2B facilitation, auctions, etc.

5.2 Market management tools and instruments

5.2.1 Adding private market rules to the regulatory framework

The new wholesale markets will operate within the national legal framework as determined by the Union Government and in particular by the Ministry of Commerce (MoC) and the Ministry of Agriculture, Livestock & Irrigation (MoALI). The national legal framework covers issues such as business registrations, labour laws, taxation and professional licensing and also important regulations related to sanitary and phytosanitary issues (including food safety). These and related regulations determine to a large extent the overall business climate in which the wholesale markets will operate.

The Yangon and Mandalay City Development Committees have put in place market regulations in the respective urban regions. These market regulations cover issues related to the use of the market facilities and the rights and obligations for companies and individuals renting some of the facilities. Annex C includes a summary translation of the rules for shopkeepers issued by the YCDC market department. Whilst it is not compulsory for the new market owners to copy the existing urban market regulations, it make sense to strive towards a high level of consistency between the new and the existing market regulations. However, given the scale and the objectives of the new wholesale markets and the private ownership situation it is highly recommended that the new market owners add their own private market regulations.



The private market regulations will cover several additional matters beyond the normal contractual issues between market owners and wholesalers renting facilities at the market. This will include the following:

- Market trading days and market hours
- Registration & market access for buyers and sellers
- No permanent dwellings and underage youngsters
- Unloading, handling & loading
- Traffic control and parking
- Personal safety
- Cleanliness and hygiene regulations
- Produce handling and quality.

The recommended private market rules and regulations are further described in chapter six and will form a key instrument for the new markets' management to institutionalise efficient market practices and achieve viability and sustainability in operations.

5.2.2 Rental contract, facilities and services for market users

There are basically three categories of wholesale market traders who will operate at the new wholesale markets:

1. **Wholesale merchants** – buying and handling fruits and/or vegetables in bulk and selling on to other wholesale or retail traders;
2. **Commission agents** – acting as suppliers on behalf of others (producers and/or local wholesalers); they physically handle the produce like merchants, but never own the produce
3. **Brokers** – acting like commission agents in that they operate on behalf of others and do not own the produce, but a broker will never physically handle the produce.

Each category of wholesale trader will want to rent facilities at the wholesale market. Wholesale merchants and commission agents will want to have access to floor space at the respective market hall. In addition they will all need to have access also to the following basic services:

- Office space
- Garbage collection
- Washing station for fruits & vegetables
- Electricity supply
- Internet (wifi)
- Toilets and washing services
- Market Information Services
- First aid medical services

It is important that the rental contracts with the different types of wholesalers will include these basic services. The charges for these services are an integral part of the regular (flat) fee payments. The rental contracts with wholesale traders should include the following elements:

1. the area to be rented or leased (ground lease: space in building described by area, position, number, etc.);
2. fees to be paid (amount), when and where they are to be paid, incl. penalties or charges for failure to pay on time;
3. the duration of the rental or lease;
4. arrangements or options for renewal of the agreement (when provisions of existing agreement have been observed);
5. procedures for adjustment to fees to cover inflation or other cost increases (with reference to an independent index);
6. a stipulation that the lease or rental applies only to the particular person or company while engaged in the approved business (e.g. wholesaling of fruit and vegetables) and only as long as the particular person/firm remains licensed for this purpose (with the relevant authority);
7. arrangements for subletting; Note: It is strongly recommended to prohibit subletting, and if allowed, then only by prior approval in writing from the managing authority (otherwise the agreement is considered void);
8. Allowable modifications (including signs) to the premises without prior written approval of the managing authority; any modification becomes the property of the managing authority;
9. repairs to premises and whether these are at the cost of the tenant (market user) or the owner (market authority);
10. arrangements and payments for supply of electricity, water, sewerage, telephone, fax, e-mail, security, cleaning and maintenance;
11. action in the event of non-payment of fees or failure to comply with the market rules; this is a breach of contract and payment of penalties are specified; in extreme cases the contract terminated with the building returning to the control of the managing authority;
12. payment of a security deposit (from which fines can be deducted) and compliance with licensing requirements;

13. market inspection; the owner should have an agreed access to the rented or leased premises;
14. staff issues; number of staff and their access to the market;
15. Specification who will pay legal costs in the event of dispute.
16. Reference to the general market rules to be followed by all (see chapter 6)

Other essential services that the market management should be able to organise and provide to the market users include amongst others:

- Catering services
- Parking facilities for vehicles of traders and their staff
- Child minders / kindergarten & local school access
- Accommodation for overnight stay

These services are not part of the rental contracts and will be provided on a cost-recovery basis. The catering and accommodation are important as an alternative for the current market practices whereby a considerable number of traders more or less permanently live at the market. This should no longer be condoned, but at the same time alternatives need to be provided. The same applies for denying youngsters access to the wholesale markets. Child labour should not be condoned and playing at the markets poses too much danger for the children. While their parents are at work, the children should be educated and for the very young ones a supervised play area / nursery should be set up.

Besides the market management should facilitate that other commercial services are accommodated at the wholesale market. This includes in particular banking services and logistical support (transport, storage, etc.).

Other non-essential services differ between the two new wholesale markets in Yangon and Mandalay and are covered in section C (chapter 8 and 9).

5.2.3 Staffing and management structure

The wholesale market manager is in charge of the day-to-day operations at the market and will oversee that the market operations are efficiently implemented and that the market rules are followed. The market manager is accountable to the shareholders (represented in the Board of Directors) and will oversee a team of managers and staff who will execute the different market management responsibilities and services. The diagram below provides an example for an organisational set-up with three main divisions:

- Operations covering security, cleaning & garbage collection and maintenance and repair services
- A communication and special services department providing market information services, storage and value-added services
- Administration and human resources management which is in charge of the rental contracts, staff management, fee collection as well as quality control and customer relationship management (CRM).

It is advised that the market manager and his/her team will develop annual business plans which require the approval of the Board of Directors. In the annual plan the business development objectives and the operational objectives will be specified and a plan and budget on how to achieve the commercial and operational objectives will be described. The Board of Directors will supervise and evaluate the performance of the manager and his/her team on the basis of progress and level of success in attaining the different objectives (see also chapter 7 for additional details on the commercial management approach).

