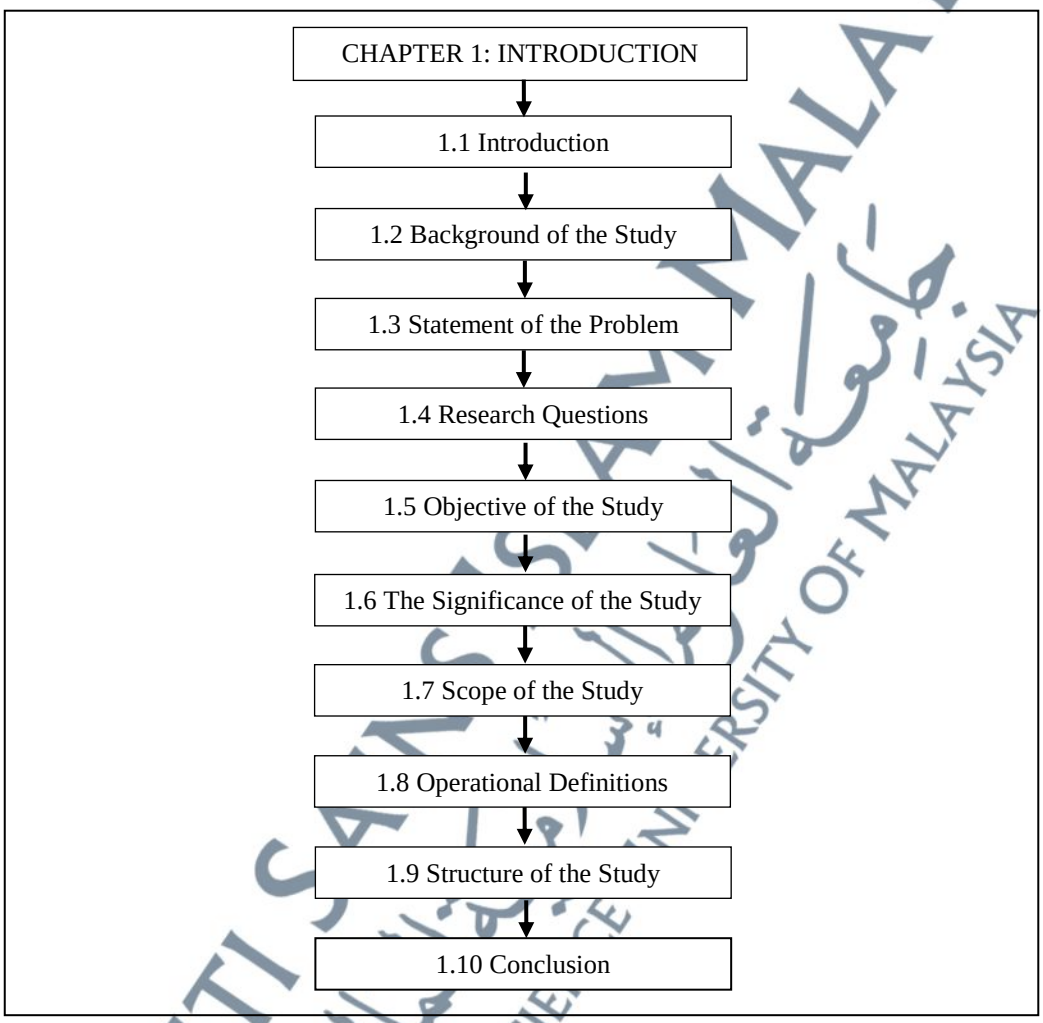
CHAPTER 1

INTRODUCTION



Source: Developed for this Study

Figure 1.1: A Pictorial Outline of Chapter 1

The study provides the characteristics of beef cattle in Malaysia which aims to develop beef cattle strategy development. Figure 1.1 is an outline of the direction or summary of Chapter 1, consisting of introduction, background of the study, statement of the problem, research question, objective of the study, the significance of the study, scope of the study, operational definitions, structure of the study and conclusion. The

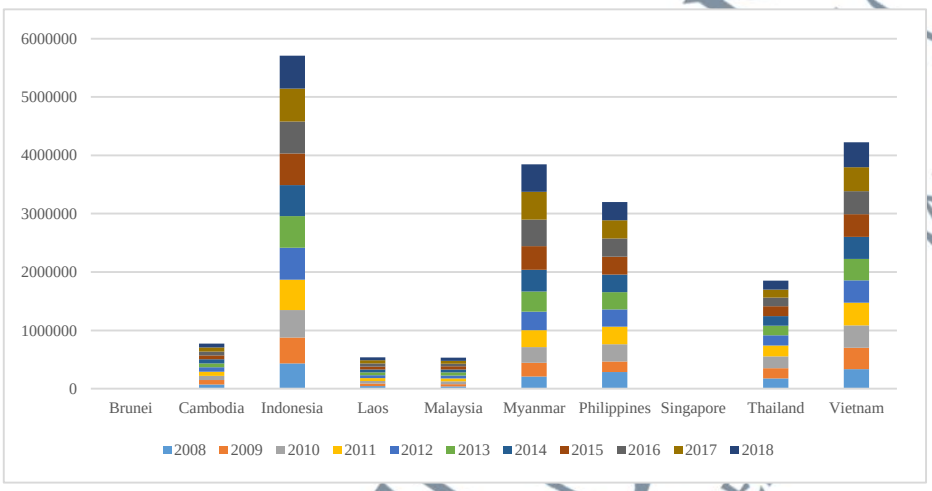
study prefers to highlight the situation of livestock in Malaysia, one of which is beef cattle. Beef cattle are those breeds of cattle that are primarily used to produce meat (Alemneh & Getabalew, 2019). In 2023, the global beef and veal production is expected to reach 59.15 million metric tonnes (Shahbandeh, 2023).

Universally, beef cattle production is located throughout the world, as America is declared the largest producer of beef and buffalo. The US produced 11-12 million metric tonnes of beef cattle in 2014, followed by Brazil, China, Argentina, Australia, and India (Ritchie & Roser, 2020). An increased beef production in the US is supported by the increase in domestic demand, heavier carcass weights, significant cuts, and expansion of market share in Japan, South Korea, and Taiwan (Rusk, 2019).

