

# Myanmar beef cattle industry<sup>1</sup>

## Highlights

- Myanmar is still an agro-based country. The draft power of cattle and buffalo is widely used in the agricultural sector, even though mechanised farming system is encouraged.
- The beef cattle farming are in an initial stage. Production is traditional mixed crop-livestock systems predominated with Shwe Ni and Pyar Sein breeds. Very few commercial cattle farms can be found in some cities.
- The market chain involves several actors/traders before animals reach markets.
- The processing sector is at a primary stage, largely dominated by small scale slaughterhouses.
- Government policy currently focuses on cattle for draft power – restrictions on slaughtering below 12 years of age and exports of live cattle are not allowed.
- Unofficial exports live cattle from Myanmar have increased notably recently due to a growing demand from China and Vietnam markets.
- Cross-border price differentials played a crucial role in shaping the cattle trade patterns. Live cattle price inside Burma is significantly lower than neighbouring countries leading to unofficial exports. Reportedly a cow/buffalo bought for K500,000 in Dry Zone could be resold in border areas at 2 to 4 times higher price.

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<sup>1</sup> Luong Pham (HELVETAS), Dominic Smith (UQ/HELVETAS), Ohn Kyaw (University of Veterinary Science) and Myint Aung (LBVD) (2015), The Myanmar Beef Industry in “Regional Workshop on Beef markets and trade in Southeast Asian and China”, Ben Tre, Vietnam, 30th November – 3rd December, 2015

## 1. National industry

### 1.1. Background

Myanmar, an agro-based country, is home to 55 million people<sup>2</sup>. The agricultural sector, including livestock and fishery, contributes to 30 to 40 percent of gross domestic product (GDP), and 20 to 30 percent of Myanmar's total export earnings (World Bank, 2014). In terms of employment, approximately 70% of labour force is reportedly engaging in agricultural activities and dependent directly on agriculture for their income.

The livestock sector contributes about 20% of the agricultural GDP. It helps improving the lives of many people in Myanmar, including people who are involved in raising animals, providing inputs and services, and involved in downstream activities including trading, slaughtering, processing and consumption.

Cattle and buffaloes are mainly raised by smallholders for draught purposes in mixed crop-livestock systems. Beef consumption is not common in Burmese culture. Therefore, beef cattle farming are still in an initial stage, and very few beef cattle farms can be found in some cities. Draft cattle and buffaloes are also used for milk by small-scale dairy farmers in some regions, particularly in Mandalay and Sagaing.

The government policies currently focus on cattle for draught power – restrictions on slaughtering below 16 years of age, and live cattle exports. However, unofficial exports live cattle from Myanmar have increased notably recently due to a growing demand from China and Vietnam markets.

Cross-border price differentials played a crucial role in shaping the cattle trade patterns. Live cattle price inside Myanmar is significantly lower than neighbouring countries. Reportedly a cow/buffalo bought for K500,000 in Dry Zone could be resold in border areas at 2 to 4 times higher price (Thein, 2014).

### 1.2. Macro production statistics

The statistics<sup>3</sup> in Table 1 provide overview of the cattle and beef industry in Myanmar. Based on the data from the LBVD, the country had 14.99 million cattle head (including draught and dairy cattle) in 2013. The turnoff numbers were relatively low compared to other ASEAN countries, at 0.27 million head (annual growth of 1.3% on average). The turnoff figures are deemed understated as they don't record illegal slaughtering. However, the low turnoff levels are explained by the fact that Myanmar people do not normally eat beef (and buffalo meat) as they assume that cattle and buffalo are benefactors of their livelihood. There has been a high growth in the official figures on cattle meat over the period 2000-2013 (annual growth of 11.7% on average). However, these official figures are deemed overstated and rather unreliable given the country's poor statistical capacity and the use of outdated methodologies (Myint, 2009). This is the result of several factors including the government having limited control over parts of the territory, limited resources for data gathering and analysis, and data being manipulated for internal and external purposes (Dapice et al., 2012).

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2 2014 Census

3 Data is provided by Livestock Breeding and Veterinary Department (LBVD). Cattle number represents the opening stock at the beginning of each fiscal year. Data on buffaloes and buffalo meat is not included.