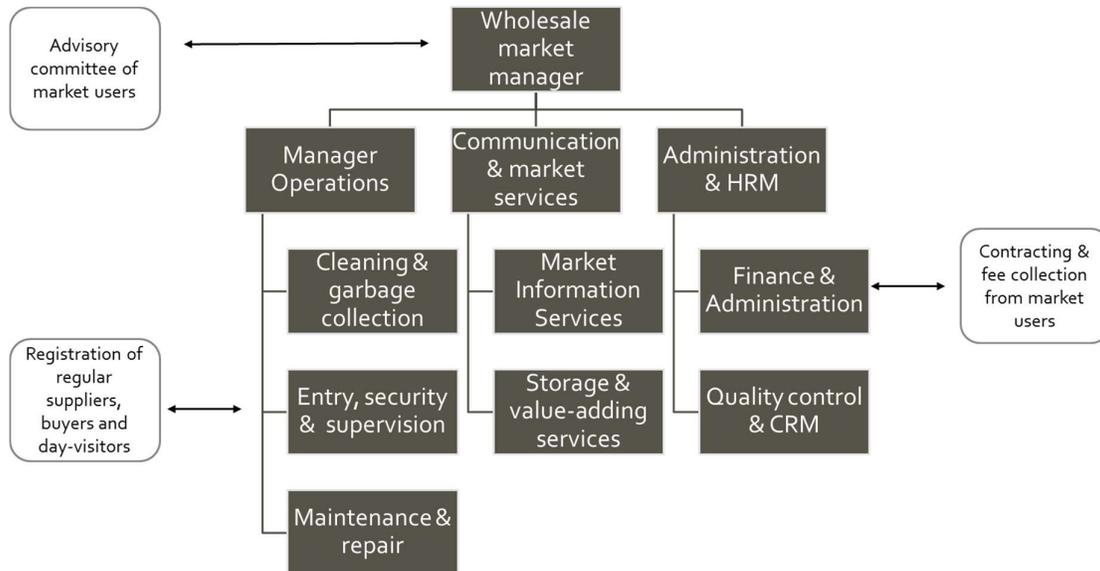


Figure 28: Proposed organisational structure for a fruit and vegetable wholesale market

The effective and efficient management and operations of the wholesale market does not only depend on the, management structure and staffing, but also requires good cooperation between the market users and the market management. It is strongly advised that the market manager has regular meetings and discussions with a committee of representatives of the wholesalers who are the principal market users. This committee of market users has an advisory role towards the management. The common agenda of the market management and the market users' committee will include the following topics:

- Evaluation of the performance of the wholesale market in terms of the conduciveness of the trade environment and quality of the facilities and services;
- Suggestions for improvement and modification in the market operations, facilities and services identified by the market users;
- Explanation of new measures and/or regulations decided upon by the market management.

When the new wholesale markets are in full use it may be beneficial also to have sub-committees of market users for different commodity categories. Market user committees are an established institution also at the existing wholesale markets.



Figure 29: Meeting of market committee at Mandalay wholesale market

6. Private market rules and regulations

This chapter summarises the main recommendations on drafting market rules for the management of the new privately-owned and managed wholesale markets in Yangon and Mandalay. Some of the recommended market rules and regulations are also in place at the existing wholesale markets, whilst others are new for Myanmar and based on common international wholesale market management rules and practices².

It is recommended that the detailed formulation of the wholesale market rules and regulations is done by the respective wholesale market manager in consultation with the advisory committee of market users. By involving the market users in the drafting process broad-based understanding and appreciation for the rules and enforce will be facilitated and compliance with and enforcement of the rules and regulations will become easier.

6.1 Market trading days and market access

As per the existing practice it is recommended to operate the new wholesale markets on a “24/7” basis. Whilst the market will open for trade on a continuous basis it is strongly recommended to regulate produce movement by having time slots for produce delivery and produce collection. This is important reduce the flow of (heavy) traffic at any time of any time of day. This will also facilitate the controlled unloading and loading of fresh produce at the loading bays. Similarly garbage collection will be done at specific time slots when there is little other vehicle movement and trade activity at the wholesale market (in the afternoons at most wholesale markets).

Market access for people will be done after registration with security staff and issuing of a bar coded pass. This will enable the market management to control the number of people entering the wholesale market and monitor the presence of different market users. Different market passes will be issued to the following groups of market users:

- Tenants (wholesale companies) and (a specified number of their) staff will get be given a pass for market entry at a 24/7 basis;
- Regular buyers of fresh produce will be given a market pass for any time of the day except for the main delivery hours during the night and early morning hours
- Transporters will be given a market pass for any time of the day to make deliveries or collect produce for onward distribution
- Occasional buyers and other day visitors will have to obtain a day pass will be issued only during certain periods of the day when main deliveries or procurement by the regular buyers is done.

Children of 16 years and younger are denied access to the market. A wholesale market is not a safe area for underage people and it will ensure that there is no use of child labour at the wholesale market.

To avoid (semi-)permanent lodging at the wholesale market it will be stipulated that each person needs to leave the market for at least 6-8 hours per day. The bar coded market passes will be scanned by security staff at entry and exit of the market. People who will exceed the maximum number of hours at the market, will receive a warning and at recurrence even fined.

² Particularly FAO has developed several relevant reference documents with guidelines and recommendations on fresh produce wholesale market developments and operations

6.2 Traffic control plan

The wholesale markets should have a traffic control plan to facilitate the efficient handling of the produce, avoid congestion at any time and to promote public and worker safety. Recommended elements of the traffic control plan include the following:



Figure 30: Unloading and off-the-truck sales at Thirimingalar market, Yangon

- Introduction of specific time slots for entry of vehicles delivering new loads and collecting goods; this is to avoid that there will be unloading and loading going on at the same time and that loading bays get congested;
- The specific time and duration that buyers' vehicles will have access to the market will follow on from the time slots for the main deliveries;
- Only cursory inspections of trucks delivering fresh produce will be done to avoid delays at entrance; the transporter's entry pass will be scanned and the type of produce will be registered; thereupon the driver will receive directions to which part of the market he should go;
- There will be designated unloading areas for different categories of produce based on (a) category of produce; (b) perishability and (c) bulkiness;
- Regulations for the duration that unloading vehicles are allowed to park at unloading bay or ramp;
- There will be an inspection of vehicles leaving the market, including a check whether they have the required paperwork (to prevent theft);
- The type of vehicles allowed at the market will be regulated; it is recommended to refuse the entrance of non-motorised vehicles and carts as these do not contribute to personal safety and can increase the overall congestion at the market;
- Personal vehicles may not enter the market, but need to be parked at the designated parking areas; this will include the personal vehicles of wholesale tenants and their staff who will be given their own parking space away from the trade and storage areas. Similarly, there will be parking areas and fees for day-visitors and general public.