Livestock of beef cattle also exists in Southeast Asia, although each country has different meat preferences (Munir et al., 2020), which known from seen its level of consumption and production. Meat production and consumption that dominates in Vietnam and the Philippines are pork, poultry, and beef. The consumption and production of meat in Indonesia, Malaysia, Myanmar, and Thailand are dominated by poultry, pork, and beef. On the other hand, those that dominate meat production and consumption in Laos and Cambodia are pork, beef, and poultry.

In countries where the ranking of these three products is the same, the actual per capita production and consumption levels – for total and specific commodities – vary widely due to the differences in the level of economic development (Jabbar, 2009). Based on Figure 1.2, the immense beef cattle production in Southeast Asia is Indonesia, followed by Vietnam, Myanmar, the Philippines, Thailand, Cambodia, Malaysia, Laos, Singapore, and Brunei Darussalam. Meanwhile, Malaysia is in the 7th position. In Malaysia, there are three main agricultural sub-sectors that are selected as agricultural indicators: namely crops, livestock, and fisheries.

Department of Statistics Malaysia or DOSM (2019) announced that the agricultural sector contributed 7.1 % (RM 101.5 billion) to Gross Domestic Product (GDP) in 2019 and the main contributor to add value to the agricultural sector is the livestock sub-sector with a percentage of 15.3 %. DVS (2021) added that the estimated number of cattle recorded in 2017 was 129,524 in Peninsular Malaysia with the output of cattle products of 48,055 heads. In lieu of this, this study intends to focus on one of the states of peninsular Malaysia, namely Negeri Sembilan.



Source: Department of Statistics Malaysia/DOSM (2019)

Figure 1.2: Cattle Growth (% of Total Livestock Unit/LSU) in ASEAN Countries

Malaysia also requires that all beef cattle processing be managed based on halal legality, following the majority of the Muslim population in this country. Smith et al. (2018) estimate that the consumption of halal beef in 2015-2020 will increase in the main meat markets of Southeast Asia, such as Malaysia, Indonesia, and other ASEAN Economic Community (AEC) member countries. This may be an advantage for increasing regional incomes, for example: by generating increased beef and dairy production in Southeast Asia (Lee & Hansen, 2019), including Malaysia.

1.1 Background of the Study

From the perspective of the development process between agriculture and industry, also known as agro-based industry, there exists a reciprocal relationship between agriculture and industry as the former provides input to the later. In addition, industry also plays an important role in processing inputs into output, which are reused by agriculture with the aim of increasing production, such as agro-based industries. Industries based on agricultural production (agro) are industries that depend on agriculture for raw materials, other basic inputs, and industrial outputs are used in agriculture to expand production. Paramasivan and Pasupathi (2016) agree that the stabilization and growth of agricultural production have a positive effect on output and employment opportunities in agro-industry, thus there are great opportunities for industry growth and integration of various economic sectors.

The World Bank (2021) reported that livestock represent 40 % of the global value of agricultural products and funded nearly 1.3 billion people's livelihoods and food security. FAO (2014) stated that beef production represents an important sector of animal agriculture as the third most produced meat in the world, after pork and poultry. The World Bank (2021) also assumes that higher returns, technology, and the structural sector could allow the livestock expand more quickly than other agricultural economies. Agricultural development, poverty eradication, and the acquisition of food security are opportunities for growth and transformation that continue to be carried out in this agricultural sector, such as in animal husbandry, which acts as businesses in a theoretical and economic interface.

Sinclair et al. (2019) state that those who work in the livestock industry have more power over animal welfare because of the interactions that occur between humans and other animals in livestock production. The World Bank (2021) also agrees

with the statement above, thus suggesting that the pace of change in this sector must receive attention, because it is related to sustainability and does not only threaten small farmers, but also systemic risks to the environment and human health.

Based on this, it seems that one of the efforts to solve the problem of deviations between work and value added is through the collaboration between agriculture and industry, which represents the combined impact of agricultural growth and agro-industry growth. Nonetheless, there is still a gap in Agricultural Productivity (APG) development based on the national income and product accounts in developing countries, or on average. This is related to employment and added value in the agricultural sector. Even though the majority of jobs and added value in developing countries come from agriculture, there are always deviations where the share of employment is higher than the added value (Gollin et al., 2012).

1.1.1 Beef Cattle in Malaysia

The livestock industry is categorized as a ruminant and non-ruminant industry. The ruminant industry is an animal that has a complex stomach, including: *rumen, reticulum, omasum, and abomasum*; that buffalo, cattle, goats, and sheep are included in the ruminant industry (Sabstu, 2016). Beef is a substantial source of protein food and a valuable commodity for countries, such as Malaysia (Jamaludin et al., 2014). Meat consumption in Malaysia is the meat derived from cattle and buffalo (MyCC, 2019). Ahmad and Siti (2019) state that other studies have concluded that the visual similarity and taste of the two types of meat are less permitted by most consumers.

Zainalabidin et al. (2013) mention that the Malaysia's livestock industry as an important and integral component of the agricultural sector. The agricultural sector employed around 10.28% of total employment in Malaysia in 2019 and contributed

around 8% of the country's GDP (The World Bank, 2022). This viewpoint is supported by Malaysia Competition Commission or MyCC (2019), which states that the agricultural sector provided employment opportunities to more than 444,500 people in 2015 and increased from 390,708 in 2010 (refer to Table 1.1). However, there will be a decrease in workers in 2021 (there will be 15,064.2 thousand persons) only 1,550.0 thousand persons (10.3%) are engaged in the agriculture sector, still dominated by citizens with 63.6 % while the rest are non-citizens (DOSM, 2022).

Table 1.1: Number of Persons Engaged in Agriculture Sub-Sector

The Agriculture Sub-sectors	2005	2010	2015	CAGR (2005-2010)	CAGR (2010-2015)
Crops	225,030	335,096	368,002	8%	2%
Livestock	14,227	20,056	34,805	7%	12%
Fisheries	4,020	11,508	15,690	23%	6%

Source: Department of Statistics Malaysia/DOSM (2019)

The agriculture sector has been assumed to play a key role in Malaysia's economic and rural development, with new challenges as the country transitions to a high-income status. New types of challenges in the agricultural sector have arisen as a result of changing customer preferences and a growing focus on the environment, sustainability, and responsible sources.