**Table 1: Key facts about the industry 2000-2013**

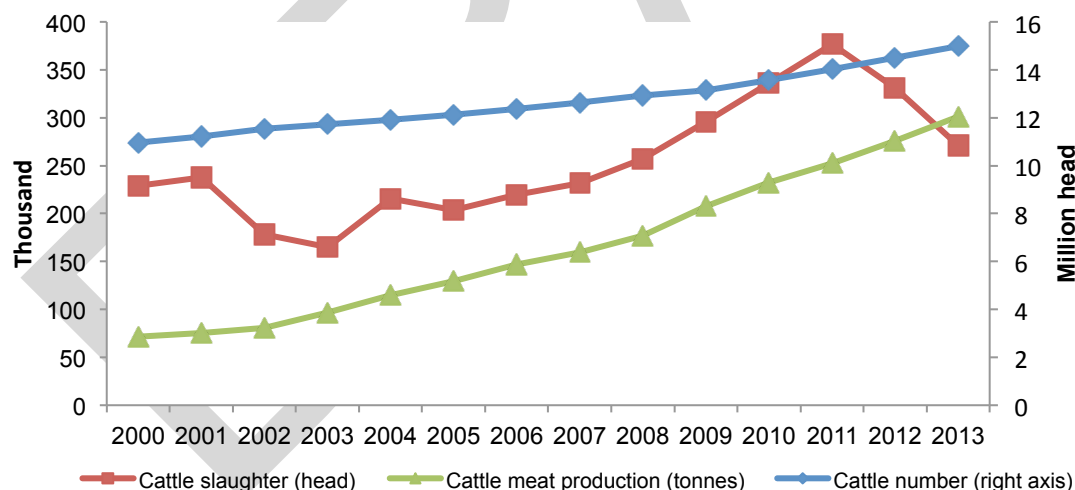
		Compounded Annual growth (%)
Herd size (million head 2013):	14.99	2.4%
Turn off/slaughter (million head 2013):	0.27	1.3%
Turn off rate/Slaughter rate (% 2013)	2	-1.1%
Cattle meat (million tonnes 2013)	0.3	11.7%
Cattle meat supply (kg/person 2013)	4.9	9.9%

Source: adapted from LBVD (2014).

### 1.3. Macro drivers of the industry change

The cattle industry in Myanmar is still at the early stage. There are a number of drivers that influence the industry development. It is estimated that GDP growth was at 4.6% for the period 2002-2010 (ADB, 2012), rising to 6.3% in 2013 (USAID, 2013). This upward trajectory is likely to continue as a result of improved macro-economic reforms. In addition, the removal of international economic sanctions on Myanmar in 2012, and the increased demand for cattle products from neighbouring countries provide significant opportunities for many rural and peri-urban people to increase returns from their cattle farming. However, Myanmar imposes restrictions on slaughtering below 16 years of age, and on live cattle exports. Therefore, live cattle price inside Burma is significantly lower than neighbouring countries leading to unofficial exports. Industry groups are pressuring for policy to change, and this is likely to happen in 2015 after the election. If export policies are liberalized, Myanmar has huge potentials to develop backgrounding and fattening systems based on local and imported cattle as the country has a vast land area which could be used as grazing of animals.

### 1.4. Cattle and beef production



**Figure 1: cattle production in Myanmar**

Figure 1 indicates that the cattle number increased gradually from 11 million head in 2000 to 15 million head in 2013. The slaughter number<sup>4</sup>, collected by the township development committee (municipal) through licensees basing on slaughter numbers and slaughter taxes, fluctuated over the period 2000-2013. The official slaughter number peaked at 377,004 head in

<sup>4</sup> Data are reported from Township LBVD office, State/Region office to LBVD Head office

2011, and then dropped to 271,250 head in 2013. However, official figures did not record illegal slaughtering, which accounts for 10-15% of the official number, according to the Livestock Breeding and Veterinary Department (LBVD).

The estimated beef production was based on the slaughter number, local consumption and export. Cattle meat production has risen steadily from 71,000 tonnes in 2000 to around 300,000 tonnes in 2013 (Figure 1).

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## 2. Regional distribution

Myanmar is divided into 14 states and divisions. Each state and division is divided into a number of districts (total 67), which are further divided into townships (total 334). Each township is divided into village tracts that are further divided into villages.