6.3 Volumes, handling produce and quality issues

It is strongly recommended to set minimum volumes of consignments to be unloaded at the market. This is a typical subject for discussion with the market user committee. Different minimum volumes will be set for different categories of fruits and vegetables. The main purpose of setting minimum volumes is to promote higher levels of efficiency in handling and trade and to reduce the transaction costs per load. Ultimately it is also more difficult to introduce and institutionalise value-adding activities such as sorting, grading and packaging if the individual consignments delivered and traded are too small.

Produce handling quality and efficiency will also be enhanced if the wholesale market employs its own staff for unloading and loading vehicles. In any case it is essential to have rules and regulations for 'on-site movements' of produce, including:

- Restrictions and conditions on use of forklifts, porters, etc.
- Consider the use of crates for hygienic handling

- Regulate who will do the actual unloading and loading, whereby it is recommended that this will be done by market staff

Wholesale markets can also facilitate with the setting of standards for produce quality and packaging to be adopted by the wholesale market users. However, ultimately it is the end-market that determines the quality standards and packaging requirements. So while the big wholesale markets can play an important role in maintaining quality standards for the industry, the actual establishment of quality and safety standards is more the responsibility of end-market buyers and consumers. In the case of the Mandalay wholesale market which is intended to be used for trading produce for the regional export markets, there is (in the short term at least) a greater need for adherence to quality standards than in Yangon. In Mandalay it will be important that the quality and packaging is inspected. Independent quality inspectors are to be assigned by the market management. In addition the wholesale market should provide facilities for on-site phytosanitary inspections by MoALI phytosanitary staff.

6.4 Garbage collection and hygiene

The market rules should stipulate that the tenants are responsible for cleaning and hygiene of the spaces that they rent. All waste to be deposited in designated containers, whereby there will be separate bins and containers for:

- Organic waste, which can be used again for composting.
- Inorganic waste (packaging, plastics, etc.);
- Wood and paper.

Cleaning of the common areas and the actual garbage collection from containers and other collection points is the responsibility of the market management. A designated crew of cleaners will be deployed to clean the common areas and to empty the containers and garbage bins. Given the fact that there will be a lot of organic waste, it may be considered to make a contractual arrangement with a company specialised in the production of compost.



Figure 31: Cleaner at work in Thirimingalar, Yangon

6.5 Market information services

It is recommended to establish a Market Information Service (MIS) through which daily information on wholesale commodity prices and the volumes delivered and traded are disseminated. The wholesale trade and the performance of the market as a business entity will not be affected directly by the establishment of an MIS. However, in the medium and longer term the effects can be very significant. The MIS will greatly contribute to the overall transparency in the fruit and vegetable markets in Myanmar and thereby make the trade and supply activities more efficient. Furthermore, the daily dissemination of market data from the new wholesale markets in Yangon and Mandalay will ensure that these markets will become the national benchmark for fresh produce trade activities at the domestic, respectively regional export markets.

To institutionalise a MIS the wholesale market management will have to develop a routine for obtaining data from wholesale agents active at the market on a daily basis.

This will include data collection for the main horticultural commodities on (a) the quantities received and quantities sold and (b) the daily highest, lowest and most common price paid during that day. The MIS data will be disseminated through public media (newspapers, radio, internet) and can be accessed to all interested stakeholders, including end-market buyer, farmers and traders in other parts of the country.

7. Economic and financial viability

7.1 Main sources of income

The wholesale market management should develop a business plan and an annual work plan with a cost estimate. The cost estimate will form the basis for the annual budget which needs the approval of the Board of Directors. The annual income that will be generated by the market should be adequate to cover the annual cost estimate for operational costs and provide funds (reservations) for long-term maintenance, capital costs and reserves for staff benefits and other future expenses.

There will be three main sources of income: (a) rental fees; (b) market entrance and parking fees; and (c) fees for different value adding services.

For the calculation of the rental fees the market management has two options, a flat rate for all market facilities based on the square metres rented or a differentiated rate whereby the rental fee per area rented varies between different product groups. The former is the common practice in Myanmar. The system of differentiated rates is based on the value of the commodities whereby the rental fees are higher for high value / low volume commodities. For example, the rental fee for fresh chillies will be higher than for water melons. The advantage of a flat rate fee system is that it is easy to administer. The system with different rates in accordance with the value and volume of the fruits and vegetables traded, is considered fairer in that the fee rate paid by the individual wholesaler is more in line with the overall value of his or her business.

Another source of income for the wholesale market are the market entrance fees and the parking fees. Market entrance fees will be charged each time when a new visitor card is issued. Day visitors will pay relatively more than the tenants and other regular users who will be issued a entrance pass for a month or longer. Parking fees are charged for day visitors and transport companies wishing to park their trucks at the market area. Parking fees should be competitive and provide the owners of the vehicles the assurance that security is present at the market's parking place to oversee that vehicles are parked orderly and safely.

Another main source of income are the fees for additional services that the wholesale traders may wish to take up. This could include a range of value-adding services (see also next chapters), such as:

- forklift truck or porter services
- use of (cold) storage and ripening rooms
- sorting & grading services
- slicing
- packing and/or repacking
- business-to-business facilitation (brokerage)
- product promotion

The fees for these services will be determined according to their use and will not be included in the monthly rental fee. The fees will have to cover all operational costs as well as depreciation on the equipment and other facilities used and a profit margin.

7.2 Cost factors

From the opening day of the wholesale market the buildings, roads and equipment starts to depreciate and staff benefits (like pension schemes) start to accrue. It is therefore not enough for the market management to only cover the operational costs, but also take into

account depreciation, interest payments and reservations. Without taking these costs factors into account the wholesale market will not become a viable business.