1.1.1.1 Beef Cattle Consumption in Malaysia

Although meat consumption in Malaysia is quite diverse, including: beef and veal, buffalo, pork, poultry, and sheep. However, meat consumption in Malaysia is still dominated by poultry, pork and beef. Table 1.2 displays consumption of livestock commodities in Malaysia from 2016 to 2020 based on the Department of Statistics Malaysia (2021). These statistics show that people in Malaysia consume more white meat (i.e. poultry, pork) than red meat (i.e. buffalo, cattle, goat) with a total meat consumption per capita in 2020 of 61.5 kg.

Table 1.2: Per Capita Consumption of Livestock Commodities in Malaysia, 2016-2020

Commodities	2016	2017	2018	2019	2020
Beef (kg)	6.6	6.5	6.4	6.1	6.1
Mutton (kg)	1.2	1.3	1.3	1.1	1.2
Pork (kg)	6.8	7.4	7.6	7.4	7.4
Poultry Meat (kg)	53.7	50.1	49.1	48.9	46.8
Eggs (pcs)	376.4	392.6	362.5	291.2	360.9
Fresh Milk (L)	1.8	2.0	1.9	2.0	2.1

Source: Department of Statistics Malaysia (2021)

Although in the last five years the consumption of poultry meat in Malaysia has experienced a downward trend, it still maintains a value above 45 kg per year, because the selling price of poultry meat is cheaper than other meats. This is also explained by the cheaper cost of poultry production than other livestock production, because poultry has a lower feed conversion ratio compared to cattle, which means that a smaller amount of feed is required to increase the weight of poultry livestock.

Statista Research Department (2023) informed that the demand for poultry meat is still the highest with consumption of 50.1 kg per person, followed by beef and veal (5.6 kg per person), pork (5.2 kg per person), and sheep (1.1 kg per person). The consumption per capita of poultry meat in Malaysia is estimated at 53.74 kilograms per capita in 2031 (Statista Research Department, 2023).

The measure of consumption or use of goods per person in a given population is referred to as consumption per capita. So, it is calculated by dividing the total consumption of a country or region by the total population. Hocquette et al. (2018) emphasize that consumer purchasing power is the primary determinant of the level of meat consumption per capita. Judging from the consumption per person of poultry meat in Malaysia, International Trade Administration (2022) argues that the poultry meat is the dominant protein consumed in the country. The previous statement was supported by Alemneh & Getabalew (2019) believing that developed or industrialised

countries consume much more meat per capita than developing countries. This study only focuses on the consumption of beef cattle in Malaysia. It can be seen from Table 1.3 which shows the ratio of self-sufficiency in livestock products in Malaysia for the last five years obtained from the Department of Statistics Malaysia (2021), for 2020 the value is still a provisional estimate.

Table 1.3: Self-Sufficiency Ratio (%) of Livestock Products in Malaysia, 2016-2020

Type of Livestock	2016	2017	2018	2019	2020
Beef	23.04	22.17	22.49	22.28	31.72
Mutton	13.00	10.23	10.95	11.84	10.72
Pork	90.96	92.12	90.95	92.25	91.62
Poultry Meat	103.24	103.68	104.02	104.10	104.51
Poultry Eggs	117.93	114.67	117.03	119.13	116.40
Milk	64.86	58.25	61.27	63.03	62.40

Source: Department of Statistics Malaysia (2021)

In Table 1.3, the SSR for poultry and eggs has exceeded 100% (104.51% and 116.40%), followed by pork which has exceeded 90% (91.62%), and also milk has an SSR of around 60% (62.40%) for the last five years. While buffalo, cattle, and goat meat have remained below 30% for the past five years, this has had an impact on the large number of livestock or livestock products that must be imported to meet demand. It can be seen from the amount of imported beef in 2019 of 159,185.1 million tons. Malaysia aims to achieve 50% (in 2020 it can only reach 23.69%) in SSR for beef by the year 2030 as stated in National Agrofood Policy 2.0 (Zayadi, 2021).

Therefore, it can be concluded that local beef production is not in line with the increasing demand and is only able to meet around 23.69% of total domestic demand. Jamaludin et al. (2014) indicate that the key pillar of countries in the production of their local foods is the issue related to food security. This is also linked to population growth, changes in diet, as well as the need for self-sufficiency, which have caused an explosion in one of the agricultural industries, namely the beef industry.

Ariff et al. (2015) clarified that effectiveness in animal feed and livestock raising leads to the independence of Malaysia's poultry, eggs, and swine since the 1990s, when there has been no balance between the two principal inputs in ruminant industry. Zainalabidin et al. (2013) hypothesise that if the industrial population of ruminants was predominantly small-scale farming, it would result in a minimal industrial growth, meat production, and infrastructure, such as grasslands.

Rozhan (2019) explains that the level of self-sufficiency is an indicator to determine agricultural performance. Guaranteed consumer availability, affordability, and accessibility of food; the existence of competitiveness and sustainability of the agro food industry; and increasing the incomes of breeders, ranchers, and fishermen are common goals in self-sufficiency.

The Malaysian government has set the SSL targets for the selected agro-food products such as rice, fruit, vegetables, livestock, and fish (Rozhan, 2019). As the results, there is a desire in this study to know whether the number of beef consumption in Negeri Sembilan has increased or decreased this year or in the previous years, the reason for the increase or decrease in the amount of meat consumption this year or in the previous years, what type of meat is most consumed in Negeri Sembilan, whether beef in Negeri Sembilan contributes to SSL meat in Malaysia, and what percentage of its contribution.

1.1.1.2 Beef Cattle Production in Malaysia

The livestock products produced in Malaysia, among others are beef (including: buffalo and cattle), eggs, milk, mutton, pork, poultry, raw hides, and skins. This research only focuses on beef cattle production. In 2021, DVS states that the share of beef (6.40 %,), mutton (0,65 %), pork (17.70 %), poultry meat (50.54 %), eggs (24.17 %), milk (0.48 %), and raw hides & skin (0.08%) of the total ex-farm value of

livestock products (RM 24,978.20 million) (Table 1.4). As a result, it is assumed that beef cattle have decreased, except for pork, poultry meat, and eggs commodities (Table 1.4).