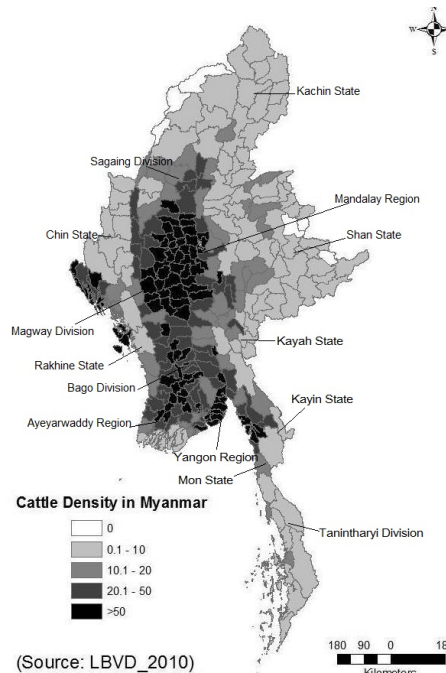


Figure 2: Cattle density in Myanmar

Cattle numbers can vary greatly within individual village tract and township. Cattle are distributed widespread throughout the country. However, overall trends can be seen when the data is aggregated to state/division level (Figure 2). Cattle are more concentrated in the central part of Myanmar such as Mandalay, Sagaing and Magway divisions, which hold 17.4%, 16.0% and 14.6% of the national cattle herd, respectively (Table 2). These states and divisions are more favourable areas for beef cattle farming, processing and exporting based on the existing infrastructure with availability of animal feed, coverage of veterinary services and market potential.

Magway division not only has the highest and most dense cattle population in the country, it has also grown at the third fastest rate, higher than the national average (Table 2). While Rakhine State has the medium cattle population, it has grown at the fastest rate.

Table 2: Some cattle indicators for states and divisions in Myanmar

	Total cattle (million head in 2013)	% of national cattle herd (2013)	Compounded annual growth, 2000-2013 (%)
<b>National level</b>	<b>14993</b>	<b>100</b>	<b>2.4</b>
Magwe Division	2607	17.4	3.6
Sagaing Division	2399	16.0	1.5
Mandalay Region	2186	14.6	1.8
Shan State	1493	10.0	2.6
Bago Division	1490	9.9	1.8
Ayeyarwaddy Region	1233	8.2	0.7
Rakhine State	1102	7.4	4.2
Yangon Region	634	4.2	2.1
Mon State	490	3.3	2.9
Kachin State	358	2.4	3.3

Kayin State	356	2.4	2.3
Nay Pyi Taw	229	1.5	-
Chin State	168	1.1	3.9
Tanintharyi Division	158	1.1	1.9
Kayah State	90	0.6	2.4

Source: adapted from LBVD (2014).

### 3. Policy

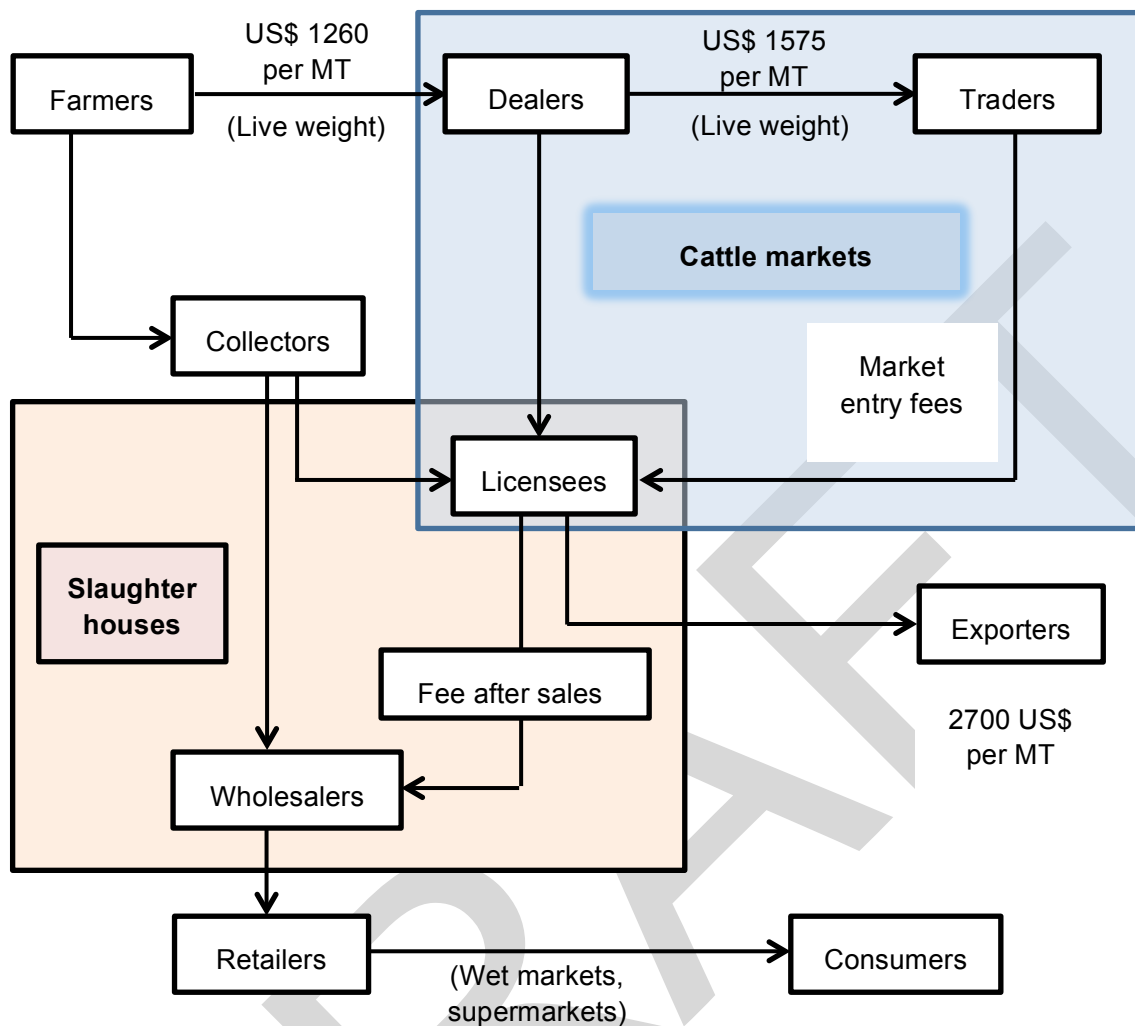
Before 1988, agricultural policies of Myanmar could be depicted as rigid and controlled and subsidized ones that highly emphasized on domestic food security and stability of price (Vokes & Goletti, 2013). After the economic transition from planned economic system to market-oriented economic system, agricultural policies of Myanmar pay attention on boosting production and promotion of agricultural exports, almost exclusively for crops. A more explicit statement on rural development came in May 2011, shortly after President Thein Sein's inauguration, with the launch of a Rural Development and Poverty Reduction Program. The program placed livestock breeding and fishery development among the eight priority areas. One of the policies in the livestock sector is to increase livestock production for domestic consumption and share the surplus with other countries. However, this can only be seen as the aim without any clear policy statement for developing cattle farming.

