



## **The Effort of Beef Needs Supplying for Coming Years in Indonesia**

**Supardi Rusdiana<sup>1</sup>, Ismail<sup>2</sup>, Rusli Sulaiman<sup>2</sup>, Amiruddin<sup>2</sup>, Razali Daud<sup>2</sup>, Zainuddin<sup>2</sup>, and Mustafa Sabri<sup>2</sup>**

<sup>1</sup>*Livestock Research Center of Ciawi-Bogor. Po. Box. 221 Bogor*

<sup>2</sup>*Faculty of Veterinary Medicine, Syiah Kuala University, Darussalam Banda Aceh 23111. Indonesia.*

*Email for correspondence: s.rusdiana20@gmail.com*

### **Abstract**

The increase in beef production is constrained by the slow growth of beef cattle population which is caused by the cattle breeding business that is considered less commercially profitable. The supplying of beef needs in a critical and effective manner is always increasing each year, so the price of beef is fluctuate. The various priority concept of the government's main program for the development of beef cattle is always done in every region in Indonesia. But the production of beef is still less and the government have to import the beef to fulfill the beef production. Therefore, this issues need necessary operational steps to provide more open space for some factors and leverage points in the supplying of beef needs. The purpose of this review is to examine the efforts to supply beef needs for the future in Indonesia critically. The high price of beef is not a mistake of the government. Basically, the government has tried to make the beef cattle population increased, to fulfill the consumer needs and the prices of beef is affordable for the customer. To cope with the higher beef prices, the government is make a policy of developing small, medium-sized, and big beef cattle breeding industries through seed cattle spreads on plantations of oil palm, rubber and cultivable fields for the development of beef cattle population. It is expected that in the coming year, beef cattle business can be oriented to agribusiness bussiness so that farmer's welfare will increase and can support Indonesia as the world food granary.

*Keywords: leverage point, beef supplying*

### **Background**

The efforts to support national development policy especially to realize the achievement of food security, livestock development which is conducted by central government, provincial and district / city aims to achieve food security through supplying of animal protein from livestock (Diarmita 2017). The Director General of Animal Husbandry and Animal Health (2017), Ministry of Agriculture stated that food security does not only cover the definition of adequate food availability, but also the ability to access it. The ability of consumers who include buying the food does not occurrence of food dependence on any side. The implementation of business activities for the development of beef cattle is a concept that can be done through technology dissemination that can be done by farmers (Rusastara 2014). The livestock development can be done through breeding

cultivation and enlargement (Winarso et al., 2006).

Identify and place the beef cattle business as an important role in order to fulfillment the needs of beef in the coming year. The pattern of development of beef cattle using the pattern of leverage points is the patterns of existing system thinking (Diwyanto 2011). The importance of re-examining the programs that have been made to be used as a tool is to overcome the problems in the efforts to supply beef easily . The fulfillment of beef needs is critically needed, so the increasing is balance with the need for consumption. Based on the systemic understanding of the existing system, the effort to fulfill the needs of beef can be done through several elements. From various priority concepts to the main activities of government programs is to develop beef cattle.

The operational steps are needed to provide more open space for beef cattle

development. The factors for supplying beef in the next year are required the good facilities and infrastructure both upstream, on farm and downstream, (Ilham 2006). The provision of productive female seedlings and productive males are used to accelerate the population of beef cattle in Indonesia. The government has programmed the Upsus Siwab in 2017, as an acceleration of beef cattle population. Siwab cow must be pregnant, the marriage can be done through IB and natural marriage. The process of cattle breeding is a big job and takes decades (Widiati 2012). The government hopes the process of beef cattle breeding runs smoothly and consistently and the development is integrated with oil palm plantations and other plantations.

The seedling process can be handed over to the breeder, through institutional support, there is no constraints that always arise for the breeder (Talib, et al., 2003). To overcome the higher price of the beef, the government took the policy by building a large, medium and small scale of cattle industry and also the community farms (Ilham 207). One of them is through the spread of cattle seeds in oil palm plantations, agriculture and other empty lands that can be utilized for the development of beef cattle (Devendra 2011) and (Utomo and Widjaja 2012). The development of beef cattle population in Indonesia has always fluctuate but since 2009-2014 it has increased significantly. The population of beef cattle in 2016 is 16,098,892 cows and beef production is 523,927 tons, adult female population is between 2-8 years old or 5,900 cows (Directorate General of Animal Husbandry and Animal Health Jakarta 2016).

To strengthen the spread of beef cattle at the level of breeders, it is necessary to optimize the development of beef cattle breeding business. The disbursement can be done through an integrated diversification effort. The low rate of beef cattle in Indonesia is 95% of beef production nationally from people's livestock, (Bamualim 2010). Therefore, the government should be able to build the business cattle breeding industry, by

opening investments for the beef cattle breeding industry. To critically examine the priority concepts and operational steps is needed to provide more open space. The purpose of this paper is to know how efforts to supply beef needs for the coming years in Indonesia.