Table 1.4: Malaysia: Ex-Farm Value of Livestock Product (RM Million), 2011-2021[E]

Commodities	Years					
	2011	**2012**	**2013**	**2014**	**2015**	**2016**
Beef	889.47	1,031.76	1,141.57	1,264.13	1,411.72	1,486.65
Mutton	77.8	146.12	151.39	148.88	144.52	165.70
Pork	2,047,04	1,968.86	2,048,88	2,401.82	2,526.06	2,370.12
Poultry Meat	5,949.50	6.867.61	7,413.53	8,499.07	9,534.28	10,776.05
Eggs	2,614,35	3,274.63	3,872,76	4,349.46	4.752.04	5,190.09
Milk	134.68	144.82	57.62	68.16	80.23	84.50
Raw Hides & Skins	12.02	12.26	12.36	13.94	17.13	18.06
Total	**11,724.86**	**13,446.06**	**14,698.11**	**16,745.46**	**18,465.98**	**20.091.17**

Commodities	Years				
	2017	**2018**	**2019**	**2020**	**2021[E]**
Beef	1,538.66	1,595.87	1,584.35	1,489.14	1,470.59
Mutton	167.58	173.46	167.55	156.20	148.72
Pork	3,243.16	3,887.71	4,040.94	4,091.02	4,066.62
Poultry Meat	10,883.96	11,694.32	11,684.54	11,841.91	11,613.58
Eggs	5,479.54	5.373.21	4,622.49	5,154.10	5,5550.29
Milk	91.53	96.22	101.45	104.44	109.49
Raw Hides & Skins	20.41	20.38	19.87	18.97	18.91
Total	**21,414.84**	**22,841.17**	**22,261.19**	**22,855.78**	**22,978.20**

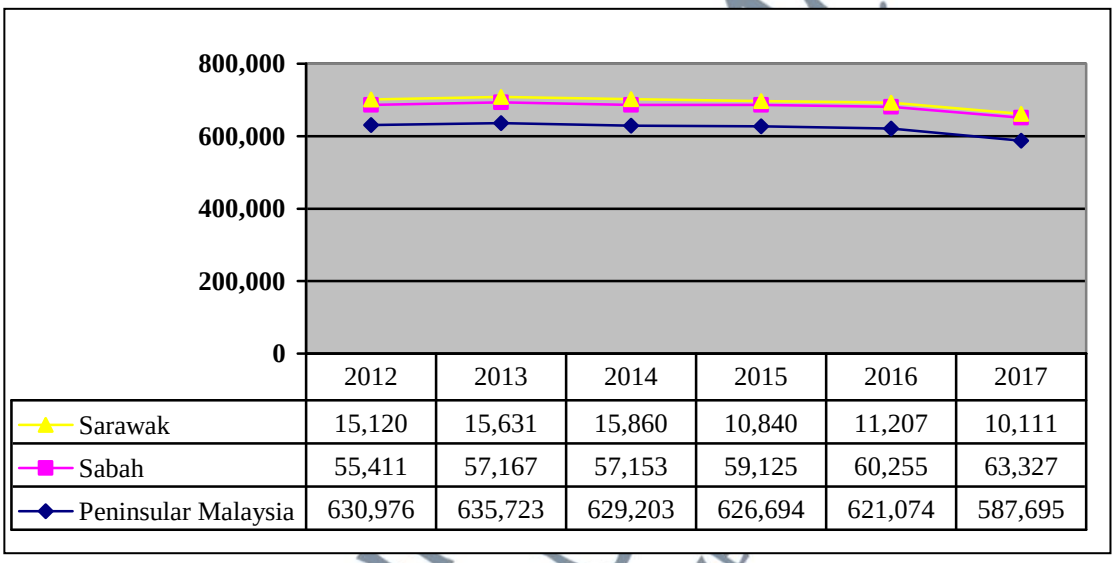
Source: Department of Veterinary Services Malaysia or DVS (2021)

DVS (2021) informed that the lack of demand from cafes, restaurants, and hotels that were not operating or experiencing operational restrictions due to the COVID-19 pandemic was the cause of the decline in several commodities. That statement is described in the study of Tan et al. (2023) when Malaysia implemented the first lockdown or movement control order (MCO) on March 18, 2020 due to the rapid spread of COVID-19. While the MCO aims to secure economies and societies through social distancing, self-isolation, and travel restrictions, it negatively impacts food production and supply chains, which span multiple phases or processes from farm (producer) to consumer (Tan et al., 2023). So during the Pandemic, there was a disruption in the stability of the agribusiness supply chain due to delays in receiving inputs, decreased cultivation, damage to fresh produce, lower productivity, which

ultimately had an impact on decreasing farmer income (Tan et al., 2023). Ariff et al. (2015) assume that the commercial poultry production in Malaysia is related to margins. However, the margins can be enhanced by managing input capital in an organised way and centralised marketing arrangements. MyCC (2019) states that the causes of Malaysia's lack of local beef production include not only limited maintenance, but also a high investment in starting and raising livestock, a lack of suitable land for grazing and breeding, and a lack of locally nutritious feed. The statement is in line with the research of Yujie Liu et al. (2023) that the cost of beef cattle farming is determined from labour resources, farming land, and feed crop planning. At that time, more than 90% of Malaysia's ruminant industry population is engaged in small-scale agriculture (Zainalabidin et al., 2013).

David (2015) clarifies that human and capital assets of a company constitute the largest share of production. David (2015) has added that production strengths and weaknesses in the five functions (including: process, capacity, inventory, workforce, and quality) can be interpreted as a success or failure of a company. MyCC (2019) elucidates that a limited capital in the process of maintaining and distributing livestock results in a market that is only concentrated with a few key players involved on a commercial scale. The fulfilling of domestic supply of beef (among others: buffalo and cattle) meat in Malaysia based on type or need of beef, includes live cattle imported from Australia and Thailand, the majority of frozen cattle originating in India, as well as fresh and premium beef and frozen buffalo meat are mainly derived from Australia and New Zealand breeds (MyCC, 2019). In Figure 1.3, there were approximately 661,133 cattle populations in 2017, with the number of cattle populations decreasing over the years in some states except Sabah, which has experienced an increase in cattle population every year. This is because there is quite a lot of oil palm

plantation in the Sabah which can also function as a gracing area and feed. This is also supported by the statement of Ariff et al (2015) which stated that the second largest palm oil producer after Indonesia is Malaysia. Voora et al., (2019) explained the facts behind Malaysia as the second largest producer of palm oil because palm oil production is still dominated by Indonesia and Malaysia together accounted for 85–90% of the total palm oil produced in 2016.