The main categories of operational expenses that should be included in the cost estimates include the following:

- Staffing
- Maintenance & repair costs
- Cleaning
- Energy, water, (internal) transport
- Insurances & taxes

Expenditures need to be checked regularly and monitored against the estimated costs in the business plan. The Financial Manager should report on a regular basis to the Wholesale Manager and the Board of Directors. Any major expenditure above the expected budget level should be questioned by the Board. The surplus above the operating costs will have to be transferred to the strategic reserves.

7.3 Cost/benefit considerations

The viable operation of the new wholesale markets requires that the markets are run as a business based on a sound financial strategy. Attainment of an operational surplus will depend on the management's ability to control the different cost factors. However, more importantly for the financial feasibility will be the development and consistent implementation of an operational strategy that is based on the needs of the future market users. This will ensure that the operational expenses can be justified against the income from the rental fees and services that the wholesale market will provide.

For the overall financial viability it is important that the following is pursued:

- Minimise the transaction costs by (a) reducing the number of contracts and (b) standardisation of the services under a single contract as much as possible;
- Pursue economies of scale as soon as possible after market opening, particularly where it concerns the delivery of special services; in case economies of scale cannot be achieved in a foreseeable future, take cost-cutting measures, including the cancellation of the respective service;
- Maintain separate accounts for the different special services such as cold storage, ripening, packing services, etc.; this will provide an overview of which services are loss-making and which are not and timely measures can be made to reduce the impact on the loss-making services on the overall financial result;
- Monitor staff performance and non-performing staff should not be retained;
- Monitor rental fee payments by tenants and take timely measures against defaulting tenants.

PART C: THE POTENTIAL VALUE-ADDING SERVICES

8. Yangon: towards scale and innovation

8.1 Range of value-adding services

The new Danyingone wholesale will be a terminal market for fruit and vegetables to be distributed onwards to the growing urban markets in the Yangon metropolis. With the growing population and the increasing levels of average income, the demand for fresh produce will continue to rise in the coming years. In addition to an increasing demand, it is also expected that the demand will gradually change in qualitative terms. Urban consumers with a higher spendable income will not only determine their buying behaviour on price levels, but also on quality and convenience.

The combination of increasing and changing demand patterns provides opportunities for the new Danyingone wholesale market to provide value adding services to its customers, such as:

- Warehousing and (conditioned / cold) storage, including ripening rooms; these services are essential to maintain and/or improve the quality of the fresh produce and to extend the shelf life of the products before these are offered to the end-consumers;
- Sorting & grading according to quality standards; this will allow traders to maximise their profits by meeting the consumers' demands for a better quality product at the higher end of the market;
- Cleaning, slicing and/or pre-packing; these services will meet the consumers' demand for more convenience, particularly when ready-to-cook packages of assorted cleaned and sliced vegetables are prepared;
- B2B facilitation; bringing wholesale suppliers into contact with a new category of buyers (e.g. in the tourist industry, food processors, etc.) new supply chains can be developed with their own product quality and supply arrangements;
- Product innovation and promotional activities; by pro-actively assisting groups of suppliers or categories of wholesale traders with the promotional activities around new grades or standards or new varieties ("more flavoursome", "uniform size and ripeness", "easier to clean", "stores longer", etc.), the wholesale market can facilitate the growth and innovation of the trade in that particular product.



Figure 32: traditional tomato variety; these can be sorted for ripeness and size

8.2 Preconditions for realising success

The uptake of these new value-adding market services will only be achieved in case the new Danyingone wholesale market management will opt for attracting a new category of wholesale traders. With the current low volumes of business per wholesale trader it will not be possible to achieve economies of scale. As the survey and census results have shown (see chapter 2), there are large numbers of small scale wholesale and retail traders active at the current markets. It will not be cost-effective to provide the above mentioned value adding services to this category of trader.

Attracting in particular new and larger scale wholesale trade, rather than moving existing trade to the new Danyingone wholesale market, will be a precondition for the successful development of value-adding services. This can be pursued by introducing minimum volumes of business for the main horticultural products and not allowing any retail trade within the market premises. Another strategy to ensure that only larger scale wholesale trade will be attracted to the new market is by making the areas offered under rental contracts larger.

If these types of measures are not introduced, the most likely scenario will be that the new Danyingone wholesale market will see the same type of business operations as currently observed at the Thirimingalar and the existing Danyingone market. Investments in cool storage, ripening rooms, cleaning and packing services, etc. will not have to be made in that case.

8.3 Implications for the wholesale market management

Before the new Danyingone wholesale market will open its doors it is important that the market management will make a clear strategic decision on the future direction of the wholesale market:

- a) a wholesale market for fresh produce with added value and meeting new consumer demands in Yangon metropolis; or
- b) a market with a 'business-as-usual' model where the large majority of the traders operates on a very small scale and trades small volumes of produce.

From a business perspective both option a and option b can be successful. The advantage of the first option will be that the returns on investment are likely to be higher. There will be better opportunities to provide also additional services and the overall transaction costs will be considerably lower when the market management has to deal with a smaller group of larger traders rather than a large group of small-scale traders. A potential disadvantage of the first option may be that it may take longer before the capacity of the new wholesale market will be fully utilised. There are currently not enough large-scale fruit and vegetable traders who can move into the market and the market management will have to develop a marketing strategy to attract a new category of wholesale trader.

Opting for a wholesale market strategy aimed at larger scale trade and value addition will also pose a challenge in terms of accommodating the market users at the existing Danyingone market at Insein. The vast majority of these traders will not meet the volume criteria of the new market, but evicting them from the old market and not providing a suitable alternative is simply not an option. In case the future strategy of the new Danyingone market is aimed at value addition and achieving economies of scale, it is recommended that a compromise is found by allowing the traders of the existing Danyingone market to operate in a dedicated section of the new market only. Rather than rental contracts, these traders will be given a market pass and will have to pay a daily fee for whenever they trade at the section of the market where small wholesale and retail is allowed.

9. Mandalay: supplying the regional markets with quality produce

9.1 Range of value-adding services

The new Mandalay wholesale market will primarily function as an assembly market for fruits to be exported to neighbouring countries, mainly China but increasingly also Singapore, Thailand and Malaysia. Besides the market is expected to become a major domestic trade hub for both fruits and vegetables. The new market can be increasingly used for assembling produce from areas outside Mandalay to be redistributed nationwide.