### **The Effort of Beef Supplying In Indonesia Long-term**

The government policy to fulfill the needs of healthy beef and affordable prices by consumers is already stated in the Road Map Self-Sufficiency of Food. The transformation effort is structured and implemented gradually over the long term. The Plan for 2016-2026 is the initial phase towards the world food barn especially for Indonesia (Diarmita, 2017). Indonesia will be a successful country in preparing the availability of local cattle. The various strategic programs to increase domestic beef supply is through farmer empowerment. The accelerated of increasing the cattle population at the level of breeders is done with Special Efforts of Mandatory Breeding Cattle (Upsus Siwab). It is targeted 4 million acceptors and 3 million pregnant cows in 201 to reinforce the aspect of seed and breeding to produce high quality seeds. The addition of imported broodstock, and development of HPT (Forage Animal Feed), (Ministry of Agriculture 2017).

To accelerate the increasing of population at the farmer level, Ministry of Agriculture has made Special Efforts of Mandatory Breeding Cattle (Upsus Siwab) with a target of 4 million acceptors and 3 million pregnant cows in 2017 (Murfiani, (2017). In accordance with Government Regulation No. 48 of 2016, the government through Upsus Siwab activities will make improvements to the reproduction management system in cattle of breeders by checking reproduction status and reproductive disorder, IB service (Artificial Insemination) and natural marriage, frozen semen and N2 liquid fulfillment, the control of productive female cattle and forage compliance animal feed and concentrate. The government hopes that through IB

activities there will be the spread of superior livestock cattle at low cost, easy and fast (Sulin et al., 2006). The government hope that the the needs of beef will fulfilled well and also can increase farmers' income.

In the medium and long term, the government will strengthen seed and breeding aspect through the existence of Artificial Insemination Center of Singosari, Artificial Insemination Center of Lembang and 8 Hall of Superior Livestock Breeding (BPTU) to produce high quality seeds (Ministry of Pertaian 2015). Based on the information of price developments compiled by Market Information Officers (PIP) mainly in producer centers, i.e 9 Provinces (West Sumatera, Lampung, West Java, Central Java, East Java, DI Yogyakarta, West Nusa Tenggara, East Nusa Tenggara and South Sulawesi ), in February-March 2017, the price of cows per live weight in the level of breeders corrected on average still increased by 0.05%. In addition, with ex-imported buffalo meat, the price of fresh beef stays at 110,000-120,000 / kg.

### **Short-Term**

The government program to improve the business of beef cattle breeders can be expected success hopefully. Cut-beef slaughter program is a rare short-term strategy to support beef self-sufficiency program (Diwyanto 2011). For that, it needs to be supported with facilities and infrastructure as well as hard work of the breeder, so that the government programs can succeed well. According Murfiani (2017) to respond the media coverage related to constraints faced by the farmers and local cattle business in Indonesia, there is a decrease demand for local beef in traditional markets, and the decline in the price of live beef, even under production costs. The government policy through the Directorate General of Animal Husbandry and Animal Health of the Ministry of Agriculture said that the public should not worry about the availability of supply and stability of beef prices. The Government remains consistent to prioritize the existence of local livestock for domestic beef fulfillment (Soedjana 2005).

The government has been trying to import healthy beef. In addition, breeders in rural areas took an effort by way of fattening, so that beef needs can be overcome soon, with the supplying of cattle fattening. Therefore, in the medium-term or short-term, there is still a need for imported beef cattle to be fattened domestically to provide job opportunities and added value of national products. Indonesia still relies on imported supply to cover the needs of beef in big cities especially for Jabodetabek ( Ilham 2006). Rusdiana and Adawiyah (2013) stated that, the dependency on beef imports will increase and become a problem for Indonesia. The occurrence of import phenomena is due to the increase in population and income. The allocation of imports can not be ascertained in the form of beef cattle.

Observing the condition of the Indonesian livestock industry in the future, especially related to beef cattle breeding business is currently diminishing. The cow and beef industry more developed downstream, especially to beef import agribusiness (Directorate General of Animal Husbandry and Health 2016). The value of the price still reasonable and provide benefits for local cattle breeder. The local beef price is higher because the pattern of its maintenance (number of livestock, feed, business scale, etc.) that is not yet optimal and not business oriented, so the production cost is not efficient, (Murfiani 2017). In order to control the price of beef, the government will also continue to diversify the improts country to ensure the availability of beef in the market. The occurrence of beef price increases is caused by limited imports with the expectation to increase the price of beef intensity, so the producers or breeders enthusiasts to increase the business of beef cattle.

The production process of enlarging beef cattle to produce beef as a beef producer requires a relatively long period of time. Mahendra et al., (2014) states that the importing beef cattle companies still need the opportunity to engage in import activity of beef cattle so that there is no loss of investments. The extensification of micro

institutional for beef cattle farmers in every region need support from government institution and private. Rouf et al., (2014) states that it is necessary to examine the efforts to improve the competitiveness of the citizen's cattle business, so that the domestic production is more profitable than imports. The better economic through formulation and implementation of livestock sub-sector policies should be viewed as an upstream to downstream system. As a result of demand and supply gap and also import dependency, the price of beef is increasin in the market.

The demand and offer gap for beef national supply are widen, so that the gap is filled from imports. According to Sayaka (2012), such a gap condition is an indication of food development which is still done as a business. It can be a threat to the stability of the country. The growth in the volume of livestock and beef imports continues to increase annually, (Diwyanto et al., 2010). Currently, the contribution of imported beef products reaches 30% of the existing supply, (Yusdja at al., 2003). As the result, the national beef cattle industry based on small-scale farms continues to be pushed. In fact, the beef cattle business involves many farmers who depend most of the household economy in the beef cattle business. It is expected the cattle breeding business in Indonesia will be profit oriented to the welfare of breeders and also support the ideals of Indonesia to be a food barn of the world.