Government objectives with respect to the livestock sector are articulated in the recent draft of the Country Program Framework, and are as follows: i) to increase the production of draught animals together with agricultural expansion; ii) to expand dairy production and thus facilitate import substitution; iii) to increase meat production and per capita meat consumption and thereby enhance the nutritional status of the population; and iv) to increase the income of farmers.

The Myanmar government has issued a policy on restrictions on the age of cattle and buffalo which can be slaughtered, and restrictions on live cattle and buffalo exports. This has a desire to maintain access of smallholder farmers to sufficient animals at low prices to provide draft power for crop production. The government has also placed a system of issuing licenses to people who manage markets, and move and slaughter cattle and buffalo to monitor these restrictions. In practices, these restrictions may result in an increase of transaction costs on trade. The Myanmar government has also issued the decision to ban importation of meat products without health guarantees as the meat production sector has met the target of domestic sufficiency, and it is seeking to export surpluses of meat and eggs.

#### 4. Cattle marketing and trade systems

The cattle marketing and trade systems in Myanmar are presented in Figure 3.



**Figure 3: Dimensions of cattle and beef marketing Myanmar**

The major flows of the cattle are (i) between farmers, (ii) from rural areas to urban centres for slaughter (Yangon and Mandalay are being the major markets), and (iii) through market systems to the informal cross-border trade. The farmers sell their cattle when the cattle are no longer productive or when they need cash. They may: (1) sell the cattle directly to other farmers, (2) sell to collectors at the farm gate, (3) let dealers sell them at live markets and pay the dealers a commission or (4) take them to sell at live markets by themselves. Farmers sell their cattle at the beginning and end of the cultivation each year.

A feature of the cattle and buffalo marketing in Myanmar are various licenses. There are two types of licenses. Firstly, licenses which give individuals the sole rights to buy and slaughter cattle within an individual township. These are issued on an annual basis after a bidding system. The person who is awarded the license is commonly referred to as a "licensee". Secondly, licenses to manage municipal livestock markets. These are also issued on an annual basis after a bidding process. The person who is awarded the license is commonly referred to as a "market licensee".

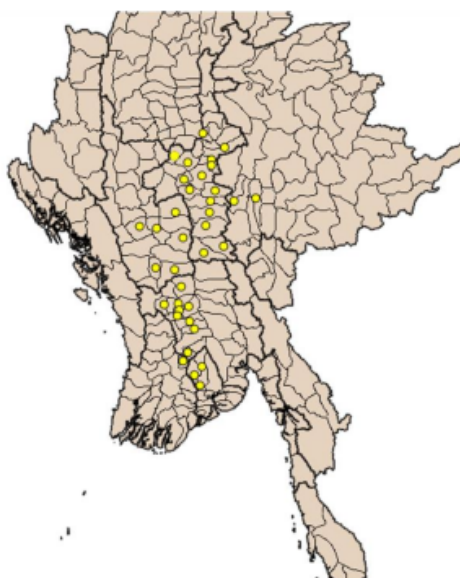


Figure 4: Distribution of livestock markets in Myanmar

Source: LBVD, 2014

Livestock markets are a striking feature of the Myanmar livestock trading system. There are total of 49 markets registered with LBVD. The livestock markets are mainly distributed along the major transport routes throughout Myanmar (Figure 5). The majority of cattle are sold through markets. According to the LBVD data, a total of 262,800 animals go through these markets each year. Market day is set for each market, and of the 49 markets, 28 are held every five days, and 21 are held every seven days (Table 4).