Growing populations with higher living standards and a trend towards higher quality demands are driving the need for more professional wholesale structures in Myanmar. International buyers will increasingly require international food safety and quality guarantees. But also domestically increased consumer-protection through public health and food safety regulations, as well as intensified environmental regulations are expected to shape up. A professional market could play a pivotal role in improved standardisation and quality management for the total sector. The increasing international and domestic demand for year round fruits and vegetables (see chapter 3) provides good opportunities for the new Mandalay wholesale market to provide value adding services to its customers, such as:

- Warehousing and (conditioned) storage, including ripening rooms; these services are essential to maintain and/or improve the quality of the fresh produce and to extend the shelf life of the products to better manage supply and demand to reduce the financial risks of domestic producers;
- Sorting & grading according to quality standards; this will allow traders to maximise their profits by meeting the consumers' demands for a better quality product at the higher end of the market;
- Cleaning, slicing and/or pre-packing; these services will meet the consumers' demand for more convenience, particularly when ready-to-cook packages of assorted cleaned and sliced vegetables are prepared for the rapidly developing domestic market.
- B2B facilitation; bringing wholesale suppliers into contact with international traders, through participation in trade fairs; Promotional activities for showcasing product innovations and new varieties;
- Facilitation in meeting phytosanitary requirements and services to assist in obtaining phytosanitary certifications in order to attract large traders to trade through the new wholesale market.
- Facilities and services for food quality and safety testing to support customers with on the spot answers on compliance with food safety standards.

9.2 Preconditions for realising success

The uptake of the new Mandalay market will highly depend on the added value services it will be able to provide against affordable rental fees (see chapter 3) and the wider urban development in the direct vicinity of the new market area.

Although the out-of-the-city-centre location is perceived as positive by all traders and farmers interviewed and all seem eager to move to a place where they will be able to

expand their business at lower costs, the uptake of the market will depend on whether the market management will be able:

- to relocate all current large scale professional fruit traders to the new market; currently scattered among different locations in down-town Mandalay
- to attract large and professional fruit traders, that currently directly export to neighbouring countries
- to attract international buyers to purchase produce at the new Mandalay market

This can be pursued by meeting the above listed user requirements in terms of value added services.

However, the new market is in an isolated area that is not yet included in the urban development of Mandalay. In order to allow the new market in Mandalay to function as an (inter)national trade hub attention should be paid to the enabling environment of the market, including roads and waterways, electricity, banking services, services for overnight stay (hotels, restaurants), shops, etc. The uptake of the new value-adding market services will only be achieved in case the new Mandalay wholesale market management will be able to address the development of these enabling conditions with relevant stakeholders in urban planning and national infrastructural development. This can be pursued by forming a metropolitan interdisciplinary stakeholder committee in which different developments will be planned and designed in concertation.

If these enabling conditions are not addressed and resolved, it will remain doubtful if the new Mandalay wholesale market will be able to attract international buyers and whether added value services like cold storage facilities will be able to operate 24/7. If the current issues with unreliable electricity provision can't be resolved, investments in cool storage, ripening rooms, cleaning and packing services, etc. will remain idle.

9.3 Implication for the wholesale market management

The first operations of the New Mandalay market are expected as of early 2017 following the completion of the shop houses towards the end of 2016. However, like in the previous chapter indicated for the new wholesale market in Yangon, the Mandalay market management will first need to make an explicit strategic decision between:

- a) a market with a 'business-as-usual' model for the current fruit traders in down-town Mandalay, though located outside the city center with room for expansion,
- b) a professional collection point for international bulk trade conform international standards with adequate facilities and services that meet international quality standards, to attract more distant traders (sellers and buyers) at the market premises.

From a business perspective it is doubtful whether option (a) could be exploited successfully. Although the market offers room for expansion and would unburden Mandalay from unnecessary trade traffic in the down-town city centre, it remains highly questionable whether the new market will attract sufficient buyers and sellers. The isolated location far from the city and the river without further added value services and basic services such as banks, hotels, restaurants, logistic companies, etc. will not make it an attractive business case for most wholesale traders and international buyers.

Option (b), which is also the expressed ambition of the MGCPCL, is more likely to provide for a feasible business case. With the most important rational for developing a new wholesale market being the necessity to counterbalance the unilateral Chinese buying

power as described in chapter 3, the success of the new wholesale market will largely depend on the extent to which the market will be able to attract distant/international traders. The provision of value added services, listed in paragraph 9.1, will be necessary to empower domestic producers and traders and to attract foreign buyers.

With a growing (inter)national demand for higher quality fruits and vegetables a new professional wholesale market could play a pivotal role in domestic fruit and vegetable sector development, when it raises above the standards of 'business as usual'

However, the success will not only depend on endogenous – market manageable – aspects, but is much impacted also by exogenous – enabling environment – conditions. The market management will not be able to exploit the new wholesale market successfully when it operates in isolation. It will be essential to embed the new wholesale market management planning in wider urban planning and infrastructural developments. Beyond a focus on adequate facilities/services and market regulatory requirements, the market management should participate in wider networks of stakeholders, that include both local and national governance institutions as well as multilateral donor organisations that together shape the external conditions for market operations.

When opting for a professional, international assembly market in large scale bulk trade, the wholesale market strategy should thus be integrated in the wider socio-economic and development and public infrastructure planning of Mandalay and even the whole of Myanmar.

10. Concluding remarks and recommendations

10.1 The need for public-private partnerships

The previous chapters have shown that the new wholesale markets in Yangon and Mandalay will meet a large demand. The current wholesale markets for fruits and vegetables are generally speaking congested and the management and services are not conducive for value addition and innovation in the sector. The proponents of the new wholesale markets have an ambition to set a new standard in wholesale market operations. There is a growing need for more and better quality wholesale market facilities and services. The successful operation of the new wholesale markets that meets these needs and fulfils the ambition of an innovation and value adding driven market strategy, requires the determination and wide-spread support of the new management and other stakeholders in the sector.