Nuhung (2014) states that the traditional non-commercial beef cattle farming system represents 98% of the national beef cattle population that has provided employment and income to 5.6 million households. The beef cattle business in some areas of center production has a comparative advantage. But it still takes a lot of effort to improve its competitive advantage through efforts to improve production capacity, develop technology, and increase productivity and business efficiency (Rusastra, 2014). It should be noted that in the context of economic globalization, synergy and integration of the government's role in capacity utilization and the potential of comparative advantage and

public (private) action are required to achieve competitive advantage with the goal of producing high-performance beef cattle farms (Yusdja and Ilham, 2004). The government remains obliged to build and optimize the cooperation between private and farmers to provide the maximum benefit for the development of citizen livestock business.

### **Strategies on Upstream Subsystems**

The strategy which is undertaken in the upstream subsystem is the development of local cattle seed that has been maintained by every rural breeder such as the productive female cattle and the superior bulls that have been selected well. There needs to be improvement of reproduction technology and cow's seed to improve genetic quality through selection (Talib 2001). A cheap and efficient seedling system, integrated with plantations, food crops and utilizing locally available and inexpensive feeding resources are done by all beef cattle breeders. An application of institutional in national cow breeding system can be applied in all regions in Indonesia. The abundance of the productive female cattle inhibits the production of national beef cattle, so the need for beef is very important in developing the production of beef cattle to be incerased (Bamualim and Wirdahayati 2003). The beef cattle business consists of three parts, namely upstream, cultivation, and downstream.

In upstream activities, the beef cattle business consist of seedling and breeding, the cultivation consists of enlarging and feedlot, and downstream consist of cutting and marketing. The upstream system provide needs, while cultivation and downstream provide the marketing of current conditions such as the consumer is higher than the production. While the need of beef increases, imports still run to fulfill the needs of beef (Ekowati et al., 2011). In the supply of beef, the breeder can maintain it by breeding and enlarging. Achmad (2016) states that a marketing approach to consumer needs based on production is needed. To see the market price of beef is very important to do, so that the delivery

and the need will be balanced. The business system of beef cattle can be divided into 4 (four) subsystem namely, upstream off-farm agribusiness, ie economic activity, production and trade.

The products produced are a good quality cattle, such as at the business of beef cattle breeding, fattening, feed industry, pharmaceutical industry, artificial insemination industry, and trade activities (Ahmad et al., 2004). The subsystem on the cultivation of beef cattle (on farm agribusiness), namely economic activities use the livestock production to produce primary animal commodities (beef cattle) (Winarso et al., 2006). The downstream business subsystem (down stream agribusiness) by conducting economic activities process the primary commodities into ready-made products (ready for use), ready to eat (ready to cook) and ready to eat (ready eat). This business conditions related to trade such as beef cattle industry, beef cattle canning industry and service subsystem. To support (supporting institution) it, an activity as a service provider for the business of beef cattle, banking, transportation, counseling, institutional institutions and suwasta (Rifai 2010) is needed.

### **Strategy on Farm Subsystem (on Farm)**

Develop the efficient farms, integrated with large-scale plantations and facilitate private investors, and engage people with a core-plasma pattern is the strategy in the farm subsystem. With the development of integrated feedlotter with plantations and the availability of local feed sources, the cost of cheap feed and sources of feed is more secure. This situation will be realized if the integration model of livestock and plantation has been well developed, then the beef cattle will naturally grow well. Widiati (2014) stated, the alternative efforts to solve the problem is support the government to build public facilities, such as agricultural markets that provide livestock saprodi. The availability of saprodi such as forage, supplements, medicines and other saprodi on the farm market will make it

easier for breeders to access it with competitive and profitable prices.

Livestock productivity is increased through improving management, accelerating the age (time) of the first child from 42-50 months to 26-36 months through improvement and assurance of availability of feed throughout the year (Widiati 2012) but to shorten the birth spacing from 24-36 months to 12-18 months through improved feeding and superior male availability with both natural mating and artificial insemination (Bamualim 2010). To suppress the 50 % of mortality is through management improvement, traditional medicines used and local vaccines ewhich accordance with the needs of livestock (Talib 2001). This is supported by Verschelde et al., (2013) which states that on farm activities, the resources by farmers in developing countries are small and their agricultural environments are limited and varied, such as land and fertility as well as the types of crops and livestock. In addition, to accelerate the increasing of livestock body weight and improving the quality of beef cattle is done by utilizing local resources, especially those from agricultural wastes, plantations and agroindustry (Diwyanto 2008).

In carrying out the research need to cooperate with counselor, because the counselor play a role in technology transfer, monitoring and evaluation until the technology can increase the production, productivity, and also welfare the breeder and widespread in society. If the introduction of technology has not been able to improve the welfare of breeders, it needs improvement by doing multi-disciplinary research in accordance with the problems encountered. The institution of a strong breeder group and supporting policies are expected to be responded quickly by farmers in the form of implementation in accordance with market demand and profitable. For example renewal can be the establishment of credit institutions at the group level, human resources education, research and development (Widiati and Kusumastuti 2013). The institutional improvement will facilitate the stakeholders and the farmers in

implementing the programs that have been proclaimed.