	2012	2013	2014	2015	2016	2017
Sarawak	15,120	15,631	15,860	10,840	11,207	10,111
Sabah	55,411	57,167	57,153	59,125	60,255	63,327
Peninsular Malaysia	630,976	635,723	629,203	626,694	621,074	587,695

Source: Department of Veterinary Services Malaysia (2019)

Figure 1.3: Beef Cattle Population in Malaysia

Ariff et al. Al. (2015) details the states that cultivate oil palm in Malaysia, including: Sabah (with 1.51 million ha or 28%), Sarawak (with 1.26 million ha or 23%), and Peninsular Malaysia (with 2.62 million ha or 49%). It can be concluded that Sabah is the largest oil palm plantation state in Malaysia. Ezerie and Khalidah (2019) in their journal also explains in more detail about the palm oil plantation which is not only the main source of income but also the second and fourth largest contributor to gross national output in 2009 and 2014, contributing over 25.04 billion USD and 22.31 billion USD, respectively. The link between oil palm plantation and beef cattle livestock is the availability of grazing land and animal feed (Palm Kernel Waste/PKC

and Oil Palm Sludge or POME). In the research of Ariff et al. (2015) stated that around 25% of oil palm plantation area is suitable for integration with beef cattle (no area with steep slopes, poor soil conditions, close to forest, recently cultivated oil palm, or old oil palm fields), where a beef cattle population of 1.2 million heads can be spread over a quarter of the area of oil palm plantation. So, it can be concluded that Sabah has a high potential to integrate beef cattle because it has the largest area in oil palm cultivation.

Table 1.5: Population of Livestock in Malaysia, 2016-2020

Type of Livestock	2016	2017	2018	2019	2020
Buffalo	119,133	114,013	106,988	101,695	100,242
Cattle	**737,827**	**703,832**	**676,686**	**657,407**	**659,317**
Chicken	289,666,002	293,301,558	259,323,292	285,063,636	300,145,315
Duck	9,633,185	9,283,900	9,680,573	9,376,456	9,628,617
Goat	416,529	385,304	359,200	312,571	320,203
Sheep	138,479	130,658	128,298	121,677	121,173
Swine	1,654,381	1,849,351	1,967,538	1,888,460	1,876,029
Total	**302,365,536**	**305,768,616**	**272,242,575**	**297,521,902**	**312,850,896**

Source: Department of Veterinary Services Malaysia or DVS (2021)

The livestock population in Malaysia in 2020 is an estimated value according to statistics collected by the Department of Veterinary Services Malaysia which illustrates that the largest livestock population in Malaysia in the last five years is still inhabited by non-ruminants (mainly: chickens and ducks). In the Table 1.5, the five-year trend shows that chickens make up the largest livestock population followed by ducks, pigs, cattle, goats, sheep, and buffalo. Meat and dairy production are known from buffalo, cattle, and goat populations while poultry meat production can be seen from broiler and duck populations and eggs can be seen from layer poultry.

Livestock owners in Malaysia are encouraged to register with the state DVS so that they are subject to by-laws related to livestock in the state (Zayadi, 2021). The number of registered farms by state and type of livestock commodity in West Malaysia for the year 2018 is summarized in Table 1.6 based on statistics by DVS.

Beef cattle livestock are more than half of the total number of registered livestock farms where Kelantan has the highest number of over seven thousand (28.80%), as well as Negeri Sembilan where registered cattle farming is only 4.09% of the total number of registered cattle farms. Ruminant livestock farming is mostly practiced by smallholders while non-ruminant livestock is dominated by commercial enterprises that meet the needs of large-scale production, being the background that the number of farms for ruminants is much larger than the total number of farms for non-ruminants even when combined.

Table 1.6: Registered Livestock Farms in West Malaysia, 2018

States	Buffalo	Beef Cattle	Dairy Cattle	Goat	Sheep	Swine	Broiler Chicken	Layer Chicken	Broiler Duck	Layer Duck
Johor	122	2,230	171	797	192	88	616	58	23	1
Kedah	191	2,262	63	2,271	191	10	200	10	2	4
Kelantan	48	7,060	16	782	287	0	209	0	41	61
Melaka	222	1,276	81	582	144	79	107	23	5	2
N.Sembilan	166	1,002	101	553	469	4	173	7	0	1
Pahang	332	1,889	29	755	169	3	193	9	10	50
Perak	446	1,959	173	1,482	116	128	349	22	74	30
Perlis	6	297	5	191	27	1	9	0	6	17
P. Pinang	47	651	35	512	75	214	89	80	9	12
Selangor	37	1,114	86	1,075	124	195	210	40	14	11
Terengganu	237	4,772	4	1,903	182	0	141	0	3	55
Total	**1,854**	**24,512**	**593**	**10,903**	**1,976**	**722**	**2,296**	**249**	**187**	**244**

Source: Department of Veterinary Services (2020)

Although Negeri Sembilan is not a centre for beef cattle production in Malaysia (Table 1.6), this state has become the area of research study, because the researcher would like to discover and understand whether Negeri Sembilan faces the same constraints as production centres and how breeder in Negeri Sembilan overcomes these constraints.