Table 3: Region/State with live animal markets, and volume of live animals

Region/State	Number of markets	Total head per year	Average head per market day
Mandalay	17	85,653	78
Bago	11	66,279	116
Shan	10	39,089	54
Magwe	6	37,929	121
Yangon	3	27,668	177
Ayeyarwaddy	1	1,554	30
Sagaing	1	4,628	63
<b>Total</b>	<b>49</b>	<b>262,800</b>	<b>92</b>

Source: LBVD (2014)

Each of the markets operates in a similar manner. Farmers or traders take animals to markets on foot or on vehicles. Upon entering the market, they register the animals and pay a small amount of fee per head to the licensee. An additional fee is paid to market licensee if the animals are sold. Inside the market, deals are made between sellers, traders and buyers. Condition and weight of the cattle are assessed on a visual basis. Informal trading may take place nearby some market to avoid market fees. Buyers should receive a health certificate from the LBVD.



## 5. Inputs sector

### 5.1. Feed

Myanmar is providing adequate feed for cattle farming systems as it has a vast land area. Feeding management depends on the prevailing farming systems. In most systems, farmers use a combination of grazing on common land areas, and stall feeding through cut and carry forages and crop by-products. Farmers with a large number of cattle often use machine for chopping agricultural by-products for animal feed.

In the farming system dominated by paddy production, during the wet season, rice straw from the previous season along with green feed collected from roadside are used as the main source of feed. During the dry season, cattle are left to graze on the rice stubble. In the dry zone farming systems, cattle can graze in common land areas. Farmers prepare homemade feed from a diversity of agricultural by-products such as bean straw, groundnut cake, rice bran, corn by-products or peanut plants to feed their cattle.

### 5.2. Breeds and breed improvement

The most common cattle breeds are Shwe Ni breeds that are red in colour and highly populated in the lower part of Myanmar including Mandalay and Magway divisions. Other common breeds are Pyar Sein breeds which are regarded as cross breeds which were derived from breeding between Indian breeds and local ones. Pyar Sein breeds are tall and white in colour, and are dominant in dry zone and upper regions. They are useful as draught as well as dairy purpose.

Both artificial insemination (AI) and natural service are practiced as methods of breeding in Myanmar. In the areas where AI is absent, natural service through private quality breeding bulls is preferred. A certain amount of fee is charged for breeding.

The introduction of exotic breeds to upgrade the indigenous breeds of cattle has a long held objective of the government. The LBVD has conducted an artificial insemination program since it implemented a five year World Bank project in the seventies, which supplied much of the equipment at station and field level. It established the artificial insemination centre and provided semen straws and liquid nitrogen. The AI service is heavily subsidised and based on inseminators located around Yangon and Mandalay divisions. In the cattle breeding program, the government's policy aimed largely at distributing exotic semen and maintaining the level of cross breed at 50% to 75%.

### 5.3. Disease and veterinary service

The LBVD is the key sector agency with responsibility for animal health and production. The major focus of the LBVD currently is on animal health. A number of facilities that are being operated by the LBVD include a vaccine production centre, a veterinary assay laboratory, the central diagnostic laboratory, three regional veterinary diagnostic laboratories, four border area animal quarantine laboratories, and offices of the LBVD at State/division, district and township level.

At township level there is a township veterinary officer (TVO) and, depending on the township, deputy TVOs and animal health assistants who have undergone diploma level training. The LBVD township veterinary officer is implementing cattle and buffalo vaccination programs, conducting outbreak investigations, and issuing health certificates for cattle and buffalo at livestock markets.

The LBVD has traditionally focussed on vaccination programs for cattle and buffalo for mixed crop-livestock smallholders. This has primarily driven by the need to ensure the draft power. Only recently, the LBVD has begun to establish a capacity in epidemiology, a key skill in disease control.

Myanmar is not free from Foot and Mouth Disease (FMD) and some OIE listed diseases such as Anthrax, Haemorrhagic Septicaemia (HS) and Black Quarter (BQ). The LBVD produces the vaccines for Anthrax, HS and BQ in required doses, but was not be able to produce FMD

vaccine for required amount. The LBVD strengthens the quality and quantity of FMD vaccine, enforces the disease control activities and develops the establishment of FMD free zone.