### **Strategies on Downstream Subsystems**

The business strategy in the agricultural and livestock sub-sector, the agricultural development can also be interpreted as a series of various efforts to increase farmers' income. The goal is to create jobs, alleviate poverty, strengthen food security and promote regional economic growth. The Government's policy is a leading player and also a stimulator and facilitator to encourages the growth of economic and social activities on farmers (Yusdja and Ilham 2004). The final hope of upstream and downstream activities is to increase farmers' income and welfare. The industrial activity always brings multiple effects to national economic growth such as through employment absorption, value added improvement, and foreign exchange earnings. (Soejana 2005). Facilitating the availability of small and medium-sized of RPH that have adequate cold storage facilities is for storage of fresh / frozen beef that is not absorbed by the market.

The diversification of processed beef products is developed by private parties. Widiati (2014) states that it is necessary to support government policy in the livestock marketing sub-system in the form of proper import control / restriction, efficient the transportation facilities in marketing, reorganization the animal market functions that strengthen bargaining position for farmers. For its implementation, the government will reduce the barriers in agriculture and livestock sector to create a conducive business investment climate in the country (Ilham and Saliem 2011). With the integration of the livestock sector, the government hopes there will be a positive impact on the increase of income for farmers to increase the labor of farmers in rural areas in the coming years. It has to be done because the competitiveness of beef cattle business is not only determined by one subsystem only but determined by the whole existing subsystem.

### **Predicted consumption of beef in Indonesia**

Director General of Animal Husbandry and Animal Health at the Ministry of Agriculture (2016), targets the provision of local beef can increase to 93 percent by 2017, up from 68 percent in 2016. The beef imports are also expected to reduce to 7 percent or equivalent to 29,329 tons of total consumption along with a number of government programs to increase local beef production. According to Diarmita (2017), the small livestock institutions can increase by 40%. To achieve it, there will be an action plan to boost the performance of local cattle population from 14.8 million cows to 33.9 million cows (Ministry of Agriculture 2015). The increasing of beef consumption is equivalent to a local beef production capacity of 442,200 tons to 792,175 tons (Amindoni, 2017). Based on the prognosis of domestic beef production in 2017 amounted to 354,770 tons, while the estimated requirement of domestic beef is 604,968 tons (Amindoni, 2017).

The consumption of beef by the Indonesian is very small, only 2.31 kg / capita / year in 2016 (Directorate General of Husbandry and Health Hwan 2016). Based on Central Bureau of Statistics (2016) data, compared to some neighboring countries, Indonesia is still left behind in terms of beef consumption. Malaysia consumes 8.5 kg of beef per capita per year, while Vietnam is 8.9 kg, and the Philippines 3 kg / year. In South America dominates the consumption of beef with Uruguay at most and followed by Argentina. According to Siregar (2010), the prediction of imported beef body weight is 500 kg / cow, predicted beef production by 40% or an average of 200 kg / cow, the number of beef imports is 470,000 tons. Paraguay and Brazil are countries which consume beef more than 40 kg / capita / year, (Darmita 2017). The results of Ilham (2009) study show that during the past 40 years, Indonesia's beef cattle industry has a negative direction.

Ashari et al. (2012) states that, in the strategic plan of the Ministry of Agriculture 2010-2014 mentioned there are four main

targets to be achieved and maintained, one of which strategy is the achievement of self-sufficiency in beef. In 2014, the prediction of new beef is 85.25% of beef demand or there is a gap as 14.75% and in 2019 the gap between production and demand reaches 26.52% (Ilham 2009). In the long run, the need of beef to be imported will be even greater if the development program is not responded properly (Bahri et al., 2004) and (Roessali 2011). According to Atmakusuma et al. (2014), Indonesia still has to import beef as much as 35.95% of total national beef consumption requirement. Abidin (2002) and Kuswandi (2007) stated that the consumption of beef in Indonesia of 1.48 kg / capita / year increased constantly by 2.5% / year. Siregar (2010) states that, beef production of about 40% of the body weight of cow and at least able to cover up the shortage of beef in the next year.

This condition is supported by the issue of food security, thus encouraging the Directorate General of Animal Husbandry and Animal Health (2014) to make a groundbreaking effort on the sufficiency of beef in 2005 (Sudardjat 2003). But the expected target is not reached (Yusdja et al., 2004), so the government takes import step as a short-term policy to stabilize the price of beef. Too many negative impacts arising from the problem of scarcity and rising beef prices. According to Atmakusuma et al. (2014), the national beef production is derived from livestock farming of 90% and the remaining 10% from state-owned companies and livestock. It has a positive aspect, namely the distribution of farmer's welfare. According to Rusono (2015), in the future the consumption of beef will continue to increase due to population growth and increase in real income per capita.

Cattle population is increased through a reduction policy of productive female cattle slaughter. Siregar (2009) and Retno et al. (2010) states that, until the year 2020, if the policy of reducing local productive female cattle slaughter by increasing cross breeding program successfully implemented, the prediction of local beef cattle production will be achieved. The quality improvement is obtained

through the policy of injecting IB, (Artificial Insemination). In 2011, there is a reduction in the number of productive female cattle slaughter from 175,000 to 10,000 in 2016 (Indonesian Agricultural Statistics 2015). According to Yusdja et al. (2003), the import policy should be done even though it will deplete the country's foreign exchange, because the production of local beef has not been able to pursue the increasing rate of demand in the country, both quantity and quality. According to Rifai (2010), Indonesia able to provide domestic beef for 90-95% of total customer needs. It causes the stock of national seeds decreased and the increasing of local cattle population will be hampered, so the cultivation through breeding is needed (Astuti 2004).