1.2 Statement of the Problem

The beef industry has experienced a steady growth over the last two decades. Even so, cattle farmers experience difficulties in meeting the domestic demand for beef. The difficulties faced by this industry, include: lack of large pasture area to graze livestock (Jamaludin et al., 2014), lacking of parent cattle (Rozhan, 2019), higher cost of animal feed (Rozhan, 2022), inefficient of beef production (Farah Adila Abdullah et al., 2021), the lack of quality breeds, expertise, and workers, smallholder productivity is limited by diseases, land scarcity, and the resulting competition for grazing land (Grinnell et al., 2022), insufficient information regarding the latest technologies, and weak networking among the players of Malaysia's cattle farming (Farah Adila Abdullah et al., 2021),. Abdulla et al. (2016) emphasizes that breeding issues can have an impact on beef cattle imports which also affect the Malaysia's beef cattle production potential. Imported breeds are also inseparable from problems such as the limited supply of quality breeders which causes higher import costs and sometimes imported breeds are susceptible to disease making it difficult to adapt to local conditions.

Meanwhile, local and imported meats included in the distribution of domestic meat, namely cattle and buffalo. MyCC (2019) reported that the main exporter to meet domestic demand for meat were India, Australia, and New Zealand. Most of the supply of beef and buffalo in the country is obtained from the two main exporting countries (namely, India and Australia), so the sources of imports are limited and undiversified (MyCC, 2019). This makes the market vulnerable to fluctuations in supply and prices in the importing countries, including Malaysia. The reason why the market is vulnerable is because the market is only concentrated with several key players involved in the beef business on a commercial scale because the beef market

has high entry barriers, especially because of the large capital requirements to run cattle farming and import beef (MyCC, 2019). This issue is related to the level of self-sufficiency (SSL) which if it can meet the targeted SSL then it can reduce imports of agro-food products including meat. This can be seen from Rozhan's statement (2022) which states that the beef industry is still experiencing difficulties in achieving the SSL specified in the NAP4 (2011-2020) of 32 % (quite low when compared to the SSL specified for rice, fruits, and vegetables) in 2020 beef SSL only reached 23.69%. Again, Malaysia has increased the meat SSL target by 50% in 2030 as stated in the National Agrofood Policy 2.0 (Zayadi, 2021).

Apart from the beef cattle issues in Malaysia. Malaysia has an advantage in developing the industry as stated by Norhafizah and Norshamliza (2019) stating that Malaysia has the distinct benefit of being known as a Halal centre. Malaysia, as a Muslim country, has comprehensive standards for Halal products through the Malaysian Standards, which are the General Guidelines for Halal Food Production, Preparation, Handling, and Storage, known as MS 1500:2004 that were introduced by Malaysia (Norhafizah & Norshamliza, 2019). According to Rozhan (2019) the development of the concept of the Halal Accessories and Food Assurance System (HAFAS) as a quality assurance system is to ensure that the Halal concept is unquestionably and has been listed in the National Agrofood Policy (2011 - 2020).

The concept of halal in question is also related to food security whose main objective is to obtain good and quality food and prevent food from contamination and dangerous for consumption (Rafidah & Rozhan, 2021). The institution that manages halal issues in Malaysia is Jabatan Kemajuan Islam Malaysia or JAKIM. This has been emphasized in the statements of Norhafizah and Norshamliza (2019) which state that the position of religion in JAKIM as an important institution related to the Halal

certification. Due to strict criteria and strong relationships with major trading countries and strong government support, this certification is recognized worldwide (Badruldin et al., 2012; Norhafizah & Norshamliza, 2019).

Because JAKIM is known worldwide, the livestock industry should take advantage of this opportunity to grow and promote its products in international markets. This is supported by reports stating that halal foods had a global market value of around US$1.4 trillion in 2017, increasing by US$1.9 trillion in 2020 and is expected to reach US$2.6 trillion in 2023 (Rafidah & Rozhan, 2021). It can be concluded that the global halal food market is experiencing increase in demand.

This is also related to the Halal Industry Development Corporation (HDC) which stated that the Malaysian halal industry market value is expected to reach RM614.36 billion (US$147.4 billion) by 2025 (Rafidah & Rozhan, 2021). This is also supported by the statement of Rafidah and Rozhan (2021) which stated that this market has a steady growth and is expected to continue to grow along with the growth of the Muslim population, increasing awareness of Halal products and services around the world and also the high demand not only from the Muslim population but also by the changing mindset and awareness of the non-Muslim population worldwide. So that Malaysia has a comparative advantage in this industry that should or can be exploited.

Not only the halal certification process by Jakim can be utilized to develop the beef cattle industry in Malaysia, in Malaysia the National Beef Feeding Center has also been built. It is known from the statement of Ariff et al. (2015) informed that the establishment of the National Beef Feeding Centre in Gemas (Negeri Sembilan, Malaysia) is a business investment that involves the imports of cattle breeding stock and slaughtered cattle from Indonesia, Myanmar, China, Cambodia, and Australia. In addition to the issues in the beef cattle industry and also the benefits that can develop

the beef cattle industry that have been described above, the researcher wants to find out whether these problems are also a problem for beef cattle companies in Negeri Sembilan in terms of production sub-unit and whether the benefits mentioned earlier used in beef cattle companies in Negeri Sembilan in terms of production sub-unit which also have the same objectives as the research questions and research objectives which will be discussed below.

1.3 Research Questions

Based on the statement of problem in this study, there are three research questions that must be answered can be seen below.

1. What are the advantages and disadvantages of a beef cattle companies in Negeri Sembilan in terms of the production sub-unit?
2. What are the chances and obstacles faced by beef cattle companies in Negeri Sembilan in terms of the production sub-unit?
3. How does the operationalization of resources in the production sub-unit of the Negeri Sembilan's beef cattle companies contribute to competitive advantage?

The researcher wanted to explain the difference in the use of terms in the first and second research questions with the first and second objectives of research in this study. The purpose of using the term advantage is to represent the term strength that is explained based on the meaning of the two terms. The meaning of the term advantage (noun) is a more favourable condition or position in a competition, while the meaning of the term strength (noun) is the ability to exert effort to complete a task (Bigelow et al., 2023). So that the terms advantage and and strength are semantically related in the topic of strong points and values. Next the reason of the purpose of using the term

disadvantage is to represent the term weaknesses which is explained based on the meaning of both terms. The meaning of the term disadvantage (noun) is the characteristics of someone or something that cause difficulties to achieve success, while the meaning of the term weakness (noun) is the quality or state of lacking physical strength or vigor (Bigelow et al., 2023). So that the terms disadvantage and weakness are semantically related in the topics of flaw, drawback, scarcity, and weakness point.