## 6. Cattle production systems

Myanmar has an ethnically diverse population. The ethnic mix influences on the livestock sector in terms of preferred types of production systems.

The beef cattle industry in Myanmar can be divided into three main farming systems:

- (1) Small scale cattle system (usually 2 head) is practiced by smallholder mixed farming system. Local breed male cattle are raised primarily for draught purposes, while females are used for breeding. This system requires minimal labour input as the cattle graze on pasture, roadsides and other communal land. This low input system is characterised by low output and poor reproductive performance. Calf is attached to mother until weaning.
- (2) Mixed for dairy cattle (usually > 3 head) is practiced by small farmers with the purpose of milk production. Cross breeds are often used. First calving is about 3 years old, and the calves are kept with the cows. Female calves may be kept as replacements, or farmers may buy replacement cows from other herds. Male calves are sold at about 7-8 month of age. Bulls from other farms are used for breeding. Cattle are occasionally fed in the communal grazing areas. Crop by-productions and locally available concentrates (e.g. rice bran) are used as feed. Some of these farmers raise their cattle in peri-urban areas and often don't own any land.
- (3) Large scale cross breed cattle (up to several hundred cattle) is raised by commercial farmers for milk production in high input-output systems. Cattle are completely stall fed using concentrates. Legumes are grown to feed the animals.

While production systems can be described through these three categories, and specialisation in cattle enterprises is yet occurring, much of the Myanmar cattle herd is produced in "mixed" production systems, where farmers hold breeders and offspring are fed and sold out of the system at a certain age.

## 7. The processing sector

In Myanmar, cattle are mainly slaughtered at official slaughterhouses, according to LBVD's data, 271,250 cattle were slaughtered at the licensed slaughterhouses in 2013 in the 247 townships. In 2013, the Yangon and Bago slaughterhouses had the highest per day slaughter rate, at 215 head (78,751 head/year) and 135 head (49,246 head/year) respectively. A further 9 townships recorded the slaughter rate between 10-90 head per day.

At the present, the cattle (and buffalo) under following categories can be slaughtered (1) 16 years and above male and female or (2) permanently disabled male and female or (3) permanently sterile female. Beef cattle farmers cannot overcome the constraints related to the existing Cattle Slaughter Prohibition Act.

The existing slaughterhouses in Yangon, Mandalay and Nay Pyi Taw are under the supervision of the City Development Committee. However, there is a need for hygienic and sanitation measures to meet the international standards. In urban areas, small traditional slaughter slabs, which often lack hygienic and sanitation measures, are commonly used.

Cattle are also slaughtered at unofficial slaughterhouses. However, the dearth of data on this precludes the volume quantification.

Veterinarians from the City Development Committee carry out the post-mortem inspection and provision of certification at slaughterhouses in Yangon, Mandalay and Nay Pyi Taw. The veterinary inspectors from the LBVD have the authority to conduct the post-mortem inspection and provision of certification at slaughterhouses in the townships of other states and divisions.

## 8. Beef markets and consumption

After slaughtering, beef and offal are passed on through wholesalers and then retailers throughout the country with various arrangements of take-now-pay-later or through sales. Beef processing is at minimal in Myanmar. Thus, beef is retailed freshly slaughtered and sold in the morning at local markets.

A typical retailer maintains a stall in a market and sells beef in the morning. The retailer cuts the portions of meat at the request of a customer and weigh to before selling, usually use a set of balance scales. In addition beef can also be sold as meat cuts from refrigerator. This accounts for a small amount, but appears as an emerging market segment.

Although beef consumption is not common in the Burmese culture, there is a high demand for beef in highly populated cities, tourist areas and industries including Yangoon, Mandalay city, Bago city, Taungyi city (Southern Shan State), Mawlamyaing city (Mon State).

Meat consumption in Myanmar was estimated by LBVD based on the 'trade balance method' as domestic meat production, plus net trade divided by the population.

Figure 5 demonstrates that meat consumption has risen significantly in the past decade. However, beef accounts for the smallest level of total meat consumption, and the growth in beef consumption is the lowest.