### **Beef Requests Level**

According to Ilham (2009a), if Indonesia will be self-sufficient in beef, it means 90% of beef needs must be supplied from domestic cattle in a sustainable manner, while the rest can be imported. Indonesia is only able to produce beef 70% of national beef needs (Bamualim 2010). To increase the population and increase the profitability of the farmers, the development of livestock can be done with the pattern of integration of cattle, the integration of cow-palm and rubber (Mathius 2009) and (Rusdiana et al., 2016). 30% of other needs are fulfilled by imports in the form of fattening cattle, frozen beef and innards, dominated by frozen liver and heart (Wiyatna 2007). According to Siregar (2010), the supply of imported cattle still can not fulfill the needs of beef consumption. In addition the growth of local cattle population in Indonesia is relatively small / slow while the demand for beef continues to increase.

The increasing of beef production is constrained by several factors i.e, the slow growth of the population as a result of seedling business that is considered less profitable commercially. Lembong (2017) adding that the import of beef to be opened is about 200,000 to 300,000 cow accordance with the needs of consumers until the end of the year. In order to cover the increasing of

beef cattle, it can be supported by imported cattle which purpose to fulfill the supplying and consumer needs. In 2015, Indonesia has imported cattle from Australia of 2,350 cattle. Siregar (2009) and Retno et al. (2010) states that, until the year 2020, if the policy of reducing local productive female cattle slaughtering by increasing cross breeding program successfully implemented, the prediction of local beef cattle production will be achieved. The lack of beef can be pursued through increased domestic production to slightly reduce the import of beef and cattle.

The narrowness of grazing area as the mainstay of breeding business in eastern Indonesia, making it difficult to control the productive female cattle slaughter. According to Roessali et al. (2005) and Suryana (2007), the efforts to improve the competitiveness of cattle business, needs to be done by increasing the productivity of livestock technically. One of the products that contribute and compete to the income of

the country's foreign exchange is beef. Furthermore, unproductive cattle is replaced with weight of 325 kg / cattle and the beef content of cattle is 41.25%. if the condition of Indonesia's cattle is like the present condition, the beef requirement is slightly fulfilled (Riszqina et al). Beef-based economic activities can not be separated from the old paradigm. The development of livestock is still seen in limited livestock (on-farm), so the livestock development business is also limited to livestock business.

In Indonesia, the consumption of beef and innards is 2.14 kg / capita / year (Suswono 2012). The high level of cattle consumption in Indonesia is caused by the population that always increasing from year to year with a growth rate of 1.49% per year. The beef consumption per capita has increased over time by 0.1 kg / capita / year (Ginting 2013). The projection of beef requirement can be seen in table 1.

Table 1. the Projection of Beef Requirements in 2000, 2010 and Year 2020.

| NO | Years | Total population | Beef Consumption kg / capita / year | Beef Production (million) / year | Slaughtering (tail / Year) | Percentage increase (%) |
|----|-------|------------------|-------------------------------------|----------------------------------|----------------------------|-------------------------|
| 1. | 2000  | 206 million      | 1,72 kg                             | 350,7 million                    | 1,75 million               | –                       |
| 2. | 2010  | 242,4million     | 2,72 kg                             | 654,4million                     | 3,3 million                | 88,6                    |
| 3. | 2020  | 281 million      | 3,72 kg                             | 1,04 million                     | 5,2 million                | 197                     |

Source: Ginting 2013.

From the data above, the population of beef cattle in 2009 is only able to supply as much as 60% of the total requirement of domestic beef. The assumptions in 2020, the beef production is 1.04 million. The assumption of slaughter of cattle as much as 5.2 million with percentage of 197% (Ginting 2013). This condition is very worrying because the need of beef will increase someday in accordance with increasing of population in Indonesia. It is caused by the domestic beef needs are highly dependent on imports. Thus, the dependence of beef will affect the price of local beef cattle. But on the other hand, with the growing of beef needs growing need can

open the business opportunities of beef cattle in Indonesia. The scrutiny is needed toward the import volume of imported beef, predicts the volume of imported beef which is reduced to only 50%, (Ginting 2013). The domestic needs can still be filled, although there will be the increasing of beef prices in the domestic market that can profit the farmers.

## Conclusion

The efforts to fill the needs of beef are the government does not need to import beef and build a large scale, medium and small cattle breeding industry. The government makes the investment for the beef cattle industry sector through the

spread of cattle seeds in oil palm, rubber and other land. The development of beef cattle in an effort to fulfill the needs of beef, can be pursued through a sustainable government program, so that the population growth of beef cattle is maintained. The efforts to change land as a buffer for livestock cultivation need to be closely monitored especially by the local government.