This report does not provide a blueprint for the management and operations of the new wholesale markets. However, it does provide an overview of the main management aspects that should be covered and the options and preconditions for realising some of the sector development innovations. It is in the interest of the sector to see this happening. The horticultural sector in Myanmar has a great potential to become one of the most important agricultural sub-sectors in terms of economic growth, rural employment and income generation. Well-functioning wholesale markets in Yangon and Mandalay can make significant contributions in stimulating efficient supply arrangements and value additions in the urban markets, respectively regional exports. Achieving this is not the sole responsibility of the new wholesale markets' management teams. Public and private stakeholders in the fruit and vegetable sectors have an important role to play as well. Setting new standards of operations and changing marketing practices requires also the active support from the national and local governments, the local aggregators, farmers, input suppliers, etc.



Figure 33: public and private stakeholders discuss the new wholesale markets at a VSAT workshop (12th May 2016

The Vegetable Sector Acceleration Taskforce (VSAT) can be the platform for mobilising the necessary public and private support for the new wholesale market operations. VSAT can create the awareness and bring together the necessary expertise and leadership from government, the private sector, civil society, and international development/resource partners. Together these partners will formulate, guide, and champion the development of improved wholesale market practices and create the conditions necessary for

commercial success and sector development impact at the wholesale markets in Yangon in Mandalay. Understanding the distinct differences between the two markets' functions and potentials forms the starting point for mobilising public and private support through VSAT. In line with its mandate VSAT can have the following roles:

- a) Work with public and private partners and international support organisations towards an enabling regulatory framework and create the necessary conditions in Yangon and Mandalay in line with the recommendations provided in chapter 8 and 9;

- b) Create a platform for national and international partners to come in with knowledge, expertise and support programmes (see also next paragraph);
- c) Oversee the implementation of the wholesale market developments and provide independent monitoring and evaluation support on issues related to the effectiveness and efficiency of wholesale trade and logistics.

10.2 Potential support from development partners

Development partners active in the agri-food sector can facilitate the establishment and efficient performance of the new wholesale markets in particular by provide capacity development and technical support under the umbrella of VSAT. At this point in time the public and private stakeholders will benefit from exposure to other wholesale markets in the region. Study visits and meetings with colleagues involved in the planning and management of wholesale marketing of fresh produce may be good to support informed decision making of both the developers, private sector operators and public regulators of the new Yangon and Mandalay wholesale markets.

Upon establishment of the two new wholesale markets the focus may shift to capacity building support and technical assistance on the development and implementation of the value-adding marketing activities, including for example:

- Introduction of product standards and grades for the most important fruits and vegetables. This comprises setting grades and standards in line with international norms on the one hand and local end-market needs on the other. Subsequently the supply chain partners need training and support in developing and adopting the different practices leading to the product standards and grades.
- Setting up a market information service at the two new wholesale markets, starting with the analysis of information needs of market users and farmers, developing an efficient and reliable data collection system, and the design of a data and information analyses, publication and communication system.
- Storage and (fruit) ripening practices & cold chain development; conditioned storage, fruit ripening and cold chain development and new concepts in the Myanmar fruit and vegetable sector and the market operators and clients can benefit from technical training and supervision particularly during the start-up phase.
- Cleaning, sorting and packing of fresh produce can add value to the products and meet the consumers' need for greater convenience (see for example figure 34); this is a small niche market at the moment, but may grow and wholesale and retail agents need training to supply the required quality and quantity.
- In due term the market will also demand traceability and quality assurance systems to be in place. Export markets and the high-end domestic markets will be the first



Figure 34: Pre-packed vegetables imported from Thailand for sale at Yangon supermarket

clients to demand compliance with these systems and introduction will require a step-by-step approach with a selected number of supply chain partners. The wholesale markets can play an important role and provide supply chain governance. The same applies for initiatives aimed at product innovation and improvements leading to supply chain efficiency.

In addition to capacity building and technical support there is also a great need for infrastructure development, particularly in the Mandalay region. Currently ADB is a major development partner in this field. Other international development partners may wish to join.

ANNEXES

Annex A: Planned designs of the new wholesale markets

[Yangon Danyingone new market]



Figure 35: Artist impression of the Mandalay Wholesale Market



Figure 36: Artist impression of the main office building at the new Mandalay Wholesale Market

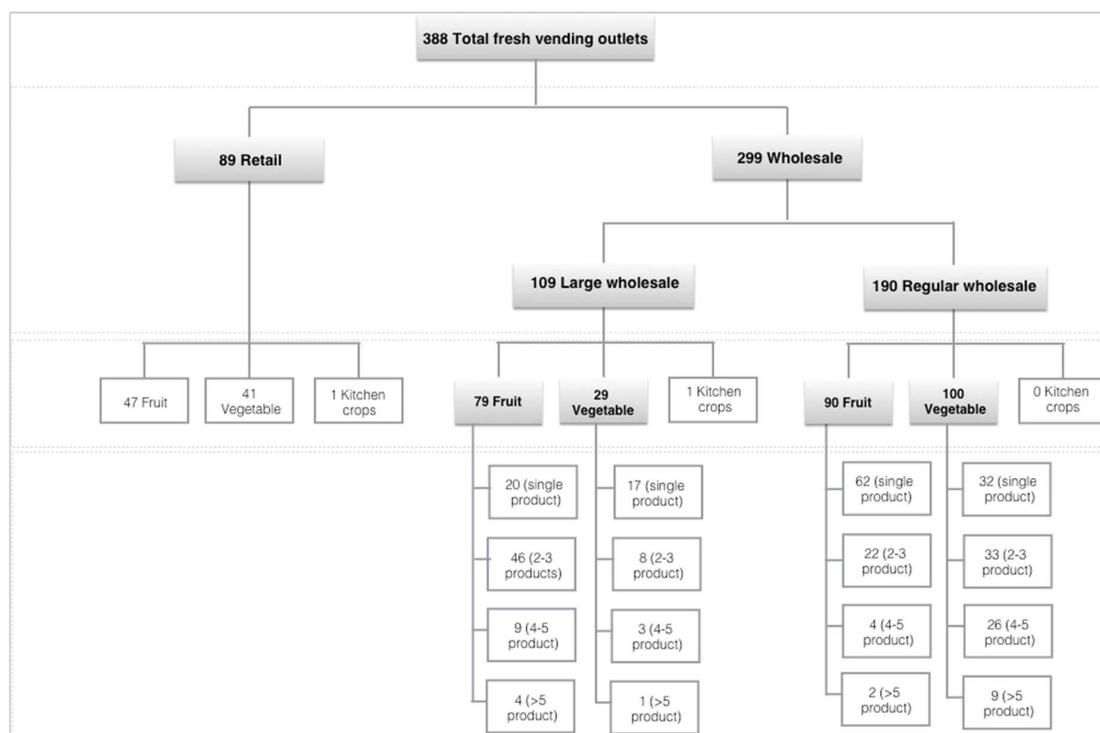
Annex B: Data collection through stakeholder interviews, census and survey