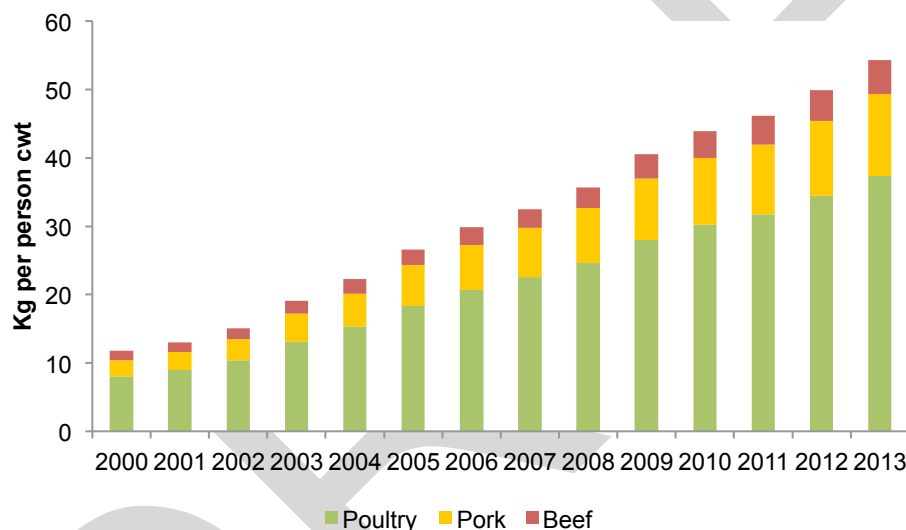


Figure 5: Meat consumption in Myanmar

Source: adapted from LBVD (2014)

## 9. Beef prices

The Figure 6 shows retail meat prices in Myanmar in the period 2000-2013 (2005 constant prices). Beef prices were slightly lower than pork and chicken. While pork and beef prices slightly increased, chicken prices declined over the period.



Figure 6: Meat retail prices in Myanmar (2005 constant prices)

Source: adapted from LBVD (2014)

## 10. International trade

### 10.1. Beef exports

Myanmar is an exporter of beef and offal. Exporters must obtain a number of permissions from authorities to export beef and other products. First, exporters need permission for moving cattle, which comes from the local authorities where the cattle are sourced. Animals must have been slaughtered through official slaughterhouses. Second, they must obtain an export license from the Ministry of Commerce. Third, they must get the certificate from the LBVD headquarters which specifies the product, volume and price.

Official figures for beef export according to the date from LBVD were relatively small (Figure 7).

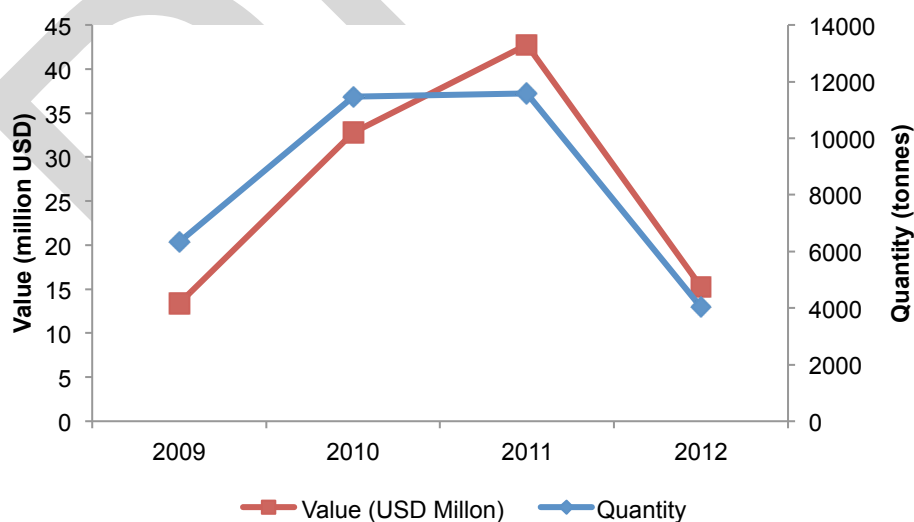
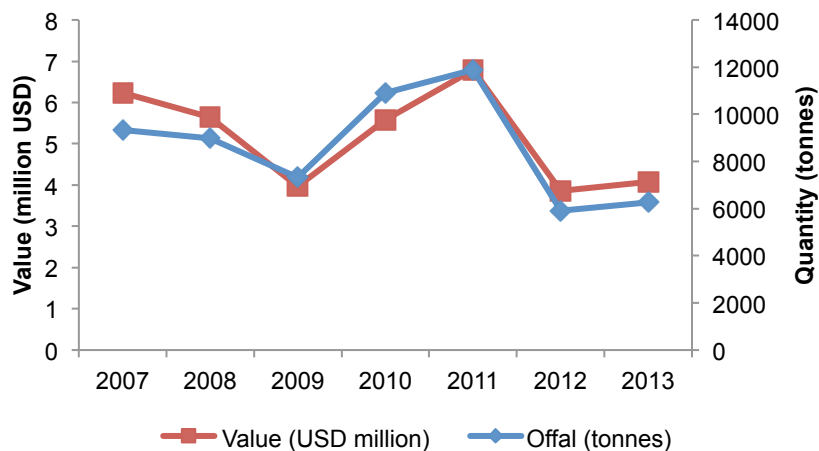


Figure 7: Beef exports from Myanmar

The export volumes and values have gradually increased since 2009, and reached a peak at 11,579 tonnes of beef valued at 43 million USD. However, there was a sharp drop in 2012 with the export of just above 4,000 tonnes.