It is advisable to have protection for the livestock enclave, especially in terms of livestock spatial policy. By cultivating beef cattle through breeding and enlarging with upstream systems, on farm and downstream can be ensured smooth economy of farmers. The support toward the institutional and skills of farmers in socio-cultural and economic manner can increase. In the Future, it is expected the cattle breeding business in Indonesia will be profit oriented in addition to the welfare of breeders and also can support the ideals of Indonesia as the world's food barns especially Indonesia.

## References

- Abidin, Z. 2002, Penggemukan sapi potong. Agromedia Pustaka, Cetakan Buku 2, dilindungi oleh Hak cipta Pustaka, ISSN-3341-5151 Jakarta, hal.1-186.
- Astuti. 2004. Potensi dan keragaman sumberdaya genetik sapi Peranakan Ongole (PO) *Wartazoa* 14(3): 98-106.
- Ahmad, S.N., D.D. Siswansyah, dan O.K.S. Swastika. 2004. Kajian sistem usaha ternak sapi potong di Kalimantan Tengah. *Jurnal Pengkajian dan Pengembangan Teknologi Pertanian* 7(2): 155-170.
- Ashari, Nyak Ilham dan S.Nuryanti. 2012. Dinamika program wasembada daging sapi: reorientasi konsepsi dan implementasi. *Analisis Kebijakan Pertanian*. Vol.10.No. 2 Juni 2012. hal. 181-198
- Atmakusuma Juniar, Harmini dan Ratna Winandi. 2014. Mungkinkah swasembada daging terwujud. *Jurnal Risalah Kebijakan Pertanian dan Lingkungan*, ISSN: 2355-6226 Agustus 2014 Vol. 2 No. 1. hal. 105-109.
- Achmad, N. Maulana. 2016. Kebijakan pemerintah dalam menekan pemotongan sapi betina produktif, BPPM Gallusia, Fakultas Peternakan UGM, [https://agribisnispeternakan.wordpress.com/artikel/](https://agribisnispeternakan.wordpress.com/artikel/diakses%20tgl,%20Nopember%202016) diakses tgl, 2 Nopember 2016.
- Amindoni Ayomi. 2017. Mengapa harga daging sapi di Indonesia mahal? <http://www.bbc.com/indonesia/indonesia-41264222>, diakses tgl, 11 Januari 2018.
- 2017,
- Bamualim, A. and R.B. Wirdahayati. 2003. Nutrition and management strategies to improve Bali cattle productivity in Nusa Tenggara. *Strategies to Improve Bali Cattle in Eastern Indonesia*. ACIAR Proceedings. No. 110. pp 17-22
- Bahri, S., B. Setiyadi, dan I. Inounu. 2004. Arah penelitian dan pengembangan peternakan tahun 2005-2009. *Prosiding Seminar Nasional Teknologi Peternakan dan Veteriner Puslitbangnak Bogor*, 4-5 Agustus 2004, hal.6-10.
- Bamualim. A. 2010. Pengembangan teknologi pakan sapi potong di daerah semi arid Nusa Tenggara. *Orasi Pengukuhan Profesor Riset Bidang Pemuliaan Ruminansia (Pakan dan Nutrisi Ternak)*. Kemnetrian Pertanian, 29 Nopemebr hal. 1-59.
- Badan Pusat Statistik Pertanian. 2016. Kementerian Pertanian Republik Indonesia, Statistik pertanian dan Peternakan, dalam angka sementara Desember 2016.
- Diwyanto, K., S. Rusdiana, dan B. Wibowo. 2010. Pengembangan agribisnis sapi potong dalam suatu sistem usahatani kelapa terpadu. *Wartazoa* Desember 2010, Vol.20(1):29-40.
- Diarmita. I. Ketut 2017. Upaya Kementerian Pertanian Mewujudkan Ketahanan Pangan Asal Ternak. *Humas Ditjen Peternakan dan Kesehatan Hewan*, Tim Yuliana Susanti Tanggal Posting: 14 Juni 2017 / Publikasi: (admin) Hits: 204.
- Diwyanto, K. 2008. Pemanfaatan sumber daya lokal dan inovasi teknologi dalam mendukung pengembangan sapi potong di Indonesia, *Jurnal Pengembangan Inovasi Pertanian* Juni 2008, Vol. I(3):173-188.