Then the clarification of the purpose of using the term chance is to represent the term opportunity which is explained based on the meaning of both terms. The term chance means the possibility of something happening in a favourable time, while the term opportunity is a favourable time or situation that makes it possible to do or achieve something. When compared the two terms there is a similarity in which both terms can get something at a time or situation that is favourable (Weber, 2022). The last description about the use of the term obstacle to represent the term threat, where these two terms can be viewed as nothing more than problems that must be solved to achieve business goals (LaMarco, 2019).

1.4 Objective of the Study

The objective of this study is to provide an overview of the strategic development in the production sub-unit of beef cattle faced by the companies in Negeri Sembilan, more details have been outlined as below.

1. To identify the strengths and weaknesses possessed by the beef cattle companies in Negeri Sembilan in terms of the production sub-unit.
2. To identify the opportunities and threats faced by the beef cattle companies in Negeri Sembilan in terms of the production sub-unit.
3. To understand the competitive advantage of the production sub-unit in the

Negeri Sembilan's beef cattle companies.

1.5 The Significance of the Study

In this sub-chapter the author would like to explain why this study is significant or important to government policies implemented to increase beef cattle production in the National Agrofood Policy 2021-2030 (NAP 2.0) which has been discussed in sub-chapter 2.2. In the policy there are two strategies implemented by increasing the production of beef cattle, among others: modernizing and boosting agricultural production to ensure sustainable supply and stabilize the nation's food prices (especially in the paddy, ruminants, as well as fishery sub- sectors); and make agriculture a solid, sustainable and profitable venture as a source of income for farmers, livestock breeders, fishermen, and young agro- entrepreneurs.

Both policies are related to the objectives of study to be achieved by the researcher, namely, to describe the strategy development of beef cattle faced by companies in Negeri Sembilan. Specifically, the aims of this research are to identify the strengths and weaknesses of the Negeri Sembilan beef cattle company, to identify the opportunities and threats faced by the Negeri Sembilan beef cattle company, and to understand the competitive advantage in terms of internal resources owned by the companies by applying the Resources-Based View (RBV) as the underpinning theory of this study.

The first and second objectives of this study were adopted from the research of Mohamad et al. (2021), the study aimed to explore the challenges, motivations, and benefits of implementing MyGAP (Malaysia Good Agricultural Practices) among small cattle farmers in Peninsular Malaysia. What distinguishes this study with research conducted by Mohamad et al. (2021) this can be seen from the focus of their research related to the presence or absence of MyGAP certification applied in beef

cattle farming in Malaysia. The brief description of MyGAP which is the standard logo for GAHP which is intended for agricultural commodities such as: crops, livestock, and aquaculture in Malaysia. So that it can be concluded that GAHP is related to the production process for beef cattle livestock, where the end result of the application of GAHP can affect the health quality of the cattle livestock and the beef cattle itself, such as: the condition of the grazing fields; the conditions of the cattle sheds; the adequacy of feed consumption, nutrition, and drink in order to obtain the appropriate body weight for cattle; proper management of stool or faeces aims to overcome disease germs or bacteria that can infect cattle; condition for storage of animal feed, vaccines, and also medicines for cattle; as well as safety and welfare of workers in cattle farming are also considered in the GAHP.

While in this study focuses more on the strategy development of beef cattle production in Negeri Sembilan. Where this strategy development is related to two things the first is the cattle farming which consist of: breed, shed, feed, labour or workforce, and the fattening period (Table 2.4); and the second is the production sub units which consist of: process, capacity, inventory, labour, and quality. And also, the methodology carried out in this study is also different from their study (which can be seen further in Chapter 3).

Meanwhile, the third objectives of this study in the adoption of Alonso's research (2019) which adopts the resource-based theory of the firm (RBTF) for companies engaged in the beef industry which is also one of Uruguay's economic movements, so this research also explains how the position of the Uruguay beef industry can be in the high-end beef market. This study presents three different units of analysis. First, through the participants' perceptions, this study reviews the SWOT of the beef industry in Uruguay. Then, the importance of operationalizing resources

for competitive national advantages and disadvantages for socio-economic development. Finally, this study assesses the usefulness of the RBTF (the resource-based theory of the firm) by applying VRIN attributes. What distinguishes this study from Alonso's research (2019) is that this study only examines the competitive advantage in terms of internal resources owned by the company by applying Resources-Based View (RBV) as the underpinning theory of this study. There are two internal resources seen in this study, namely: cattle farming (which focuses on breed, shed, feed, labour or workforce, and the fattening period) and production of sub units (including: process, inventory, capacity, labour, and quality).

More succinctly, the first and second research objectives in this study were analysed using external and internal audits (i.e.: IFE Matrix, EFE Matrix, IE Matrix, and SWOT-TOWS Matrix), which are the basis for setting goals and strategies. The following is an explanation of the external audit or external environment which aims to develop a list of limited opportunities regarding what can be a company's advantage and what threats the company should avoid (David), while external audit or external environment are divided into five broad categories, including: (1) economic forces; (2) social cultural, demographic, and natural environment forces; (3) political, governmental, and legal forces; (4) technological forces; and (5) competitive forces. This can be a basic guideline in knowing which external audit or external environment related to the beef cattle companies in Negeri Sembilan.

Then the explanation regarding the internal audit or the internal environment aims to not only improve the weaknesses of the company, but also turn them into strengths-or maybe even into distinctive competencies (strengths of the company that are not easily matched or imitated by competitors). In this study, the internal audit or internal environment only tested the production sub units, including: process,

inventory, capacity, labour, and quality-which is adapted to the situation of the beef cattle in Negeri Sembilan, cattle farming (which focuses on breed, shed, feed, labour or workforce, and the fattening period), as well as the application or not of the MyGAP based on Good Animal Practices (GAHP).