Offal exports have fluctuated and the quantity has generally decreased since 2007 (Figure 8). The market destination is China.



**Figure 8: Offal exports from Myanmar**

Source: adapted from LBVD (2014)

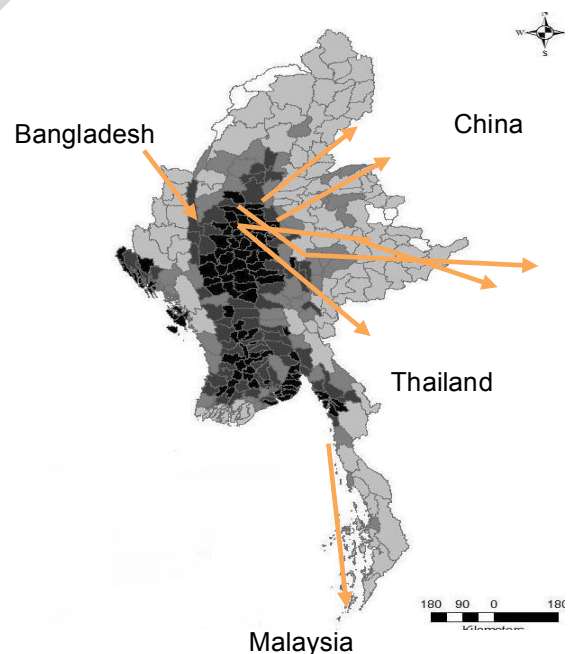
## 10.2. Live cattle trade

Myanmar represents a major source of cattle to the Malaysia and Thailand zone. The direction of cattle movement tends to originate from the Central Myanmar Plateau (CMP), which is moving from north to south and west to east (Figure 9). Cattle transporters travel across countries delivering 'transit' cattle, i.e. from Myanmar to Vietnam's border depots transiting through Thailand and Cambodia.

Myanmar has an animal movement management system that is controlled by the local authorities within the divisions and states. There are five animal quarantine stations across Myanmar for animal movement management. However, at national level, there is no uniform animal movement management and identification system. It is consequently difficult to make traceability.

Official export: traders/ large companies must first get permission for cattle movement from the local authorities where the cattle are sourced. Then, a movement certificate ("PC3" is issued by the LBVD. They also need to obtain an export licence from the Ministry of Commerce. The cattle have to go through 21 days of quarantine and undergo veterinary inspection.

Myanmar government officially exported live cattle and buffalo to Malaysia by seaport quarantine of Rakhine State, Tanintharyi Region and Yangon Region in the year 2000 and 2010 with the number of 5400 and 2223 head, respectively. After that government stopped the



**Figure 9: Pathways of live cattle movement**

Source: adapted from LBVD (2014)

exportation until now. This has a desire to maintain sufficient animals at low prices to provide smallholders' draft power for crop production.

Informal export and import: Cross-border price differentials and border restrictions cause an informal cross-border cattle trade between Myanmar and Thailand, and Myanmar and China. Live cattle price inside Myanmar is considerably lower than neighbouring countries leading to unofficial exports. Reportedly a cow/buffalo bought for K500,000 in the CMP could be resold in border areas at 2 to 4 times higher price. It is estimated by the LBVD that the number of cattle from Myanmar informally traded across the border was 60,000 head in 2013. However, the reported number is clearly underestimated as the data on the volume and flow of the informal export trade is by its nature difficult to collect. It is officially reported by the Office of Agricultural Economics in Thailand that in 2013, Thailand imported 204,000 cattle from Myanmar.

According LBVD officials, there was an informal movement of cattle from Bangladesh into Myanmar. It is estimated that at least 500 cattle and buffalo are being traded across the border. However, there was not reliable data to confirm this.

With regard to trade in general/ trade through all channels, there is a need to accurately predict the impact of policy changes and other changes of basic conditions on industry development. It would be interesting to analyse the impact of a liberalisation of live cattle export policies in Myanmar and impact of opening up of direct cattle exports from Australia to China on livelihoods of smallholders and other stakeholders involved in the cattle and beef sector in Myanmar.

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