- Diwyanto.K., S. Rusdiana dan B. Wibowo. 2010. Pengembangan agribisnis sapi potong dalam suatu sistem ushatani kelapa terpadu. Wartazoa, Buletin Ilmu Peternakan Indonesia Maret 2010, Vol. 20(1):21-42.
- Diwyanto.K. 2011. Tunda potong sebagai strategi jangka pendek untuk mendukung program swasembada daging sapi dalam. Forum Komunikaasi Profesor Riset. Policy Brief: Inovasi Teknologi dan Kelembagaan Pertanian. Badan Litbang Pertanian. Kementrian Pertanian Jakarta. hal. 1-151.
- Devendra, C. 2011. Integrated Tree Crops-ruminants Systems in South East Asia: Advances in Productivity Enhancement and Environmental Sustainability. *J. Anim. Sci.* 24(5): 587-602.
- Direktorat Jenderal Peternakan dan Kesehatan Hewan. 2014. Kondisi dan dukungan dan isu ketahanan pangan di Indonesia, Kementerian Pertanian 2014.
- Direktorat Jenderal Peternakan dan Kesehatan Hewan 2016. Pedoman pelaksanaan Upaya khusus sapi potong wajib bunting (Upsus Siwab) 2017. Desember 2016, hal. 1-24.
- Ekowati T, Darwanto DH, Nurtini S, Suryantini A. 2011. The analysis of beef cattle subsystem agribusiness implementation in Central Java Province, Indonesia. *JITAA*. Vol.36(3):281-289.
- Ginting Darwin. 2013. Tantangan dan strategi agribisnis peternakan sapi potong <https://agribisnispeternakan.wordpress.com/2013/jurnal/> diakses tgl, 2 Npember 2016.
- Ilham, N. 2009a. Kelangkaan produksi daging: indikasi dan implikasi kebijakannya. Pusat Analisis Sosial Ekonomi dan Kebijakan Pertanian.AKP Desember 2009, Vol.7(1) 43-63.
- Ilham.N. 2006. Analisis sosial ekonomi dan strategi pencapaian swasembada daging 2010. *Jurnal Analisis Kebijakan Pertanian*. Juli 2006, Vol.4(2):131-145.
- Ilham. N. 2007. Alternatif kebijakan peningkatan pertumbuhan PDB subsektor peternakan di Indonesia Analisis Sosial Ekonomi dan Kebijakan Pertanian, Bogor *Jurnal Analisis Kebijakan Pertanian*. Vol.5(4):135-142.
- Ilham, N. dan H. P. Saliem. 2011. Kelayakan finansial sistem integrasi sawit-sapi melalui program kredit usaha pembibitan sapi (*Feasibility of the oil palm-cattle integration system through cosr-breeding business credit program*). *Analisis Kebijakan Pertanian*, 9 (4): 349-269.
- Kuswandi. 2007. Teknologi pakan untuk limbah tebu (fraksi serat) sebagai pakan ternak ruminansia. Wartozoa Buletin Ilmu peternakan Indonesia Volume 17 Nomor.2. hal, 56-72
- Kementerian Pertanian Republik Indonesia. 2015 Statitik Peternakan dan Kesehatan Hewan Jakarta. Dalam angka sementara, ditjennak@pertanian. go.id, 2014.
- Lembong Thomas. 2017. Solusi Jangka Pendek Soal Daging, Perlu Ada Impor Sap. <https://finance.detik.com/beritaekonomi-bisnis/2995924/imporsapi>, diakses tgl, 11 Januari 2017.
- Murfiani, F. 2017. Upaya kementerian pertanian dongkrak populasi sapi agar peternak sejahtera, Direektorat Jenderal Peternakan dan Kesehatan Hewan, Kementerian Pertanian Jakarta, <http://ditjenpkh.pertanian.go.id/upayakementeria-n-pertanian-dongkrak-populasi-sapi-agar-peternak-sejahtera>, diakses tgl, 7 Januari 2017.
- Mathius.I.W. 2009. Produk samping industri kelapa sawit dan teknologi pengayaan sebagai bahan pakan sapi yang terintegrasi. Penyunting A.M.Fagi, Subandriyo dan I.Wayan Mathius, diterbitkan LIPI Press Anggota Ikapi, Bogor (Indonesia): Puslitbangnak, hal. 65-139.
- Mahendra AVH, Arifin Z, Abdillah Y. 2014. Analisis dampak kebijakan pembatasan kuota impor sapi terhadap kinerja perusahaan (studi kasus pada PT Great Giant Livestock (GGLC), Lampung Tengah- Lampung). *J.Admisnistrasi Bisnis*. 3:1-8.
- Nuhung Iskandar.A. 2014. kinerja, kendala,dan strategi pencapaian swasembada daging sapi. Pusat Sosial Kebijakan Ekonomi Pertanian (PSEKP)