Which makes this study has potential impact on future research, where this study seeks to contribute to the existing literature and fill in the gaps regarding the strategy development of beef cattle production in Malaysia. In more detail, this study can contribute to the literature on the advantages and disadvantages of beef cattle companies from the production of this sub-unit, as well as the benefits and obstacles faced by beef cattle companies in terms of production of this sub-unit. The two literature topics above later became the basis for exploring the competitive advantage of the beef cattle companies in Negeri Sembilan, because only little consideration was given to the relationship between intangible resources, tangible resources, and standards related to agricultural or beef cattle livestock, one of the previous studies on this subject was the Alonso (2019) study. This study can also be used as a vessel for preliminary and more extensive studies.

1.6 Scope of the Study

This research was only conducted in one state in Malaysia, namely Negeri Sembilan. Specifically, only the beef cattle companies in the Gemas and Pedas areas (namely: Pusat Ternakan Haiwan Jelai, Gemas and Syarikat Perniagaan Haji Budin, Pedas), Negeri Sembilan. Data collection in this study used semi-structured interviews (the interviewees were the manager of Pusat Ternakan Haiwan Jelai, Gemas and owner of Syarikat Perniagaan Haji Budin, Pedas) where the interview questions were related to beef cattle production, including: process, capacity, inventory, workforce,

and quality (Appendix 4). Then the results of the interviews were transcribed manually and the data that was transcribed was processed into an IFE Matrix, EFE Matrix, IE Matrix, and a SWOT-TOWS Matrix to answer the first research question and is also intended to answer the second research question regarding competitive advantage in the company's internal resources by applying the theory of Resources-Based View (RBV).

1.7 Operational Definitions

1.7.1 Beef Cattle

Beef is a substantial source of protein food and a valuable commodity for countries, such as Malaysia (Jamaludin et al., 2014). Meat consumption in Malaysia is the meat derived from cattle and buffalo (MyCC, 2019).

1.7.2 Competitive Advantage

Barney (1991) defines a competitive advantage as "a firm is said to have a competitive advantage when it is implementing a value creating strategy not simultaneously being implemented by any current or potential competitor".

1.7.3 SWOT Tools

Hunger and Wheelen (2012) explain that SWOT is an abbreviation used to identify particular Strengths, Weaknesses, Opportunities, and Threats that are strategic elements for particular firms.

1.7.4 The Resource-based View (RBV)

David (2015) explains that the resource-based view (RBV) depicts a situation in which organizational performance is primarily influenced by internal resources–the company's skills and resources. As a result, the company's primary assets (such as:

capabilities, resources, and skills) will provide it with a competitive advantage (Zainal et al., 2014).

1.8 Structure of the Study

This study intends to not only explore the competitive advantage of the beef cattle companies in Negeri Sembilan, but also identify the strengths and weaknesses of beef cattle companies in Negeri Sembilan, and to identify opportunities and threats faced by beef cattle companies in Negeri Sembilan. This study consists of three chapters, each of which has been separated into important components.

1.8.1 Chapter 1- Introduction to Research and the Context of the study

The chapter presents the research background. The research issues and the meaning of the research to be done were included. Essentially, this chapter gives an overview to the readers as to what the author is going to research. As for the researcher, it is expected not only to recognize the strengths, weaknesses, opportunities, and threats to the production sub-unit carried out at the beef cattle companies in Negeri Sembilan but also to determine the competitive advantages seen from the production sub-unit owned by the beef cattle companies in Negeri Sembilan.

1.8.2 Chapter 2-Review of Relevant Literature

This chapter evaluates the empirical literature relevant to the study and outline the concepts, points of views, and theory underlying the research based on a wide range of previous studies. This chapter comprises of the literature review and at the end of this chapter, a conceptual framework for the study is proposed. This review of the relevant literature is divided into three main themes. The first section surveys the current literature on resources, while the second section examines the resources-based-view theory as the underpinning concept. To add value to this study, the final section

examines the firm's performance as a result of the RBV application.

1.8.3 Chapter 3-Research Methodology

This chapter provides and justifies the appropriate research design and methodology for answering the research questions. This study primarily uses a qualitative research strategy, and this chapter explains and describes the procedure for data collection and analysis.

1.8.4 Chapter 4-Findings & Discussion

Chapter 4 presents an explanation of how the Pusat Ternakan Haiwan Jelai, Gemas and Syarikat Perniagaan Haji Budin, Pedas as samples in this study–also fulfil the requirements as typical samples criteria–to understand the strengths, weaknesses, opportunities, and threats on the production sub-unit of the beef cattle companies in Negeri Sembilan and how the operationalization of resources in the production sub-unit of the Negeri Sembilan's beef cattle companies contributes to competitive advantage.

1.8.5 Chapter 5-Recommendations & Conclusion

The final chapter outline the contribution and recommendations of this study to the body of knowledge. Furthermore, implications for policy and practice that may be of interest to academic researchers, policy makers, and practitioners are discussed. The limitations associated with present study and recommendations for future research have been outlined.

1.9 Conclusion

In this chapter, it has been informed that the available beef is barely able to meet local needs, where the target of SSL beef in 2020 is expected to reach 32 %, but in 2022 it can only reach 23.69 % in 2022. Meanwhile, in terms of the number and

distribution of cattle, Malaysia has five states with the largest population of cattle, namely: Pahang (119.300), Kelantan (97,734), Johor (92,939), Terengganu (84,403), and Sabah (63,327). Most of the cattle population in these states is still dominated by traditional small-scale farmers which is also one of the reasons beef productions is still unable to meet local availability.

Previous studies on beef cattle in Malaysia, including: Sinclair et al. (2019), Abdulla et al. (2016), Sabstu (2016), Ariff et al. (2015), Jamaluddin et al. (2014), and Othman and Yaghoob (2014), are studies that focus on scientific experiments on cattle. Meanwhile, the study of Norhafizah and Norshamliza (2019) and Rozhan (2019) are studies related to the policies implemented by the Malaysian government in the development of beef cattle industry. The latest recent studies on beef cattle are the study of Mohamad et al. (2021) aims to explore the challenges, motivations, and benefits of implementing MyGAP (Malaysia Good Agricultural Practices) among small cattle farmers in Peninsular Malaysia and the study of Zayadi (2021) which examines the status of the livestock industry in Malaysia and the steps taken to steer this industry towards sustainability with statistics related to the number of animals and farms, self-sufficiency ratio, and consumption of livestock products. So that these studies can only be a literature review to support this research.