Geographical focus: Yangon and Mandalay

- Desk research
- Site visits in Mandalay and Yangon (N=11)
 - Mandalay
 - Kay Tan Zai Cho
 - Nya Zai
 - Thirimangalar
 - Construction site new wholesale market
 - Yangon
 - Thirimangalar
 - Danyingone
 - Construction site new Danyingone market
 - Ba Yint Naung
 - Retail market down-town Yangon
 - 2 Supermarkets down-town Yangon
- Key-informant interviews (N=17)
 - National
 - Making Vegetable Markets Work Program
 - ADB, Infrastructure Specialist
 - FAO, Agriculture officer in Bangkok
 - Ministry of Commerce; Director General Department of Trade Promotions and Consumer Affairs
 - Ministry of Agriculture; deputy Director General of Department of Agriculture
 - Mandalay
 - MFVP
 - MCDC
 - Large trader Nya Zai market
 - Market Committee and MCDC reps Nya Zai market
 - Market Committee and MCDC reps Thirimangalar
 - Traders at Thirimangalar
 - Market Committee and MCDC
 - Mandalay Green City Public Corporation Ltd.
 - Yangon
 - Dagon International
 - Market Committee Thirimangalar
 - YCDC, head of department 4 and head of market management Yangon
 - Large mango exporter
- Census - Thirimangalar Yangon (N=388)
- Survey - Thirimangalar Yangon (N=60)
- Interviews traders Mandalay (N= 5)
- Interviews farmers Mandalay area (N= 10)

Table 5: Census form for Thirimangalar wholesale market census, Yangon

Number:	Section:	Date:	Time of day: <input type="checkbox"/> M <input type="checkbox"/> A <input type="checkbox"/> E
Type of product	<input type="checkbox"/> Veg <input type="checkbox"/> Fruit <input type="checkbox"/> Kitchen crop		
Type of business	<input type="checkbox"/> Large <input type="checkbox"/> Regular <input type="checkbox"/> Retail		
Assortment	<input type="checkbox"/> 1 <input type="checkbox"/> 2-3 <input type="checkbox"/> 4-5 <input type="checkbox"/> > 5		
Sub types Vegetables	<input type="checkbox"/> Tomato <input type="checkbox"/> Carrot <input type="checkbox"/> Cabbage <input type="checkbox"/> Cauliflower <input type="checkbox"/> Fresh chilli	<input type="checkbox"/> Roots and tubers <input type="checkbox"/> Gourds <input type="checkbox"/> Green leafy vegetables <input type="checkbox"/> Herbs <input type="checkbox"/> Others	
Sub types Fruits	<input type="checkbox"/> Citrus <input type="checkbox"/> Apple <input type="checkbox"/> Melon <input type="checkbox"/> Papaya <input type="checkbox"/> Grapes	<input type="checkbox"/> Banana <input type="checkbox"/> Coconut <input type="checkbox"/> Mango <input type="checkbox"/> Pineapple <input type="checkbox"/> Others	
Sub types Kitchen crop	<input type="checkbox"/> Onion <input type="checkbox"/> Potato <input type="checkbox"/> Garlic	<input type="checkbox"/> Turmeric <input type="checkbox"/> Dried chilli <input type="checkbox"/> Others	
Facilities/functions	<input type="checkbox"/> Storage <input type="checkbox"/> Office/Desk <input type="checkbox"/> Posters/Advertisement: Seed/Origin/Quality/Safety Standard <input type="checkbox"/> Living space (cooking, sleeping, ...) <input type="checkbox"/> None		

**Figure 37: Overview of market census (count)**

Survey questionnaire:

PART 1 – General characteristics (observation)

Q1	Interviewer record type of business (see census) (SA)	Code
	Large	1
	Regular	2
Q2	Interviewer record the gender of respondent (SA)	Code
	Male	1
	Female	2
Q3	Type of product traded (MA) IMPORTANT: In Case of multiple product types, please answer all relevant sub-categories in Q4	Code
	Vegetables	1
	Fruits	2
	Kitchen crops	3
Q4	Assortment traded (SA)	Code
	1 product	1
	2-3 products	2
	4-5 products	3
	More than 5 products	4
Q5a	Vegetables: sub-types traded (MA)	Code
	Tomato	1
	Carrot	2
	Cabbage	3
	Cauliflower	4
	Fresh Chili	5
	Roots and Tubers	6
	Gourds	7
	Green leafy vegetables	8
	Herbs	9
Others	10	
Q5b	Fruits: sub-types traded (MA)	Code
	Citrus	1
	Apple	2
	Melon	3
	Papaya	4
	Grapes	5
	Banana	6
	Coconut	7
	Mango	8
	Small sour mango	9
Others	10	
Q5c	Kitchen crops: sub-types traded (MA)	Code
	Onion	1
	Potato	2
	Garlic	3
	Turmeric	4
	Dried chili	5
Others	6	

PART 2 – Interview (questionnaire)

Q6	What type of services do you provide (MA)	Code
	Sorting and grading	1
	Cleaning (incl. cleaning for storage)	2
	Repacking	3
	Processing (peeling/cutting)	4
	None (only sales)	5
	Other, please specify.....	6

Q7	How many customers did you sell to yesterday?