- Forum Penelitian Agro Ekonomi, Vol. 33 No. 1, Juli 2015: 63–80.
- Verscheldes M, D’Haese M, Rayp G, Vandamme E. 2013. Challenging small-scale farming: Anon-parametric analysis of the (inverse) relationship between farm productivity and farm size in Burundi. *IAE*. 64:319-342.
- Roessali, W., B.T. Eddy, dan A. Murthado. 2005. Upaya pengembangan usaha sapi potong melalui entinitas agribisnis *corporate farming* di Kabupaten Grobogan. *Jurnal Sosial Ekonomi Peternakan* 1(1): 25-30.
- Rusastra. I.W. 2014. Perdagangan ternak dan daging sapi: rekonsiliasi kebijakan impor dan revitalisasi pemasaran domestik. *Forum Penelitian Agro Ekonomi*, Juli 2014, Vol 32(1): 59-71
- Rifai Akhmad. L. 2010. Prospek pengembangan ternak sapi dalam rangka mendukung program swasembada daging sapi di Propinsi Sumatera Utara. *Jurnal, Wartazoa, Buletin Ilmu Peternakan Indonesia* Vol. 20. No. 2 Juni 2010. hal.85-92.
- Retno Sri. H.M., Sumardjo, Nurmala.K., Pandjaitan dan Guara P. Libis. 2010. Pola komunikasi dalam pengembangan model manusia dan sosial pertanian. Pusat Sosial Ekonomi dan Kebijakan Pertanian. *Jurnal, Forum Agro Ekonomi. FAE*. Desember 2010. Vol.28(2):135-148.
- Riszqina, L. Jannah, Isbandi3, E. Rianto, dan S.I. Santoso. 2011. Analisis pendapatan peternak sapi potong dan sapi bakalan karapan di pulau sapudi kabupaten sumenep, *Jurnal Fakultas Peternakan Universitas Diponegoro JITP*, Juli 2011, Vol. 1(2):188-192.
- Rusdiana.S., dan Adawiyah, C.R. 2013. Analisis ekonomi dan prospek usaha tanaman dan ternak dilahan perkebunan kelapa. *Jurnal Sosial Ekonomi Pertanian dan Agribisnis SEPA*, September Vol.10(1):118-131.
- Rouf AA, Daryanto A, Fariyanti A. 2014. Daya saing usaha sapi potong di Indonesia: Pendekatan domestic resources cost. *Wartazoa*. Desember 24 (2):97-107.
- Rusdiana.S., U., Adiati dan R. Hutasoit. 2016. Analisis ekonomi usaha ternak sapi potong berbasis agroekosistem di Indonesia. *Jurnal Sosial Ekonomi dan Kebijakan Pertanian. Jurnal Agroekonomika* Oktober 2016, Vol.5(2):137-149.
- Sudarjat, S. 2003. Operasional Program Terobosan Menuju Kecukupan Daging Sapi Pusat Penelitian dan Pengembangan Sosial Ekonomi Pertanian AKP, 2005. Vol.1 (1): 9-13.
- Suryana. 2009. Pengembangan usaha ternak sapi potong berorientasi agribisnis dengan pola kemitraans *Jurnal Litbang Pertanian*, 28(1):29-37.
- Siregar. S.B. 2010. Penggemukan sapi potong P.T. Penebar Swadaya, Jakarta, hal. 1-135.
- Suryana. 2007. Pengembangan integrasi ternak ruminansia pada perkebunan kelapa sawit, *Jurnal Penelitian dan Pengembangan Pertanian* Vol.26(1):35-40.
- Sayaka.B. 2012. Pengembangan perbenihan sapi potong dan peranannya dalam pencapaian swasembada daging sapi. Pusat Sosial Ekonomi dan Kebijakan Pertanian. *Jurnal Forum Penelitian Agro Ekonomi FAE*. Juli 2012, Vol.30(1):59-71.
- Soedjana.T.D. 2005. Prepalenesi usaha ternak tradisional dalam perspektif peningkatan produksi ternak nasional Badan Litbang Pertanian. *Jurnal Litbang Pertanian*, Vol. 24 (1):10-18.
- Sulin, I., Saladin, Suardi, Z. Udin, dan K. Mudikdjo. 2006. Kontribusi pendapatan usaha peternakan rakyat sapi lokal pesisir dan sapi silang pesisir IB. *Jurnal Ilmu-Ilmu Peternakan*, 10(2):138-148.
- Suswono. 2012. Blue print program swasembada daging sapi dan kerbau (PSDSK) 2014. Edisi revisi. Jakarta (Indonesia): Kementerian Pertanian.
- Statistik Pertanian Indonesia 2015. Pengurangan jumlah pemotongan sapi betina produktif, Kementerian Pertanian Indonesia Jaakarta 2015,
- Talib, C. 2001. Pengembangan sistem perbibitan sapi potong nasional, *Jurnal Wartazoa* Vol. 11(1): 10-19.
- Talib, C, Entwistle, K, Siregar, A, Budiarti-Turner, S, dan Lindsay. 2003. Survey of

- population and production dynamics Bali cattle and existing breeding programs in Indonesia. In strategies to improve Bali cattle in Eastern Indonesia. ACIAR Proceeding No. 110. Pp: 3-9.
- Utomo, B.N., dan E. Widjaja. 2012. Pengembangan sapi potong berbasis industri perkebunan ke lapa sawit (*Development of Beef Cattle Based on Oil Palm Industry*). J. Litbang Pert. 31(4): 153-161
- Yusdja, Y., N. Ilham, dan W.K. Sejati. 2003. Profil dan permasalahan peternakan di Indonesia. Jurnal, Forum Penelitian Agro-Ekonomi 21(1):45-56.
- Yusdja, Y. dan N. Ilham. 2004. Tinjauan kebijakan pengembangan agribisnis sapi potong. Jurnal Analisis Kebijakan Pertanian 2(2):183-203.
- Winarso.B. ,Rosmiyati.S., dan Chaerul.M. 2006. Tinjauan ekonomi ternak sapi potong di Jawa Timur. Forum Penelitian Agro Ekonomi. Juli 2006 Vol.23(1):61-71.
- Widiati. R. 2014. Membangun industri peternakan sapi potong rakyat dalam mendukung kecukupan daging sapi Buletin Ilmu Peternakan dan Kesehatan Hewan Indonesia. Wartazoa, Th. 2014 Vol. 24(4):191-200.
- Widiati R. 2012. Financial feasibility of beef cattle breeding with various capital aids in rural area of Gunung Kidul District of Yogyakarta. Bul Anim Sci. p.312-317.
- Wiyatna, M. F. 2007. Perbandingan indeks perdagingan sapi-sapi Indonesia (Sapi Bali, Madura, PO) dengan sapi Australian Commercial Cross (ACC) (*The Ratio of Meat Index of Indonesian Cattles (Bali, Madura, PO) with Australian Cattle (Australian Commercial Cross)*). Jurnal Ilmu Ternak, Vol.7(1):22-25.