Q8	The majority (>50%) of your customers yesterday: are they regular customers or occasional buyers (SA)	Code
	Regular	1
	Occasional	2

Q9	What is the total volume you sold yesterday? (OA)

Q10	What is the largest volume sold yesterday to one customer?(OA)

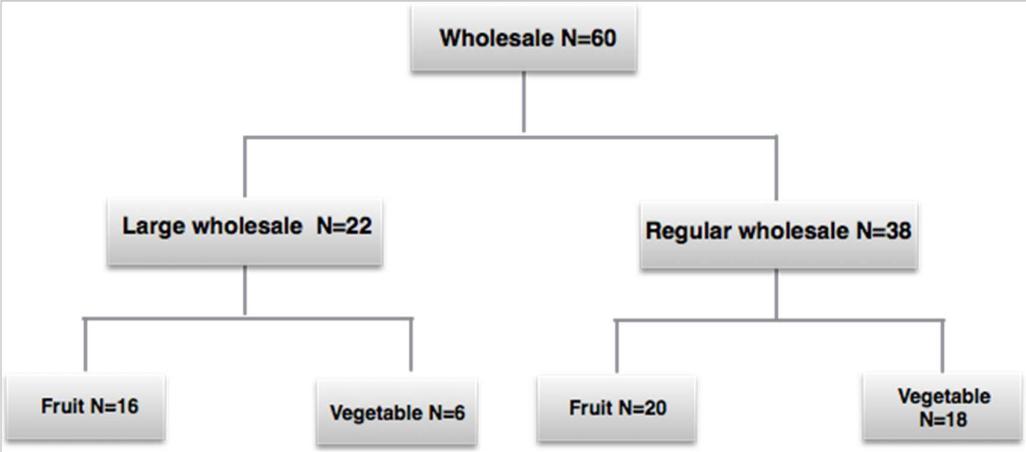
Q11	What is the smallest volume sold yesterday to one customer?(OA)

Q12	What type of buyers did you sell to yesterday? (MA)	Code
	Resellers/wholesalers/traders	1
	Retailer	2
	Repacking	3
	Hotel/restaurant/institutional	4
	End-consumers	6

Q13	What type of buyers was the majority (>50%) of your customers yesterday? (SA)	Code
	Reseller/wholesaler/trader	1
	Retailer	2
	Hotel/restaurant/institutional	3
	End-consumers	4

Figure x: Overview of survey sample:

Q14	What type of buyer bought the largest amount yesterday? (SA)	Code
	Reseller/wholesaler/trader	1
	Retailer	2
	Hotel/restaurant/institutional	3
	End-consumers	4
Q15	What is the busiest moment in the day for receiving goods (SA)	Code
	Morning (06:00-12:00)	1
	Afternoon 12:00-17:00	2
	Evening 17:00-22:00	3
	Night 23:00-06:00	4
Q16	What is the busiest moment in the day for selling goods (SA)	Code
	Morning (06:00-12:00)	1
	Afternoon 12:00-17:00	2
	Evening 17:00-22:00	3
	Night 23:00-06:00	4
Q17	What is the origin of most products you were selling yesterday? (SA)	Code
	Townships around Yangon	1
	Other states and regions	2
	Foreign countries	3
Q18	What is the destination of most products you were selling yesterday? (SA)	Code
	Townships around Yangon	1
	Other states and regions	2
	Foreign countries	3
Q19	How long are you in your current business? (SA)	Code
	< 1 yr	1
	1-3 yrs	2
	> 3 yrs	3
Q20	With how many people were you working/selling here in the market yesterday? (OA)	



Annex C: Existing market rules YCDC

1. Must be a Myanmar Citizen.
2. Must be a person who has not been assigned a shop at any other markets in YCDC's area. Moreover, anyone of the family member also must not be assigned a shop at any other markets in YCDC's area.
3. Assigned shopkeeper must operate the shop himself by his own investment. If he cannot operate the shop himself for any reasons, one of the members in his family or re-renter is allowed operating with the required labor as a helper. That helper must also be registered at YCDC.
4. Shopkeeper must sell those that are only allowed by YCDC.
5. If it were found that he is selling goods that are not allowed or permitted by YCDC, he will be punished and the assigned shop will be kept by YCDC.
6. The whole place or apart of the assigned shop cannot be re-borrowed, sold or used as a collateral or transferred to other people without any permission of YCDC.
7. Only standard measuring tools (weighing, baskets, etc.) those are recognized by YCDC must be used.
8. Settlement, making fire or cooking, taking a bath around the shop or in the compound of the market are not allowed.
9. Explosive things or dangerous things cannot be stored.
10. Extending the shop's area, storing, displaying or hanging over the shop's area are not allowed.
11. Must not disturb to the other shops by putting or hanging the goods in front of their shop
12. The goods must not be put on the platform, entrance, etc.
13. The shop must not be used as a store room.
14. Electricity must not be used without permission of YCDC.
15. Permitted electricity must not be used for other purposes apart from the permitted one.
16. The shop must be kept clean.
17. The shop must not be closed more than 5 days. If the shop wants to be closed more than 5 days, shopkeeper has to inform to the market department through the responsible officer of YCDC.
18. If the shopkeeper wants to stop trading, the shop has to be returned to YCDC.
19. Whenever the market building or shop is needed to repair, the shopkeeper has to cost the removal of his goods. Even though the maintenance are cost by the shopkeeper, the shop/building is entirely owned by YCDC.
20. The shopkeeper has to follow the opening and closing time of the market. No one can enter to the market during the closing time.
21. Fighting, quarrelling and talk dirty are not allowed in the market.
22. Unsuitable foods for eating are not allowed to sell in the market.
23. Any losses of the goods on the shop are not solely responsible by YCDC.
24. Do not disturb the recruited staffs of market departments of YCDC.

25. When the responsible persons of the market come and check the shop, the shopkeeper has to allow them for checking and has to show the documents if it is necessary.
26. When YCDC ask the shop to be returned, the shopkeeper has to return within 24 hours.
27. Defined market fees and tax have to be paid regularly.
28. It is renting the shop just for one year. If the shopkeeper wants to continue renting, the specific registration fees have to be paid before 15th December.
29. If the assigned shopkeeper died, one of the family members can apply for transferring the registration.
30. Military and polices' tools are not allowed to sell.
31. In addition, all the instructions described by YCDC (if necessary) have to be obeyed.
32. All the orders and instructions described by the State also have to be obeyed.
33. If the assigned shopkeeper, helper or seller was punished by law, the shop will be kept by YCDC.
34. If the assigned shopkeeper, helper or seller did not follow any of the above rules and regulations, he will be taken action until keeping back the shop by YCDC.